

**NATIONAL HEALTH AND NUTRITION
EXAMINATION SURVEY III, CYCLE 2**

**PHYSICIAN EXAMINER'S
TRAINING MANUAL**

Prepared by:

**Westat, Inc.
1650 Research Boulevard
Rockville, MD 20850**

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1. OVERVIEW OF THE NHANES III

1.1 Introduction and Purpose of the Survey

The Third National Health and Nutrition Examination Survey (NHANES III) is being conducted by the National Center for Health Statistics (NCHS) of the United States Public Health Service. Data collection began in September 1988 and will continue for approximately 6 years (two 3-year rounds) at 88 locations (stands) across the U.S. The main survey was preceded by three pretests which were held between September of 1987 and March of 1988 in Los Angeles, Washington, D.C. and Tampa, Florida. Another pretest called the "Dress Rehearsal" was conducted in October of 1988, just prior to the start of the main survey.

Approximately 40,000 individuals 2 months of age and older will be randomly selected from households across the U.S. to participate in the survey. Selected persons will be invited to take part in the survey by completing interviews in their homes and by receiving examinations at the Mobile Examination Center (MEC). The detailed interview includes demographic, socioeconomic, dietary, and health-related questions. Upon completion of the interview, respondents will be asked to voluntarily participate in additional interviews, extensive physical and dental examinations and biochemical tests, all conducted by highly trained medical personnel in a mobile examination center (MEC).

The purpose of NHANES III is to assess the health and nutritional status of adults and children in the United States. NCHS will use the data collected in this survey to define the normative distribution of:

- Specifically-defined diseases and other conditions of ill health;
- Nutritional disorders;
- Potential risk factors; and
- Normative health-related measurements, such as height, weight, and blood pressure.

At the conclusion of the study, prevalence rates will be computed for blacks, Mexican-Americans, Puerto Ricans, and other groups including whites, by age, sex, and income level. To assist in obtaining these rates, the survey will oversample blacks, Hispanics, the elderly and children.

The diseases and other medical conditions to be studied include, but are not limited to, the following:

- Cardiovascular disease (heart disease);
- Cancer;
- Chronic obstructive lung disease, including:
 - Asthma
 - Chronic bronchitis
 - Emphysema;
- Diabetes;
- Kidney disease and other urologic disorders;
- Gallbladder disease;
- Osteoporosis;
- Arthritis and related musculoskeletal conditions:
 - Rheumatoid arthritis
 - Osteoarthritis;
- Infectious diseases:
 - Immunization to childhood diseases
 - Exposure to hepatitis A or B
 - Exposure to human immunodeficiency virus (HIV)
 - Exposure to sexually transmitted diseases, such as herpes simplex 1 and 2;

- Oral health problems:
 - Caries
 - Periodontal disease
 - Tooth loss
 - Soft-tissue lesions
 - Trauma assessment
 - Occlusal and dentofacial characteristics
 - Tooth restoration and prosthesis conditions;
- Allergies:
 - Certain foods, animals, insects and molds;
- Mental health conditions:
 - Depression;
- Hearing loss;
- Retinal Disease; and
- Nutritional disorders, such as vitamin and mineral deficiencies.

Risk factors are those aspects of a person's lifestyle, constitution, heredity or environmental exposures which may increase his/her chances of developing a certain disease or condition. Some of the risk factors to be included in this study are:

- Tobacco usage;
- Alcohol consumption;
- Physical activity;
- Sexual practices;
- Occupational exposures;
- Reproductive health, such as oral contraceptive use and breastfeeding practices;
- Weight;

- Dietary intake; and
- Stress.

The results of this survey will benefit the American people in two important ways. First, data on the distribution of health problems and potential risk factors in the population provide researchers with important clues to the causes of disease development. This survey will provide data which researchers need in order to establish hypotheses of disease causation which can be tested in future epidemiologic and clinical research studies. Secondly, information collected from this survey will be compared to information collected in previous HANES surveys and future HANES surveys in which study participants will be asked to be examined and interviewed again sometime in the future. This will allow researchers to determine the extent to which various health problems and risk factors have changed in the U.S. population over time. By identifying the health care needs of the population, agencies of the government and private sector can establish policies and plan research, education, and health-promotion programs which will help improve the current health status of the population and prevent future health problems.

By computing prevalence rates for the population as a whole and for specific age-race-sex groups (e.g., 30-35 year old white females), researchers can determine which subgroups of the population would benefit most from specific programs and policies. For example, information collected in this survey will help FDA decide whether to implement calcium fortification regulations for the nation's food supply and how best to implement the fortification program, if needed. Data from this survey will be used to revise the growth charts which are used widely by pediatricians to monitor the growth of children.

Study participants are first interviewed at their homes and asked detailed demographic, socioeconomic, and health-related questions. Extensive physical examinations by highly trained medical personnel, additional health interviews, dietary interviews, and biochemical tests on biological specimens are then conducted in specially equipped mobile examination centers (MECs). Persons who cannot or will not come to the MEC for the full-scale examination are asked to undergo certain parts of the exam at their homes.

In addition to using these data as a baseline for future follow-up studies and analysis, some blood and urine specimens collected in this survey will be stored. Biological specimen banking will be of value in the future as new techniques are developed to measure exposure to environmental

contaminants or disease agents or when new health problems are recognized. Biological specimen banking will be used to permit future laboratory analyses for:

- Estimating the prevalence of factors of current interest but for which acceptable testing protocols do not yet exist (e.g., pesticides);
- Estimating the prevalence of factors of emerging importance (e.g., chlamydia subtypes, various types of non-A, non-B hepatitis); and
- Conducting studies to look for the specific causes of diseases (e.g., bacteria, viruses, toxic materials).

Four areas have been selected for special emphasis in NHANES III: Child health; health of older Americans; occupational health; and environmental health.

Child Health. NHANES III will help researchers assess the physical and emotional health status of children in the U.S. Communicable diseases, such as influenza, measles, and chickenpox, are not the only causes of illness and disability in the young. The focus of the childhood component of NHANES III will be on:

- Chronic diseases (heart and lung diseases);
- Allergic conditions;
- Immunity to various infectious diseases;
- Nutritional status;
- Cognitive functioning (ability to function in the activities of daily life);
- Physical growth;
- Disorders of hearing and dentition; and
- Blood lead levels.

Older Americans. The U.S. has experienced dramatic growth in the number of older people during this century. These demographic changes have major implications related to health care needs, public policy, and changing research priorities associated with older Americans. Recognizing this, NCHS is working with a consortium of public health service agencies to improve information on the health of the elderly. NHANES III is designed to fill many of the gaps in our knowledge of the

health of older people. The survey component for older persons focuses on physical health status and aspects of functional health status. The key components for this part of the survey are:

- Osteoporosis and the evaluation of lower extremity function, including risk of falls and fractures;
- Musculoskeletal function, focusing on osteoarthritis, as a major cause of disability in older persons;
- Nutrition, including the evaluation of obesity;
- Cardiopulmonary diseases, which are major causes of illness and death in older persons;
- Physical function (individual's capacity for self-care);
- Cognitive function (ability to function in the activities of daily life); and
- Social function (ability to live independently).

Occupational Health. This component of the survey will focus on exposures in the workplace, such as noise, chemicals, and dust which may be associated with specific health problems, such as neurological problems, lung disease, and musculoskeletal injuries.

Environmental Health. The environmental health research topic for NHANES III focuses on primarily studying exposure to toxic metals and chemicals, such as pesticides, by examining blood specimens for levels of various metals and chemicals in the blood.

Westat is a survey research firm which has been awarded a contract by NCHS to carry out data collection activities for the survey. Westat is responsible for selecting the survey sample, scheduling and planning study procedures, developing the survey materials such as manuals and forms, hiring and training field personnel, making advance arrangements for each stand, conducting community outreach activities, setting up and maintaining field offices and Mobile Examination Centers (MECs), scheduling and conducting screening interviews and extended interviews in the household, conducting interviews and physical examinations in the MECs, designing and carrying out quality control procedures, transmitting data to NCHS, and shipping biological specimens to various laboratories in the U.S.

The examination and interview components of this survey have been designed in close collaboration with the Federal agencies which will use the resulting data for program planning and regulatory and research purposes. The following agencies have been involved in designing NHANES III:

- Agencies of the National Institutes of Health, Public Health Service:
 - National Heart, Lung and Blood Institute (NHLBI),
 - National Cancer Institute (NCI),
 - National Institute of Child Health and Human Development (NICHD),
 - National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK),
 - National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS),
 - National Institute of Dental Research (NIDR),
 - National Institute of Mental Health (NIMH),
 - National Institute of Neurological and Communicative Disorders and Stroke (NINCDS), and
 - National Institute on Aging (NIA); and

- Other Federal Agencies:
 - Environmental Protection Agency (EPA),
 - Food and Drug Administration (FDA),
 - National Institute of Occupational Safety and Health (NIOSH), and
 - National Institute of Environmental Health and Safety (NIEHS).

1.2 History of the Health and Nutrition Examination Survey

The National Health Survey Act, passed in 1956, provided the legislative authorization for a continuing survey to collect statistical data on the amount, distribution, and effects of illness and disability in the United States. In order to fulfill the purposes of this Act, it was recognized that data collection would involve at least three sources: the people themselves by direct interview; clinical

tests, measurements, and physical examinations on sample persons interviewed; and places where persons received medical care such as hospitals, clinics, and doctors' offices.

To collect data by interview and physical exam, NCHS conducted four separate examinations surveys between 1959 and 1976. The first Health Examination Survey (HES I) focused mainly on selected chronic diseases of adults aged 18 - 79. HES II and HES III, conducted between 1963 and 1970, focused primarily on the growth and development of children.

The fourth survey introduced a new emphasis: the study of nutrition and its relationship to health status. This had become increasingly important as researchers began to discover links between dietary habit and disease. In response to this concern, under a directive from the Secretary of the Department of Health, Education and Welfare, the National Nutritional Surveillance System was undertaken by NCHS. The purpose of this system was to measure changes in nutritional patterns over time. However, a special task force recommended that the continuing surveillance system be expanded to include clinical observation and professional assessment as well as the recording of dietary intake patterns. Thus, the National Nutritional Surveillance System was combined with the Health Examination Survey to form the National Health and Nutrition Examination Survey, NHANES.

NHANES I, the first cycle of the NHANES studies, was conducted between 1971 and 1974. This survey obtained a national sample of about 21,000 persons between the ages of 1 and 74 years of age. Extensive data on health nutrition were collected by interview, physical examination, and a battery of clinical measurements and tests from all members of the sample.

The planning process for NHANES II was carried out in 1974 and 1975 in collaboration with other Federal agencies. Throughout the planning stage there was continual awareness of the necessity of making the data collection for NHANES II comparable to the first NHANES survey so that NHANES I data could serve the purpose of providing a baseline for assessing changes overtime. This means that many of the same measurements had to be taken the same way on the same age segment of the U.S. population in both surveys.

The NHANES II survey began examinations in February of 1976 with the goal of interviewing and examining 21,000 persons between the ages of 6 months and 74 years. This survey was completed in 1980.

In addition to NHANES I and NHANES II, a special survey of the U.S. Hispanic population, HHANES, was undertaken to provide information on the health and nutrition status of Hispanics comparable to that obtained for the general U.S. population. The survey was completed in 1984. A fourth NHANES project, the NHANES Epidemiologic Followup Survey, was recently completed. This study was an effort to conduct followup interviews with the sample population, now aged 35-84, who were interviewed and examined in NHANES I between 1970 and 1974.

NHANES III is the third cycle in the NCHS series of surveys to collect data on the health and nutrition of the people of the United States through interviews and physical examinations. As in previous NHANES cycles, the survey's primary purpose will be to produce descriptive statistics that can be used to measure and monitor the health and nutritional status of the civilian, noninstitutionalized U.S. populations.

The plan is to administer a household interview and a 4-hour examination consisting of medical procedures, biochemical tests, and questionnaires to 40,000 sample persons aged 2 months and older over a period of approximately 6 years. The survey will be conducted in two rounds of about 3 years each in approximately 88 locations (or stands) across the country.

NHANES III will serve to collect public health data for use in evaluating the health status of the U.S. population and determining how health status is affected by social and economic conditions. The wide range of statistics produced will be valuable for:

- Estimating the prevalence of selected diseases and conditions;
- Assessing health and nutritional status;
- Determining needs for health care;
- Analyzing relationships between health measures and risk factors; and
- Evaluating aspects of health and nutrition.

A number of longitudinal studies which use NHANES III data as baseline data are planned. These studies will follow the sample persons interviewed and examined during NHANES III over a period of years to attain measures of changes in health status and to study human growth and development in detail.

1.3 * **About Westat****

Westat is an employee-owned research firm founded in 1961 and located in the Metropolitan Washington, D.C. area (Rockville, Maryland). Westat is redognized as one or the leading research firms engaged in survey research, program evaluation,mathematical and statistical analysis and computer applications. Although primarily involved in conductin surveys for agencies of the Federal Government the company has also served local government agencies, universities, professional societies,nonprofit institutions and commercial enterprises.

The professional staff of more than 450 includes statisticicans, epidemiologists,psychologist, sociologists, survey managers, market research analysts, economists, and computer systems analysts with specialized knowlwdge in health, labor, housing, and education. A highly trained nationwide field staff of supervisors, and survey assistants provides additional support to the organization.

A large number of the studies Westat manages are concerned with health of various subgroups of the population. The success of these projects can be attributed in part to the company's ability to enlist the cooperation of individuals and groups in the communities where the studies are conducted. For instance, it may be necessary to obtain cooperation from state or local government officials, professional associations, hospital administrators, citizen groups, and individuals.

Many of Westat's studies in the area of health involve nationwide data collection efforts in hunderds of d ifferent communities. For exam;le, in 1979-80, Westat inlisted 38,000 U.S. school children in a study to estimate the prevalence of dental caries(cavities)and other oral health problems in that population. A second dental survey conducted in 11986-87 involved 45,000 schoool children. Fourteen teams, each with a dentist, a data r ecorder, and two coordinators, traveled to schoos across the U.S. to collect data from students via dental examinations and interviews.

1.4 **Pretest and Main Survey Schedules**

1.4.1 **Pretests**

1.4.1.1 Purpose of the Pretests

Before any large-scale data collection effort is started on a survey, one or more pretests are conducted. During a pretest, field procedures and data collection instruments are tested and evaluated, then refined by the researchers. Field procedures are carried out just as they would be in the main study, but during the pretest a much smaller group of sample persons is selected. After the completion of a pretest, a series of meetings is held and suggestions for improving the field procedures and data collection instruments are incorporated into the plans for the main study. In this way, potential problems are resolved before the main survey begins, although it is inevitable that some unanticipated problems will arise as the study progresses.

1.4.1.2 Summary of the Pretests

Since NHANES III is so large and complex, four pretests were scheduled from September 1987 through December 1988. The first three pretests were conducted at different sites to evaluate the performance of the field procedures in various. The fourth pretest, or "Dress Rehearsal" was conducted in October 1988 and was intended to provide a final practice for all procedures before the main survey was initiated. Following is a summary of the pretests, the locations, the number of sampled persons (SPs), and the procedures tested.

Pretest I

As a member of the exam team staff, you are an employee of Westat and will report directly to Catherine Novak, director of MEC operations for the Westat staff. Exhibit 1-1 shows the formal reporting relationships for the project. Renee Slobasky serves as the NHANES project director for the Westat home office. Dr. Carla Maffeo, technical director for examinations at Westat's home office, is responsible for technical issues, such as how an exam procedure or biochemical test should be done. Exam or personnel matters should be discussed with the Director of MEC operations. The MEC manager, who is responsible for day-to-day activities of the MEC at the stand, should be consulted for such questions as the automated system, equipment, supplies, data collection, sterilization of instruments, and storage and shipment of data and specimens, and administrative issues.

A Stand Coordinator is also designated for each stand and will be responsible for coordinating stand activities with the other on-site managers.

NUMBER OF SPs: 600
MEC procedures and examinations tested.

Pretest III

LOCATION: Tampa, Florida
DATE: February - March 1988
DURATION: 6 weeks
NUMBER OF SPs: 500
All office, interviewing and MEC procedures tested.

Pretest IV ("Dress Rehearsal")

LOCATION: College Park, Maryland
DATE: October 1988
DURATION: 6 weeks
NUMBER OF SPs: 450
Final testing of all procedures

1.4.2 Schedule for the Main Survey

Data collection for the main survey of 40,000 sample persons (SPs) began in September 1988 and will be conducted in two cycles of approximately 3 years in length. Field office staff, interviewers, and two examination teams will travel to approximately 44 locations (stands) throughout the U.S. in each cycle. The average stand size will be about 450 SPs (within a range of 300-600 SPs). At any given time during the survey, examinations will be conducted at two stands simultaneously for 10 1/2 months of the year. There will be breaks of about 2 weeks around Christmas and about 2 weeks during the summer.

1.5 Sample Design

A sample is defined as a representative part of a larger group. Surveys involve studying a sample of persons rather than conducting an expensive and time-consuming census whereby every person in the population of interest is studied. Since it is impossible to interview and examine everyone in the U.S. for NHANES III, a representative sample is taken of the nation's population. At the conclusion of the study, estimates will be made of the prevalence of various health conditions and risk factors for the entire U.S. population, based on what is learned from the sample of people studied in the survey. By studying a representative sample of the population, it

is assumed that the findings would not have been too different had every person in the U.S. been studied. Because generalizations about the population will be made, it is extremely important that the sample be selected in such a way that it accurately represents the whole population. Statisticians must calculate the size of the sample needed and take into consideration the geographic distribution and demographic characteristics of the population such as age, sex, race, and income.

After a decision has been made on the size and characteristics of the sample, the next step is to determine the method of drawing the sample. For NHANES III, a multi-stage approach is being used.

Stage 1: Sampling PSUs.

The U.S. is divided into geographic regions called Primary Sampling Units (PSUs). Each PSU is a county or small group of contiguous counties. At the home office, Westat statisticians randomly select 88 PSUs to be included in this study. The probability (likelihood) of a PSU being selected depends on its size (i.e., the more people who live in the PSU, the more likely it will be sampled). Each PSU that is selected is called a **stand**. Exam teams will travel to each of the 88 stands to conduct exams and interviews in the MECs.

Stage 2: Sampling BG/EDs.

Each selected PSU is comprised of block groups (BGs), defined by the Census Bureau, or enumeration districts (EDs). The home office randomly selects BG/EDs to be included in the study. Similar to Stage 1, the probability of a BG/ED being selected depends on its size.

Stage 3: Sampling segments.

Each BG/ED is comprised of **segments** which are clusters of homes. Segments are randomly selected to be included in the study. The larger the segment the more likely it is to be selected. Project staff called listers go to each segment and, using special forms, list the addresses of all dwelling units (houses, apartments, mobile homes) in that area.

Stage 4: Sampling households from the field listing.

Not all households in a stand are selected for the study. Home office project staff randomly select households from the field listings.

Stage 5: Selecting eligible persons (screening).

Field interviewers go to each sampled household identified in Stage 2. The interviewer administers a 10-minute screening questionnaire (Household Screener Questionnaire) to determine the household

composition and sex/race/age/ethnicity characteristics of the household members. Depending on the characteristics of the household, only certain households are selected for the final sample. Interviewers have written instructions from the home office on how to conduct this stage of sampling.

Stage 6: Choosing Sample Persons in the selected households.

Following the screener sampling instructions, in a typical household 2-3 persons will be selected. However, in some households we may select none and in others as many as 10. Each individual selected for the study is called a **Sample Person (SP)**.

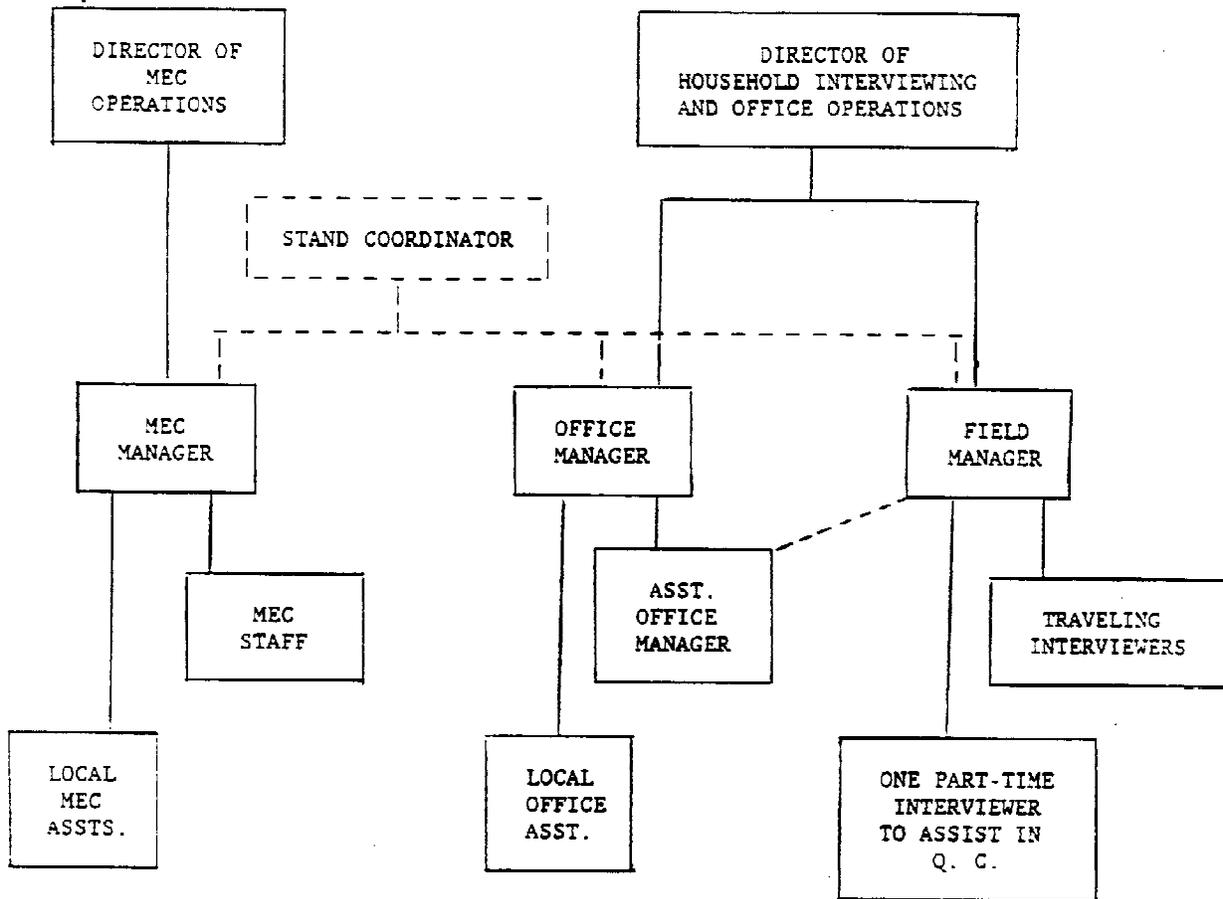
1.6 Personnel and Reporting Relationships

There are two different organizations conducting NHANES III. The National Center for Health Statistics (NCHS) is the government agency sponsoring, and ultimately responsible for, the survey. NCHS has contracted with Westat to conduct the field operations for the survey. NCHS staff and consultants from both NCHS and Westat participate in staff training programs and pretest activities, and periodically visit the field operations during the main survey.

As a member of the exam team staff, you are an employee of Westat and will report directly to Catherine Novak, director of MEC operations for the Westat staff. Exhibit 1-1 shows the formal reporting relationships for the project. Renee Slobasky serves as the NHANES project director for the Westat home office. Dr. Carla Maffeo, technical director for examinations at Westat's home office, is responsible for technical issues, such as how an exam procedure or biochemical test should be done. Exam or personnel matters should be discussed with the Director of MEC operations. The MEC manager, who is responsible for day-to-day activities of the MEC at the stand, should be consulted for such questions as the automated system, equipment, supplies, data collection, sterilization of instruments, and storage and shipment of data and specimens, and administrative issues.

A Stand Coordinator is also designated for each stand and will be responsible for coordinating stand activities with the other on-site managers.

Exhibit 1-1. reporting relationships



1.7 Advance Arrangements for a Stand

1.7.1 Schedule for Advance Arrangements

Exhibit 1-2 summarizes the schedule for a stand. Advance arrangements begin in Westat's home office at least ten weeks prior to the start of interviewing at a stand. Members of the advance arrangements team study maps and familiarize themselves with the layout of a stand, location of sampled segments, major highways and arteries, public transportation, and sites that appear appropriate for location of the MEC. Once they have a basic knowledge of the layout of the area, they contact local officials identified by our outreach program as prospective knowledgeable informants and make arrangements to visit the prospective stand.

The field office is opened at least one week prior to the start of household screening and interviewing. During that week the rental furniture and office equipment arrive, supplies shipped to the site from the home office are unpacked, telephones are installed, and computer systems are tested. A member of the advance arrangements team is at the stand during this period.

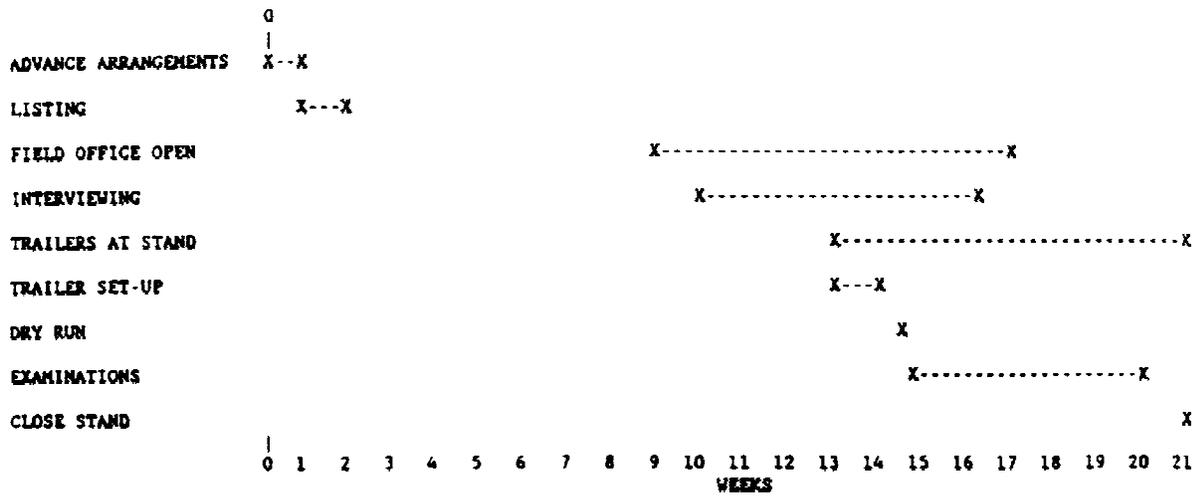
At least one week before examinations begin, the MEC is delivered to the prearranged site. The MEC manager will be on hand to receive the trailers and direct their location and leveling by the shipping firm, to oversee the hookup of electricity and plumbing lines by local contractors, and to verify the presence of the previously arranged security. After the trailers are set up, examination staff members unpack, calibrate and test the equipment. Medical and laboratory supplies delivered to the MEC are unpacked and stored. These preparations are scheduled and managed so that the MEC is ready for its dry run prior to the first scheduled examinations.

1.7.2 Community Outreach Activities

Westat and NCHS have developed a comprehensive and effective outreach program. This program is directed from the Westat home office under the supervision of the Director of Advance Arrangements, Jack Powers. Outreach activities are initiated prior to entering a stand and continue throughout the period of interviewing and examinations.

The purpose of the outreach activities is to inform public officials and potential participants about NHANES III. In informing public officials, regardless of whether their active

Exhibit 1-2. Stand schedule



support is sought, it is hoped that by providing information the study will be recognized as a legitimate and important research effort. The goal of outreach programs directed to potential sample persons is not only to provide information, but to encourage them to take part in an important study.

Westat directs the outreach program to audiences at the national, regional, state and local levels. Through Westat, public officials receive a letter from NCHS describing the survey, a fact sheet explaining technical aspects of the study, and a brochure.

It is important to establish a positive relationship with local health officials and other community representatives as their active support will help legitimize the survey. These persons can also assist during advance work by providing an introduction to other community officials whose cooperation may be important to the survey.

Westat has developed a community outreach program to be activated in each stand incorporating various types of media. The goal is to reach as many of the target populations as possible via radio, television and newspapers in each community. Posters and flyers, in English and Spanish, will be distributed and posted in highly frequented areas, such as churches and community centers, shopping centers and high-rise apartment buildings.

Another purpose of the outreach program is to identify local physician's and dentist's offices, or clinics, to which the examination reports of findings may be sent for those SPs who report no regular source of health care.

1.8 Data Collection

Data for NHANES III are collected in two phases:

- Household interviews in which SPs are asked detailed demographic, socioeconomic, and health-related questions; and
- Extensive physical examinations, dental examinations, health and dietary interviews, and laboratory tests on biological specimens conducted in mobile examination centers (MECs).

The household component and MEC component are discussed in more detail in the following section.

1.8.1 The Automation System

An automated system has been developed for survey control and capture of interview and examination data in the field. In the MEC, this system will collect, record, account for and transmit examination and interview data. In addition, the computerized flow system will process examinees through the MEC. A more detailed explanation of the MEC Automation System is given in Appendix A.

1.8.2 Household Interviews

The field interviewers conduct all household interviews and schedule appointments for examinations in the MEC.

1.8.2.1 Advance Letter

As mentioned in Section 1.5, certain households are sampled for the survey. Before an interviewer contacts a household, the Westat home office mails an advance letter to the household.

The advance letter is an important tool for introducing and legitimizing the study. The letter clearly states the purpose and importance of the study, a respondent's rights as a participant, including the confidentiality of information given and the voluntary nature of participation, and indicates that an interviewer will be coming to the household in the near future.

1.8.2.2 Household Screening Interview

Upon arriving at a home, interviewers are instructed to show the advance letter at the door (if the respondent has not seen or does not remember the letter), the screener brochure, and his/her survey I.D. badge.

- **The Household Screener Questionnaire** is administered to one eligible respondent who lives in the selected dwelling unit who is at least 17 years of age and preferably the head of the household. It includes an introduction, a household enumeration section (including a series of questions identifying secondary families), eligibility criteria such as age, sex, and race or ethnic background. The Screener takes about ten minutes to administer. Once the interviewer has determined that at least one person in the household is eligible to participate in the survey, s/he attempts to administer the family questionnaire, the medical history interview and make an examination appointment. During this process, each selected respondent receives a sample person brochure.
- **The screener brochure** contains a brief description of the study and provides answers to typical questions a respondent might have during initial contact.
- **The sample person brochure** contains more detailed information on the extended interview and examination component of the study. The interviewer distributes this brochure to eligible respondents upon completion of the screening. The brochure describes the examination to be conducted in the MEC and, like the screener brochure and advance letter, emphasizes the purpose and importance of the study, voluntary participation and confidentiality of the information provided. It also includes the Informed Consent Form.

1.8.2.3 Informed Consent

- **Consent form.** The last page of the Sample Person Brochure contains the consent form. The SP must sign the form as an indication of his/her willingness to participate in the study. If the SP does not wish to sign the consent form at that time, s/he may bring the signed form to the MEC at his/her scheduled exam time, or may have additional questions answered at the MEC before signing the form. A refusal to sign the consent form is considered a refusal to participate in the examination phase of the study. Examinations will not be conducted on sample persons who do not return a signed consent form. To participate in the household interviews, an SP only needs to give verbal consent.

For minors the signature of a parent or guardian is required on the consent form. Minors over the age of 12 years are also asked to sign the form as an indication of agreement to participate.

By signing a consent form, a person gives permission for the SP to have the extensive physical exam in the MEC (or the home health examination). A copy of the Home Health Exam Fact Sheet will be given to each SP who is offered this option.

1.8.2.4 Extended Household Interviews

- **The Family Questionnaire** is administered to one eligible respondent in each family who is at least 17 years of age and preferably the head of the household. Information is collected on family relationships, demographics, health insurance, housing, and income. It also contains instructions for within household sampling.
- **The Sample Person Questionnaire** is administered to each sample person or an eligible proxy. A detailed health history is collected on each sample person. The extended interviews require about 40 minutes for each SP. There are two versions of the SP Questionnaire, one for adults and one for youths. Information about SPs who are 2 months to 16 years old is obtained through direct interviews with a proxy such as the child's parent.

1.8.2.5 Exam Appointments

Interviewers make appointments for SPs to receive physical examinations at the MEC. The interviewer calls the field office to obtain an exam appointment time. If the SP agrees to the time, the information is entered into the field office Automated Survey Management System.

1.8.2.6 English and Spanish Study Materials

The advance letter, brochures, consent form, and household questionnaires are printed in both English and Spanish. Bilingual interviewers use the language with which the respondent feels most comfortable.

1.8.3 Exams and Interviews in the Mobile Examination Center (MEC)

1.8.3.1 The MEC

Examinations and interviews are conducted in specially equipped and designed mobile examination centers (MECs) each consisting of four trailers. Each trailer is approximately 45 feet long and 8 feet wide. The trailers are drawn by detachable truck tractors when moving from one geographic location (stand) to another. At an examination site, such as a hospital parking lot, the four trailers are set up side-by-side and connected by enclosed passageways. At any given time during the survey, there are two MECs set up at two different stands, and a third MEC is either in transit or in for maintenance.

Exhibit 1-3 shows a floor plan for the MEC. The interior of each MEC is designed specifically for this survey and incorporates many customized features. For example, the trailers were divided into specialized rooms to assure the privacy of each study participant during the exams and interviews. Also, the audiometry room was soundproofed and the X-ray room shielded with lead. The MEC houses all of the state-of-the-art equipment and supplies necessary for the exams and biochemical tests conducted in the MEC.

1.8.3.2 Exam Sessions

The MEC remains at a stand for approximately six weeks (range 4-8 weeks). During that period, the MEC operates 5 days a week including weekday, evening and weekend sessions. Two 4-hour sessions are scheduled each day with 10 examinees per session.

1.8.3.3 Exam Team Responsibilities

The two exam teams travel from stand to stand to conduct the exams and interviews in the MECs. There are 16 individuals on each traveling team. In addition, a local assistant will be recruited, trained, and employed at each stand to assist the exam staff. The duties of the exam team members are summarized below.

- One coordinator directs the flow of SPs through the MEC examination process. The coordinator manages all SP appointments, prepares the SP examination

Exhibit 1-3. Floor plan of MEC

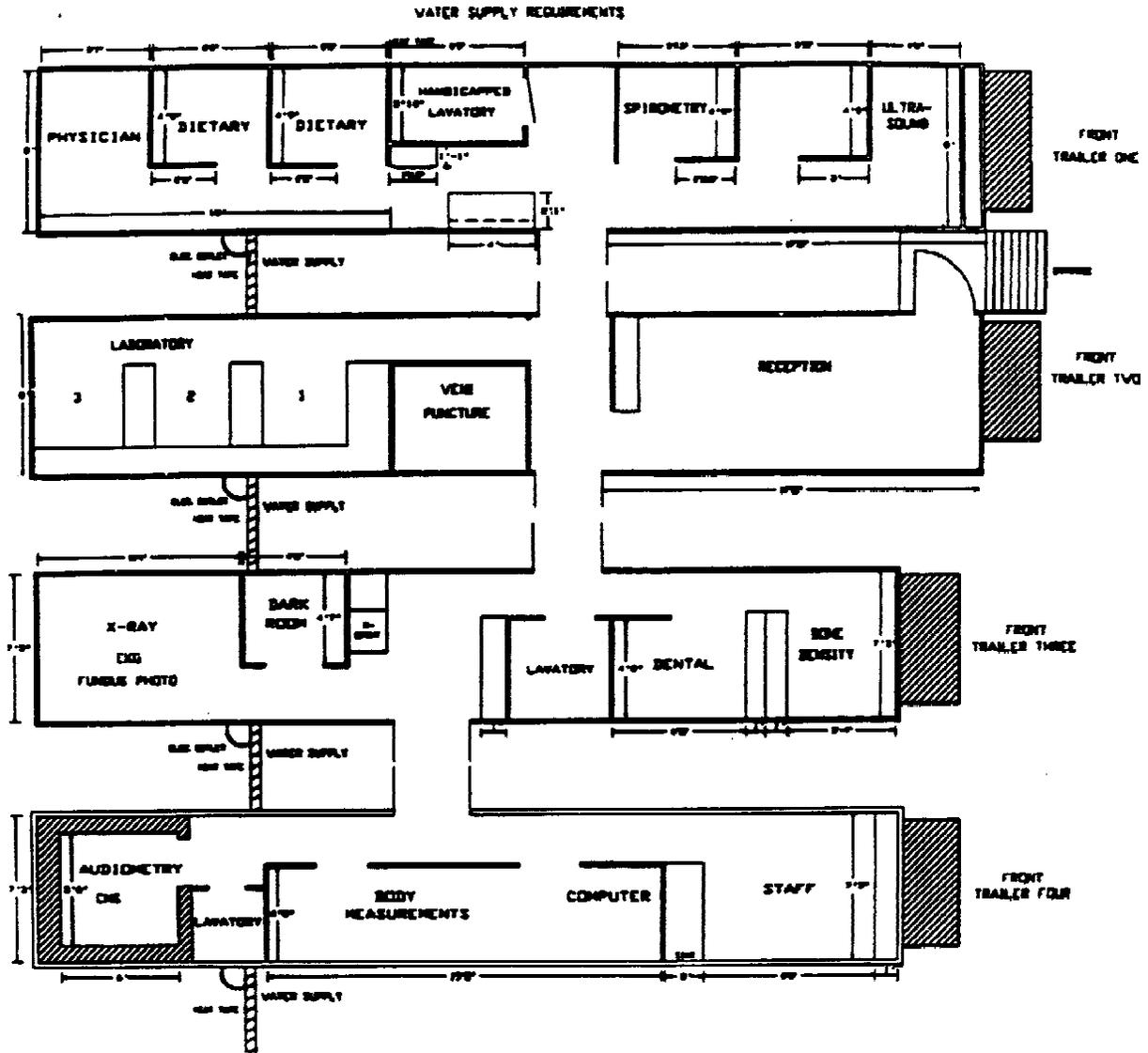


Exhibit 1-3. Floor plan of MEC (continued)

<u>2-11 mos.</u>	<u>1-5 yrs.</u>	<u>6-19 yrs.</u>	<u>20 yrs.+</u>
Physician exam	Physician exam	Physician exam	Physician exam
Body measurements	Body measurements	Body measurements	Body measurements
Dietary interview	Dietary interview	Bioelectrical impedance	Bioelectrical impedance
Dental exam	Dental exam	Dietary interview	Dietary interview
	Venipuncture	Dental exam	Dental exam (up to 74)
		Tympanic impedance	Venipuncture
		Venipuncture	Urine collection
		Audiometry	Cognitive tests (60+)
		Urine collection	Neurological tests (20-59)
		Cognitive tests	Allergy skin test (20-59)
		Allergy skin test	Spirometry
		Spirometry	Joint x-ray (60+)
		MEC Questionnaire	Electrocardiogram (40+)
			Oral glucose tolerance test (40+)
			Ultrasound (up to 74)
			Bone densitometry
			Physical function (60+)
			Fundus photography (40+)
			MEC Questionnaire

folders, and verifies that all exam components have been conducted and recorded before the SP leaves the MEC.

- One physician reviews the SP's medical history, conducts the medical examination, and records the results of the exam. The physician also reviews the X-rays, the results of the blood test (CBC) and the ECG.
- One dentist conducts the dental exam and "calls" the results to a health technician who records the dentist's exam findings.
- One health interviewer administers questionnaires for cognitive and neurological tests and records the results.
- Two dietary interviewers administer the SP dietary questionnaire. During the interview the interviewer records (a) a 24-hour dietary recall of the types and amounts of all foods and beverages consumed by the SP in the last 24 hours and, on selected SPs, (b) food frequency information regarding how often certain types of foods were consumed by the SP in the past month.
- Four certified radiologic health technicians take and record body measurements, X-rays, bone densitometry, pulmonary function tests (spirometry), ECGs, and photos of the fundus of the eye, and administer audiometry and allergy exams, and record the dental exam findings. The duties of the health technicians are assigned on a rotating basis.
- One certified ultrasonographer performs sonography of the gallbladder, and also assists health technicians in performing selected other tests such as allergy, audiometry, spirometry and body measurements.
- Four certified medical technicians/technologists administer the phlebotomy questionnaire, draw blood from SPs, administer Dextrol for the OGTT, conduct clinical laboratory tests on blood and urine specimens, record the results of tests, and prepare and ship specimens to various laboratories.
- One home health technician conducts home exams.

Each MEC staff member is part of a team of professional persons with specific assignments that must be completed in order to accomplish the overall objective of the National Health and Nutrition Examination Survey. Each individual must be aware of and respect the job demands placed upon other staff members, maintain an attitude of tolerance and consideration for fellow members of the team, and willingly perform any extra tasks that may be assigned to support other staff members in the performance of their duties. MEC staff members may be requested to perform tasks not directly related to their specific professional skills in order to implement the overall data collection plan. Team members will rotate periodically to prevent the introduction of bias due to "team effects" into the exam results.

1.8.3.4 Exam Components

Each SP exam takes up to four hours. The actual length of time depends on the age of the SP, as some exam components are only done on certain age groups (adult SPs tend to receive more extensive exams). Exhibits 1-4 and 1-4a present lists of exam components for each age group. Exhibit 1-5 presents an estimate of the number of minutes for each exam component.

Some blood specimens are analyzed in the MEC by the medical technicians while other specimens are sent to various laboratories in the U.S., such as the Centers for Disease Control (CDC), and have special storage and shipping specifications.

1.8.3.5 Sample Person Remuneration

SPs who complete all or part of the exam in the MEC are given a monetary token of appreciation for their time and effort. This remuneration is in addition to the payment for transportation expenses. Adult examinees will receive \$30 or \$50, depending on whether they accept an appointment at a particular time. Also adults who receive special components, such as the Volatile Toxicants Study, will receive additional remuneration. Children will receive \$30.00.

1.8.3.6 Report of Exam Findings

For each SP examined in the MEC, the routine blood pressure and dental findings will be reported to the examinee prior to his/her leaving the MEC. A report of all other findings will be generated by the automated system at NCHS summarizing the findings of the physical exam and biochemical tests. This Report of Findings form will be produced **after** the stand is closed, and **mailed** to the SP. The dentist completes a report of the dental exam findings which is given to all SPs. Additionally, for SPs who are referred for immediate dental care a report is sent to the SP's personal dentist or clinic. If the SP does not have a personal physician, dentist or clinic, a list of community clinics will be shown to the SP by the MEC coordinator who will encourage the SP to choose one; the report of the physician's/dentist's findings is then sent to that clinic. If the SP refuses to choose a health care provider, the Report of Findings is sent to the SP.

Exhibit 1-4. Examination components by age groups

<u>2-11 mos.</u>	<u>1-5 yrs.</u>	<u>6-19 yrs.</u>	<u>20 yrs. +</u>
Physician exam	Physician exam	Physician exam	Physician exam
Body measurements	Body measurements	Body measurements	Body measurements
Dietary interview	Dietary interview	Bioelectrical impedance	Bioelectrical impedance
Dental exam	Dental exam	Dietary interview	Dietary interview
	Venipuncture	Dental exam	Dental exam (up to 74)
		Tympanic impedance	Venipuncture
		Venipuncture	Urine collection
		Audiometry	Cognitive tests (60+)
		Urine collection	Neurological tests (20-59)
		Cognitive tests	Allergy skin test (20-59)
		Allergy skin test	Spirometry
		Spirometry	Joint X-ray (60+)
		MEC questionnaire	Electrocardiogram (40+)
			Glucose tolerance test (40-74)
			Ultrasound (up to 74)
			Bone densitometry
			Physical function (60+)
			Fundus photography (40+)
			MEC questionnaire

Exhibit 1-4a. NHANES III Examination Components

<u>Components</u>	<u>Ages</u>
Physician exam	all
Phlebotomy	1+
GTT	40-74
Body measures	all
24-hour recall	all
Food frequency	6-19
ECG	40+
Bioelectrical impedance	12+
Spirometry	8+
Dental	2 mos-74
Bone densitometry	20+
Ultrasound	20-74
Allergy (adult half sample)	6-59
Physical function	60+
Cognitive function	60+
MEC questionnaire-adult + Dis	20+
MEC questionnaire - youth	6-19
MEC questionnarie - proxy youth	20-39
CNS (half sample)	20-59
Cognitive testing-child	6-19
Joint X-ray	60+
Audiometry/tympanometry	6-19
Urine collection	6+
Fundus photography	40+

Exhibit 1-5. Estimated number of minutes for each exam component

EXAM COMPONENTS	SAMPLE PERSON LENGTH OF TIME (IN MINUTES)
Physical Exam	10
Body Measurements	9
Bioelectrical Impedance	3
Dietary Interview	19
Food Frequency (12-16)	12
Fundus Photography	6
Dental exam	8
Tympanic Impedance	5
Venipuncture, GTT	19
Audiometry	10
Cognitive and Neurological Tests and Health Interview	30
Allergy Skin Test	7
Spirometry	11
X-rays of Hand, Knee	8
Electrocardiogram (ECG)	13
Ultrasound	10
Bone Densitometry	16

In the MEC, in those instances when the physician or dentist finds a condition that warrants immediate attention from ECG, hematology, X-ray, dental, blood pressure or an unexpected incident, the physician or dentist will contact the SP's health care provider by telephone.

A hard copy version of the Report of Findings form is available in the event the automated system cannot record data from an examination session.

1.8.3.7 Dry Run

At the beginning of each stand, members of the MEC staff will devote one-half day to calibrating instruments and practicing MEC procedures. Since the MEC will be moving from one stand to another, it is important to check the equipment before exams begin to make sure everything is working properly. If there are problems with any of the equipment, including the automated system, the stand manager must be informed so that malfunctions can be repaired before the "real" exams begin. In addition to calibrating instruments, the dry run will give MEC staff an opportunity to practice their assigned duties, including setting up equipment and supplies, verifying instrument quality control results, sterilizing instruments, processing examinees through the MEC, interacting with other MEC staff members and examinees, performing exam procedures, recording exam results on the automated system, completing required forms, and shipping data and specimens to Westat and various laboratories. All procedures in the dry run will be completed as though the actual study were being conducted. The only difference is that in the dry run the examinees will be volunteers who are not part of the actual sample for the main study or pretests. To solicit volunteers from the community, someone from the field office may post an advertisement at a local grocery store. Other volunteers may include local officials who want to see first-hand the type of exams to be conducted, field office staff, field interviewers, and MEC staff.

Problems identified during the dry run will be discussed by the MEC manager and MEC staff. Based on the results of the dry run, certain procedures may need to be modified or additional quality control procedures may be instituted by the home office in order to overcome or alleviate identified problems.

1.8.4 Home Exams

An examination in the home will be available for selected SPs who are wheelchair or bed-bound, or unable or unwilling to go to the MEC for an examination. The household interviewers will determine when an SP should be offered the home exam, and the field office will schedule the appointment. If the SP is reluctant to participate in a MEC exam, every attempt will be made to persuade the SP to agree to an exam, either at the MEC or in his/her home. Because of equipment and staffing considerations, only certain exam components can be conducted in the home. For instance, any equipment required for the home exams must be portable and relatively compact when packed. Exhibit 1-6 lists the exam components which are conducted in the homes of SPs. As with the full-scale MEC exam, the components of the exam depend on the SP's age.

The home health technician or home examiner conducts the examination of SPs in the home. All tests are completed on-site with the exception of the blood tests, which are prepared and shipped from the MEC. After completing an SP exam, the home examiner will return to the MEC with the blood tubes, process the blood to be shipped and complete the tests that can be run in the MEC. The results are entered into the automated system in the laboratory.

SPs who complete the home exam are given \$15 as a token of appreciation for their time and effort. This is less than the remuneration for the MEC exam because the home exam is less extensive.

1.8.5 Special Studies

At times during the study, special projects may be implemented to obtain information about a specific area of interest, as NHANES III provides an unusual opportunity to capture large amounts of data in an efficient manner. The volatile toxicant study is one such special study.

1.8.5.1 Volatile Toxicants Study

The volatile toxicant study is being sponsored by the toxicology branch of the CDC and is being conducted for one year as an additional component of NHANES III. Extra blood and

Exhibit 1-6. Home exam components

	AGE		
	2-11 months	20-59 years	60+ years
COMPONENTS			
Body Measurement (Height, Weight, Mid-Arm Girth & Tricep Skinfold)	X	X	X
Head Circumference	X		
Venipuncture		X	X
Spirometry		X	X
Cognitive Tests			X
Physical Function Exam			X
Infant Food frequency	X		
Selected Conditions/Medicine, Vitamin & Mineral Usage/Tobacco/ Reproductive Status		X	X
TIME (Minutes)	10	40	50

urine samples are to be collected from 45 volunteers at each stand and analyzed by CDC for selected variables. Volunteers are paid \$10 for participating in the study.

Recruitment for the study is limited to days when the exam schedule is light enough to allow the phlebotomist time to draw the extra blood. Only sample persons between the ages of 20 and 59 are eligible for the study. The phlebotomist is responsible for recruiting sample persons at the time of the first venipuncture.

Because the MEC itself may be a source of some of the chemicals CDC is measuring in this study, the blood and urine samples must be collected as soon as possible after the sample person enters the MEC.

If a sample person agrees to participate in the study, two 10 ml. gray top tubes are obtained on the first draw. If this is not possible, the sample person will be asked if a second stick can be performed. If the SP is over the age of 40 years and will have a second venipuncture for the glucose tolerance test, the additional blood may be drawn at that time.

The required 45 mls. of urine is obtained from the urine specimen which is collected when the sample person first enters the MEC, assuming that the first specimen is of sufficient volume to allow this. If the required amount of urine cannot be obtained from the initial sample because of the volume needed for the other urine tests, a second 45 ml. urine sample may be collected at a later time.

The sample person is also asked to complete a self-administered questionnaire as part of the volatile toxicants study. The phlebotomist collects the questionnaires from the coordinator at the end of the session and mails them with the blood and urine samples to CDC twice a week on Thursday and Sunday.

2. OVERVIEW OF THE PHYSICIAN'S EXAMINATION

The physician's examination of the examinee is one of the components of the 3 1/2 hour full-scale exam in the MEC. As indicated in the previous section, the NHANES III is an epidemiologic study. It is designed to determine the prevalence of certain diseases in the population in the United States. Since its purpose is epidemiologic rather than diagnostic, the criteria used to determine a particular symptom or clinical sign may differ from those used in clinical practice.

However, since these data will be compared with data collected in the future to determine trends in the prevalence of disease and nutritional status, it is critical that explicit definitions and criteria be used and that these criteria be documented so that they can be used in the future. Otherwise, differences found over time in the prevalence of disease that might be attributed to changes in nutritional status may actually be due to differences in criteria used. Similarly, because different examiners will be conducting the exam it is critical that they all use the same procedures and criteria. Otherwise, differences found between age groups or geographic locations may actually be due to examiner differences.

The training of the physicians involved in conducting and recording results of the physician examinations has a dual purpose. First, it provides a standardized method and order for the examination; and second, it provides a consistent base of information for review of relevant physician examination procedures and definitions of physical conditions. It is most important that these procedures be followed exactly, because this study is an epidemiologic study rather than a clinical study. It is essential that all data be collected in a uniform manner to eliminate potential bias.

We have tried to stress those areas of the examination with which examiners may have had less experience. For example, standardized blood pressure measurement techniques, are stressed particularly in regard to K4.

As in other epidemiologic studies, it is essential that the instructions for collection of information be clearly and completely presented and that these instructions be followed exactly.

2.1 Purpose of the Physician's Physical Examination

One of the unique features of the NHANES III surveys is the physician examination. In previous NHANES, the physician performed a general screening examination, which included a limited number of maneuvers from a standard office examination and an assessment of nutritional signs. Physical findings were recorded and the physician was asked to extrapolate from the physical findings and pertinent data from the medical histories and assign specific medical diagnoses with ICD codes. One problem with this approach was that the data on which these diagnoses were based was limited and therefore, in subsequent analyses, greater emphasis has been placed on the actual physical findings rather than the physician's impression or clinical diagnoses.

In consideration of what potential role the physician examination might fill in NHANES III, consideration was given to a number of models including a clinical evaluation. In the typical clinical evaluation, a examinee comes with a specific complaint, the physician takes a history of that complaint and other salient information, and performs a targeted series of evaluative maneuvers including examination or laboratory tests. Translating this model to an NHANES survey, the "complaints" and "laboratory tests" are fixed, driven by the hypotheses developed by the planning staff in cooperation with scientists at NIH, other government agencies and in academia. From this perspective, the physician examination should serve the same hypotheses governing the other aspects of the survey, developing evidence which specifically will augment these other pieces of information in a complementary fashion.

For NHANES III, the components of the physician examination, then, were chosen either to reflect major hypotheses in the survey where physical examination data could be used to complement questionnaire, laboratory data, other physiologic measurements, or to serve as a public service. For example, X-rays of the knee and extensive data on arthritic complaints will be obtained in the medical history. To complement this, the physical examination includes observation of swelling in the knee, ascertainment of pain on motion, and crepitus in the knee. For older Americans, physical function will be assessed by questionnaire materials and by a series of performance-based maneuvers. To complement this, the physician is asked to make an assessment of functional limitations based on the physician's examination findings.

Public service aspects of the examination include selected measures known to be effective as screening maneuvers such as pulse and blood pressure measurements. Medical referrals

will be made to the primary health care provider of individuals who have abnormalities in the total NHANES evaluation.

To circumvent some of the problems discussed initially, the physician will not be asked to create a global diagnosis list for the subject. It is planned that the physical findings will be based analytically to create algorithms for key diagnoses. Instead, at the end of the physician's evaluation, physicians are asked to provide impressions on the overall health status of the individual and specifically to judge the consequences of observed pathology in the areas defined by the hypotheses fundamental to the survey. If pathology has been observed, the physician will be asked to render an opinion as to whether the problem would limit activity and how severe the limitation of activity would appear to be. In this way, besides quantitative information directly recorded in the examination, there will exist a synthesis relevant to each of the major areas defining the examination for functional limitations.

Since the Physical Examination is central to the NHANES III data collection process, any errors that might occur during this data collection process would be very serious. There are two sources of error that may enter into a sample survey, sampling error and nonsampling error. The sampling error, error due to making measurements on a sample rather than on the entire population, can be quantified and is the concern of all statisticians in sample survey design. Of equal importance is nonsampling error which is introduced during data collection and processing. It is on the control of nonsampling errors that quality control centers. Much time and effort in the NHANES III study will be invested in order to reduce this latter type of error and collect data that are of a high degree of quality. Because examiners may inadvertently introduce variability and bias, all MEC examiners will be trained to conduct examinations and reach findings using standardized procedures and indices.

Just as uniformity and standardization are important in performing the procedures of the examination, these same two characteristics are vital to recording the observations or measurements which are the result of the procedures. Accuracy and precision again are extremely important.

We will have unavoidable losses of data, no X-rays on some, inability to obtain optimal performances of some procedures, and so forth. The examining staff are expected to use discretion regarding these unavoidable losses -- to stop procedures occasionally when it is apparent that examinees cannot cooperate despite your best efforts. It is the avoidable loss of data that is the responsibility of each staff member to prevent.

2.2 MEC Procedures and the Physician

The Physician Examination will be done only with examinees who were selected for the study and who have signed a consent form with permission granted. The equipment to be used by the physician will include a mercury-gravity manometer with five cuffs, stethoscope, penlight, eye blind, metric ruler, and a bioelectric impedance machine.

An overview of MEC procedures that relate to the physician helps to put the physician's examination in context. Upon arrival at the MEC, each examinee will check in with the coordinator who will be positioned just inside the MEC entrance. An automated system has been developed for survey control and capture of interview and examination data in the field. In the examination center this system will collect, record, account for and transmit examination and interview data. A more detailed explanation of the MEC automated system is given in Appendix A. In addition, the computerized flow system will process examinees through the MEC. The coordinator will assemble an examinee's folder of relevant data forms and hard copy forms (only inserted if the automated system is down). The physician will receive a Daily Appointment Schedule of the names of persons to be examined for each of the two examination sessions for the day from the coordinator. The physician should go to the coordinator's station and meet each examinee. As the exam is proceeding, the physician will enter the results of the physician's examination into the computer at regular intervals, as well as entering information in relationship to control data and physician contact data. When the physician's examination is completed, all information has been entered into the system and when relevant forms have been filled in and edited, the physician will return the examinee and the examinee folder to the coordinator.

Although in previous NHANES studies the physician reviewed the medical history portions of the home interview prior to examining the examinee, this will not be carried out for NHANES III. However, the MEC physician must review the list of prescription and nonprescription drugs for each examinee to be seen during an exam session. This review should be done before the start of that session as it is the best way for the physician to become acquainted with any special medical problems an examinee may have.

The list of prescription and nonprescription drugs for every SP can be found in the Household Questionnaire. The questionnaires are placed in the MEC Interview room at the beginning of each session.

2.3 Sequence of the Physician's Examination Procedures

Exhibit 2-1 presents the components of the physician's examination that are specific to the age of the SP. Appendix B lists the specific procedures in sequence according to the various age groups. The time frames for performing the exam based on the SP's age are: ages 2 months-7 years will take an average of 3 minutes, 10 minutes for ages 8-19 years of age and 15 minutes for those examinees 20 years of age or older.

Within the MEC staff, examination team members will work in small groups to perform specific types of examinations, tests, and interviews. Throughout the MEC survey period, the physician will work closely with other members of the MEC team. Each physician will be responsible for seeing that a number of tasks are completed at each stand. Although we have divided these tasks into those for which the physician will have the primary responsibility and those for which other members of the team have primary responsibility, we expect that if one team member requires assistance the other will always be available to help when s/he is finished with his/her tasks. The coordinator is responsible for examinee flow through the MEC and will be interacting with the physician on a daily basis. The physician and coordinator will jointly be responsible for keeping to the prearranged schedule of physician's examinations. The following sections provide a general summary of the duties of the physician and coordinator.

2.4 Your Role as the Physician on NHANES III

As the physician in the MEC, you are responsible for the following tasks:

- **Setting Up and Checking Equipment and Supplies at the Beginning of a Stand.** The physician should complete the beginning of stand inventory for the physician's room. This includes inventory of new supplies and equipment brought from the last stand. The physician is also responsible for a beginning of stand inventory of the Emergency Kit. If supplies are needed, the physician should notify the MEC Manager immediately. The physician should set up the physician's room for use, making sure all equipment is clean and calibrated. A detailed description is given in Section 5.1.
- **Participating in "Dry Runs."** A one-day dry run with all members of the MEC team will be held at the start of each new stand. As a member of the MEC team, the physician will participate in a one-day dress rehearsal of the examination and study procedures to be used with examinees. Problems identified in the tryout will be discussed with the MEC staff as well as ways to correct and alleviate such

Exhibit 2-1. NHANES III physician exam age/component breakdown

SP Position	Test Age Group	Component	SP Ages							
			2 mo	3 yr	5 yr	8 yr	12 yr	18 yr	40 yr	60 yr
Walk	3+	Locomotion		X	X	X	X	X	X	X
Sit	2mo-18yr	Eyes:	X	X	X	X	X	X		
	2mo-4yr	Globe	X	X						
	5-18	Tracking			X	X	X	X		
		Strabismus								
	All	Observation	X	X	X	X	X	X	X	X
Sit	60+	Joints (Upper Extrem.)								X
Sit	2mo-4yr	Central Pulse Rate	X	X						
Sit	5-19	BP 1-2-3 - Pulse Rate			X	X	X	X		
	20+	K1-4-5							X	X
		K1-5								
Sit	All	Chest	X	X	X	X	X	X	X	X
Sit	All	Heart	X	X	X	X	X	X	X	X
Sit	5-59	Derm.			X	X	X	X	X	
Sit/Lie	60+	Joints (Lower Extrem.)								X
Lie/Stand	2mo-4yr	Tanner	X	X						
	8-18	- Breast size				X	X	X		
		- Staging								
Lie	12+	Bio. Imp. (BIA)					X	X	X	X
	All	Phys. Impressions	X	X	X	X	X	X	X	X

problems. Further description of this task is given in Section 1.8.3.7.

- **Conducting the Physician's Examination.** As described in Chapter 3, the physician should conduct the physician's examination in a uniform manner, insuring complete data collection. The examination will include evaluation of gait, external eyes, limbs, joints, pulse and blood pressure, chest, heart, skin, Tanner staging (for adolescents), bioelectric impedance measurement, and impression of general health status.
- **Completing the Control Record.** A Control Record accompanies each examinee's folder as s/he proceeds through the various stations in the MEC. The physician is responsible for noting the start and end times of the physician's examination, entering his/her examiner number, and if relevant, recording the reason why the entire physician's examination or part of it was not performed. Specifications for completing the Control Record are provided in Section 4.2.
- **Documenting the Results of the Physician's Examination.** The physician should enter the data/results of each part of the examination into the computer. In addition, s/he should provide an impression of the overall health status of the examinee and specially judge the consequences of any observed pathology.
- **Checking Laboratory Data X-rays and ECG's.** The physician should check all lab data, X-rays and ECG's for clarity and pathology before the examinee leaves the examination center. As they are available, a health technician will place X-rays in a box located in the hallway of the MEC near the X-ray room and will place ECG's and lab data in the physician's mail slot located near the physician exam room. Specifications for reviewing this data are included in Section 4.4. The physician will make appropriate referrals as indicated.
- **Handling Referrals.** The physician will categorize each examinee as a Level 1, Level 2, or Level 3 referral based on the results of the physician's examination and the physician's assessment of laboratory data, ECGs, X-rays, medical emergencies, and other incidents. The physician will handle the referrals as indicated and document referral procedures.
- **Completing the Physician's Log.** The physician should enter information about each examinee in the daily Physician's Log. Specifications for completing this form are included in Section 4.3.
- **Responding to Medical Emergencies.** If an examinee becomes ill or disabled for any reason during the examination session the physician should render only the level of care necessary to keep the examinee out of immediate danger, then arrange transportation to an appropriate medical facility. If indicated for the disabled examinee or if a potentially life threatening condition seems indicated, an ambulance should be called. The physician should accompany the examinee to the medical care facility, if necessary. Further details about medical emergencies are included in Chapter 7.
- **Maintaining Equipment.** The physician should maintain the appearance of the physician's room and maintain the equipment for the physician's examination. Details about equipment maintenance are included in 5.2.2. The physician should

also check the emergency kit at the beginning of a stand and after any use to be sure that all equipment particularly the cardiac resuscitation apparatus and the oxygen unit meet all guidelines and that an adequate supply of emergency drugs is available. The physician is responsible for checking the expiration date of the emergency drugs. Details about the emergency kit are included in Section 7.4.

- **Being in the MEC When Any Testing Procedures are Being Carried Out by Others.** The physician should report for duty not later than 5 minutes before examinations are scheduled to begin. S/he may leave only when all procedures except questionnaires have been completed and all SPs have left the MEC.
- **Dealing with Examination Procedure Problems.** The physician should consult the MEC staff, particularly the coordinator, about any contraindications to the examination procedure discovered by himself/herself or any other examination staff member. The physician is the final arbiter in all purely medical and safety matters if no protocol applies. It is the physician's responsibility to assess and make a decision regarding continuation of the examination in regards to an untoward medical or safety event which occurs. The physician clinically evaluates the SP and makes a professional decision as to whether the SP should continue with that particular part of the examination and/or any of the examination. It is the physician's professional opinion which is the deciding factor.
- **Handling Examinee Flow Through the MEC.** The physician should defer to the coordinator on decisions pertaining to examinee flow.
- **Performing Duties at the End of a Stand.** The physician is responsible for four major duties at the end of a stand. These include (1) completing the physician's room inventory; (2) packing the physician's room and emergency kit for travel; (3) giving any hard copies of the documents and/or form letters to the MEC Manager; and (4) mailing copies of these same materials to Westat.

2.5 Role of the Coordinator

The coordinator's responsibilities at the MEC are to:

- Use the automated scheduling system to coordinate the flow of sample persons through the examination;
- Greet each sample person, provide him/her with a gown, obtain a urine specimen, take his/her oral temperature, validate his/her age, and assign him/her to the appropriate examination station using the automatic scheduler;
- Complete and review specified parts of each sample person's record;
- Pay each sample person;
- Ensure that each sample person has transportation back to his/her home;
- Maintain the appearance of the MEC reception area;
- Transmit data as specified;
- Take beginning and end of stand inventories of MEC Coordinator supplies and collect inventories from other staff;
- Train and supervise the local assistants for the MEC; and
- Notify the MEC Manager immediately of any serious problem in the MEC.

2.6 Examinee's Chart for the MEC

The examinee chart includes the SP Control Record to be completed by the various MEC team members, and the SP ID labels.

2.7 Physician's Automation System

The purpose of the physician's automation system is to support the performance of the physician's examination, the referral procedures, and specific quality control. It has been designed to facilitate data entry for all physician tasks. Appendix C-1 describes the use of the automated system, including how to log on and off the system, how to use the physician's menu, and how to use each of the programs called from the physician's menu system.

2.8 General Specifications for Entering Information onto the Hard Copy Physical Examination

The automated system is to be used for entering information for the physician examination. If the automated version is not available (i.e., equipment failure) the hard copy examination form is to be used.

- The physician must fill out the Physician's Examination Form in its entirety. There are two additional forms which are used for tracking and documenting all aspects of the examinee procedures. They are the Level II Referral Contact Log and the Physician's Daily Log.
- All information is to be entered by filling in the proper information with a #2 black pencil.. If an incorrect entry is made, circle the incorrect answer and fill in the correct response. Accuracy of the data is the most important consideration. Do not use medical shorthand.
- The format of the form is similar to a check list where the presence or absence of specific conditions and basic descriptive items are noted. Also, there is space to describe any additional findings or to expand on checked findings within each subsection of the form.
- Certain procedures are to be deleted from the examination on the basis of the age of the examinee. The item on the form will be left blank when the procedure is deleted due to age. These procedures are indicated on the form and are listed below:
 - Blood Pressure - only measured on persons five (5) years and older.
 - Tanner Staging - only determined on examinees between the ages of eight (8) and eighteen (18).
 - Joints - only performed on examinees sixty (60) years and over.
 - Gait - only performed on examinees age three (3) and older.
 - Speech - only assessed on persons age three (3) years and older.
- In some cases certain parts of the exam will not be applicable. This will occur when, for example, the examinee has had the part of the body removed that is to be examined. In these situations the code, "Data not collected" should be used.
- If the examinee is uncooperative, such as a crying child, or cannot perform some portion of the exam, the code, "Data not collected" should be used and then a comment should be made in the column on the right side of the form.
- The physician will record positive findings as soon as they are discovered. The physician does not have to stop to record any normals until the next recording

point. If the examinee has no abnormal findings, the guidelines for points to record depending on age of the SP can be found in the Appendix B.

- Completion of the form must be carried out while the examinee is in the examining room to allow for any necessary corrections.

In this section of the manual instructions for conducting the physician's examination are organized as follows:

- 3.X - Body Part or System -- actual body part or system to be examined,
- 3.X.1 - Procedure -- explaining the position of the examinee and how to examine the particular body part or system, and
- 3.X.2 - Recording of Findings and Definitions -- explaining how to record findings in the automated system and gives the criteria for each component of the examination.

2.9 Special Areas of Focus

There are two special areas of focus for the physician. They include dealing with the examination of the pediatric examinee, and the chronically ill or functionally impaired examinee.

2.9.1 The Pediatric Examinee

During the physician's examination the age of the child will determine the amount and the level of verbal communication. For the infant and young child, the mother is usually the dominant informant. However, it must not be overlooked that important nonverbal communication takes place between the physician and the child beyond early infancy during the examination. To the 6-month-old on his mother's knee, the physician might be a source of fun and entertainment with his rattle, fuzzy toy, and bell, while to the 10-month-old s/he might be a strange threat with a new face and different voice. The toddler and preschool child warily eyes the interloper and makes value judgments based on how he perceives his parents' reaction to the stranger and on his own experience with adults. Even at this age, valuable information can be gained by direct conversation with the child. It is well worth the investment in time to engage in simple play, utilizing the physician's instruments. (The stethoscope becomes a

telephone, the pen light a blinking light, etc.) In addition to supplying the opportunity to observe the child at play, handling the instruments defuses the situation for the imminent examination. Special consideration was given to these children when ordering the examination and therefore any intrusive or perceived to be intrusive procedures, have been placed at the end of the examination.

Older school children should be given the chance to talk with the physician. They are usually ignorant of what will transpire and invariably anxious and apprehensive. It is the physician's duty to be forthright and honest with the child. The child's age, maturity, cooperation, and level of intelligence are all factors in how the doctor proceeds. In some instances his/her approach can be direct, in others quite indirect. Patience, flexibility, and sensitivity are all necessary ingredients for successful communication.

The adolescent examinee requires special consideration. These examinees are at an extremely sensitive age and their modesty is of utmost importance. Whether the examinee comes to the physician alone or with a parent, he or she (and the parent) should be informed that the examinee may have the exam alone or with the parent present and that absolute confidentiality will be honored. In discussion of problems with the adolescent it is particularly important to maintain a nonjudgmental and supportive attitude.

2.9.2 The Chronically Ill or Functionally Impaired Examinee

Some factors to keep in mind while examining these chronically ill or functionally impaired persons include:

- Due to changes in the circulatory system they may not tolerate extreme position changes as well as other persons.
- Due to tissue changes the person may be more sensitive to heat and cold and therefore be aware that the person is properly draped at all times during the examination.
- Due to changes in mental status, the person may seem confused or may actually have dementia. The physician should accept these examinees as they are without judgment or criticism and encourage maximum participation.

Some examinees will present to you with physiological and/or psychological injuries, deteriorations, and/or deprivations. There are so many variables as to what the functional impairment might be, it would be impossible to give guidelines for every possibility. Therefore whenever a functionally impaired examinee presents himself/herself for examination unless specific guidelines have been given (i.e., IF A WITHERED RIGHT ARM, TAKE BP in left arm), it will be necessary for you to make a judgment as to whether or not it will be possible to examine the examinee without changing the methodology of the procedures. It may be appropriate not to perform certain parts of the examination in order to maintain the established protocol. (i.e. examinee is missing both arms, but it would be possible to measure the examinee's blood pressure on the leg. In this instance you would not take a BP on the examinee as the findings could be different from all others examinees due to the fact that the method used was different than all other examinees, whose BP's would have been taken on the arm.) However, it is imperative to follow protocols as specifically as possible, entering problems in the comments section of the examination.

2.10 Medical Policy Regarding the Examination

The purpose of the NHANES III study is to collect data on the health status of the United States population. Treatment is **not** within the role of the MEC physician, although concern for proper treatment is admirable, findings should be noted and included in the referral. Our main mission is data collection. We are not set up to treat or manage medical problems. In most instances the examining physician will not be licensed within the state in which the examinations are being conducted. The liability insurance obtained for Westat physicians does not cover any type of treatment procedure (except emergency stabilizations).

It is also important to keep in mind that we as individuals and as a health research organization have no control over local health care systems. Any involvement beyond routine referral is ineffective and interferes with the purpose of the study. Referral of examinees has been included in the MEC procedure for ethical reasons even though referral is **not** within the purpose of the study. Instead we anticipate that the NHANES III data analysis will provide documentation of any substandard care being delivered to the population and that this evidence may ultimately provide the impetus for the improvement of local health care systems.

Generally it is not necessary to discuss findings with the examinees unless referrals are needed. A single examination often does not allow an adequate interpretation of findings nor provide a solid foundation for giving specific advice to an examinee. Furthermore, providing the examinee with the findings may be contrary to what his/her personal or clinic physician has decided to do. Only the examinee's personal physician or community clinic physician who has the individual's long-term records available should interpret the findings and decide what to tell the person. For these reasons, reports of findings are routinely sent to the physician or clinic the examinee indicates on the consent form or to an appropriate referral medical facility. Reports of findings include a physical findings report summary, a Centers for Disease Control (CDC) laboratory report, and if done, an ECG tracing. The examinee is encouraged to contact his/her physician/clinic or referral medical facility for the results.

Based only on the MEC examination, the physician should place the examinee in one of three categories:

- Level I Major medical findings that warrant **immediate** attention by a health care provider; emergencies.
- Level II Major medical findings that warrant attention by a health care provider within the **next two weeks** because they are expected to cause adverse effects within this time period.
- Level III No medical findings; minor medical findings that an examinee already knows about, is under care for, or does not require prompt attention by a medical provider.

If the examinee is placed in the Level III category, no special steps are required. For such an examinee and, in fact, for all examinees who have consented to releasing the findings, reports of findings will be sent out by NCHS to the examinee's designated or referral health care provider.

If the examinee is placed in the Level II category, thus requiring early medical care, the examining physician should explain the findings to the examinee, ask and get oral consent from the examinee to contact his/her personal physician or clinic. When the SP has no health care provider, the physician may transmit the information to a referral medical facility with the examinee's oral consent. Detailed procedures are presented in Chapter 4.

If the examinee is placed in the Level I category, thus requiring immediate medical attention, the physician should explain the findings to the examinee, ask and get oral consent from the

examinee to contact an emergency medical service in the area such as a hospital ambulance service or a fire rescue squad, then contact that service.

If the examinee refuses to give oral consent, the physician should ask an available MEC staff member to serve as a witness while the physician tries to convince the examinee of the seriousness of the situation. If the examinee still refuses, the physician should terminate the MEC examination and have the examinee sign the release form and leave the center expeditiously. Chapter 7 presents details for handling medical emergencies, including those where an examinee suffers a medical problem requiring immediate emergency procedures while in the MEC.

The examinee should be treated courteously as a person, not as a sample number. Exchanges of information between staff members for the better understanding of an examinee must be discreet, and staff should never discuss one examinee in front of another examinee or in open public areas of the MEC where these conversations could be overheard by another examinee.

3. PHYSICIAN EXAMINATION PROTOCOL

The physician's examination form and certain control forms are automated for the main study. The hard copy version will be available in the MEC for use, should there be a power outage or equipment failure. Instructions for use of the hard copy version(s) will be found in Appendix D. Data screens will collect the data regarding specific items in the exam. You will complete these screens by entering the appropriate codes as indicated in the instructions below.

If there are several items listed on the screen, you may choose to enter a code on the data screen for the given abnormality, or enter an overall "NO FINDINGS" code if there are no abnormalities, or an overall "DATA NOT COLLECTED" code if the data were not collected.

A flow chart of the organization of the data entry screens and an example of each entry screen used for the physician's examination are given in Appendix C-2.

When performing certain parts of the examination, the physician will need to give specific instructions to the examinees. The instructions to be given to the examinee, in both English and Spanish, for Upper Extremity-Joint Exam, Lower Extremities-Joint Exam, and Bioelectrical Impedance are given in Appendix E.

3.1 Examinee Identification

3.1.1 Procedure

In the automated version of the physician exam the physician enters the examinee sample number onto the introductory screen. When the number is completely entered, the examinee's name, age and sex will appear on the screen. Check that this information is correct with the examinee's chart.

3.2 Locomotion/Gait (Age 3 and Over)

3.2.1 Procedure

Check for locomotion as the examinee enters the examining room.

3.2.2 Recording of Findings and Definitions

A normal gait is relaxed with easy alternate arm swings. The face and head should lead the rest of the body on turns. Posture is upright without stooping.

- The right and left side will be coded together for limp and shuffle.
- No Abnormalities Present: Select the "1. No Findings" box if no abnormalities of gait are noted.
- Data Not Collected: Select "8. Data Not Collected" if you are unable to observe the examinee walking into the examination room.
- Abnormalities Present: Limp - will be considered present if there is a noticeable sway to one side requiring a swinging rotation consistency on that foot.
- Shuffle - will be considered present if the foot slides across the floor rather than being lifted and returned to the floor on each step. Select "2. Yes" if limp and/or shuffle is noted on the right and/or left side. Select "1. No" if no limp or shuffle is noted on the right or left side.
- Other abnormalities - Select the "2. Yes" box if other abnormalities of gait are noted such as unequal strides with the left or right foot, stops between steps or cannot walk. Select "1. No" if no other abnormalities of gait are noted.

3.3 Eyes (Age Specific)

3.3.1 Procedure

Carry out all eye tests with examinee seated. If examinee wears glasses, have them removed for the following examinations. Contact lenses may be left in place.

- Observe whether globes are present or absent on examinees age 2 months to 18 years.
- For examinees age 2 months to 4 years, use the penlight to catch the attention of the child. Move the penlight from the extreme right to the extreme left of the child's visual field. Note if the child's eye(s) follow the light.
- Select for strabismus (age 5-18).
 1. For examinees age 5-18, shine the penlight into the examinee's eyes.
 - a. Note if the reflection of the light is in the same position in both eyes.
 2. Next, for examinees age 5-18, perform the cover-uncover test. Cover the right eye, and have the examinee look at the light, then uncover the right eye. Note if each eye holds its position or if the eye that was covered swings back into position after being uncovered. Repeat for the left eye.

3.3.2 Recording of Findings and Definitions

- Globe Missing or Blind - Select "1. None, No Findings" when both eyes are present. Select "2. Right", if the right globe is missing or the examinee is blind. Select "3. Left", if the left globe is missing or the examinee is blind. Select "4. Both" when both globes are missing or the examinee is blind. Select "8. Data Not Collected" if you are unable to observe the examinee's eyes.
- Tracks light - For examinees age 2 months to 4 years, select the "1. Yes" box if the examinee's eyes follow the light; select the "2. No" box if the examinee's eyes do not follow the light. Select "8. Data Not Collected" if you are unable to observe the procedure.

Strabismus is a disorder in which the optic axes cannot be directed to the same object due to lack of muscle coordination.

- Strabismus (observation) - For examinees age 5-18, if the reflection of the light is not in the same position in both eyes, select "2. Observation" for strabismus observed. If the reflection of the light is in the same position in both eyes, select "1. No Findings" for strabismus not observed. Select "8. Data Not Collected" if you are unable to observe the examinee for this procedure.
- Strabismus (cover-uncover) - For examinees age 5-18, select "3. Cover/ Uncover Test" if the eye moves into position when it is uncovered. Select "1. No Findings" if there is no abnormality in muscle imbalance seen in the cover/uncover test. Select "8. Data Not Collected" if you are unable to observe the examinee for this procedure.

3.4 Observation (All Ages)

3.4.1 Procedure (All Ages)

With the examinee seated observe for limb abnormalities including paralysis, presence of cast or amputation. Also observe whether the examinee is confined to a wheelchair or stretcher.

3.4.2 Recording of Findings and Definitions

a. Limb Abnormality by Observation

No Findings: Select the "1. No Findings" box if no limb abnormalities (arm or leg) are noted and the examinee is not confined to a wheelchair or a stretcher.

Data Not Collected: Select "8. Data Not Collected" box if you are unable to observe the overall limb abnormalities.

a.1 **Paralysis/Paresis - Arm:** The right and left arm will be coded separately. Select "1. None, No Findings" if there is no paralysis/paresis of the right or left arm. Select "2. Right" if the right arm is paralyzed/has evidence of paresis. Select "3. Left" if the left arm is paralyzed/has evidence of paresis. Select "4. Both" if both the right/left arm are paralyzed/has evidence of paresis. Paralysis/paresis for purposes of this study will be the loss or impairment of motor function in the arm. If you observe paralysis/paresis in the right and/or left arm, do as much of the examination as capable, noting these findings. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee's arms for paralysis/paresis.

Paralysis/Paresis - Leg: The right and left leg will be coded separately. Select "1. None, No Findings" if there is no paralysis/paresis of the right

or left leg. Select "2. Right" if the right leg is paralyzed/has evidence of paresis. Select "3. Left" if the left leg is paralyzed/has evidence of paresis. Select "4. Both" if both the right and left leg are paralyzed/has evidence of paresis. Paralysis/paresis for purposes of this study will be the loss or impairment of motor function in the leg. If you observe paralysis/paresis in the right and/or left leg, do as much of the examination as capable, noting these findings. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee's legs for paralysis/paresis.

- a.2 **Confined to a Wheelchair or Stretcher:** Select "2. Yes" if the examinee is confined to a wheelchair or stretcher. For purposes of this study, that will mean that the examinee requires the wheelchair or stretcher, at any time, to move from place to place, while in the MEC. Select "1. No" if the examinee does not use a wheelchair or stretcher at any time, while in the MEC. This condition will limit the completeness of your examination and is important to record.

b. Amputees/Cast

No Findings: Select "1. No Findings" box if no casts and no amputations of both arm limbs are observed.

Data Not Collected: Select the "8. Data Not Collected" box if you are unable to observe the overall casts/amputations of both arm limbs.

- b.1 **Cast-Arm:** The right and left arm will be coded separately. Select "1. None, No Findings" for the right and/or left shoulder/elbow/wrist if the right and/or left shoulder/elbow/wrist does not have a cast on it. Select "4. Yes" for right and/or left shoulder/elbow/wrist if the right and/or left shoulder/elbow/wrist has a cast on it. A cast for purposes of this study will include a soft cast which cannot be removed or a stiff dressing or casing made of bandage impregnated with plaster of Paris or other hardening material, used to immobilize the arm or the leg. For the digits, 1-5, of the left and right hand, select "1. None, No Findings" if there is no cast on the digit, select "4. Yes", if there is a cast on the digit. If you observe a cast, do as much of the examination as capable, noting these findings. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee for casts on the right or left arm and digits.

Amputee - Arm: The right and left arm will be coded separately. Select "1. None, No Findings" for right and/or left upper extremity if there is no amputation(s) of the right and/or left upper extremity. Select "3. Yes" for the right and/or left arm for (a) at shoulder joint, if the examinee's arm is amputated at the shoulder joint. Select "3. Yes" for (b) between shoulder and elbow joint, if the examinee's arm is amputated below the shoulder joint but above the elbow joint. Select "3. Yes" for (c) at elbow joint, if the examinee's arm is amputated at the elbow joint. Select "3. Yes" for (d) between the elbow and wrist joint, if the examinee's arm is amputated below the elbow joint but above the wrist joint. Select "3. Yes" for (e) at

wrist joint, if the examinee's arm is amputated at the wrist joint. Select "3. Yes" for (f) distal to wrist, if the examinee's arm is amputated anywhere below the wrist joint up to and including the metacarpal joints. For the digits 1-5, select "1. None, No Findings" if the digit is present or is partially amputated. If a partial amputation of a digit is present, make a comment about it in the comment field. Select "3g. Yes" for each digit that the examinee has had totally amputated on the right and/or left hand. If you observe any amputations, do as much of the examination as capable. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee for amputation of the left or right arm and digits.

No Findings: Select "1. No Findings" box if no casts and no amputations of both leg limbs are observed.

Data Not Collected: Select "8. Data Not Collected" box if you are unable to observe the overall casts/amputations of both leg limbs.

b.2 **Cast - Leg:** The right and left leg will be coded separately. Select "1. None, No Findings" for right and/or left hip/knee/ankle/great toes if the right and/or left hip/knee/ankle/great toes does NOT have a cast. Select "4. Yes" for right and/or left hip/knee/ankle/great toes if the right and/or left hip/knee/ankle/great toes have a cast. See definition of cast under "Cast - Arm." If you observe a cast, do as much of the examination as capable, noting these findings. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee for casts on the right or left leg and great toe.

Amputee - Leg: The right and left leg will be coded separately. Select "1. None, No Findings" for right and/or left lower extremity if there is no amputation(s) of the right and/or left lower extremity. Select "3. Yes" for the right and/or left leg for (a) at hip joint, if the examinee's leg is amputated at the hip joint. Select "3. Yes" for (b) between hip and knee joint, if the examinee's leg is amputated below the hip joint but above the knee joint. Select "3. Yes" for (c) at knee joint, if the examinee's leg is amputated at the knee joint. Select "3. Yes" for (d) between the knee and ankle joint, if the examinee's leg is amputated below the knee joint but above the ankle joint. Select "3. Yes" for (e) at ankle joint, if the examinee's leg is amputated at the ankle joint. Select "3. Yes" for (f) distal to ankle, if the examinee's leg is amputated below the ankle joint except the great toe. Select "3g. Yes" if the examinee's right and/or left great toe has been totally amputated. If the great toe is partially amputated, select "1. None, No Findings" for right and/or left lower extremity but make a note of this fact in the comments section. If you observe any amputations of the leg, do as much of the examination as capable. This condition will limit the completeness of your examination and is important to record. Select "8. Data Not Collected" if you are unable to observe the examinee for amputations to the right or left leg and great toe.

3.5 Upper Extremities (Age 60 and Older) Hand Joint Manifestations

3.5.1 Procedure

The joint examination will be performed in a systematic fashion. The following sequence will be followed: wrists, hands - MCP, hands - PIP, hands - DIP, hands - CMC, and hands, deformities. Each joint or group of joints will be examined for pain on passive motion and the selected joints for tenderness on palpation and swelling.

The purpose of this section of the examination is to define key clinical features of rheumatoid or osteoarthritis primarily according to the signs listed above. The clinical features will be used with X-ray, biochemical and functional measures to create diagnostic groups.

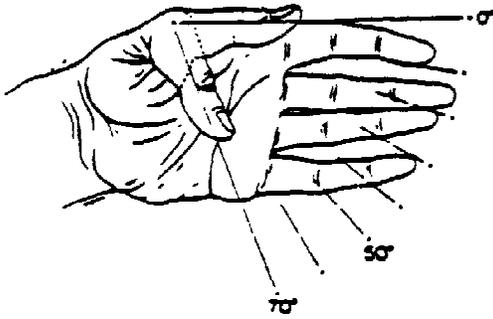
3.5.1.1 Wrists (Examinee Seated)

- a. Observe the right and left wrists for signs of swelling.
- b. Gently palpate for tenderness by applying direct pressure on the joint line at the distal radius and ulnar styloid process.
- c. Palpate for swelling over the extensor surface and just distal to the ulnar styloid process.
- d. Conduct passive ROM of the right and left wrist by anchoring the forearm with one of your hands, with your other hand holding the examinee's hand. Gently bend the examinee's hand backward to the limit. Straighten the hand. Then bend the examinee's hand forward, closing his/her fingers to make a fist, to the limit. Open and straighten the hand. Note if the examinee complains of pain on passive ROM. (Exhibit 3-1)
- e. While the wrists are being examined note the presence of palmar subluxation.

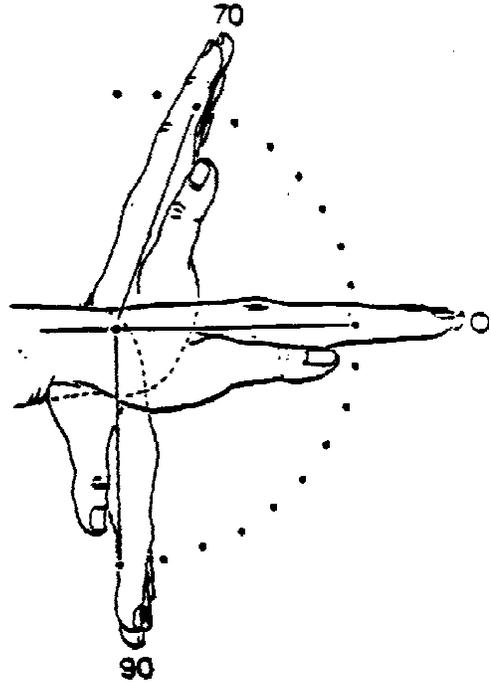
3.5.1.2 Hands (Examinee Seated)

- MCP Joints
 - a. Check for tenderness of the MCP joints as a group by performing lateral compression of the hand at the line of the MCP joints. If any joints are tender, confirm by direct palpation over the dorsum of each joint.

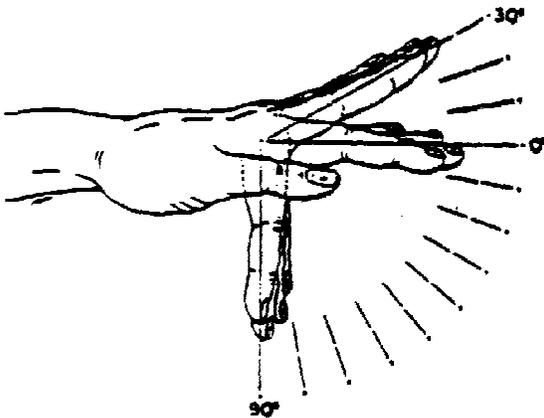
Exhibit 3-1. Metacarpal and wrist joint



Normal range of flexion in metacarpophalangeal (MCP) joint in thumb (first digit) usually is about 50 degrees but varies in different people



Normal range of flexion and extension in wrist joint



Normal range of flexion and extension in metacarpophalangeal (MCP) joints of fingers

- b. Have the examinee close each hand into a fist and inspect the areas between the joints when the hand is in a closed fist for synovial swelling. Confirm the swelling by palpation over the dorsum of the joint.
- c. Conduct passive ROM for the MCP joints of the right and left hand by anchoring the examinee's hand with one of your hands while your other hand gently extends and flexes the MCP joint(s). Note the limitation, if any. The normal ROM for the MCP joints of the second through fifth digits is -30° (hyperextension) to 90° flexion (Exhibit 3-1). If subject complains of pain, identify individual joints.

■ PIP Joint

- a. Check for tenderness of the PIP joints as a group by compressing both sides of the hand at the line of the PIP joints. If any joints are tender, confirm by direct palpation.
- b. Inspect examinee's hands for evidence of synovial swelling; distinguish between bony enlargement (Bouchard's Nodes) and synovial swelling by palpation. The bony enlargements will be hard while synovial thickening/or fluid will be spongy.
- c. Conduct passive ROM for the PIP joints of the right and left hand by anchoring the MCP joints with one of your hands, while your other hand gently extends and flexes the PIP joints as a group. The normal ROM for PIP joints is from 0° to between 110° - 120° of flexion (Exhibit 3-2). If subject complains of pain, identify individual joints.

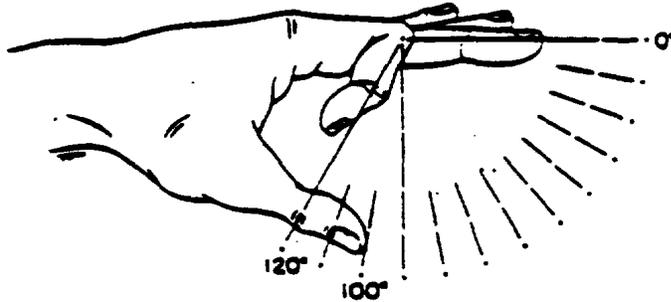
■ DIP Joint

- a. Gently palpate the dorso - medial and dorso - lateral aspects of the DIP joints of the right and left hand, note any tenderness, swelling or bony enlargements (i.e., Heberden's nodes). Differentiate any bony enlargements from synovial swelling. Bony enlargements will be hard and normally not tender. The synovium will be spongy and sometimes tender.
- b. Conduct passive range of motion on each DIP joint of the right and left hand by anchoring the PIP joint of each finger with one of your hands, while the other hand gently extends and flexes the DIP joint to the limit. Note the limitation, if any. Normal range of motion (ROM) of the DIP joints of the fingers is 0° - 80° of flexion (Exhibit 3-2). Identify if pain is present on passive motion.

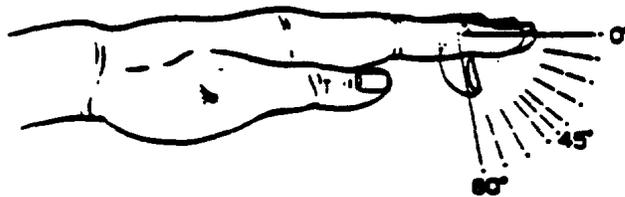
■ Thumb Interphalangeal Joint

Conduct passive range of motion on the IP joint of each thumb by anchoring the first carpometacarpal joint with one of your hands while the other hand gently extends and flexes the IP joint of one thumb to the limit. Normal range of motion of flexion and extension in the interphalangeal joint of the thumb (first digit) is 35°-90° (Exhibit 3-2). Identify if pain is present on passive motion.

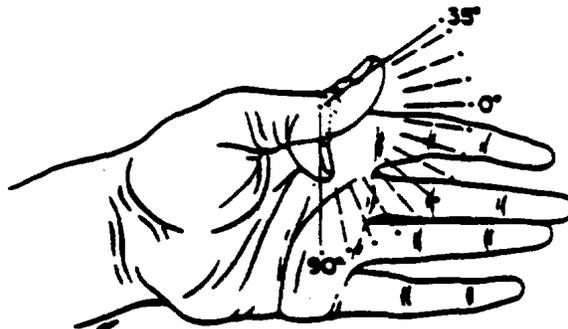
Exhibit 3-2. The proximal and distal interphalangeal joints



Normal range of flexion in proximal interphalangeal joint (PIP)



Normal range of flexion in distal interphalangeal joint (DIP)



Normal range of flexion and extension in interphalangeal joint (IP) of thumb (first digit)

- First Carpometacarpal Joint

Inspect the first carpometacarpal (CMC) joint for swelling or bony thickening. If either of these appear to be present, palpate the joint to distinguish between boggy soft tissue swelling or bony thickening and spurs.

Abduct the first carpometacarpal joint by gently pressing the side of the thumb to the palm of the hand and then abduct the CMC joint by gently raising the thumb from the supinated palm. Normal range of motion for abduction is 0°; abduction is 50°-60°. Identify if pain is present on passive motion.

Palpate the CMC at the base of the thumb for crepitus using one finger as the sensor while holding the subject's thumb at the distal end of the proximal phalanx and rotating the thumb counterclockwise.

- While the upper extremities are being examined note the presence of:

- Heberden's nodes
- Bouchard's Nodes
- Swan Neck deformity
- Boutonniere deformity
- Ulnar Deviation or Subluxation at MCP or wrist

3.5.2 Recording of Findings and Definitions for Hand Joint Manifestations

Hand/Joint Manifestations: For each joint you examine you will enter the following information if applicable.

Tender on Palpation - The examinee's response is an indication of inflammation in the joint and the degree of response roughly correlates with the severity of the inflammation. Other variables may influence the examination such as: amount of pressure applied by the examiner, pain tolerance of the examinee, other deficits, and to some degree the joint being palpated. For purposes of this study tender on palpation will include:

- a) a complaint of tenderness;
- b) a complaint of tenderness and wincing;
- c) wincing and an attempt to withdraw.

Swelling

Synovial swelling is the thickening of the synovial lining of a joint and is characteristic of RA. The joints appear thickened, but the synovium feels baggy or spongy. Fluid produced by the synovium may also accumulate within the joint capsule, producing tight swelling. However, the spongy feel of synovium is still detectable.

Soft tissue swelling is the swelling of structures/soft tissues that surround the joint. Generally, there are diffuse swellings that may extend past the joint itself. It would resemble swelling that accompanies a slight sprain of a joint.

For purposes of this study we will only be interested in synovial swelling.

Pain on Passive Motion is the degree of an examinee's discomfort when a joint is moved passively through its free and easy range of motion. Thickened, inflamed synovial tissue or a tense joint effusion will limit the free and easy range of motion and result in pain. The examinee's response is used as an indicator of inflammation in the joint and the degree of response will roughly correlate with the severity of the inflammation. Other variables, however, may influence this examination, including attempts to move the joint beyond the normal extremes of range of motion, the pain tolerance of the examinee, other diseases and joint incongruity and/or malalignment. For purposes of this study joint pain on motion will include

- a) complaint of pain;
- b) complaint of pain with wincing;
- c) wincing and attempt to withdraw.

a. **Wrist Joint**

No Findings: Select the "1. No Findings" box if there are no manifestations, joint abnormalities, dysfunction or disease in the joints of the wrist. Go on to "b. MCP," if you select the "1. No Findings" box. Otherwise enter information for each category as appropriate.

Data Not Collected: Select "8. Data Not Collected" if the examination of the wrist cannot be done (i.e., examinee refuses exam).

- Tenderness on Palpation - Select "1. None, No Findings" if there is no tenderness in the right and left wrist joint on palpation. Select "2. Right" if there is tenderness in the right wrist joint on palpation. Select "3. Left" if there is tenderness in the left wrist joint on palpation. Select "4. Both" only if there is tenderness in both wrist joints upon palpation. Select "8. Data Not Collected" if you are unable to conduct any particular portion of the wrist examination.
- Swelling - Select "1. None, No Findings" if there is no swelling in the right and left wrist joint. Select "2. Right" if there is swelling in the right wrist joint. Select "3. Left" if there is swelling in the left wrist joint. Select "4. Both" only if there is swelling in both wrist joints. Select "8. Data Not Collected" if you are unable to conduct any particular portion of the wrist examination.

Collected" if you are unable to conduct any particular portion of the wrist examination.

- Pain on Passive Motion - Select "1. None, No Findings" if no pain is exhibited on passive range of motion in the right and left wrist joint. Select "2. Right" if the examinee exhibits pain on passive motion in the right wrist joint. Select "3. Left" if the examinee exhibits pain on passive motion in the left wrist joint. Select "4. Both" if the examinee exhibits pain on passive motion in both wrist joints. Select "8. Data Not Collected" if you are unable to conduct any particular portion of the wrist examination.

b. Joints of the Hands

No Findings: Select the "1. No Findings" box if there are no manifestations in the CMC, MCP, PIP or DIP joints. Go on to "c. Deformities" if you select the "1. No Findings" box. Otherwise enter information for each section b1-4 as appropriate.

Data Not Collected: Select "8. Data Not Collected" if the exam on the MCP, PIP and DIP joints cannot be done (i.e., amputation of both hands).

b.1 MCP Joints of the Hands

- Tenderness on Palpation - The right and left MCP joints of the fingers will be coded separately for tenderness. For each MCP joint, 1-5, of the right and left hand select either "1. None, No Findings" if there is no tenderness on palpation, "2. Findings" if there is tenderness on palpation or "8. Some Data Not Collected" if you are unable to examine the specific joint.
- Swelling - The right and left MCP joints of the fingers will be coded separately for swelling. For each MCP joint, 1-5, of the right and left fingers select either: "1. None, No Findings" if the joint(s) do not exhibit swelling, "2. Findings" if the joint(s) exhibit swelling or "8. Some Data Not Collected" if you are unable to examine a specific joint.
- Pain on Passive Motion - The right and left MCP joints of the fingers will be coded separately for pain on passive motion. For each MCP joint, 1-5, of the right and left fingers, select either: "1. None, No Findings" if there is no pain present on passive motion, "2. Findings" if there is pain present on passive motion or "8. Some Data Not Collected" if you are unable to examine the specific joint.

b.2 PIP Joints of the Hands

- Tenderness on Palpation - The right and left PIP joints of the fingers will be coded separately for tenderness. For each PIP joint, 2-5, of the right and left fingers select either: "1. None, No Findings" for PIP joints that are not tender on palpation, or "2. Findings" for PIP joints that are tender on palpation or "8. Some Data Not Collected" if you are unable to palpate the specific joint.

- Swelling - The right and left PIP joints of the fingers will be coded separately for swelling. For each PIP joint, 2-5, of the right and left fingers select either: "1. None, No Findings" for PIP joints that do not exhibit swelling, "2. Findings" for PIP joints that exhibit swelling or "8. Some Data Not Collected" if you are unable to examine the specific joint.
- Pain on Passive Motion - The right and left PIP joints of the fingers will be coded separately for pain on passive motion. For each PIP joint, 2-5, of the right and left fingers select either: "1. None, No Findings" for PIP joints in which there is no pain present upon passive motion, "2. Findings" for joints in which there is pain present upon passive motion or "8. Some Data Not Collected" if you are unable to examine the specific joint.

b.3 **DIP Joints of the Hands**

- Tenderness on Palpation - The right and left DIP joints of the fingers will be coded separately for tenderness. For each DIP joint, 1-5, of the right and left fingers select either "1. None, No Findings" if there is no tenderness on palpation, "2. Findings" if there is tenderness on palpation or "8. Some Data Not Collected" if you are unable to examine the specific joint.
- Swelling - The right and left DIP joints of the fingers will be coded separately for swelling. For each DIP joint, 1-5, of the right and left fingers select either: "1. None, No Findings" if the joint does not exhibit swelling, "2. Findings" if the joint exhibits swelling or "8. Some Data Not Collected" if you are unable to examine the specific joint.
- Pain on Passive Motion - The right and left DIP joints of the fingers will be coded separately for pain on passive motion. For each DIP joints, 1-5, of the right and left fingers select either: "1. None, No Findings" if there is no pain present upon passive motion, "2. Findings" if there is pain present upon passive motion or "8. Some Data Not Collected" if you are unable to examine the specific joint.

b.4 **CMC Joints of the Hands**

- Crepitus of the CMC Joint - Select "1. None, No Findings" if there is no crepitus of both the right and left CMC joint. Select "2. Right" if there is crepitus present in the right CMC joint. Select "3. Left" if there is crepitus present in the left CMC joint. Select "4. Both" if crepitus is present in both CMC joints. Select "8. Data Not Collected" if you are unable to examine the CMC joints for the presence of crepitus.
- Tenderness on Palpation - Select "1. None, No Findings" if there is no tenderness on palpation in both the right and left CMC joint. Select "2. Right" if there is tenderness in the right CMC joint on palpation. Select "3. Left" if there is tenderness in the left CMC joint on palpation. Select "4. Both" only if there is tenderness in both CMC joints upon palpation. Select "8. Data Not Collected" if you are unable to palpate both CMC joints.

- Swelling - Select "1. None, No Findings" if there is no swelling in both the right and left CMC joints. Select "2. Right" if there is swelling in the right CMC joint. Select "3. Left" if there is swelling in the left CMC joint. Select "4. Both" only if there is swelling in both CMC joints. Select "8. Data Not Collected" if you are unable to examine both CMC joints for swelling.

- Pain on Passive Motion - Select "1. None, No Findings" if the examinee exhibits no pain on passive motion with abduction and adduction of both the legs. Select "2. Right" if the examinee exhibits pain on passive motion in the right CMC joint, regardless of whether on abduction or adduction. Select "3. Left" if the examinee exhibits pain on passive motion in the left CMC joint, regardless of whether on abduction or adduction. Select "4. Both" if the examinee exhibits pain on passive motion in both CMC joints, regardless of whether on abduction or adduction. Select "8. Data Not Collected" if you are unable to examine the right and left CMC joint for pain on passive motion.

c. **Deformities**

Recording of Findings and Definitions. A joint deformity for purposes of this study will be defined as the abnormal appearance or alignment of joint(s) which results from incongruity of joint surfaces, from imbalance of muscle groups, intrinsic muscle or soft tissue tightness, subluxation of joint or tendons.

Heberden's Nodes - (Exhibit 3-3) are small, discrete, nonmovable, hard, usually painless bony masses ranging from a few millimeters to a few centimeters. They are usually found at the DIP joints, especially of the index, middle and ring fingers. They actually look as though they have grown out of the joint.

Bouchard's Nodes - (Exhibit 3-3) are the same as Heberden's nodes, only they will be found at the PIP joints of the fingers.

Swan Neck Deformity - (Exhibit 3-4) a finger malformation in which there is flexion of the MCP joint, hyperextension of the PIP joint, and the DIP joint is flexed.

Boutonniere Joints - (Exhibit 3-4) a distortion of the finger characterized by flexion of the PIP joint accompanied by hyperextension of the DIP joint, of the same finger.

Subluxation at MCP Joint - (Exhibit 3-5) displacement of the tendon with a shift in the bony alignment at the MCP joint.

Ulnar Deviation at MCP Joint - (Exhibit 3-5) displacement of the tendon at the MCP joint with the MCP joints drifting towards the ulnar (outer) aspect of the wrist.

Subluxation at Wrist - (Exhibit 3-6) displacement of the tendon, usually the shift of the bony alignment is of the palmar (volar) type.

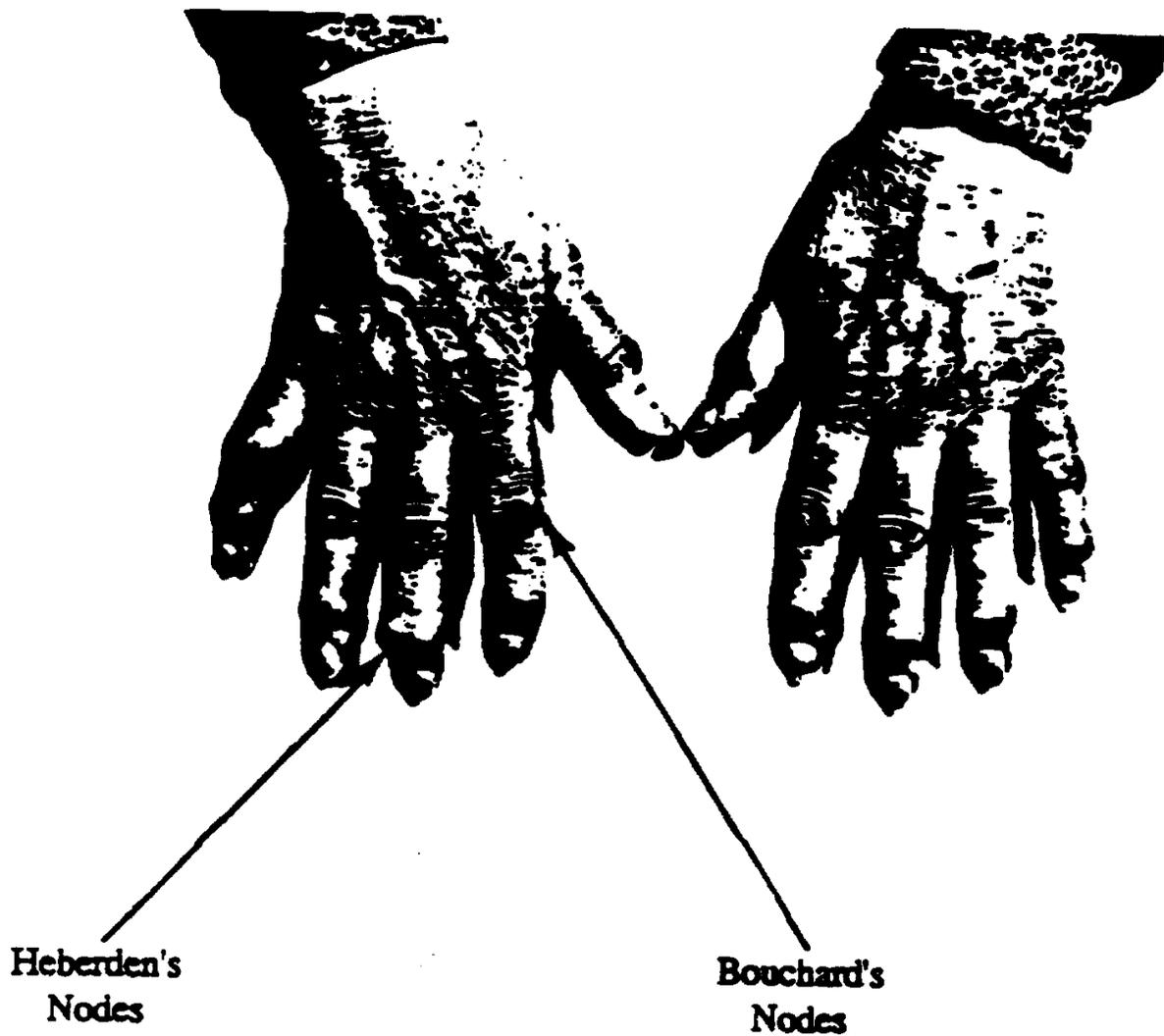
Subcutaneous nodules - (Exhibit 3-7) are firm, usually painless lumps of hard subcutaneous tissue of variable sizes. These are usually not located on a joint and are most commonly found on the extensor tendon of the elbow. The subcutaneous nodules are harder than synovial tissue and softer than bone.

Bony thickening/spurs at the CMC joint - (Exhibit 3-8) on palpation this will be solid, the consistency of bone, as opposed to being soft and boggy.

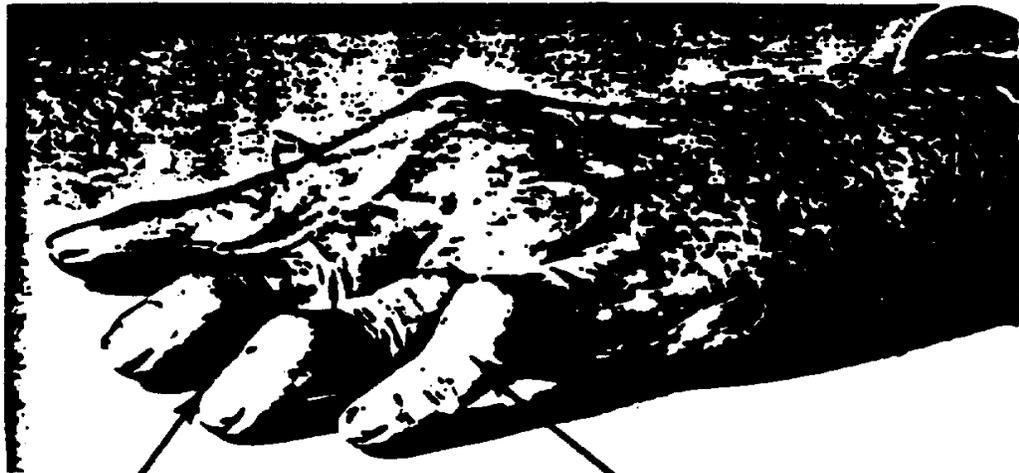
No Findings: Select "1. No Findings" box if no deformities are noted of the upper extremities.

Data Not Collected: Select "8. Data Not Collected" box if you are unable to observe and examine for deformities of the upper extremity.

Heberden's Nodes - Bouchard's Nodes



Swan Neck - Boutonniere Deformities



**Swan Neck
Deformity**

**Boutonniere
Deformity**

Exhibit 3-5. Subluxation at MCP joints

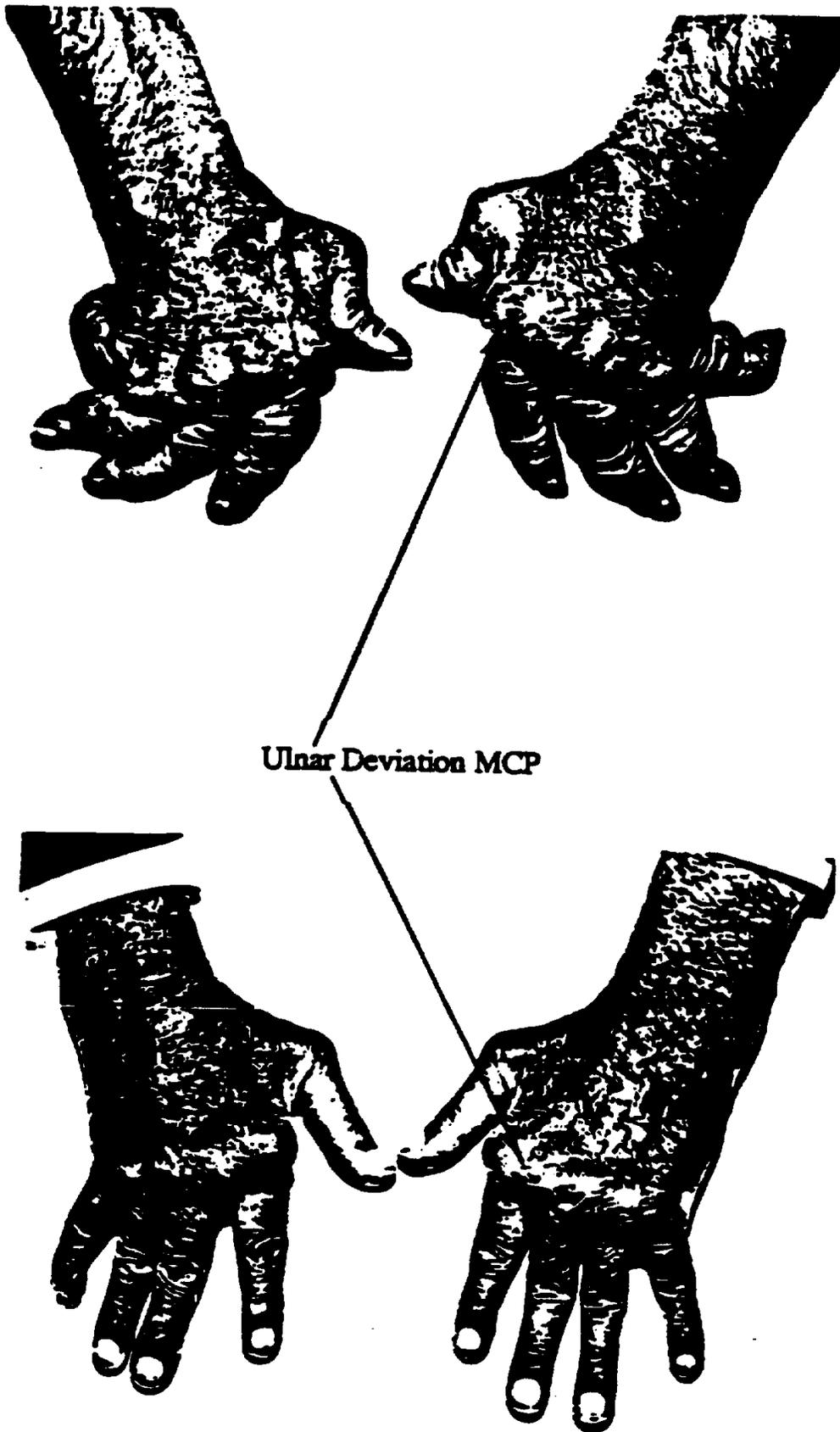


Exhibit 3-6. Subluxation at wrist

Subluxation - Wrist



Exhibit 3-7. Subcutaneous nodules



Exhibit 3-8. Bony thickening/spurs at CMC joint



**degenerative joint disease:
first carpometacarpal joint (x-ray)**

There is marked narrowing of the first carpometacarpal joint space with extensive sclerosis of adjacent bony margins. Osteophyte formation and subchondral cysts are seen. Lateral subluxation of the base of the metacarpal bone is a common finding, but not present in this x-ray.

Heberden's Nodes - The right and left hands will be coded separately. Select "1. None No Findings" if there are no Heberden's Nodes on the right/left hand.

Select "2. Right" if Heberden's nodes are on the right hand. Select "3. Left" if Heberden's nodes are on the left hand. Select "4. Both" if Heberden's Nodes are on both hands. Select "8. Data Not Collected" if you are unable to examine both hands for Heberden's Nodes.

Bouchard's Nodes - The right and left hands will be coded separately. Select "1. None, No Findings" if there are no Bouchard's Nodes on the right and left hand. Select "2. Right" if Bouchard's nodes are on the right hand. Select "3. Left" if Bouchard's nodes are on the left hand. Select "4. Both" if Bouchard's Nodes are on both hands. Select "8. Data Not Collected" if you are unable to examine both hands.

Swan Neck - The right and left hands will be coded separately. Select "1. None, No Findings" if there are no Swan Neck deformities of the fingers of the right and left hands. Select "2. Right" if there are any Swan Neck deformities of the fingers of the right hand, regardless of digit. Select "3. Left" if there are any Swan Neck deformities of the left hand, regardless of digit. Select "4. Both" if there are Swan Neck deformities of any of the fingers of the right and left hands. Select "8. Data Not Collected" if you are unable to examine both hands for Swan Neck deformities.

Boutonniere Joints - The right and left hands will be coded separately. Select "1. None, No Findings" if there are no Boutonniere deformities of the fingers of the right and left hands. Select "2. Right" if there are any Boutonniere deformities of the fingers of the right hand, regardless of digit. Select "3. Left" box if there are Boutonniere deformities of any of the fingers of the left hand, regardless of digit. Select "4. Both" if there are Boutonniere deformities of the fingers of the right and left hands. Select "8. Data Not Collected" if you are unable to examine both hands for Boutonniere deformities.

Ulnar Deviation or Subluxation at MCP Joints or Wrist - The right and left MCP joints or wrist will be coded separately. Select "1. None, No Findings" if there is no ulnar deviation or subluxation at MCP or the wrist of the right and left hands. Select "2. Right" if there is ulnar deviation and/or subluxation at the MCP joints on the right hand or wrist. Select "3. Left" if there is ulnar deviation and/or subluxation at the MCP joints on the left hand or wrist. Select "4. Both" if there is ulnar deviation and/or subluxation at the MCP joints of both hands or both wrists. Select "8. Data Not Collected" if you are unable to examine both hands.

Subcutaneous Nodules - The right and left forearms will be coded separately. Select "1. None, No Findings" if no subcutaneous nodules are noticed on the right and left forearm. Select "2. Right" if there are any subcutaneous nodules noted on the right forearm. Select "3. Left" if there are any subcutaneous nodules noted on the left forearm. Select "4. Both" if there are subcutaneous nodules noted on both the right and left forearms. Select "8. Data Not Collected" if you are unable to examine the right and left forearms.

Bony thickening/spurs at the CMC joint - The right and left hands will be coded separately. Select "1. None, No Findings" if there is no bony thickening/spurs at the right or left CMC joint. Select "2. Right" if there is bony thickening/spurs at the right CMC joint. Selection "3. Left" if there is bony thickening/spurs at the left CMC joint. Select "4. Both" if there is bony thickening/spurs at both CMC joints. Select "8. Data not collected" if you are unable to examine both CMC joints.

3.6 Central Pulse Rate (Examinees 2 Months to 4 Years)

3.6.1 Procedure

While the examinee is in a seated position, count the cardiac pulse, listening at the chest for 30 seconds.

3.6.2 Recording of Findings and Definitions

Enter the number of pulse beats counted in thirty seconds in the space provided for examinees 2 months to 4 years of age. If you are unable to determine the central pulse rate, enter "888."

3.7 Blood Pressure Measurement (Ages 5 and Older)

The blood pressure will be measured by the physician. Although these tests appear quite simple, accurate and standardized measurements depend on many factors. Because the measurements must be obtained in a uniform manner for each examinee, it is critical that you always follow these procedures.

For examinees who are age five to nineteen (5-19), the systolic, 4th Korotkoff (K) diastolic and 5thK diastolic will be measured. For examinees age twenty (20) and older, the systolic and 5thK diastolic only will be measured. All pressure measurements are made with the examinee seated. The examinee should be as quiet and as undisturbed as possible for at least five minutes before the blood pressure is measured.

Be sure that the examinee does not smoke or drink coffee or alcohol within the prior 30 minutes before the examination since these could affect the blood pressure. If the examinee has had any alcohol, coffee, or cigarettes in the past thirty minutes before the examination, record the information but still take the measurements.

There are some situations where taking the blood pressure is contraindicated. For example, if there are any rashes, gauze dressings, casts, edema, paralysis, tubes, open sores or wounds, or withered arms, or if there is a hematoma which in the physician's judgement would pose a risk to the subject. These conditions must exist on both arms in order to prevent measurement of the blood pressure. If these conditions prevent measuring pulse, do not attempt taking the blood pressure. Record the reason why the blood pressure cannot be taken in the comments section.

The blood pressure is to be measured in the right arm. If the examinee indicates any medical reason why this procedure should not be done in the right arm, use the left and record the reason in the comments section.

3.7.1 Procedure

There are five parts to the pulse and blood pressure measurement. These are:

- Locate the pulse points;
- Select and apply the cuff;
- Determine the maximum inflation level;
- Measure the pulse; and
- Determine the blood pressure.

Each of these is described below. For each of the procedures the arm should be placed at heart level. The right arm should be supported by the wall arm board which can be elevated if necessary with a pillow to bring the arm to the level of the heart. Children or short SPs may need to sit on a book or pillow to insure that their arm is at heart level. The manometer is wall mounted and the physician should position himself/herself so as to view the mercury column at eye level. The appropriate size cuff should be selected and applied snugly around the arm, so that its lower edge is 1 inch above the

antecubital space, allowing room for placement of the diaphragm/bell of the stethoscope lightly over the brachial artery.

A. Locate the Pulse Points

- Locating the radial pulse: With the examinee's right palm turned upward, place the first two fingers of your hand on the outer part of the crease of the wrist.
- Locating the brachial pulse: Again, with the right palm of the examinee turned up and the arm straightened (slightly bent at the elbow), place the first two fingers of your hand on the innermost (side toward the body) part of the crease of the elbow. If the brachial pulse is not felt, move your fingers slightly closer to the center of the arm, again press firmly in and hold. Continue this to the center of the arm. If the brachial pulse is still not felt, begin again from the center of the arm and work your way to the innermost (toward the body) part of the crease of the elbow.
- Both pulse and blood pressure will be measured in the same arm. The right arm will always be used unless specific conditions prohibit its use. Use the following guidelines:
 - If the radial pulse is apparent, whether or not the brachial pulse can be felt, proceed with the measurement of the pulse.
 - If the radial pulse cannot be felt in the right arm, use the left arm.
 - If the radial pulse cannot be felt in either arm, terminate the pulse and blood pressure procedure and record in the comments section.
- Brachial pulses in lieu of radial pulses - In some instances, it may be extremely difficult to palpate the radial pulse. The protocol for the NHANES III pulse and blood pressure procedure is based on the AHA protocol and requires that the pulse be counted at the radial pulse site and palpated for the MIL at the radial pulse site. Using the brachial pulse in lieu of the radial would deviate from the official AHA protocol, and therefore should not be done.

B. Select and Apply the Cuff

- Select the proper cuff size. The five cuffs to be used are the infant cuff, child cuff, adult cuff, large arm cuff, and thigh cuff. The size of the cuff and bladder used influences the accuracy of the blood pressure readings. If the cuff is too narrow, the blood pressure reading will be too high, and if it is too wide, the reading will be too low when compared to measurements taken intra-arterially. The size of the arm, not the age, determines the size cuff used.

The inside of the cuff is marked with an index line and range lines. If the index line along the edge of the cuff fits completely within the range lines

inside the cuff, the cuff is the correct size. If the cuff is barely large enough, the next larger cuff will be used.

Each cuff size will have a complete inflation system. These are easily attached by a twist connection to the manometer. It will not be necessary to exchange inflation bulbs and valves with the various cuffs.

- After locating the pulse points, apply the cuff to the examinee's arm. Always begin with the adult cuff, if you are measuring the blood pressure on an adult. Always begin with the child's cuff, if you are measuring the blood pressure on a child. Check the size before applying the cuff by making sure that the index line falls completely within the range lines. If the cuff is barely large enough, use the next larger size. The procedure for applying the cuff is as follows:
 - In selecting the proper cuff size, check the index line to determine if it lies completely within the size range lines marked on the cuff.
 - Position the rubber bladder over the brachial artery at least one inch above the natural crease across the inner aspect of the elbow. Place the marker on the inner part of the cuff directly over the brachial artery.
 - Wrap the cuff smoothly and snugly around the arm in a circular manner. No spiral direction of the cuff should be used.
 - Check the fit by placing both thumbs under the cuff and tugging gently.
 - For very large arms use the thigh cuff. Wrap the thigh cuff around the upper arm, not the thigh. If the thigh cuff covers the brachial artery at the arm crease, leave the cuff in place and put the stethoscope diaphragm directly over the brachial pulse point, under the cuff.
 - If a proper fit cannot be obtained with any of the cuffs because the examinee's arm is too large, use the thigh cuff and record in the comments.

C. Determine the Maximum Inflation Level (MIL)

To measure the maximum inflation level (MIL), connect the inflation tubing to the manometer by twisting the two ends of the tubing together. The MIL is obtained to determine the highest level to which the cuff should be inflated. If the cuff is underinflated and the examinee has an auscultatory gap, a falsely low reading will result. If the cuff is overinflated a falsely high reading could result.

The MIL will then be determined as follows:

- Locate the radial pulse pressure point in the arm to be used.
- Close the thumb valve. Palpate the radial pulse and watch the center of the mercury column of the manometer.
- Inflate the cuff quickly to 80 mm Hg for adults, 60 mm Hg for children, then inflate in increments of 10 mm Hg until the radial pulse disappears, noting the reading of the mercury column at that point. Continue inflating the cuff at increments of 10 mm Hg, pausing briefly to make sure the pulse is absent. Continue 30 mm Hg higher to make sure the radial pulse has disappeared.
- Rapidly deflate the cuff by opening the thumb valve completely and disconnecting the tubing.
- The MIL is the reading at the point the radial pulse disappeared plus 30 mm Hg.
- Wait 30 seconds before making a second attempt if the first is unsatisfactory. If the second attempt is unsatisfactory, terminate the procedure and note the problem in the comments section.

This value is the maximum level to which the cuff should be inflated for measuring this examinee's blood pressure.

- If the examinee reports significant discomfort from the cuff during determination of the MIL, recheck the fit of the cuff and remeasure the MIL. If the discomfort persists, terminate the procedure and note the problem in the comments section.
- If the radial pulse is still felt at a level of 270 mm Hg or higher (which means that the MIL is 300 mm Hg or higher), repeat the MIL. If the MIL is still 300 mm Hg, terminate the blood pressure measurements and enter "300/MIL" for the MIL.
- Repeat the MIL if the first attempt was unsatisfactory or you have had to readjust the cuff after measuring the MIL. Wait at least 30 seconds after measuring the MIL and before starting the blood pressure measurement.
- Repeat the MIL whenever a systolic blood pressure reading is less than 10mm mercury from the MIL.

- If more than 5 minutes has lapsed between inflations or if the cuff comes off between inflations, it is necessary to remeasure the MIL and repeat the blood pressure measurements.
- When the MIL has been satisfactorily determined, do not remove or reapply the cuff before measuring the blood pressure.

D. Measure the Pulses

With the examinee's right palm turned upward, place the first two fingers of your hand on the outer part of the crease of the wrist. Count the radial pulse for 15 seconds.

E. Determine the Blood Pressure

The following procedure will be used for the measurement of blood pressure:

- Position the stethoscope ear pieces comfortably in your ears, turning them forward toward the nose.
- Be sure the examinee's arm is positioned at the heart level. For small or short examinees, have the examinee sit on a book or pillow to raise his/her body to the correct position. If necessary, place his/her feet on a box or other item to stabilize his/her feet. For very tall examinees, place the examinee's arm on a book or pillow to bring his/her upper arm to the correct position.
- Feel the brachial pulse and place the stethoscope diaphragm (bell headpiece for children) directly over the pulse beat just below the cuff. The diaphragm/bell should be applied with light pressure so there is no air between it and the skin. If the brachial pulse is too faint to be felt, place the stethoscope diaphragm/bell over the innermost part of the crease of the elbow and proceed. If possible, avoid allowing the cuff, the tubing or diaphragm/bell to touch. Also avoid allowing the stethoscope to touch the cuff, any tubing, or the gown.
- Close the thumb valve. Rapidly and steadily inflate the cuff to the MIL. (If you inflate the cuff more than 10 mm Hg above the MIL, open the thumb valve, rapidly deflate the cuff and disconnect the tubing. Discontinue this reading and wait 30 seconds before inflating again.)
- When the MIL is reached, open the thumb valve and smoothly deflate the cuff at a constant rate near 2 mm Hg per second (one mark per second).
- Be sure your eyes are level with the center of the manometer. Watching the top of the mercury column, note the reading at the point when pulse sounds first appear using the mark at or just above the top (meniscus) of the mercury column. Listen for at least two beats to eliminate recording a single erroneous sound. Note the reading at the point the first pulse sound appears, not at the second beat. This is the systolic blood pressure reading and will be reported on all examinees.

- For children, continue deflation at 2 mm Hg per second. Note the reading when the sounds change from a knocking to a muffled sound, using the mark at or just above the top (meniscus) of the mercury column. Note the reading at the point the first muffled sound is heard. This is the fourth phase diastolic reading and will be reported only on children.
- Continue steady deflation at 2 mm Hg per second. Note the reading when the last sound is heard, using the mark at or just above the top of the mercury column. This is the fifth phase diastolic reading and will be reported on all examinees.
- Continue steady deflation at 2 mm Hg per second for at least 20 mm Hg below the final reading; then open the thumb valve completely and disconnect the tubing. Let the cuff fully deflate and disconnect the tubing. If you need to repeat the measurement, wait 30 seconds between measurements.
- Use the first reading (appearance of sounds, first Korotkoff sound) as the systolic pressure. For the second reading, in examinees 5-19 years of age record K4 (the change in pitch of the sounds) and K5 (the last sound) as the third reading and diastolic pressure. In examinees 20 years of age and over, record K5 (the last sound) as the diastolic pressure only. Use the nearest gradation. If the column fell between two gradations, use the mark at or just above the top of the mercury column. If pulse sounds continue to be heard down to zero pressure, record the diastolic reading as "000."
- If you have difficulty hearing the blood pressure sounds, there are two methods which can be used to increase the intensity and loudness of the sounds:
 - Have the examinee raise his/her arm and forearm for at least 60 seconds. Lower the arm, inflate the cuff, and take the blood pressure immediately. If raising the arm is difficult for the examinee, use the next method.
 - Instruct the examinee to open and close his/her fist 8-10 times, inflate the cuff, and take the blood pressure immediately.
- If it was necessary to use one of these enhancement methods, make sure you record this fact in the comment section.

3.7.2 Recording of Findings and Definitions

For each of the blood pressure measurements, record the following:

- a. Cuff Width - Select "1. Infant" if the infant cuff was used. Select "2. Child" if the child cuff was used. Select "3. Adult" if the adult cuff was used. Select "4.

Large" if the large arm cuff was used. Select "5. Thigh" if the thigh cuff was used. Select "8. Data Not Collected" if you did not measure the blood pressure.

- b. Arm - Select "1. Right" if the right arm was used for the blood pressure measurement, select "2. Left" if the left arm was used for the blood pressure measurement and note the reason in the comments section when the left arm is used. Select "8. Data Not Collected" if you did not measure the blood pressure.
- c. Alcohol, coffee or cigarettes prior to measurement. Select "2. Yes" if the examinee states that s/he has had alcohol, coffee or cigarettes within 30 minutes prior to your measurement of the blood pressure, otherwise select "1. No." Select "8. Data Not Collected" if you are unable to obtain this information.
- d. Pulse Rate (15 seconds) - Enter the actual number of beats counted for 15 seconds. Enter "888" if you cannot obtain the pulse rate.
- e. Irregular Pulse - Select "1. No" if the pulse was not irregular. Select "2. Yes" if the pulse was not regular and explain in comments. Select "8. Data Not Collected" if you are unable to obtain this information.
- f. MIL - Add 30 to the actual reading when the radial pulse disappeared and enter that number in "MIL". Enter "888" if you either do not obtain a MIL or did not measure the blood pressure.
- g,h,i. Blood Pressure Reading - For children, (ages 5-19) enter the systolic pressure, the 4thK and 5thK diastolic pressures for the first, second and third blood pressure reading. If you were unable to hear the 4thK diastolic pressure, leave the space provided for this reading blank. For adults, enter the systolic pressure and the 5thK diastolic pressures using the nearest gradation. Select the "refused" box if the examinee refused one or all of the blood pressures measurements and explain in comments. Enter "0" if you can not obtain the blood pressure at the time the BP screen appears. This code will automatically return the blood pressure screen at the end of the exam, in order to be completed. Enter "888" if the measurement could not be done (i.e. examinee became ill).
- j. Average Blood Pressure - The average blood pressure measurement will be automatically calculated when using the automated system. When using hard copy: for children (ages 5-19) enter the average of the second and third measurements for the systolic pressure, the 4th diastolic pressure, and the 5th diastolic pressure. If you obtained only the first and second measurements, record the second measurement. If you obtained only one measurement, record the single finding. For adults (ages 20 and over) enter the average of the second and third measurements for the systolic pressure and the 5th diastolic pressure. If you obtained only the first and second measurements, record the second measurement. If you obtained only one measurement, record the single finding.
- k. Statement to Examinee - Use the guidelines in Exhibits 3-9 through 3-12 for reporting the blood pressure measurement and MIL to the examinee. Use the Adult or Child Report of Pulse and Blood Pressure Findings (Exhibit 3-13) to report the findings to the SP. The examinee should be told his/her blood pressure and what it means. Refer to the statement which corresponds to the number for

the blood pressure reading in Exhibits 3-9 through 3-12 and record the number of the appropriate statement that you have read to the examinee. These are the recommended interpretations of the blood pressure reading.

3.8 Chest (All Ages)

3.8.1 Procedure

- With the examinee seated, auscultate the lungs as follows:
 - Listen to posterior chest by asking the examinee to breathe in and out through his/her mouth more deeply than usual.
 - Listen to each side of the chest at the lung base, with the stethoscope, beginning on the right side.
 - Listen to at least one entire breathing cycle at each location.
 - Listen for timing, pitch, intensity, and quality of breath sounds. Note extra or adventitious sounds.

3.8.2 Recording of Findings and Definitions

- Normal breath sounds should:
 - have an inspiration phase which is twice as long as the expiration phase,
 - no pause between inspiration and expiration, and;
 - the end of the expiration phase should be silent.

Exhibit 3-9. Adult blood pressure value box

Systolic	Diastolic				
	≤ 84	85 - 89	90 - 104	105 - 114	≥ 115
≤ 139	1	2	3	4	5
140 - 159	3	3	3	4	5
160 - 199	4	4	4	4	5
≥ 200	4	4	4	4	5

- (1) Your blood pressure today is within the normal* range.
- (2) Your blood pressure today is normal but at the high end of the normal range.* We suggest you see your doctor within the next year to have your blood pressure rechecked. Present this form to your doctor.
- (3) Your blood pressure today is above normal.* We suggest you see your doctor within the next two months to have your blood pressure rechecked. Present this form to your doctor.
- (4) Your blood pressure is high*. **YOU SHOULD SEE YOUR DOCTOR WITHIN THE NEXT TWO WEEKS TO HAVE YOUR BLOOD PRESSURE RECHECKED.** Present this form to your doctor.
- (5) Your blood pressure today is quite high.* **YOU SHOULD SEE YOUR DOCTOR OR CLINIC TODAY, OR GO TO A HOSPITAL EMERGENCY ROOM TO HAVE YOUR BLOOD PRESSURE RECHECKED.** Present this form to your doctor.

* According to the 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure, United States Department of Health and Human Services, Public Health Service, NIH.

Exhibit 3-10. Five-year old child blood pressure value box

Systolic	Diastolic			
	≤ 69	70 - 76	77 - 84	≥ 85
≤ 110	1	2	3	4
111 - 116	2	2	3	4
117 - 124	3	3	3	4
≥ 125	4	4	4	4

- (1) Your child's blood pressure today is within the acceptable* range.
- (2) Your child's blood pressure is slightly above the acceptable range* for his/her age. Children's blood pressure can fluctuate from day to day and sometimes even from moment to moment. Therefore, it is important to have your child's blood pressure checked again when your child sees a physician within the next several months or at least within one year. It is possible that it may be normal on the next reading. Present this form to his/her doctor.
- (3) Your child's blood pressure reading is considered to be higher than the acceptable* range for her age. Children's blood pressures tend to fluctuate, and therefore, it is important to have further checks on his/her blood pressure. It is possible that it may read lower at the next reading. Please present this form to his/her doctor, and it is recommended that his/her blood pressure be checked within the next several weeks.
- (4) Your child's blood pressure is high.* He/She should see the doctor or go to a clinic or a hospital within the next two days to have his/her blood pressure checked. Present this form to the doctor.

* According to the 1986 Second Task Force on Blood Pressure Control in Children, National Heart, Lung, and Blood Institute, Public Health Service, NIH.

Exhibit 3-11. Six-to-nine-year old child blood pressure value box

Systolic	Diastolic			
	≤ 73	74 - 78	79 - 86	≥ 87
≤ 114	1	2	3	4
115 - 122	2	2	3	4
123 - 130	3	3	3	4
≥ 131	4	4	4	4

- (1) Your child's blood pressure today is within the acceptable* range.
- (2) Your child's blood pressure is slightly above the acceptable range* for his/her age. Children's blood pressure can fluctuate from day to day and sometimes even from moment to moment. Therefore, it is important to have your child's blood pressure checked again when your child sees a physician within the next several months or at least within one year. It is possible that it may be normal on the next reading. Present this form to his/her doctor.
- (3) Your child's blood pressure reading is considered to be higher than the acceptable* range for his/her age. Children's blood pressures tend to fluctuate, and therefore, it is important to have further checks on his/her blood pressure. It is possible that it may read lower at the next reading. Please present this form to the doctor, and it is recommended that his/her blood pressure be checked within the next several weeks.
- (4) Your child's blood pressure is high.* He/She should see his/her doctor or go to a clinic or a hospital within the next two days to have his/her blood pressure checked. Present this form to the doctor.

* According to the 1986 Second Task Force on Blood Pressure Control in Children, National Heart, Lung, and Blood Institute, Public Health Service, NIH.

Exhibit 3-12. Ten-to twelve-year old child blood pressure value box

Systolic	Diastolic			
	≤ 71	72 - 82	83 - 90	≥ 91
≤ 121	1	2	3	4
122 - 126	2	2	3	4
127 - 134	3	3	3	4
≥ 135	4	4	4	4

- (1) Your child's blood pressure today is within the acceptable* range.
- (2) Your child's blood pressure is slightly above the acceptable range* for his/her age. Children's blood pressure can fluctuate from day to day and sometimes even from moment to moment. Therefore, it is important to have your child's blood pressure checked again when your child sees a physician within the next several months or at least within one year. It is possible that it may be normal on the next reading. Present this form to his/her doctor.
- (3) Your child's blood pressure reading is considered to be higher than the acceptable* range for his/her age. Children's blood pressures tend to fluctuate, and therefore, it is important to have further checks on his/her blood pressure. It is possible that it may read lower at the next reading. Please present this form to the doctor, and it is recommended that his/her blood pressure be checked within the next several weeks.
- (4) Your child's blood pressure is high.* He/She should see his/her doctor or go to a clinic or a hospital within the next two days to have his/her blood pressure checked. Present this form to the doctor.

* According to the 1986 Second Task Force on Blood Pressure Control in Children, National Heart, Lung, and Blood Institute, Public Health Service, NIH.

Exhibit 3-13. Adult Pulse and Blood Pressure Findings Report



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service
Centers for Disease Control

National Center for Health Statistics
6525 Belcrest Road
Hyattsville, MD 20782

Sample No. _____

ADULT PULSE AND BLOOD PRESSURE FINDINGS REPORT
NATIONAL HEALTH & NUTRITION EXAMINATION SURVEY III

NAME _____ DATE _____

Resting pulse rate for 30 seconds: _____ Comments _____

Blood pressure: _____ / _____

- Average of second and third measurements
- Single measurement
- MIL not measurable
- No proper cuff fit - thigh cuff used

Read the statement circled below:

- (1) Your blood pressure today is within the acceptable range.*
- (2) Your blood pressure today is acceptable, but at the high end of the acceptable range.*
We suggest you see your doctor within the next year to have your blood pressure rechecked. Present this form to your doctor.
- (3) Your blood pressure today is above the acceptable range.*. We suggest you see your doctor within the next two months to have your blood pressure rechecked. Present this form to your doctor.
- (4) Your blood pressure today is high*. **YOU SHOULD SEE YOUR DOCTOR WITHIN THE NEXT TWO WEEKS TO HAVE YOUR BLOOD PRESSURE RECHECKED.** Present this form to your doctor.
- (5) Your blood pressure today is quite high*. **YOU SHOULD SEE YOUR DOCTOR OR CLINIC TODAY, OR GO TO A HOSPITAL EMERGENCY ROOM TO HAVE YOUR BLOOD PRESSURE RECHECKED.** Present this form to your doctor.

*According to the 1984 Report of the Joint National Committee on Detection, Evaluation and Treatment of High Blood Pressure, United States Department of Health and Human Services, Public Health Service, NIH.

Your pulse and blood pressure were measured by a trained examiner. These measurements were obtained as part of a survey and do not represent a medical diagnosis. Interpretation of these measurements must be made by a physician.

Should your physician/medical care organization wish further information they should be directed to Peter J. Gergen, M.D., M.P.H., on (301) 436-8267.

DATE SIGNATURE

This form was presented to _____ for signature, but he/she refused to sign.

(White copy to examiner; yellow copy to SP)

CDC 64.04
REV. 05/90

- The intensity of the breath sounds will be diminished over areas with reduced air entry, as for instance in bronchopneumonia or in collapse of the lung due to a foreign body. The breath sounds may be totally absent or the intensity of the breath sounds diminished over areas of the lung with fibrosis, thickened pleura, pleural effusion and pneumothorax. Obstruction of a bronchus will result in reduced breath sounds over the area of the lung supplied by the bronchus.
- Adventitious sounds are defined as:
 - Diffuse wheezing - Harsh breathing with a prolonged wheezing expiration heard all over the chest.
 - Bronchial breath sounds - Harsh breathing with a prolonged high pitched expiration which has sometimes a tubular quality.
 - Rales - Discreet, abnormal, crackling respiratory sounds heard on either inspiration or expiration and originating from the trachea, bronchi or lungs. Rales are produced by vibration of fluids, exudate or mucus within the respiratory tract. Rales can be further subdivided by sound into three categories:
 - 1) Mild -- like the sound of dry strands of hair rolled between two fingers.
 - 2) Moderate -- like the popping sound of the carbonation in soft drinks.
 - 3) Coarse -- like the slurping of liquid through a straw.
 - Rhonchi - Continuous dry, coarse sounds from the tracheal or bronchial tubes. Rhonchi are produced by vibrations of thick mucus in the bronchi and indicate partial airway obstruction by fluid somewhere in the respiratory tract. Rhonchi are divided into two categories on the basis of sound:
 - Sibilant -- high-pitched.
 - Musical and sonorous -- snoring-like.
 - Wheeze - A whistling or sighing sound. Wheezes are similar to sibilant rhonchi and can be heard without a stethoscope.

No Findings. Select "1. No Findings" box if breath sounds are heard without any abnormality for the right and left lung.

Data Not Collected. Select "8. Data Not Collected" box if you are unable to perform the chest examination.

- a. **Breath Sounds - Intensity.**
- Decreased Breath sounds - The right lung and the left lung will be coded separately. Select "1. None, No Findings" if the breath sounds are heard without any decrease for the right and/or left lung. Select "2. Yes, Findings" if the sounds are either diminished or absent in the right and/or left lung. Select "8. Data Not Collected" if you are unable to examine for decreased breath sounds.
 - Adventitious sounds - Again, the right and left lung will be coded separately. Select "1. None, No Findings" if wheezing, rales, rhonchi or other adventitious sounds are not heard in the right and/or left lung. Select "2. Yes, Findings" if abnormalities are noted in the right and/or left lung. Select "8. Data Not Collected" if you are unable to examine for adventitious sounds.

3.9 Heart (All Ages)

3.9.1 Procedure

While the examinee is still in a seated position:

- Auscultate as follows:
 - Listen at Erb's point (third left interspace close to the sternum). Note if a systolic or diastolic murmur can be heard.

3.9.2 Recording of Findings and Definitions

- Systolic murmurs occur with or immediately following the first heart sound and before the second sound. Diastolic murmurs occur after the second heart sound but before the first. Some murmurs are continuous and occur through systole and diastole.

Murmurs will be graded 1-6. The following definitions are to be used for grading systolic and diastolic murmurs.

Grading of Heart Murmurs

Grade 1 - The murmur is not as loud as the heart beat sound.
One has to concentrate ("tune in") to hear the murmur.

Grade 2 - The murmur is at least as loud as the heart beat sounds but not clearly louder.

Grade 3 - The murmur is louder than the heart beat sounds but there is no palpable thrill.

Grade 4 - The murmur is associated with a palpable thrill.

Grade 5 - The murmur can be heard even when only one edge of the stethoscope chest piece is touching the skin (and the other edge is not).

Grade 6 - The murmur can be heard even when the stethoscope chest piece is not touching the chest.

- a. Systolic murmur - Select 1-6 for the grade of systolic murmur. Select the "0" box if no abnormality is heard. Select "8. Data Not Collected" if you are unable to examine the heart for a systolic murmur.
- b. Diastolic murmur - Select the 1-6 box for the grade of diastolic murmur. Select the "0" box if no abnormality is heard. Select "8. Data Not Collected" if you are unable to examine the heart for a diastolic murmur.

3.10 Dermatologic Examination (Ages 5-59 Years)

3.10.1 Procedure

Briefly inspect the skin for dermatologic findings. Emphasize the hands, elbows and knees. You will be looking for lichenified dermatitis and dermatitis. If there is a need for rechecking any particular area, do it prior to completion of the evaluation of the examinee's skin.

3.10.2 Recording of Findings and Definitions

No Findings: Select "1. No Findings" box if there is no hand dermatitis or lichenified dermatitis noted on the hands, wrists, elbows and knees.

Data Not Collected: Select "8. Data Not Collected" if you were unable to examine for hand dermatitis, or lichenified dermatitis.

- a. Hand Dermatitis - Only the cutaneous changes noted below should be recorded in this category. Ignore the presence of dry, chapped skin or hyperkeratosis (thickening of the outer horny layer of skin) only, unless the specific cutaneous

changes noted below are also present. Do not distinguish between right and left hands.

- Select one of the following items for each category of skin dermatitis present to indicate the location of the dermatitis: "palms," "palmar fingers," "dorsal," and/or "dorsal fingers." If the type of hand dermatitis occurs in more than one location, enter each site for that type of hand dermatitis.
 1. No Findings - Select the "no findings" box if there are no findings in relationship to hand dermatitis.
 2. Redness, Inflammation - is characterized by: active inflammation of the skin. An example would be dry, reddened skin without vesicles, diffusely present over the dorsal hands. This is distinguished from dry, chapped skin by the presence of inflammation (reddening).
 3. Vesicles - is characterized by: (1) closely set papules, accompanied by (2) an increased prominence of the normal skin creases. This pattern will occur only on the dorsal hands (most common) or dorsal finger (occasional); it does not occur on the palms. A pattern of closely set papules occurs most often in blacks. Inflammation need not be present.
 4. Both Inflammation and Vesicles - is characterized by: (1) the presence of active or resolving vesicles, accompanied by (2) active inflammation or scaling of surrounding skin. This pattern usually occurs diffusely on the fingers and palms, less often on the dorsal hands.
- b. Lichenified Dermatitis (Wrists, Elbows, Knees Only) - This is an atopic dermatitis occurring in the antecubital fossae, popliteal fossae and flexor and extensor wrist surfaces. It is characterized by: (1) thickened skin or closely set papules, accompanied by (2) an increased prominence of the normal skin creases. Closely set papules occur most often in blacks. Inflammation need not be present.
 - Select "1. None, No Findings" if lichenified dermatitis is not present.
 - Select "2. Yes, Findings" if lichenified dermatitis is present.
 - Select "8. Data Not Collected" if you were unable to examine for lichenified dermatitis.

3.11 Joint Examination (Age 60 or Older)

3.11.1 Procedure

The joint examination will be performed in a systematic fashion. The following sequence will be followed: feet and knees. Each joint or group of joints will be examined for pain on passive motion and the selected joints for tenderness on palpation and swelling.

The purpose of this section of the examination is to define key clinical features of rheumatoid or osteoarthritis primarily according to the signs listed above. The clinical features will be used with x-ray, biochemical and functional measures to create diagnostic groups.

3.11.1.1 Feet (Examinee Seated)

- **DIP Joints of the Great Toe**
 - a. Observe for swelling or deformities of the DIP joints of each great toe (i.e. cock-up or hammer toes).
 - b. Examine the DIP joints of each great toe. Evaluate the joints for tenderness by applying lateral pressure, as with a hand shake.
 - c. The interphalangeal joint of each great toe should be palpated for tenderness and swelling on the medio-lateral aspect of the joint.
 - d. Conduct passive ROM of the interphalangeal joint of each great toe by anchoring the toe at the joint with one hand and gently extending and flexing the joint to the limit with the other. Note limitation or pain, if any. (Exhibit 3-13). Record if there is a finding in the DIP joint of each great toe.

- **MTP Joints of the Great Toe**
 - a. Observe for swelling and deformities of the MTP joint of each great toe (i.e., bunions, hammer toes, often with callous formation.)
 - b. Directly palpate the MTP joint for swelling and tenderness by compressing the foot laterally at the line of the MTP joints. If there is pain, ascertain where by direct compression between the dorsal and plantar surface.

- c. Conduct passive ROM of the MTP joint by anchoring the foot with one hand, while gently extending and flexing the MTP joint, to the limit, with other. Note pain, if any, and ascertain the specific joint (Exhibit 3-13).

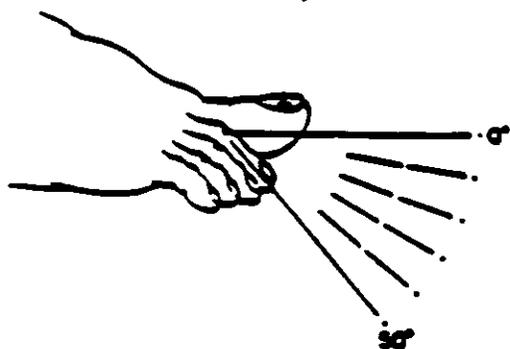
3.11.1.2 Knee Exam (Examinee Supine)

The examination of the knee is to be performed with the SP in a supine position prior to the bioelectrical impedance procedure to get a more complete examination. After the BIA results are entered, the physician should back up to the menu screen for knee manifestations and enter the data.

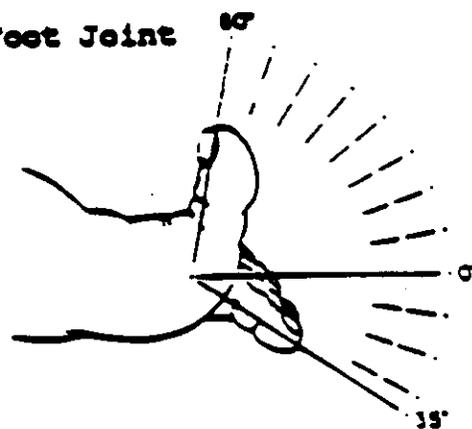
- a. Observe the knee joint of the right and left leg for abnormalities and swelling, medially and laterally to the patella and in the supra patellar pouch.
- b. Palpate:
 - with the knee extended and the muscle of the thigh relaxed, palpate the medial and lateral aspects of the patella and the suprapatellar pouch on each leg to detect synovial swelling and effusions of the knee. The presence of an effusion should be confirmed by eliciting the bulge and/or patellar ballotment sign. To elicit the bulge sign, the medial aspect of the knee is stroked, applying pressure medially and laterally to move fluid from this area into the suprapatellar and the knee joint. Then the examiner should sharply tap the lateral aspect of the knee joint above the mid patella to move the synovial fluid back to the medial aspect of the knee. A distinct, sausage shaped fluid wave should be seen to move downward and medially. To perform patellar ballotment, the hand above the patella should compress the suprapatellar pouch, so that synovial fluid in this recess moves into the rest of the knee joint, and is likely to displace the patella anteriorly. The other hand should push the patella sharply posteriorly using the forefinger. A clicking sensation and anteroposterior motion of the patella should be palpable.
 - the joint line for tenderness and bony enlargements. Distinguish the bony enlargements from synovial swelling. The bony enlargements will be hard and normally not tender. The synovium will be spongy and sometimes tender.
 - the patella using direct pressure for tenderness.
- c. Conduct passive ROM for each knee by placing one of your hands under the examinee's knee. Place your other hand on the heel of the foot. Lift the leg and bend it at the knee. Move the leg slowly back towards the examinee's head as far as it will go. Then straighten the knee by lifting the foot upward. Lower the leg to the starting position. Normal range for passive flexion is 145. (Exhibit 3-14)

Exhibit 3-14. PIP, MTP and arch of the foot joint

PIP, MTP, and Arch of the Foot Joint



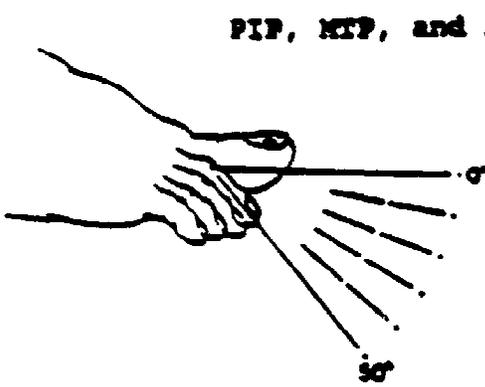
Normal range of flexion of the PIP joints of the foot



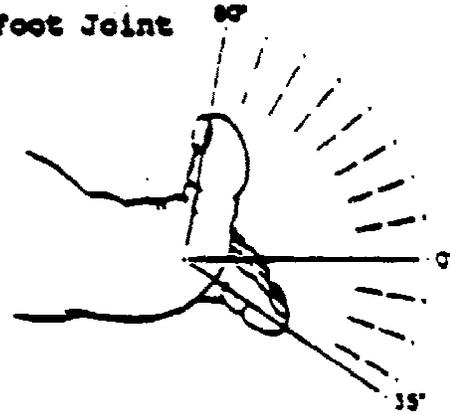
Normal range of extension and flexion of the MTP joints of the foot

Exhibit 3-15. Knee joint

PIP, MTP, and Arch of the Foot Joint



Normal range of flexion of the PIP joints of the foot



Normal range of extension and flexion of the MTP joints of the foot

- d. Check for crepitus during passive extension of the knee by palpating the patellofemoral joint with the fingers pointing parallel to the joint line when the knee is in extension. The MCPs of the examiner should rest on the patella. Crepitus is a palpable or audible or crunching sensation evoked by movement. On palpation it may vary from fine to coarse. The sensation may vary from that experienced on using very fine sandpaper to coarse sandpaper to a frank rough grinding sensation. Fine crepitation may be palpated in inflammatory arthritides such as rheumatoid arthritis, and the sensation is confined to the area around the joint. Coarse crepitus occurs in inflammatory arthritis and more frequently in degenerative joint disease, and is caused by irregularity of the cartilaginous surfaces of the joints, which may be fissured or worn away. Crepitus should be distinguished from cracking sounds. These are evoked by slipping of ligaments or tendons moving over bony surfaces or, as in the example of "cracking" one's knuckles, by the sudden release of nitrogen gas into the joint space when the joint is subjected to distractive forces creating a negative pressure within the joint.

Swelling

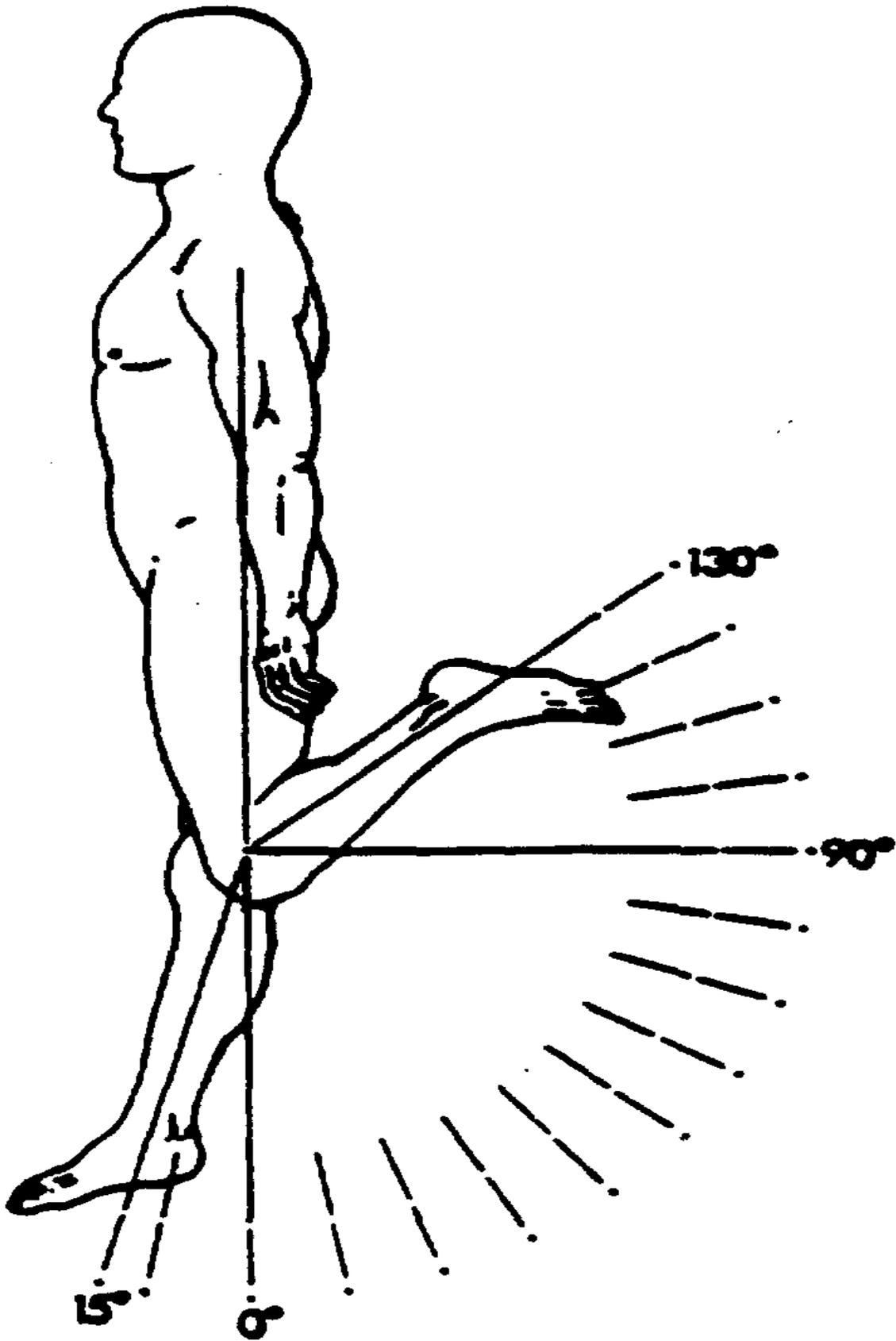
Synovial swelling is the thickening of the synovial lining of a joint and is characteristic of RA. The joints appear thickened, but the synovium feels baggy or spongy. Fluid produced by the synovium may also accumulate within the joint capsule, producing tight swelling; however, the spongy feel of synovium is still detectable.

Soft tissue swelling is the swelling of structures/soft tissues that surround the joint. Generally, there are diffuse swellings, that may extend past the joint itself. It would resemble swelling that accompanies a slight sprain of a joint.

For purposes of this study we will only be interested in synovial swelling.

Pain on Passive Motion is the degree of a examinee's discomfort when a joint is moved passively through its free and easy range of motion. Thickened, inflamed synovial tissue or a tense joint effusion will limit the free and easy range of motion and result in pain. The examinee's response is used as an indicator of inflammation in the joint and the degree of response will roughly correlate with the severity of the inflammation. Other variables, however, may influence this examination, including attempts to move the joint beyond the normal extremes of range of motion, the pain tolerance of the examinee, other diseases and joint incongruity and/or malalignment. For purposes of this study joint pain on motion will include:

- (a) complaint of pain;
- (b) complaint of pain with wincing;
- (c) wincing and attempt to withdraw.



3.11.2

Recording of Findings and Definitions for Joint Exam

a. Great Toe

No Findings - Select the "1. No findings" box if there are no manifestations joint abnormalities, dysfunction or disease in any of the joints of the great toe. Go on to Section b, "knees, if you select the "No Findings" box. Otherwise enter information for each section as appropriate.

Data Not Collected - Select "8. Data Not Collected" box if the exam of the feet cannot be done (i.e., examinee refuses exam.)

Tender on Palpation - The examinee's response is an indication of inflammation in the joint and the degree of response roughly correlates with the severity of the inflammation. Other variables may influence the examination such as: amount of pressure applied by the examiner, pain tolerance of the examinee, other deficits and to some degree the joint being palpated. For purposes of this study tender on palpation will include:

- (a) a complaint of tenderness;
- (b) a complaint of tenderness and wincing;
- (c) wincing and an attempt to withdraw.

a.1 DIP Joints of the Great Toe

- Tenderness on Palpation - The right and left DIP joints of the great toe will be coded separately for tenderness. For the right and/or left great toe, if there is tenderness of the DIP joint of the right and/or left great toe, select "2. Findings." If there is no tenderness of the DIP joint of the right and/or left great toe, select "1. None, No Findings." If you are unable to palpate the great toe on the right and/or left foot for tenderness, select "8. Data Not Collected."
- Swelling - The right and left DIP joints of the great toe will be coded separately for swelling. For the right and/or left great toe, if the DIP joint exhibits swelling, select "2. Findings." If the DIP joint of the right and/or left great toe does not exhibit swelling, select "1. None, No Findings." If you are unable to examine the great toe of the right and/or the left foot for swelling, select "8. Data Not Collected."
- Pain on Passive Motion - The right and left DIP joints of the great toe will be coded separately for pain on passive motion. If the right and/or left great toe of the DIP joint exhibits pain on passive motion, select "2. Findings." If the right and/or left great toe of the DIP joint does not exhibit pain on passive motion, select "1. None, No Findings." If you are unable to

examine the DIP joints of the great toe on the left and/or right foot for exhibition of pain on passive motion, select "8. Data Not Collected."

a.2 MTP Joints of the Great Toe

- Tenderness on Palpation - The right and left MTP joints of the great toe will be coded separately for tenderness. For the right and left foot, if there is tenderness of the MTP joint of the right and/or left great toe, select "2. Findings." If there is no tenderness of the MTP joint, of the right and/or left great toe, select "1. None, No Findings." If you are unable to palpate the MTP joint of the right and/or left great toe for tenderness, select "8. Data Not Collected."
- Swelling - The right and left MTP joints of the great toe will be coded separately for swelling. For the right and left foot, if the MTP joint of the right and/or left great toe exhibits swelling, select "2. Findings." If the MTP joint of the right and/or left great toe does not exhibit swelling, select "1. None, No Findings." If you are unable to examine the MTP joint of the right and/or left great toe for swelling, select "8. Data Not Collected."
- Pain on Passive Motion - The right and left MTP joints of the great toe will be coded separately for pain on passive motion. For the right and left foot, if the MTP joint of the right and/or left great toe exhibits pain on passive motion, select "2. Findings." If the MTP joint of the right and/or left great toe does not exhibit pain on passive motion, select "1. None, No Findings." If you are unable to examine the MTP joints of the great toe on the left and/or right foot for exhibition of pain on passive motion, select "8. Data Not Collected."

b. Knee Joint Manifestations

The examination of the knee is to be performed with the SP in a supine position prior to the bioelectrical impedance procedure to get a more complete examination. After the BIA results are entered, the physician should back up to the menu screen for knee manifestations and enter the data.

No Findings: Select "1. No Findings" box if there are no manifestations, joint abnormalities, dysfunction or disease in either of the knee joints. Go on to Section c, "foot deformities," if you select the "No Findings" box. Otherwise enter information for each section as appropriate.

Data Not Collected: Select "8. Data Not Collected" box if the exam of the knees cannot be done.

- Crepitus of the Knee - Select "1. None, No Findings" if there is no crepitus of both the right and left knee joints. Select "2. Right" if there is crepitus present in the right knee joint. Select "3. Left" if there is crepitus present in the left knee joint. Select "4. Both" if crepitus is present in both knee joints. Select "8. Data Not Collected" if you are unable to examine the knee joints for the presence of crepitus.

- Tenderness on Palpation - Select "1. None, No Findings" if there is no tenderness on palpation in both the right and left knee joint. Select "2. Right" if there is tenderness in the right knee joint on palpation. Select "3. Left" if there is tenderness in the left knee joint on palpation. Select "4. Both" only if there is tenderness in both knee joints upon palpation. Select "8. Data Not Collected" if you are unable to palpate both knees.
- Swelling - Select "1. None, No Findings" if there is no swelling in both the right and left knee joints. Select "2. Right" if there is swelling in the right knee joint. Select "3. Left" if there is swelling in the left knee joint. Select "4. Both" only if there is swelling in both knee joints. Select "8. Data Not Collected" if you are unable to examine both knees for swelling.
- Pain on Passive Motion - Select "1. None, No Findings" if the examinee exhibits no pain on passive motion with extension and flexion of both the right and left leg. Select "2. Right" if the examinee exhibits pain on passive motion in the right knee joint, regardless of whether on extension and/or flexion. Select "3. Left" if the examinee exhibits pain on passive motion in the left knee joint, regardless of whether on extension and/or flexion. Select "4. Both" if the examinee exhibits pain on passive motion in both knee joints, regardless of whether on extension and/or flexion. Select "8. Data Not Collected" if you are unable to examine the right and left knee joint for pain on passive motion.
- Maximum Limitation on Passive Motion - The right and left knee joints will be coded separately for limitation on passive motion, regardless of whether the limitation is on extension and/or flexion. Enter the correct code for the greatest amount of limitation in the right and left knee joint. Enter "0" for normal motion or 145° of motion, "1" for less than 10% loss of range or 130° - 144° of motion, "2" for 10-19% loss of range or 115° - 129° of motion, "3" for 20-49% loss of range or 75° - 114° of motion, and "4" for over 50% loss of range or under 75° of motion for the right and left knee joint separately. Select "8. Data Not Collected" if you are unable to examine the right and left knee joints for maximum limitation on passive motion.

c. Deformities

Recording of Findings and Definitions. A joint deformity for purposes of this study will be defined as the abnormal appearance or alignment of joint(s) which results from incongruity of joint surfaces, from imbalance of muscle groups, intrinsic muscle or soft tissue tightness, or subluxation of joint or tendons.

Hammer Toes - (Exhibit 3-15) a distortion of the toes characterized by hyperextension of the MTP joint accompanied by flexion of the PIP joint which gives the toes a clawlike appearance.

Bunions - (Exhibit 3-16) "Abnormal prominence of the inner aspect of the first metatarsal head, accompanied by bursa formation and resulting in a lateral or valgus displacement of the great toe" (Dorland's Illustrated Medical Dictionary; 27th Edition; W.B. Saunders, 1988). Thus, abnormal prominence (including bony outgrowths) of the medial aspect of the first metatarsal head and/or valgus should be recorded as a bunion.

No Findings - Select "1. No Findings" if no deformities are noted at any of the joints of both feet.

Data Not Collected - Select "8. Data Not Collected" if you are unable to examine the right and the left foot for deformities.

Hammer Toes - The right and left foot will be coded separately. Select "1. None, No Findings" if both the right and the left foot show no sign of hammer toe deformation. Select "2. Right" if there are any hammer toe deformities of the toes on the right foot, regardless of digit. Select "3. Left" if there are hammer toe deformities of the toes on the left foot, regardless of digit. Select "4. Both" if there are hammer toe deformities on the toes of both the right and left foot. Select "8. Data Not Collected" if you are unable to examine the toes of the left foot and the toes of the right foot for hammer toe deformities.

Bunions - The right and left great toe will be coded separately. Select "1. None, No Findings" if there are no signs of bunions on the great toe of the right foot and the great toe of the left foot. Select "2. Right" if there are any bunions noted on the right great toe. Select "3. Left" if there are bunions noted on the left great toe. Select "4. Both" if there are bunions noted on both the great toe of the right foot and the great toe of the left foot. Select "8. Data Not Collected" if you are unable to examine the great toe of the left foot and the great toe of the right foot for bunions.

3.12 Tanner Staging and Breast Size

3.12.1 Procedure

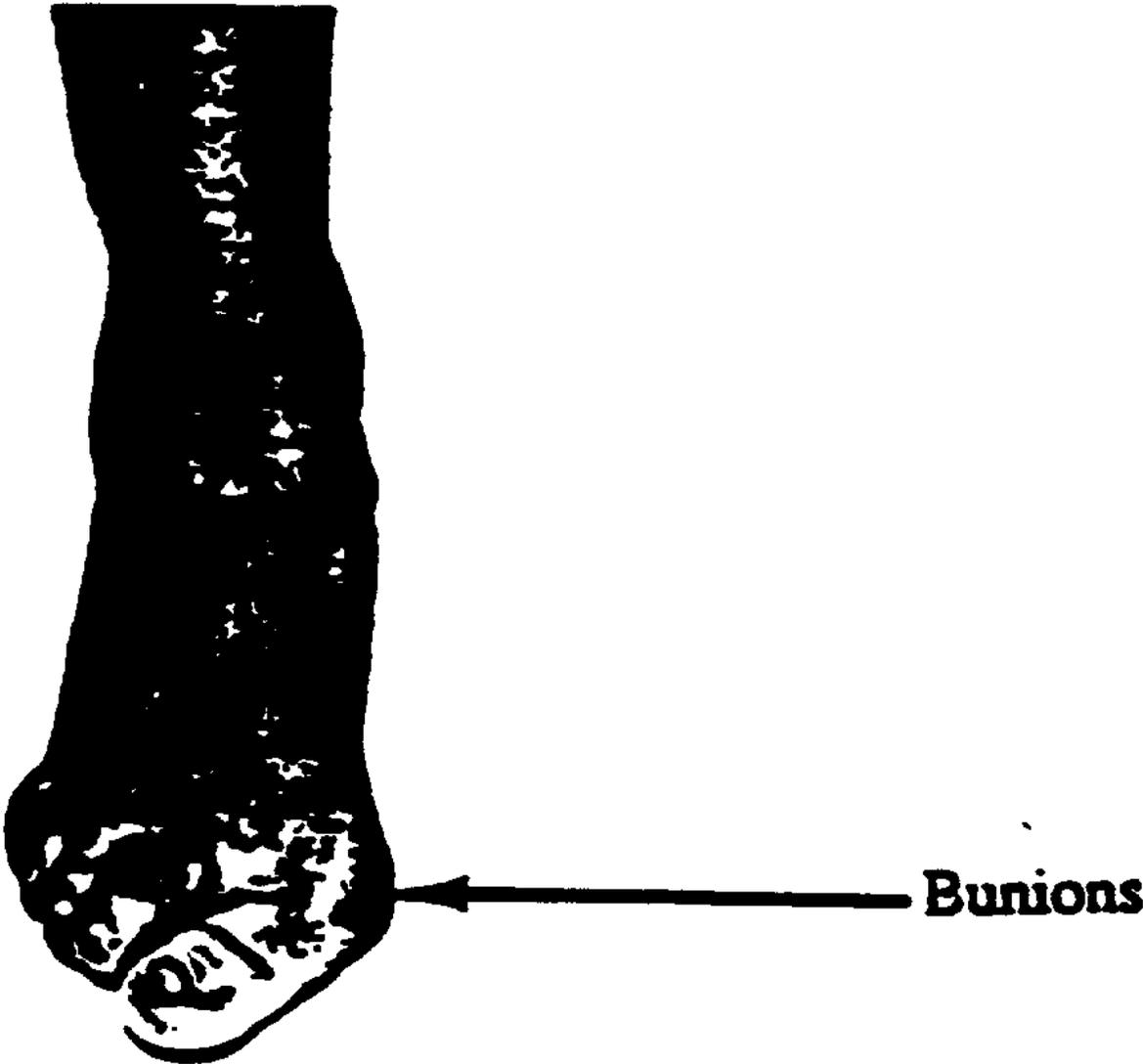
Tanner staging is the standard used for sexual maturation in adolescents. The primary characteristics are best described with relationship to growth of the breasts in females, the genitals in males and the development of pubic hair in both.

Hammer Toes



Hammer Toes

Bunions



Breast size measurement will only be conducted on examinees between the ages of 2 months to 4 years.

Tanner staging is performed on all examinees ages 8-18 years. During Tanner staging there must be a chaperone in the room, regardless of the sex of the physician or examinee. Before Tanner staging is performed the examinee must be told what will be done. Performing the exam without explanation may cause unneeded embarrassment and anger. Tanner staging should be described as a procedure to ascertain the stage of growth and development. Depending on the sophistication of the examinee, in describing the area to be examined you may use a variety of words: genitalia, male or female parts, etc. The procedure should NEVER be described as looking at the size of the various parts.

In order to limit the intrusiveness of the Tanner staging to the adolescent it must be performed in a professional manner as a routine part of the exam.

There are two approaches that may be followed by the physician in conducting the Tanner staging procedure. The difference between the approaches is the sequence in which the Tanner staging is performed in relation to the rest of the physician exam. Choosing one approach over the other is left to the personal preference of the physician examiner.

The first approach is to follow the sequence of procedure as presented in the computer screens. With this approach Tanner staging is performed at one time at the end of the exam for 8- to 11-year olds and before the bioelectrical impedance for 12-18-year olds.

The second approach is described below:

- Females - The Tanner staging of the female breasts will be completed during auscultation of the heart, with the examinee in the seated position. The upper part of the gown should be lowered to aid in visualization of the breasts. In females, the Tanner staging of the pubic hair will be performed in the supine position at the end of the exam in the 8-11 year olds and in the supine position after the bioelectric impedance in 12-18 year olds.
- Males - In males, the Tanner staging of the pubic hair and the Tanner staging of male genitalia will be performed in the standing position at the end of the exam in 8-11 year olds and in the standing position after bioelectric impedance in 12-18 year olds.

The SP is to be positioned as described below regardless of the approach used by the physician.

For females:

- the staging of the breast should be conducted with the SP in a seated or upright position;
- the staging of the pubic hair and genitalia should always be conducted with the SP in a supine position.

For males:

- the staging of the pubic hair and genitalia should always be conducted with the SP in a standing position.

The data entry screens of the physicians' automated system have not been changed to accommodate the second approach. If this approach is used, the physician should record the results of the Tanner staging of the breasts for females on hard copy, i.e., the log appointment schedule, etc., and then enter the results in the order that the Tanner staging screen appears. To enter the results of the Tanner staging of male and female pubic hair and male genitalia for 12- to 18-year-olds, the physicians should skip the Tanner staging screen, and enter the results of the BIA, and then back up to the Tanner staging screen.

Talking to the examinee during the procedure and maintaining a professional attitude will ensure that minimal discomfort will accompany this exam. After completion of the Tanner staging, a simple statement assuring the examinee that everything looks normal would be appropriate.

3.12.2 Recording of Findings and Definitions

Age 2 Months - 4 Years

- a. Determine the diameter of the entire breast tissue (not just the areola) of each breast by palpating the breast between the thumb and index finger. Using the clear, plastic ruler provided, measure and record in millimeters, the size of the right breast tissue at the largest diameter and also the size of the left breast tissue at the largest diameter.

Age 8 - 18 Years

Enter the name of the chaperone in attendance for this portion of the examination, in the space provided.

b. Tanner Stage

■ Classification of pubic hair (male and female)

1. Stage 1 - Preadolescent. The vellus over the pubis is no further developed than that over the abdominal wall, i.e., no pubic hair.
2. Stage 2 - Sparse growth of long, slightly pigmented downy hair, straight or only slightly curled, appearing chiefly at the base of the penis or along the labia.
3. Stage 3 - Considerably darker, coarser, and more curled. The hair spreads sparsely over the junction of the pubis or mons.
4. Stage 4 - Hair now resembles adult in type, but the area covered by it is still considerably smaller than in the adult. Still limited to pubis or mons. No spread to the medial surface of the thighs.
5. Stage 5 - Adult in quality, quantity and type with distribution in the classically "male" or "female" pattern, with spread to the medial aspect of the thighs.

Note: It is important to grade genital maturation and pubic hair maturation separately.

- Pubic Hair (Male and Female) - Select "1" for Stage 1, "2" for Stage 2, "3" for Stage 3, "4" for Stage 4 and "5" for Stage 5 in relationship to the development of the examinee's pubic hair.

Select "0 for Refused" if the examinee refused this portion of the examination.

■ Classification of male genitalia

NOTE: ENTER THE DEVELOPMENT STAGE OF THE PENIS VS. THE SCROTUM. GRADE THE MORE IMMATURE TESTES.

1. Stage 1 - Preadolescent. Testes, scrotum, and penis are about the same size and proportion as in early childhood.
2. Stage 2 - Enlargement of scrotum and testes. The skin of the scrotum reddens and changes in texture. There is little or no enlargement of the penis at this stage.
3. Stage 3 - Enlargement of penis (occurs at first mainly in length). There is further growth of the testes and scrotum.

4. Stage 4 - Enlargement of penis, with growth in breadth and development of glans. There is further enlargement of testes and scrotum; there is increased darkening of scrotal skin.
5. Stage 5 - Genitalia is adult-like in size and shape. No further enlargement takes place after Stage 5 is reached; it seems, on the contrary, that the penis size decreases slightly from the immediate postadolescent peak.

Genitalia (Male) - Select "1" for Stage 1, "2" for Stage 2, "3" for Stage 3, "4" for Stage 4 and "5" for Stage 5 in relationship to the development of the male genitalia (including penis and right and left scrotum). If there is asymmetry in relationship to the right and left testes, enter the lesser stage of development. If one testes is undescended, enter the stage of the descended testes. If there is a different rate of development of the penis and scrotum, enter the developmental stage of the penis.*

Select "0 for Refusal" if the examinee refuses this portion of the examination.

■ Classification of female breasts

NOTE: GRADE THE MORE IMMATURE BREAST.

1. Stage 1 - Preadolescent. There is elevation of papilla only.
2. Stage 2 - Breast bud stage. Elevation of breast and papilla appear as a small mound. There is widening and elevation of the areola, with pigmentation.
3. Stage 3 - Further enlargement and elevation of breast and areola with no separation of their contours.
4. Stage 4 - Projection of areola and papilla to form a secondary mound above the level of the breast.
5. Stage 5 - Mature stage. Projection of papilla only due to recession of the areola to the general contour of the breast.

Breast (Female) - Enter "1" for Stage 1, "2" for Stage 2, "3" for Stage 3, "4" for Stage 4 and "5" for Stage 5 in relationship to female breast development. If there is asymmetry in development of the right and left breast, enter the lesser stage of development.*

Select "0 for Refusal" if the examinee refuses this portion of the examination.

*Based on discussions with James Tanner, M.D., D.Sc., Professor Emeritus, Child Health and Growth, Institute of Child Health, London, England.

- Note: Tanner Staging on subjects that have either borne or fathered children.
- Subjects who have either borne or fathered children should be examined and classified appropriately. Sperm may be present in the adolescent male as early as Stage 3-4 and; therefore, it is not necessary for the male subject to have developed to a Stage 5 in order to father a child. Women, on the other hand, may have become pregnant when they were Stage 3 or 4, and although their breasts may have developed further, the female genitalia and pubic hair may not have.

3.13 Bioelectrical Impedance (Age 12 and Older)

3.13.1 Procedure for Bioelectrical Impedance

The purpose of the bioelectrical impedance procedure is to estimate the body composition of SPs 12 years of age and older. The Valhalla Scientific Body Composition Analyzer 1990 B is the instrument used for the measurement of whole body electrical resistance (Bio-resistance) and analysis of body composition. The test procedure is straight forward, but like most biological test procedures, the accuracy is dependent upon the care with which the procedure is carried out. There are two BIA machines on each MEC; they should be alternated for each stand.

Note: **Bioelectrical Impedance should not be done on pregnant females or SPs who have cardiac pacemakers or SPs with amputations other than fingers or toes.**

3.13.1.1 Procedure/Preparing the Equipment

- a. Connect the power cord to the rear of the unit and connect the other side to an appropriate, grounded power outlet.
- b. At the beginning of each daily session, turn the 1990B unit on by enabling the power switch. The unit can be left on during the sessions since it will automatically shut off.
- c. Before each session, press the CAL key for the machine to automatically perform an internal calibration. The calibration sequence will take approximately 30 seconds and will finish by displaying the change in calibration since the last calibration was performed. Daily calibrations are to be done in the computer. If

the computer system is down, a hard copy log form is to be used. See example and instructions for completing this form in Chapter 4.

- d. Attach the cable with the lead wires into the unit.

3.13.1.2 Preparing the SP

- a. Remove the SP's right shoe, sock, or slipper.
- b. The SP should be in a supine position on a dry, nonconductive surface without a pillow under the head.
- c. The contact area on the body for electrode attachment should be cleaned vigorously with alcohol and gauze to clear it of excess body oils, grease, and dirt.
- d. Attach the foil-gum type electrodes to the right wrist, hand, ankle and foot.

Right wrist - Draw an imaginary line on the dorsal surface bisecting the styloid processes of the ulna and radius. Place the center of the electrode in the middle of the imaginary line.

Right hand - Place the electrode on the knuckle of the middle finger.

Right ankle - Draw an imaginary line on the dorsal surface of the foot bisecting the medial and lateral malleoli of the ankle. Place the center of the electrode in the middle of the imaginary line.

Right foot - Place the electrode at least four to five centimeters away from the electrode on the ankle on the knuckle of the middle toe.

- e. Attach the lead wires to the electrodes with the red leads attached to the wrist and ankle and the black leads attached to the hand and foot.
- f. The SP should remain motionless and relaxed with his/her arms and legs slightly apart, never touching any other part of the body. The arms should be bent slightly at the elbow with palms down. In cases where the examinee's arms and legs cannot be properly spread, because the examinee's body is large, the procedure **should** still be completed and a note made in the comments section. As long as there is no skin contact (the paper gown and pants are separating the arms from the trunk or the legs from each other), no interference with the proper flow of current should take place.

3.13.1.3 Obtaining Body Composition Data

- a. Press the OHMS key. The display on the unit will request that the SP be connected. If the lead wires are attached to the electrodes, press YES, otherwise make the connection and then press YES.
- b. The measured resistance and reactance will be displayed. If the SP is improperly connected, the display will indicate a bad connection. Check the leads and press the OHMS key again.
- c. Record the resistance and reactance values in the automated system.
- d. Unhook the leads from the electrodes. Remove the electrodes from the SP. The electrodes are disposable and should not be reused.

3.13.2 Recording of Findings and Definitions

- BIA Resistance (ohms) enter the:
 - (1) BIA Resistance (ohms) - Enter the 2-3 digits that appear on the bioelectrical impedance machine. If you are unable to obtain the reading, select the "Cannot Obtain" box.
 - (2) BIA Reactance (ohms) - Enter the 2-3 digits that appear on the bioelectrical impedance machine. If you were unable to obtain the reading, select the "Cannot Obtain" box.

3.14 Physician's Impression

3.14.1 Procedure

3.14.1.1 Health Status (All Ages)

- Complete this section of the Physician's Examination based upon your clinical impression after the examination.
- Evidence of disabling cognitive impairment preventing subject from complying with examination means that the subject either could not perceive, think or remember to the degree that they were unable to complete the examination.

- Evidence of possible active infection means that there are detectable clinical symptoms of microorganisms in body tissue (i.e., runny nose, cough, URI, etc.). We are interested in noting any infectious manifestations which might alter any other tests being performed.
- Speech evaluation (age 3 and over) throughout the entire exam, note the examinee's oral responses for evidence of stuttering, stammering, or other deficits in view of his/her age.

3.14.1.2 Recording of Findings and Definitions

- a. Make an estimate of the overall health status of the examinee based on your findings from the physician's examination, regardless of the completeness of the examination. Select one of the following: "1. excellent," "2. very good," "3. good," "4. fair," or "5. poor." Only one number should be selected. Select "8. Data Not Collected" if you are unable to make an estimate of the overall health status of the examinee based on your findings from the physician's examination.
- b. Select "1. no" if there is no evidence of a disabling cognitive impairment preventing the subject from complying with the examination. Select "2. yes" if there is evidence of a disabling cognitive impairment preventing the subject from complying with the examination. Select "8. Data Not Collected" if you are unable to make the determination.
- c. Select "1. no" if there is no evidence of an active infection. Select "2. yes" if there is evidence of a possible active infection. Select "8. Data Not Collected" if you are unable to make the determination.
- d. Able to communicate appropriately for age - Select "1. yes" if the examinee is able to communicate appropriately for his/her age. Select "2. no" if the examinee does not communicate appropriately for his/her age. Enter as a comment any abnormalities such as slurred speech, lisp or aphasia. If the examinee is deaf and uses sign language, enter this as a comment and check "2. no".

3.14.2 Estimate of Functional Abilities

3.14.2.1 Procedure

For examinees 5 years of age and older, record your best estimate of whether the examinee has a limitation in ability in the six activities listed. These estimates, based on your examination, should include the level of difficulty you would anticipate the individual to have, given his/her age. If you

anticipated they would have difficulty, give your estimate regarding the prognosis for that difficulty over the next year.

For those aged 2 months to 4 years, record your best estimate of whether the subject has a limitation in the ability to play and if so what you estimate the prognosis to be over the next year.

3.14.2.2 Recording of Findings and Definitions

(For examinees age 5 and older)

- For each of the six activities listed, record the estimated level of activity for the examinee by selecting one of the following: "1. no difficulty," "2. some difficulty," "3. moderate difficulty," or "4. could not be done." Select only one code for each activity. If you are unable to make this estimate of the examinee's practical abilities, select "8. Data Not Collected."
- Then, for each activity in which you have selected either the "some difficulty," "moderate difficulty," or "could not be done" code, also record the prognosis for that activity over one year by selecting an item under "If difficulty, prognosis over one year." These would include "1. full recovery," "2. partial recovery," "3. no changes," or "4. more deterioration." Only one code may be entered. If you have selected "8. Data Not Collected" for the "Estimated Level of Difficulty" category, then you must also select "8. Data Not Collected" for the "If Difficulty Prognosis Over 1 Year" category.

(For examinees 2 months to 4 years only)

- Record the examinee's level of ability to play by selecting one of the following: "1. no difficulty," "2. some difficulty," "3. moderate difficulty," or "4. could not be done." Only one code may be selected. If you are unable to make this estimate of the examinee's practical abilities, select "8. Data Not Collected."
- Then, if you have selected either the "some difficulty," "moderate difficulty," or "could not be done" code, also record the prognosis for the examinee regarding his/her ability to play over one year by selecting an item under "If difficulty, prognosis over one year." These would include "1. full recovery," "2. partial recovery," "3. no changes," or "4. more deterioration." Only one code may be entered. If you have selected "8. Data Not Collected" for the "Estimated Level of Difficulty" category, then you must also select "8. Data Not Collected" for the "If Difficulty Prognosis Over 1 Year" category.

3.15 Examination Results

3.15.1 Procedure

3.15.2 Recording of Findings and Definitions

Exam Complete - Select "Exam Complete" when all parts of the examination have been completed according to protocol including the bioelectrical impedance. (At least BP and BIA.)

BIA Not Done - Select "BIA Not Done" when the Bioelectrical Impedance was not done.

Refused/Uncooperative - Selected "Refused/Uncooperative" when the examinee has refused the entire exam, regardless of reason. (e.g., SP or family member sick, SP leaves early, SP comes late, etc.)

Out of Time - Select "Out of Time" when there is no time to complete the physician's examination.

Physically Unable to Cooperate - Select "Physically unable to cooperate" when the examinee is physically unable to have the exam, (e.g., examinee is extremely obese, has back trouble, or other physical characteristics that limit completion of the exam). The examiner should try to complete the exam.

SP Unable to Understand Instructions - Select "SP Unable to Understand Instructions" when the examinee is unable to understand the instructions due to a language, cognitive impairment, or other communication problem.

Equipment Problem - Select "Equipment Problem" when hardware/equipment or software problems occur and the exam cannot be done.

Other Reason - Select "Other Reason" only if the reason cannot be coded in one of the above categories. (e.g., SP sent home or excluded by the physician, or no physician in the MEC, emergency closing, etc.) No safety exclusions.

Done at Prior Session - Select "Done at Prior Session" when the examinee is rescheduled and the physician's exam was completed at a previous visit.

3.16 Referrals

3.16.1 Level of Referral

Based on the physician's examination of the SP and the physician's review of the examinee's X-rays, ECG tracings, hematology data, and finally the physician's assessment of any medical emergency/accident or other unusual incident, the physician should place the examinee in one of three categories by selecting either number "1" for Level I, number "2" for Level II or number "3" for Level III. All other exam findings will be reviewed at NCHS at a later date.

- | | |
|-----------|--|
| Level I | Indicates major medical findings that warrant immediate attention by a health care provider; emergencies. |
| Level II | Indicates major medical findings that warrant attention by a health care provider within the <u>next two weeks</u> because they are expected to cause adverse effects within this time period and they have previously been undiagnosed, unattended, nonmanifested or not communicated to the examinee by his/her personal health care provider. |
| Level III | Indicates no medical findings; minor medical findings that an examinee already knows about, is under care for, or do not require prompt attention by a medical provider. |

If the examinee is placed in the Level III category, no special steps are required. For such an examinee and, in fact, for all examinees who have consented to releasing the findings, reports of findings will be sent out by NCHS to the examinee designated or referral health care provider in about two to four months.

If the examinee is placed in the Level II category, thus requiring early medical care, you should ask for and get oral consent from the examinee to contact his/her personal physician or clinic and then contact that health care provider. If the examinee has no health care provider, transmit the information to a referral medical facility with the examinee's oral consent. Detailed procedures are presented in Section 4.5.

If the examinee is placed in the Level I category, thus requiring immediate medical attention, you should ask for and get oral consent from the EXAMINEE to contact an emergency medical service in the area such as a hospital ambulance service or a fire rescue squad, then contact that service. Detailed procedures are presented in Section 7.

3.16.2 Recording of Findings and Definitions

- Referral Level - Select "1" for Level I, "2" for Level II, or "3" for Level III whichever is appropriate based on the definitions given in Section 3.17.1 above.
- Letter Sent - This refers to the letter which must be sent to the examinee's health care provider for Level II and Level I referrals. Enter "Yes" if you sent a letter to the examinee's health care provider, or enter "no" if you did not.
- Phoned - This refers to the telephone contact with the examinee's care provider for Level II and Level I referrals. Enter "Yes" if you contacted the examinee's health care provider by phone, enter "No" if you did not.
- Reason for Referral - This item refers to the reason you selected the referral level. The basis of the referral is the outcome(s) of the X-ray, blood pressure, hematology, ECG, medical emergency/accident or another medical outcome of an incident.

For each medical test or incident listed, select one code. After selecting a code for each category listed and if the reason for the referral was "other" and you entered "2" in the other category, explain the reason on the line provided.

- Select "1. Reviewed: OK" if there were no abnormalities noted in that category.
- Select "2. Reviewed: Referral" if an abnormality was noted in this category.
- Code "3. Not in Protocol" will appear on the screen automatically, if it is an inappropriate category (i.e., children do not have X-rays taken in NHANES III).
- Select "8. Didn't See" when a test was not performed and was age appropriate. If you have not yet been able to review a lab result, ECG or X-ray, leave the reason code blank, and answer "No." to the question, "Is referral complete?". When you have either seen all the items on which the referral is based or have determined that some of the tests were not done, then update the response to question "Is referral complete?" to a "Yes." For all examinees with a referral level of 1 or 2, you will need to complete the rest of the referral information requested.

- **Statement of What SP Was Told**

Enter verbatim in the space provided what you told the examinee regarding the referral. This should be considered a medical-legal document and is not for analytical use. Therefore be very precise and factual. Make sure your handwriting is legible when using the hard copy form.

- **SP's Response**

Enter verbatim in the space provided what the examinee's response was to what you told them regarding the referral. This should be considered a medical-legal document and is not for analytic use. Therefore be very precise and factual. Make sure your handwriting is legible when using the hard copy form.

- **Was Oral Consent Obtained From SP to Contact Doctor?**

Again, this question is to be used as a memory aid. Select "1. Yes" if the oral consent was obtained. Select "2. No" if the oral consent was not obtained. Select "3. NA" if this question is not applicable.

- **Did SP Refuse to Give Permission to Contact Doctor?**

It is necessary to answer this question if you selected "2. No" for "Was oral consent obtained from SP to contact doctor"? Select "1. Yes" if the examinee refused to give consent. If you select "1" enter the name of the witness who also heard the examinee's refusal. Select "2. No" if the examinee did not refuse to give consent. Select "3. Com" if neither "1" or "2" is appropriate. If you select "3" you must explain in the Comments Section. Select "4. N/A" if this question is not applicable.

- **Was the Incident Form Filled Out?**

This question has two purposes. First, it is a memory prompt to help you to remember to complete the incident report in an emergency/incident. Secondly, it is a way to keep track of the number of emergencies/incidents taking place. Select "1" Yes if the incident form was completed. Select "2" No" if the incident report was not completed and there was an emergency or an incident. Indicate why the form was not completed in the Comments Section. Select "3. N/A" if the question is not applicable - no emergency or incident took place.

- **Is Referral Complete?**

Select "1. Yes" if referral is complete. When a referral is complete, it will no longer be called up on the screen. Select "2. No" if referral is not complete. To review or change information on an incomplete referral you will select Review Referral by NCHS# from the Physicians Menu. The information which has already been entered will be displayed and you will be able to update or change the existing information. Once you have completed the referral, be sure to update the answer to this question to "1. Yes."

3.16.3 Reporting Suspected Child Abuse

During the course of the physician's examination of a child, s/he may find signs of injuries that may indicate physical abuse of the child. The exam performed in the MEC is NOT specifically directed to uncover a case of child abuse. However, certain characteristic injuries readily apparent by observation alone raise the possibility of child abuse. The physicians in the MEC are supplied with a copy of the "AMA Diagnostic and Treatment Guidelines Concerning Child Abuse and Neglect" JAMA, 1985; 254:796-800, to use as a reference with this issue.

Cases of child abuse discovered during the routine MEC examination must be reported by the physician to the proper authorities in the area, i.e., Child Protective Services or Child Welfare Services but only with written permission from the parent or guardian. As part of the consent process for participation in the NHANES III examination the subject voluntarily gives up his/her rights to confidentiality [(Section 308(d) of the Public Health Service Act (42 USC 242M) and the Privacy Action of 1974 (5 USC 552A)] in regard to child abuse. Subjects who do not sign the consent form will not be examined.

As you well know, the determination of child abuse is not always straightforward or easy. Evidence may not be clear. We ask you to make an extremely careful evaluation since an incorrect determination may create problems for you as well as for the survey. Anytime a case of child abuse is reported, an Incident Form must be completed which contains the justification for this referral. This form should then be faxed immediately to the Director of MEC Operations.

4. ADDITIONAL PHYSICIAN PROCEDURES

This chapter presents additional procedures which are the responsibility of the physician. These procedures include completing additional forms, reviewing selected test results for serious pathologies, steps required for making medical contacts when examinees need medical care, and equipment calibration. The accurate and timely completion of these procedures is crucial to the success of the physician's role in NHANES III.

4.1 Daily Appointment Schedule

The Daily Appointment Schedule provides information for several uses. An example of the Daily Appointment Schedule is shown as Exhibit 4-1. A copy of the schedule is given to the physician by the coordinator for the next day. The schedule provides a typed copy of the name, age, sex, race, language, ethnicity, and sample number for each examinee for that day. This list can be used to verify SP information that appears in the computer and on other forms. It also lists the number of examinees that are expected for the session. In most cases the number of examinees per session will be ten.

The physician should keep each Daily Appointment Schedule for the stand. These schedules should be sent, along with any hard copy logs and copies of the referral letters, to Westat at the end of the stand.

4.2 The Control Record

The Control Record is a NCHS master form that is used for summarizing information about all the procedures performed and questionnaires administered to an examinee. The coordinator uses this form to direct the examinee to various exam components in the MEC. Furthermore, the coordinator uses this form to determine whether all procedures and questionnaires that should be administered have been administered so that examinees can leave the

Exhibit 4-1. Daily appointment schedule

1

10/19/89

NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY
 DAILY APPOINTMENT SCHEDULE FOR STAND 114
 FOR FRIDAY OCTOBER 20, 1989

<u>APPT TIME</u>	<u>NCHS NUMBER</u>	<u>AGE/SEX /LANGUAGE</u>	<u>E/R</u>	<u>NAME</u>		<u>TRANS</u>	<u>RMKS</u>
08:30 AM	S 114 042 6	39 F E	3/2	Mary Doe		S	*
08:30 AM	S 114 298 4	60 M E	3/2	John Doe		S	*
08:30 AM	S 114 509 6	72 M E	3/2	Bill Johnson		S	*
				DATA RETRIEVAL:	FAM		
08:30 AM	S 114 511 8	71 F E	3/2	Ann Johnson		S	*
				DATA RETRIEVAL:	FAM		
09:00 AM	U 114 525 8	4m M E	3/2	Bill Williams		S	*
				DATA RETRIEVAL:	FAM		

01:30 PM	M 114 055 8	48 M E	3/2	James Smith		S	*
01:30 PM	M 114 451 0	33 F E	3/2	Jean Smith		S	*
01:30 PM	T 114 452 9	14 F E	3/2	Jane Williams		S	*
01:30 PM	U 114 453 7	8 M E	3/2	Paul Jones		S	*
01:30 PM	M 114 482 0	67 F E	3/2	Rita Jones		S	*
				DATA RETRIEVAL:	FAM SP		
01:30 PM	U 114 483 9	17m M E	3/2	Jack Hill		S	*
				DATA RETRIEVAL:	FAM		

MEC. A copy of the Control Record is shown as Exhibit 4-2 and will be found in the Examinee's Folder.

Column (1) lists the 22 procedures that may be administered to an examinee. The physician is responsible for completing the information for Procedure #1, "Physician's Exam;" column (2) indicates the age group for which the procedure is relevant. In the case of the physician's exam, this includes all examinees. The physician should record the time in hours and minutes when s/he begins and ends the examination in columns (3) and (4) respectively -- "Time in" means the time the examinee arrives in the examining room. "Time out" means the time while the examinee is present, that the physician finishes recording and editing available information using the Physician's Exam screens. This will not include the time for reviewing x-rays, laboratory data and ECG's. The physician should enter his/her four-digit examiner code in column (5).

In the event that the automated system is not operational in the MEC (i.e., due to equipment breakdown, power failure, etc.), the physician should enter the Examination Result Code between column (1) Procedures and column (2) Age Group. Enter "110" if the exam was completed, "111" if the BIA was not done, "113" if the examinee refused or was uncooperative, "114" if there was no time to do the exam, "115" if the examinee was physically unable to cooperate, "116" if the examinee was unable to understand the instructions, "117" if there was an equipment problem, "118" if the reason cannot be coded to any other category and "210" if the physician's exam had been completed on a previous visit to the MEC.

4.3 The Physician's Log

The purpose of the Physician's Log is to document what has been done by the physician as well as to note out-of-ordinary circumstances and events. This log is completed by the physician. The Physician's Log is shown as Exhibit 4-3.

For each examination session, the physician should begin a new page by entering the stand number, the stand location, the date and his/her examiner number at the top. The rest of

Exhibit 4-2. Control record

CONTROL RECORD

NOTICE - information contained on this form which would permit identification of any individual or establishment has been collected with a guarantee that will be held in strict confidence, will be used only for purposes stated for this study, and will not be disclosed or released to others without the consent of the individual or the establishment in accordance with section 308(d) of the Public Health Service Act (42 USC 242m).

Sample No _____	a. Age <input type="checkbox"/> Mos <input type="checkbox"/> Yrs _____	b. <input type="checkbox"/> Male <input type="checkbox"/> Female	c. Coordinator = _____	d. Examination Date ____/____/____ Month Day Year
e. Date of Birth ____/____/____ Month Day Year	f. Temperature _____	g. GTT priority _____	PREGNANT: <input type="checkbox"/> YES - NO BONE SCAN <input type="checkbox"/> DK - NO BONE SCAN <input type="checkbox"/> NO	

Name (First, Middle, Last)

Procedure	Age Group	Time		Staff
		In	Out	
Physician's Exam	All	_____	_____	_____
Body Measurements	All	_____	_____	_____
MEC Interview	All	_____	_____	_____
24-hour Recall	All	_____	_____	_____
Venipuncture	1 and older	_____	_____	_____
Dentist's Exam	1 and older	_____	_____	_____
Urine Specimen	6 and older	_____	_____	_____
Allergy Test	20-59 Even 6-19 All	_____	_____	_____
Audiometry/Tympanometry	6-19	_____	_____	_____
WISC and WRAT	6-16	_____	_____	_____
Spirometry	8 and older	_____	_____	_____
Exit Interview	12 and older	_____	_____	_____
Food Frequency	12-16	_____	_____	_____
Bone Densitometry	20 and older	_____	_____	_____
Gallbladder Ultrasound	20-74	_____	_____	_____
CNS	20-59 Odd	_____	_____	_____
ECG	40 and older	_____	_____	_____
Fundus Photography	40 and older	_____	_____	_____
Glucose Challenge	40-74	_____	_____	_____
Venipuncture 2	40-74	_____	_____	_____
Joint Radiographs	60 and older	_____	_____	_____
Performance Test	60 and older	_____	_____	_____

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TIME IN: _____ TIME OUT: _____

Exhibit 4-3. Physician's Log

Stand No _____
 Location _____
 Date _____
 Examiner No. _____

**National Health and Nutrition Examination Survey III
 PHYSICIAN'S LOG**

SP ID #	SP NAME	Time In/Time Out	Read ECG ✓/✓	Read CBC	Read X-Ray	Exam Completed		Reason Why All or Part of Exam. Not Done	Unusual Occurrences	Medi- cations Given ✓/✓
						Yes	No			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			
						<input type="checkbox"/>	<input type="checkbox"/>			

*If checked, complete the Medical Contact/Level 5 Referral Log.

the page should be used to record the information requested about each examinee. That information includes the following entries:

- Examinee (SP) identification number: Place the SP's ID bar code label in this column. (Labels are kept in the SP's folder.) If the SP's ID bar code labels are not available, enter the examinee's 7 digit ID number from the Control Record in the column.
- SP Name: Enter the examinee's first and last names.
- Time In/Time Out: Time in hours and minutes when the physician began and ended the examination. As for the Control Record, time in = time the examinee enters the examining room; time out = time physician finished recording on the Examination Results screen.
- Read ECG: Enter a check mark (√) to indicate the completed reading of acceptable quality ECG's.
- Read CBC: Enter a check mark (√) to indicate the completed reading of the hematology results (Coulter S-Plus Jr printout).
- Read X-Ray: Enter a check mark (√) to indicate the completed reading of acceptable quality X-rays.
- Exam Completed: Enter a check mark (√) in the "Yes" box to indicate the completion of the Physician's Exam. Enter a check mark (√) in the "no" box if the examination was not completed.
- Reason Why All or Part of Exam Not Done: Enter an explanation of why all or part of the physician examination was not performed. Complete only if some portion or all of the physician examination was not done; otherwise enter "NA."
- Unusual Occurrence: Enter a description of the unusual occurrence such as, "the examinee fainted during the physician examination." Complete only when necessary; otherwise enter "NA."
- Made Medical Contact: Enter a check mark (√) to indicate that a medical contact has been made or will be made for this examinee. When this column is checked an entry must be made in the Log Telephone Contact screen and the Log Referral Letter screen. Do not write medical findings on the Physician's Log.

It should be stressed that the Physician's Log is meant to provide a record of the work that has been completed. It is important that completed work is signed off in case any questions arise at a later date.

The physician should keep each completed log in the notebook provided. These logs should be sent along with any other hard copy logs and copies of the referral letters to Westat at the end of the stand.

4.4 Reviewing X-rays, ECGs and Laboratory Data

The physician is responsible for reviewing the hand and knee X-rays, the ECG's and the laboratory (hematology) determinations completed for each examinee. The physician should review these for pathology and refer examinees with serious problems (requiring a Level I or Level II referral) to their providers of medical care. Laboratory data will be sent to CDC for review and confirmation. The physician should document the review of the above items and the management of subsequent Level I and Level II referrals on the appropriate automated screens and hardcopy forms.

4.4.1 Procedures for Reviewing X-rays

The physician will review the X-rays for each examinee for quality and pathology before the examinee leaves the MEC. If the physician sees a finding on the X-ray that might require followup, s/he will send the X-ray via express mail (e.g., Federal Express) to NCHS. NCHS will promptly forward the X-ray to Dr. Eugene Jacobs, M.D., (a radiologist) for review. If Dr. Jacobs advises NCHS that findings on the X-ray do warrant followup, NCHS will send the SP a copy of the X-ray and a certified letter advising the SP to see a doctor promptly about the X-ray findings. However, if Dr. Jacobs advises NCHS that findings on the X-ray do not warrant followup, the SP will not be advised of Dr. Jacob's reading of the X-ray, and will not receive a copy of the X-ray.

The decision regarding the need for followup of an X-ray finding will be made by NCHS based on Dr. Jacob's reading of the X-ray. The physician in the MEC should not advise the SP of a possible abnormality on the X-ray; if followup is needed, NCHS will notify the SP via certified mail.

The X-rays are kept near the X-ray room in a plastic box on the wall near the view light boxes.

Procedures for reviewing X-rays are given below:

- Check the X-ray for examinee identification. The identification marker, which must show on the X-ray file, should agree with the sample number on the film jacket.
- Examine the X-ray to determine the quality status. If the quality of the X-ray is not acceptable, inform the health technician and request a repeat X-ray.
- Review each X-ray for serious abnormalities, i.e., abnormalities that might require further followup.
- Evaluate the examinee.
- If there is no finding on the X-ray that might require followup, return the X-ray to the health Technician.
- For each examinee, use the Referrals To Be Completed screen or the Review Referral by NCHS # screen to document the referral procedures. Instructions for using these two screens are given in Sections 4.6 and 4.7.
- For each examinee, complete the Physician's Log (see Section 4.3).
- X-rays requiring Rapid Review. Whenever the physician determines rapid review of an X-ray is necessary for an X-ray finding, the physician should:

1. Federal Express the X-ray to:

Marsha Davenport, M.D.
National Center for Health Statistics
Presidential Building, Room 900
6525 Belcrest Road
Hyattsville, MD 20782

2. If the physician sends an X-ray to NCHS, s/he should indicate on the Referrals to be Completed screen that the X-ray was "Reviewed: referral". In this case, "referral" means that the X-ray was referred (sent) to NCHS for review. The physician should also enter a note in the comments section that "the X-ray was sent for rapid review", and the reason why it was sent.

An SP with a possible abnormality on X-ray should be classified as a Level III referral, unless the SP has another abnormality (e.g., blood pressure, CBC, EKG) that warrants a Level I or Level II referral.

For reading X-rays refer to the following material:

- Brower, C. Anne, **Arthritis in Black and White**, W.B. Saunders Company, 1988.

4.4.2 Procedures for Reviewing ECGs

Upon completion of the ECG, the technician runs three copies. He/she retains one copy of the tracing and places two copies of ECG tracings in the physician's box, outside the physician's examination room. The physician regularly retrieves the ECG tracings from his/her box and reviews them. The physician reviews an SP's ECG tracing before the SP leaves the MEC for technique and pathology in order to refer SPs, if necessary. Procedures for reviewing the ECG's are given below:

- Check the tracing for examinee identification. The number at the top of the ECG tracing should agree with the sample number stickers on the tracing.
- Determine the quality status of each ECG. An ECG tracing is acceptable only if it meets all of the following minimum standards:
 - The ECG complex must be clearly defined with the P wave distinctly visible; no noise interference that would cause an obscured or obliterated P wave should be present.
 - The P wave, and except in rare instances, the QRS complex on Lead 1 both must have positive deflections indicating that the limb leads have been applied properly.
 - The baseline must not "wander" that is, the vertical distance between adjacent complexes must not be greater than 5 mm.
 - Four standard complexes must be present on the tracing.
- Request that the technician repeat the procedure if any of these requirements are not met.
- Review each ECG tracing for serious abnormalities, i.e., abnormalities which could require further followup for referral. If an abnormality is noted on the tracing, inform the examinee of any serious abnormalities and give the second copy of the tracing to the SP to give to his/her medical care providers.
- Evaluate the examinee.
- Assign a level of referral based on your clinical judgement. If you assign a Level II referral, and in your clinical judgement a phone call to the SP's medical care provider is indicated, request the name, address and phone number of the

examinee's source of medical care and the examinee's permission to contact this source of care. Call the examinee's source of medical care if one exists. If the examinee cannot name a source of medical care for referral, offer the SP the option of being referred to a source of medical care on the area resources list. Make only one phone call attempt.

- Manage Level I referrals following the procedures described in Section 7.
- Manage Level II referrals following the procedures described in Section 4.5.
- For each examinee, use the Referrals To Be Completed screen or the Review Referral by NCHS # screen to document the referral procedures. Instructions for using these two screens are given in Sections 4.6 and 4.7.
- For each examinee, complete the Physician's Log (see Section 4.3).
- For Level I and selected Level II referrals (those Level II referrals for whom it is indicated, in your clinical judgement, to call the SP's medical care provider), use the Log Telephone Contact screen to document this contact. Instructions for using this screen are given in Section 4.5.1.
- For all Level II referrals, complete the Special Examination Findings Report. See Section 4.5.3 for instructions on completing the Special Examination Findings Report. Use the Log Referral Letter screen to keep a record of the Special Examination Findings Report that you complete. A copy of the screen and instructions for using it are given in Section 4.5.4. In the event that the automated system is not working, use the Positive Findings/Medical Contact Log for Level II referrals, in order to keep a record of the Special Examination Findings Report and any possible efforts to contact the examinee's medical care provider. See Section 4.5.2 for instructions on how to complete the Positive Findings/Medical Contact Log for Level II Referrals.
- Complete the Incident/Emergency Report and M.E.C. Emergency Recording Form for Level I referrals. Instructions for completing these forms are given in Section 8.
- If you are making a Level II referral based on ECG abnormalities, attach one copy of the ECG tracing to the original of the Special Examination Findings Report. You should then give this to the SP to give to his/her medical care providers.
- Retain one copy of each ECG tracing to send to NCHS for review at the end of the stand.

For reading ECG's refer to the following ECG reference material:

ECG reference material:

- Dubin D, **Rapid Interpretation of EKGs**, 4th Edition, 1989.
- **Physician's Guide to Marquette's Electronics Resting ECG Analysis.**
- Constant, Jules, **Learning Electrocardiography**, Little, Brown, and Company, Boston, 1981, hard cover only.

4.4.3 Procedures for Reviewing Laboratory Data

The laboratory technologist will place the Coulter S-Plus Jr. printout of each examinee's hematology results in the physician's box, located outside the physician's examination room. The physician should check the box regularly and review each SP's hematology results before the SP leaves the MEC. Laboratory referral values will focus on, but not be limited to: Hgb, Total WBC, Platelets. All reference values required for these guidelines are given in Exhibit 4-4 and 4-4A. The reference ranges have been set for those values which require an immediate phone call from the MEC physician to the examinee's medical provider and those which are abnormal but do not require a phone call to the examinee's provider. Exhibit 4-4A contains the medically acceptable ranges for selected hematologic tests and should accompany the Special Examination Findings Report whenever a Level I or Level II referral is made because of a hematologic abnormality.

Follow the procedures to review the laboratory values for referrals to outside medical care:

- Check the Coulter print-out for examinee identification. The examinee's NCHS number should appear on the print-out.
- Review the laboratory values for each examinee and compare them to the reference values given in Exhibit 4-4 and 4-4A.
- Any sample person who you advise to see their medical care provider within two weeks because of a hematologic abnormality should receive a copy of the Special Examination Findings Report with at least four hematologic values (hemoglobin, hematocrit, WBC, and MVC) written on it. In addition, they should receive a copy of the form "Medically acceptable values for selected hematologic tests".

Exhibit 4-4. Laboratory reference levels for physician referrals

FEMALES

	REQUIRED PHONE CALL	OTHER ABNORMAL VALUE
Hgb (g/dL)	All ages: < 6.5 No upper value set	1- 2: 6.5-10.4; >13.3 3- 4: 6.5-10.8; >13.8 5-10: 6.5-11.2; >14.1 11-14: 6.5-11.4; >14.6 15-19: 6.5-11.2; >15.0 20-64: 6.5-11.5; >15.3 >=65: 6.5-11.8; >15.4
TOTAL WBC (X10**9/L)	All ages <=3.00; >=16.00	1- 2: 3.01-5.39; 14.11-15.99 3- 4: 3.01-4.89; 12.21-15.99 5-10: 3.01-4.59; 11.11-15.99 11-14: 3.01-4.49; 11.01-15.99 15-19: 3.01-4.79; 11.11-15.99 20-64: 3.01-4.29; 11.21-15.99 >=65: 3.01-4.29; 10.61-15.99
PLATELETS (x10**9/L)	All ages: <50; >600	Due to problems with platelet counts, we are reporting only values <50 to >600.

MALES

	REQUIRED PHONE CALL	OTHER ABNORMAL VALUE
Hgb (g/dL)	All ages: < 6.5 No upper value set	1- 2: 6.5-10.2; >13.6 3- 4: 6.5-10.8; >13.5 5-10: 6.5-11.1; >14.2 11-14: 6.5-11.9; >15.2 15-19: 6.5-12.8; >16.6 20-64: 6.5-13.2; >16.9 >=65: 6.5-12.3; >16.9
TOTAL WBC (X10**9/L)	All ages <=3.00; >=16.00	1- 2: 3.01-5.09; 13.81-15.99 3- 4: 3.01-4.69; 11.81-15.99 5-10: 3.01-4.69; 11.31-15.99 11-14: 3.01-4.39; 10.41-15.99 15-19: 3.01-4.49; 10.81-15.99 20-64: 3.01-4.49; 11.21-15.99 >=65: 3.01-4.39; 10.11-15.99
PLATELETS (x10**9/L)	All ages: <50; >600	Due to problems with platelet counts, we are reporting only values <50 to >600.

Exhibit 4-4A. Medically acceptable values for selected hematologic tests*

Lab test values	Medically acceptable values	Lab test	Medically acceptable
Hemoglobin	(g/dL)	WBC	(x 10 ⁹ /L)
1-2 years, males	10.3-13.6	1-2 years, males	5.10-13.80
3-4 years, males	10.9-13.5	3-4 years, males	4.70-11.80
5-10 years, males	11.2-14.2	5-10 years, males	4.70-11.30
11-14 years, males	12.0-15.2	11-14 years, males	4.40-10.40
15-19 years, males	12.9-16.6	15-19 years, males	4.50-10.80
20-64 years, males	13.3-16.9	20-64 years, males	4.50-11.20
≥65 years, males	12.4-16.9	≥65 years, males	4.40-10.10
1-2 years, females	10.5-13.3	1-2 years, females	5.40-14.10
3-4 years, females	10.9-13.8	3-4 years, females	4.90-12.20
5-10 years, females	11.3-14.1	5-10 years, females	4.60-11.10
11-14 years, females	11.5-14.6	11-14 years, females	4.50-11.00
15-19 years, females	11.3-15.0	15-19 years, females	4.80-11.10
20-64 years, females	11.6-15.3	20-64 years, females	4.30-11.20
≥65 years, females	11.9-15.4	≥65 years, females	4.30-10.60
Hemoglobin	(percent)	MCV	(fL)
1-2 years, males	31.5-40.0	1-2 years, males	66.4-87.7
3-4 years, males	32.2-39.2	3-4 years, males	73.6-88.6
5-10 years, males	33.2-41.0	5-10 years, males	74.8-90.7
11-14 years, males	35.2-44.5	11-14 years, males	77.5-91.3
15-19 years, males	38.2-48.0	15-19 years, males	79.6-94.7
20-64 years, males	39.5-49.0	20-64 years, males	81.6-98.5
≥65 years, males	37.7-49.1	≥65 years, males	82.0-100.
1-2 years, females	31.5-39.0	1-2 years, females	69.1-88.2
3-4 years, females	32.0-40.0	3-4 years, females	74.5-89.8
5-10 years, females	33.1-41.0	5-10 years, females	75.7-89.9
11-14 years, females	34.5-42.5	11-14 years, females	77.8-94.0
15-19 years, females	33.7-43.7	15-19 years, females	80.2-96.5
20-64 years, females	35.0-45.0	20-64 years, females	81.2-98.8
≥65 years, females	35.5-45.2	≥65 years, females	81.2-99.8

*The medically acceptable values listed here comprise the 5th through 95th percentiles for these tests based on data collected in the Second National Health and Nutrition Survey, conducted from 1976-80.

- For laboratory values at or below the required phone call range, follow the procedures given below:
 1. Inform the examinee of the value outside of the normal range.
 2. Evaluate the examinee.
 3. Request the name, address and phone number of the examinee's source of medical care and the examinee's permission to contact this source of care. Call the examinee's source of medical care if one exists. If the examinee cannot name a source of medical care for referral, offer the examinee the option of being referred to a source of medical care on the area resources list. Make only one phone call attempt.
 4. Use the Log Telephone Contact screen to document your contact (or attempted contact) with examinee's medical care provider. Instructions for using this screen are given in Section 4.5.1.
 5. Assign a level of referral based on your clinical judgement and discussions with the examinee's source of medical care. If you are unable to contact the examinee's source of medical care or if the examinee does not have source of medical care, base the referral level on your clinical judgement. However, those individuals for whom no source of medical care is available, should be a minimum of a Level II referral because you have found a grossly abnormal hematology value for which we have no prior medical documentation.
 6. Manage Level I referrals by following the procedures described in Section 8.
 7. Manage Level II referrals by following the procedures described in Section 4.5
 8. For each examinee, use the Referrals To Be Completed screen or the Review Referral by NCHS # screen to document the referral procedures. Instructions for using these two screens are given in Sections 4.6 and 4.7.
 9. For each examinee, complete the Physician's Log (see Section 4.3).
 10. For Level II referrals, complete the Special Examination Findings Form. See Section 4.5.3 for instructions on completing the Special Examination Findings Form. Use the Log Referral Letter screen to keep a record of the Special Examination Findings Form that you complete. A copy of the screen and instructions for using it are given in Section 4.5.4. In the event that the automated system is not working, use the Positive Findings/Medical Contact Log for Level II referrals, in order to keep a record of the Special Examination Findings Report and your efforts to contact the examinee's medical care provider. See Section 4.5.2 for instructions on how to complete the Positive Findings/Medical Contact Log for Level II Referrals.

11. For Level I referrals complete the Incident/Emergency Report and MEC Emergency Recording Form. Instructions for completing these forms are given in Section 7.
- For laboratory values outside of the normal range, but not in the required phone call range, follow the procedures given below:
 1. Evaluate the examinee.
 2. Based on your clinical judgement, call the examinee's source of medical care if one exists. It is not required to call the examinee's source of medical care in this situation. However, if you do call, make sure that the SP consents to the call to that particular doctor or source of health care. Make only one phone call attempt.
 3. Assign a level of referral based on your clinical judgment and discussions with the examinee's source of medical care if such contact is made. If the examinee cannot name a source of medical care referral, offer the examinee the option of being referred to a source of medical care on the area resources list.
 4. Manage Level I referrals by following the procedures described in Section 7.
 5. Manage Level II referrals by following the procedures described in Section 4.5.
 6. For each examinee, use the Referrals To Be Completed screen or the Review Referral by NCHS # screen to document the referral procedures. Instructions for using these two screens are given in Sections 4.6 and 4.7.
 7. For each examinee, complete the Physician's Log (see Section 4.3).
 8. For Level I and selected Level II referrals (those Level II referrals for whom it is indicated, in your clinical judgement, to call the SP's medical care provider), use the Log Telephone Contact screen to document contacting the examinee's medical provider by phone. Instructions for using this screen are given in Section 4.5.1.
 9. For Level II referrals, complete the Special Examination Findings Report of Findings. See Section 4.5.3 for instructions on completing the Special Examination Findings Report. Use the Log Referral Letter screen to keep a record of the Special Examination Findings Report that you complete. A copy of the screen and instructions for using it are given in Section 4.5.4. In the event that the automated system is not working, use the Positive Findings/Medical Contact Log for Level II referrals, in order to keep a record of the Special Examination Findings Report and any possible efforts to contact the examinee's medical care provider. See Section 4.5.2 for instructions on how to complete the Positive Findings/Medical Contact Log for Level II Referrals.

10. For Level I referrals complete the Incident/Emergency Report and MEC Emergency Recording Form. Instructions for completing these forms are given in Section 7.
- Return the Coulter print-out to the laboratory technician. The Coulter results for each examinee will be sent to CDC for evaluation.

4.5 Examinees Who Need Early Medical Care (Level II Referrals)

As stated in Section 3.16 of this manual, based on the physician's examination and review of ECG's, hematology data, as well as assessment of emergencies and other incidents, the physician should assign the examinee to one of three categories: minor or no medical findings (Level III), major medical findings requiring medical care within the next two weeks (Level II), and major medical findings requiring immediate care (Level I). This section is concerned with the Level II category, involving major medical findings requiring care within the next two weeks. An examinee should receive a Level II referral classification if s/he might need additional examination and/or tests by his/her physician/clinic or by the staff at a referral medical facility within 2 weeks of the MEC examination date. It is important to note that NCHS will routinely send out reports of medical findings to the SP approximately 12 weeks after the exam. However, in Level II referral cases the examinee needs further care before the Report of Physical Findings will be received by the SP from NCHS.

The procedures which the physician should follow to process Level II referrals are given below:

- In general, it is not mandatory for you to phone the medical care provider of Level II referrals. Rather, you should use your clinical judgement as to whether such a phone call is necessary. An exception to this is the SP whose hemoglobin, WBC, or platelets fall into the "required phone call" range.
- Explain to the examinee that s/he should make an appointment within the next two weeks with his/her usual health care provider. If the examinee cannot name a source of medical care for referral, offer the examinee the option of being referred to a source of medical care on the area resources list. (This list will be provided to the physician by the MEC Manager at the beginning of each stand.)
- If you think that a phone call to an SP's medical care provider is indicated, ask the examinee for oral consent to contact his/her health care provider to alert him/her that the examinee should be contacting him/her within the next 2 weeks and to tell the health care provider of suspected findings. Request the name, address and phone of the SP's source of medical care and enter on the referral screen.

- If the examinee refuses to give oral consent, ask an available MEC staff who speaks the examinee's language to serve as a witness while you try to convince the examinee of the seriousness of the situation. If the examinee still refuses, terminate the MEC examination. Request that the examinee sign a Release Form (Exhibit 4-5), and leave the MEC without much delay.
- Make an attempt to contact the designated physician/clinic or referral medical facility by telephone. Document the telephone call using the Log Telephone Contact screen. Instructions for using this screen are provided in Section 4.5.1.
- Complete the Special Examination Findings Report. This is a form letter which must be given to the SP even if telephone contact was made with the SP's medical care provider. Instructions for completing the Special Examination Findings Report, are given in Section 4.5.3. Use the Log Referral Letter screen to document the date that the letter was signed. Instructions for using this screen are given in Section 4.5.4.
- Document all Level II referrals in the Physician's Log.
- If necessary access the Referrals To Be Completed screen, or the Review Referral by NCHS # screen to enter the referral level and referral information for the examinee. Instructions for using these screens are given in Sections 4-6 and 4-7.

The Log Telephone Contact screen is used to enter information regarding any telephone contacts (or attempted contacts) with an examinee's provider for Level I or Level II referrals. An example of the screen and instructions for using it are given on the following pages in Exhibit 4-6.

Select 'Log Telephone Contact' from the Physician's Menu.

- (1) Enter the SP number and press Enter. Information about the SP and about your referral of the SP will be displayed in the top section of the screen. The cursor will move to the question "Was oral consent obtained from SP to contact doctor?"
 If "1" then go to ("4") "Was provider telephoned?" and continue.
 If "2" then go to ("2") "Did SP refuse to give permission to contact doctor?"
 If "3" then go to ("5") "Comments on call."
- (2) Did SP refuse to give permission to contact doctor?
 If "1" then go to ("3") "Witness," then go to "Comments."
 If "2" then go to ("4") "Was provider . . .?"; ("5") Continue.
 If "3" then go to ("5") "Comments."
 If "4" then go to ("5") "Comments."
- (3) Witness.
 Enter name of Witness and go to "Comments" ("5").
- (4) Was provider telephoned?
 If "1" then continue (phone #, date, name and position, told)
 If "2" then continue (phone #, name, position, told)
 If "3" then go to ("5") "Comments."
 If "4" then go to ("5") "Comments."

NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY III

RELEASE FORM

Date _____

Stand _____

This is to certify that against the advice of the medical doctor I:

(Check one)

- am leaving the Mobile Exam Center.
- am removing _____
(name of sample person)
from the Mobile Exam Center.
- choose no further medical referral or follow-up.

By so doing, I assume all responsibility for my act.

Signed _____

Relationship _____

Witness _____

Exhibit 4-6. Log Telephone Contact Screen

NCHS# _____ Name _____ Age ____ Sex _ Exam Date _____
 Tech# _____
 Referral Level: _ (number 1-3) X-Ray _____ EKG _____
 1 Reviewed: OK - 2 Reviewed: Problem - Blood pressure - Medical Emer/Acc
 3 Not in Protocol & Didn't See - Hemat - Other _____

Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)
 Did SP refuse to give permission to contact doctor? (1=Yes, 2=No, 3=Com, 4=N/A)
 *-----Witness:-----
 Was provider telephoned? _ (1=yes, 2=no, 3=see comment, 4=N/A)
 Telephone# of contact: _____ Date of Call: _____ (DD-MON-YY)
 Name of contact and/or facility: _____

 Position of contact: _____

 What provider was told: _____

 *-----
 Comments on call: _____

Press <Remove> for next SP, or <Next Screen> when done. LOG TELEPHONE CONTACT

Form: contlog

4.5.1 Log Telephone Contact Screen

The Log Telephone Contact screen is used to enter information regarding any telephone contacts with an examinee's provider for Level I or Level II referrals. An example of the screen and instructions for using it are given on the following pages in Exhibit 4-6.

Exhibit 4-6. Log Telephone Contact Screen (continued)

- (5) Enter any comments regarding the call in the space provided at the bottom of the screen.
- (6) When you have finished, you have two choices:
 - (a) To enter Telephone Contact information for another SP, press the Remove key. This will save the information on the screen, and then clear the screen so you are ready to enter the next SP's number.
 - (b) When you are done entering telephone contacts on this screen, press the Next Screen key. This will save the information on the screen and return you to the menu.

4.5.2 The Positive Findings/Medical Contact Log for Level II Referrals

When an examinee is found to require early medical care, the physician should follow certain procedures and record the outcomes of these procedures by using the Log Telephone Contact screen, and the Log Referral Letter screen. However, in the event that the automated system is not functioning, the physician should use the Positive Findings/Medical Contact Log for Level II referrals (Exhibit 4-7). This Log is meant to provide a record of the Special Examination Findings Report and any possible efforts to contact physicians, nurses, or other staff at medical facilities with regard to examinees who are Level II referrals. This Log is not meant to be used for the Level I category of major medical findings which requires immediate care or for those examinees who suffer a medical problem in the MEC that requires immediate emergency procedures. Procedures for medical emergencies are discussed in Chapter 7.

Only the physician makes entries in the Positive Findings/Medical Contact Log. The procedures necessary for completing the Log are listed below.

Begin a new log for each stand. Complete the items at the top left of the page:

- Stand No.: Record the 3-digit stand number for the current stand.
- Location: Record the location of the current stand.
- Examiner No.: Record your 4-digit ID number.

For a given examinee, complete the following items:

- **SP ID #:** Attach the examinee's ID bar code label in column 1. If the ID label is not available, record the examinee's identification number in column 1.
- **SP Name:** Record the examinee's first and last name, in the space provided in column 2.
- **Date Examined:** Record **two** digits each for the month, day and year that the examination occurred.
- **Reason for Referral:** In the space provided in column 4, record the findings that prompted the Level II referral.
- **Statement of what SP was told:** In the space provided, record a brief explanation of what the SP was told about his or her medical findings. It is important to be

Exhibit 4-7. Positive Finding/Medical Contact Log for Level II Referrals

STAND NO. _____
 LOCATION _____
 EXAMINER NO. _____

National Health and Nutrition Examination Survey III

LEVEL II REFERRALS

POSITIVE FINDINGS / MEDICAL CONTACT LOG

SP ID #	SP NAME	Date Examined M D Y	Person Referred	Number of Visit(s) Made	SP's Response	Oral Contact	Name Witness	Telephone Number of Contact # Period	Name of Contact Facility	Position of Contact	Date Letter Sent M D Y
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__
		__/__/__				Y/N		()			__/__/__

as specific and factual as possible.

- **SP's Response:** In the space provided record a brief statement to summarize the examinee's response to hearing the report of his/her medical findings.
- **Oral Consent:** Circle "Yes" in the space provided in column 7 if the SP gives oral consent to contact his/her medical provider. Circle "No" if the SP does **not** give oral consent.
- **Name of Witness:** If the SP refuses to give oral consent, record the name of the person who witnessed the SP's refusal.
- **Telephone Number of Contact if Phoned:** Enter the telephone number including the area code of the designated physician/clinic or referral medical facility. If you did not reach the contact by phone do not record a telephone number.
- **Name of Contact and/or Facility:** Record the name and address of the physician and/or medical facility contacted by phone or letter in the space provided in column 11.
- **Position of Contact:** Record the position of the contact, e.g., clinic director, personal physician, staff physician, etc. in the space provided in column 12.
- **Date Letter Signed:** Record two digits each for the month, day and year you completed and signed the Special Examination Findings Report.

The physician should keep each Positive Findings/Medical Contact Log in the notebook provided. These logs should be sent along with any other hard copy logs and copies of referral letters of findings to physicians, to Westat at the end of a stand.

4.5.3 Special Examination Findings Report

Physicians in the MECs will provide a copy of the Special Examination Findings Report to each sample person whose referral status is classified as Level II. This report will indicate the abnormality that the sample person has been advised to discuss with their personal physician within the next two weeks. The physician in the MEC will also write the following on the form: "You are advised to talk to a doctor within the next two weeks about this abnormal finding".

If the physicians in the MEC think that it is indicated to send a copy of the Special Examination Findings Report to the sample person's personal physician/medical clinic, they may do so. However, prior to sending the report, the physicians in the MEC must obtain oral consent from the sample

person to contact his/her personal physician/medical clinic. Even if a report is sent to the sample person's personal physician, a copy of the report still should be given to the sample person. To send a copy to the sample person's personal physician, an additional Special Examination Findings Report form will need to be filled out. In the space on the report form provided for the address, this version of the report should contain the name and address of the sample person's personal physician or medical clinic.

To complete the report (Exhibit 4-8), fill in the following information in the space provided:

- Current date;
- SP number;
- **Name and address** of SP;
- Name of examinee;
- Name of abnormal test and results of the test;
- Telephone number, including area code, of the MEC;
- Month, day and year of the last day the MEC is in operation;
- A description of the potential problem or problems in the findings section of the report; and
- Your signature and your name printed below after the closing.

The reports are prepared on NCR three-part paper. After filling out the information on the report, give the signed original to the SP to give to his/her medical care provider, along with other relevant information, i.e., lab data, ECG, etc., and keep one copy in the examinee's folder. At the end of the stand, send the pink copy of each form letter to Westat and the remaining copy to NCHS.

Exhibit 4-8. Special examination findings report



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Center for Health Statistics
Centers for Disease Control
3700 East-West Highway
Hyattsville, MD 20782

Date _____

Dear Dr. _____

Your patient, _____, has voluntarily participated in the third National Health and Nutrition Examination Survey conducted at special facilities of the U.S. Public Health Service. The objectives of the survey are to obtain information on the health and nutrition status of the U.S. population. As a result of the testing that was done, it was noted that on _____ an out-of-normal-range finding was revealed (see Comments section). Although you may already be aware of this finding, we thought it was necessary to bring it to your attention as a courtesy to you.

This examination is not, nor is it intended to be, a substitute for a visit to you, nor a complete exam. No attempt has been made by our staff physician to diagnose or treat medical conditions of the participants. At the request of the examinee, however, we do send reports of findings from selected procedures to the physician that he or she indicates. In this case the examinee has requested that these reports be sent to you. A full report of findings from this study of your patient will be sent to you at a later date.

Should you have any questions, you may contact me at the Mobile Exam Center. The phone number is () _____ until _____. After that date you may contact Dr. Daniel Savage at the National Center for Health Statistics. His phone number is (301) 436-8267.

Comments: _____

Sincerely,

4.5.4 Using the Log Referral Letter Screen

The Log Referral Letter screen was designed to allow you to keep a log of the Special Examination Findings Reports that you write and give to the SP to give to his/her medical care provider. (See Exhibit 4-9 for an example of the screen.)

Access the screen from the Physician's Exam Main Menu. Enter your Tech ID number, the SP ID number, the current date, and the name of the person to whom the report was given.

4.6 Using the Referrals To Be Completed Screen

The Referrals To Be Completed screen is used to enter the referral level and the referral information for each examinee who is examined without having to access the referral screen which appears at the end of the Physician's Exam data entry screens. This screen will display the referral data for all examinees for whom the referral record is not marked as complete. The screen is shown in Exhibit 4-10, followed by instructions on how to use it.

4.7 Using the Review Referral By NCHS # Screen

The Review Referral by NCHS # screen is used to review or enter referral information about any examinee, by entering the examinee's NCHS number. The screen will display any previously entered referral data for the examinee. The screen and instructions on how to use it are given in Exhibit 4-11.

4.8 Bioelectric Impedance Calibration Procedures

The physician is also responsible for calibrating the Valhalla Scientific Body Composition Analyzer 1990B (1990B unit). There are 2 calibration procedures required. They are (1) the internal calibration of the machine alone and (2) the calibration of the machine using the calibration resistor and capacitor or test object. The 2 calibration procedures should be done once a day at the beginning or at the end of either session.

Exhibit 4-9. Log Referral Letter screen

NCCHS# _____ Name _____ Age _____ Sex _____ Exam Date _____
Referral Level: _____ (number 1-3) _____ X-Ray _____
Reason: 1. Reviewed: OK 8. Didn't See _____ Blood pressure _____ EKG _____
2. Reviewed: Problem _____ Hematology _____ Medical Emer/Acc _____
3. Not in Protocol _____ Other _____

Tech# _____

Date letter sent: _____ (DD-MMM-YY)

Letter sent to: _____
Position: _____

Was oral consent obtained from SP to contact doctor? _____ (1=Yes,2=No,3=N/A)
DID SP refuse to give permission to contact doctor? _____ (1=Yes,2=NO,3=N/A,4=Com)

<Remove> for next SP,
<Next Screen> when done.

Form: reflatter

Exhibit 4-10. The Referrals to be Completed screen (continued)

- (1) Was oral consent obtained from SP to contact doctor?
If "1" then go to ("4") incident-form.
If "2" then go to ("2") refuse-designate.
If "3" then go to ("5") comments.
- (2) Did SP refuse to give permission to contact doctor?
If "1" then go to ("3") Witness.
If "2" then go to ("4") incident-form.
If "3" then go to ("4") incident-form.
If "4" then go to ("5") comments.
- (3) Witness
Enter name of witness and go to comments ("5").
- (4) Was the incident form filled out?
If "1," "2," or "3," go to Comments ("5").
- (5) Enter any comments regarding the referral or the referral process.
- (6) Enter whether the referral is complete. When a referral is marked as complete, it will no longer be called up on this screen. To view or change information on a referral that has been marked as complete, you must use the procedure "Review Referral by NCHS#".
- (7) When you are done entering referral information for one SP, you have several choices.
 - (a) If you want to enter referral information for another SP, press the down arrow key until you see the SP number and name of the SP. Then enter information as described above.
 - (b) If you are done entering referral information, press the Next Screen key. You will return to the menu.

Exhibit 4-11. Review Referral by NCHS # screen (continued)

information which has already been entered will be displayed.

- (3) Complete the referral screen as described above in the section 'Referrals to be Completed'.
- (4) When you have finished, you have two choices:
 - (a) To review or enter referral information for another SP, press the Remove key. This will save the information on the screen, and then clear the screen so you are ready to enter the next SP's number.
 - (b) When you are done entering referrals on this screen, press the Next Screen key. This will save the information on the screen and return you to the menu.

The following is the internal calibration procedure **using the BIA machine only (without the test object)**.

- Turn the machine on. All calibrations are performed automatically by internal methods.
- Press the **CAL** key to start the calibration sequence.

The following messages will be displayed during the internal calibration procedure:

Calibrating Phase Detector
Calibrating at Current Zero
Calibrating at Voltage Zero
Calibrating at 499 ohms

- Record the **2** calibration values given next for the

Fat % error _____
OHMS % error _____

These values should not be greater than ± 1.0 units. If this occurs contact the MEC Manager. The internal calibration procedure should also be done randomly before an SP exam but it is not necessary to record the values. It is important to calibrate the machine more often when environmental temperatures change and when battery power is low or lost.

The following is the calibration procedure of the BIA machine **using the resistor and capacitor (test object)**.

- Connect the arm and leg black lead to the outside posts of the test object. Connect the arm and leg red leads to the inside posts of the test objects.
- Turn the impedance machine on and go through the normal operating procedure. Instead of measuring a person, the values will be for the standard resistor. The **4** values that should be recorded are:

Resistance _____ *Impedance* _____

Reactance _____ *Phase* _____

The readings on the machine should be 499.xx for resistance and 156.xx for reactance. These values should not differ by more than ± 5.0 units. If this occurs contact the MEC Manager.

The results of the daily calibrations of the 1990B unit should be recorded using the Bioelectric Log screen. An example of the Bioelectric Log screen and an explanation of how to use it are given in Exhibit 4-12.

In the event that the automation system fails the results of the daily bioelectric impedance calibration procedures should be recorded on the hard copy Bioelectric Impedance Daily Calibrations Log. (See Exhibit 4-13 for an example of the Log.)

The procedure to be followed for completing the log is:

- Enter the number of the stand and location on the top left side of the form.
- Enter your 4 digit examiner ID number on the top right side of the form.
- Enter the date (month/day/year) on which the calibration procedure is being done in column 1.
- Enter the session number and whether it is the beginning or the end of a session using the number codes listed in columns 2 and 3.
- Record the values given for the fat % error and the ohms % error for the internal calibration in columns 4 and 5. Record the number exactly as it is displayed including the decimal point and zeros if given in the value.
- Record the values given for the resistance, reactance, impedance, and phase for the external calibration in columns 6, 7, 8, and 9. Record the numbers exactly as they are displayed including decimal points and zeros if given in the values.

Exhibit 4-12. Bioelectric Log Calibration screen

Bioelectric Impedance Daily Calibrations Log

The Bioelectric Daily Calibrations should be done at the beginning and the end of each session, and the results should be recorded in the log. The Bioelectric Log screen is displayed below, followed by an explanation of how to use it.

```
Bioelectric Impedance Daily Calibrations Log
Tech# _____
_____ Stand
_____ Log Date
(DD-MON-YY)

- Session 1. AM
                2. PM
                3. EVE
- 1. beginning of session
- 2. end of session

_____ BIA RES Value          (Use 888 for Cannot Obtain.)
_____ BIA REA Value
_____ Test Device RES Value
_____ Test Device REA Value

Comment: _____

Press <Next Screen> to save data and return to menu.
Press <Help> to see valid range for field.

-----
Form: biolog      Block: biolog      Page: 1  SELECT:      Char Mode: Replace
```

- (1) Select 'Bio Electric Log' from the Physician's Menu.
- (2) Enter your Tech number and press Enter. Your name will be displayed. If you enter your tech number incorrectly, or if your tech number is not in the database, a message will be displayed. Enter your number correctly or see your MEC manager.
- (3) Enter the Stand number and press Enter. After you have used the screen for the first time at a stand, the stand number

Exhibit 4-12. Bioelectric Log Calibration screen (continued)

will be called up. If the number called up is incorrect, you should overtype it.

- (4) The current date will be displayed next to the prompt 'Log Date'. If you are entering information for the current day, press Enter. If you are entering Bioelectric log data for a day other than the date displayed, enter the date for which the test was done and press Enter. The date must be entered in the format indicated below the field, eg. 10-JUL-89.
- (5) Enter the Session number and whether it is the beginning or the end of the session, using the codes listed to the right of the fields. Press enter after each.
- (6) Enter the results of the calibrations test, and press Enter after each. To display the valid range for each of the fields, press the 'Help' key. If you cannot obtain results, enter the code '888'.
- (7) Enter any comment regarding the test, such as the reason that the test was not done.
- (8) Press the Next Screen key to commit the information and return to the menu screen.

5. EQUIPMENT AND SUPPLIES

The Mobile Examination Center (MEC) is specially equipped with easily transported instruments. Some changes in equipment are necessary for this different kind of exam center. The following sections of this chapter explain the care of the equipment and the physician's responsibilities for maintaining the physician's room. The equipment and supplies for the physician's room are listed in Exhibit 5-1.

5.1 Set-up Procedures for the Physician's Room

Before setting up, the physician should determine what equipment and supplies have been carried over from a previous stand as well as new supplies sent from Westat at the beginning of a stand. The physician will be provided with a Beginning/End Stand-Inventory Sheet to facilitate this determination (See Exhibit 5-2z for an example of the Inventory Sheet).

The Beginning/End Stand-Inventory Sheet is a multipage computer generated form which is organized by component. Physician's supplies are listed with the following component codes:

- **PHY:** (Physician's Supplies). The physician should inventory all items with a PHY code in the component column.
- **BIO:** (Bioelectric Impedance Supplies). The physician should inventory all items with a BIO code in the component column.
- **ALL:** (Supplies Shared by All Components). The physician should inventory items with an ALL code in the component column only if they also have a PHY code in the Item Description column.
- **OFC:** (Office Supplies). The physician should inventory items with an OFC code in the component column only if they are used in the Physician's room.

To complete the Beginning/End Stand Inventory Sheet, the physician should then circle "BEGIN," enter one stand number, the inventory date and his/her I.D. number. Count

Exhibit 5-1. Equipment and supplies for physician's room

Equipment

Stethoscope (Adult & Pediatric)
Y stethoscope (Adult and Pediatric)
Wall Unit Manometers
Infant BP Cuff
Child BP Cuff
Adult BP Cuff
Large BP Cuff
Thigh BP Cuff
Penlight
Clock
Coffee can
Emergency Kit
Eye shield (Spatula type)
Body Composition Analyzer 1990B
Ruler (Clear Plastic)
Arm rest pillows (small, medium, large)
ECG machine and calipers
BIA test device

Supplies

Tongue blades
Ammonia inhalants
Exam table paper
Penlight batteries
Alcohol (Isopropyl)
Tissues
Paper towels
Soap
Pens
Writing paper
Coffee can
Emergency Kit
Body Comp. Electrodes
Gauze (sterile) 4x4
Mercury sponges
Lifepak 6S sponge electrodes
Lifepak electrode gel

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items

STAND INVENTORY - MED SUPPLIES				CIRCLE ONE:		BEGIN	END
STAND _____				INVENTORY DATE _____			
CODE	COMP	DESCRIPTION	U/I	ON-HAND	CODE	COMP	
5300	PHY	FORM, PHYSICIANS EXAM FORM (ALL AGES), 8/89	EA	___	5300	PHY	
5361	PHY	LOG, POSITIVE FINDINGS/MEDICAL CONTACT LOG	EA	___	5361	PHY	
5364	PHY	LOG, PHYSICIANS LOG	EA	___	5364	PHY	
5500	PHY	FORM, NHAMES III RELEASE FORM, 7/89	EA	___	5500	PHY	
5509	PHY	FORM, PHYSICIAN REFERRAL LETTER TO SP'S DR.	EA	___	5509	PHY	
5510	PHY	FORM, LABORATORY REFERENCE LEVELS, ALL AGES (YRS)	EA	___	5510	PHY	
5511	PHY	FORM, HEMATOLOGIC RANGES, MEDICALLY ACCEPTABLE	EA	___	5511	PHY	
5550	PHY	FORM, CHILD BLOOD PRESSURE RPT, ENGLISH, 1/90	EA	___	5550	PHY	
5551	PHY	FORM, CHILD BLOOD PRESSURE RPT, SPANISH, 6/90	EA	___	5551	PHY	

COMPONENT: PHY/BIO
 Revised: 3/14/91

INVENTORIED BY _____

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items (continued)

STAND INVENTORY - MEC SUPPLIES		CIRCLE ONE: BEGIN		END			
STAND	DESCRIPTION	INVENTORY DATE		U/I	ON-HAND	CODE	COMP
0070	ALL ALCOHOL, PT (HAZ GOOD)	EA	_____	0070	ALL		
0080	ALL ALCOHOL PREPS, MEDI-PAK	EA	_____	0080	ALL		
0220	ALL ALUMINUM FOIL, 150 SQ FT	EX	_____	0220	ALL		
0230	ALL AMMONIA INHALER, IND. WRAP	EA	_____	0230	ALL		
0240	ALL APPLICATOR, COTTON TIP	EA	_____	0240	ALL		
0300	ALL BAG, TRASH CAN LINER	EA	_____	0300	ALL		
0305	ALL BAG, TRASH, LRG	EA	_____	0305	ALL		
0310	ALL BAG, ZIPLOC, 1 GL	EA	_____	0310	ALL		
0352	ALL BATTERY, D CELL	EA	_____	0352	ALL		
0370	ALL BATTERY, AA, 8 PKG	EA	_____	0370	ALL		
0381	ALL BATTERY, AAA, PEN LIGHT	EA	_____	0381	ALL		
0760	ALL CLEANER, 409, 22 OZ	BT	_____	0760	ALL		
0850	ALL WIPES, CLOTH, REUSABLE	EA	_____	0850	ALL		
1211	ALL DISKETTE, DS, HD, 5 1/4", NOT FORMATTED	EA	_____	1211	ALL		
1213	ALL DISKETTE, DS, DD, 5 1/4", FORMATTED	EA	_____	1213	ALL		
1440	ALL ENVELOPE, DISK MAILING, 8" DISK	EA	_____	1440	ALL		
1810	ALL GAUZE, 2 X 2, STERILE	FG	_____	1810	ALL		
1821	ALL GAUZE, 4 X 4, NON-STERILE, 200'S	FG	_____	1821	ALL		
1841	ALL GAUZE, 2 X 2, NON-STERILE, 200'S	FG	_____	1841	ALL		
1871	ALL MERTICIDE, STERI AND DISINFECT SOL,	BT	_____	1871	ALL		
1891	ALL GLOVE, VINYL, SM	EA	_____	1891	ALL		
1901	ALL GLOVE, VINYL, MED	EA	_____	1901	ALL		
1911	ALL GLOVE, VINYL, LRG	EA	_____	1911	ALL		
1980	ALL LOTION, HAND	BT	_____	1980	ALL		
2195	ALL TONER CARTRIDGE KIT	EA	_____	2195	ALL		

COMPONENT: ALL
 Revised: 3/14/91

INVENTORIED BY _____

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items (continued)

STAND INVENTORY - MEC SUPPLIES		CIRCLE ONE:	BEGIN	END		
STAND	INVENTORY DATE					
CODE	COMP	DESCRIPTION	U/I	ON-HAND	CODE	COMP
2196	ALL	KIT, LASER COPIER, USER MAINTENANCE	EA	_____	2196	ALL
2197	ALL	COMPACTAPE (FIELD OFC)	EA	_____	2197	ALL
2200	ALL	KLEENEX	EX	_____	2200	ALL
2342	ALL	BULB, PENLIGHT	EA	_____	2342	ALL
2344	ALL	BULB, LIGHT, 60 W	EA	_____	2344	ALL
2500	ALL	MASK, TIE, NON-FIBERGLASS	EA	_____	2500	ALL
2560	ALL	MERCURY SPONGE	EA	_____	2560	ALL
2810	ALL	TOWEL, PAPER, BROWN, SINGLE FOLD	FG	_____	2810	ALL
2815	ALL	TOWEL, BROWN, SPEC CFOLD, FOR 3 SM DISP	FG	_____	2815	ALL
2820	ALL	TOWEL, PAPER, WHITE, CFOLD, BLEACHED	FG	_____	2820	ALL
2850	ALL	PAPER, EXAM TABLE, 18"	RL	_____	2850	ALL
2910	ALL	FLASHLIGHT, PEN	EA	_____	2910	ALL
2970	ALL	PENCIL, BLUE EYELINER, MAYBELLINE	EA	_____	2970	ALL
2980	ALL	PENCIL, BROWN EYELINER, MAYBELLINE	EA	_____	2980	ALL
3150	ALL	PILLOW CASE, PAPER, MEDI-PAK 20 X 29	EA	_____	3150	ALL
3750	ALL	SOAP, HAND, REFILL, IVORY LIQUID, 22 OZ	BT	_____	3750	ALL
3760	ALL	SOAP, DISH LIQUID, IVORY, 32 OZ	EA	_____	3760	ALL
3780	ALL	HAND CREAM, SOFT GUARD, 3 OZ	TU	_____	3780	ALL
3790	ALL	CLEANSER, SOFT SCRUB, NON-ABRASIVE, 26 OZ	EA	_____	3790	ALL
3800	ALL	GREASE, STOP COCK	EA	_____	3800	ALL
3840	ALL	SPONGE, CELLU, 3 X 5"	EA	_____	3840	ALL
3860	ALL	LYSOL SPRAY, INSTITUTIONAL, LARGE	EA	_____	3860	ALL
3980	ALL	SPRAY, ANTI-STATIC, 6 OZ.	EA	_____	3980	ALL
4080	ALL	TAPE, SHIPPING, STRAPPING 1" X 60 YD	EA	_____	4080	ALL
4140	ALL	TAPE, PAPER, SURGICAL W/DISPENSER	RL	_____	4140	ALL

COMPONENT: ALL
 Revised: 3/14/91

INVENTORIED BY _____

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items (continued)

STAND INVENTORY - MEC SUPPLIES		CIRCLE ONE: BEGIN		END		
STAND	INVENTORY DATE					
CODE	COMP	DESCRIPTION	U/I	ON-HAND	CODE	COMP
4260	ALL	TONGUE BLADE, WOOD	EA	_____	4260	ALL
4606	ALL	VINYL JACKET, 9 X 12", HEAVY GAUGE	EA	_____	4606	ALL
4660	ALL	WINDOW CLEANER, SPRAY DISPENSER, 22 OZ	EA	_____	4660	ALL
4913	ALL	FORM, FACT SHEET	EA	_____	4913	ALL
4921	ALL	FORM, ADULT BLOOD PRESSURE RPT, ENGLISH, 5/90	EA	_____	4921	ALL
4922	ALL	FORM, ADULT BLOOD PRESSURE RPT, SPANISH, 5/90	EA	_____	4922	ALL
5558	ALL	FORM, PROXY QUEX, ALG-AUD-SPR, 10/90	EA	_____	5558	ALL
5606	ALL	FORM, NHANES TRANSMITTAL FORM, 7/88	EA	_____	5606	ALL

COMPONENT: ALL
 Revised: 3/14/91

INVENTORIED BY _____

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items (continued)

STAND INVENTORY - MEC SUPPLIES			CIRCLE ONE: BEGIN		END	
STAND _____			INVENTORY DATE _____			
CODE	COMP	DESCRIPTION	U/I	ON-HAND	CODE	COMP
0621	OFC	BINDER, 3"	EA	_____	0621	OFC
1411	OFC	ENVELOPE, BROWN, MAILING, 250'S	EX	_____	1411	OFC
1490	OFC	ENVELOPE, PADDED, BUBBLE, #7	EA	_____	1490	OFC
1491	OFC	ENVELOPE, PADDED, BUBBLE, #6	EA	_____	1491	OFC
1492	OFC	ENVELOPE, PADDED, BUBBLE, #5	EA	_____	1492	OFC
1510	OFC	ERASER, GUM	EA	_____	1510	OFC
2701	OFC	PAD, POST IT NOTE, 3 X 5, LARGE	PD	_____	2701	OFC
2710	OFC	PAD, SCRATCH, 3" X 5"	PD	_____	2710	OFC
2760	OFC	PAPER CLIP, JUMBO, NO. 1 STYLE	EX	_____	2760	OFC
2770	OFC	PAPER CLIP, SMALL, NO. 1 STYLE	EX	_____	2770	OFC
2775	OFC	PAPER CLIP, PLASTIC, LARGE, KLIPS	EX	_____	2775	OFC
2780	OFC	BINDER CLIP, LARGE, BLACK	EA	_____	2780	OFC
2790	OFC	BINDER CLIP, MEDIUM, BLACK	EA	_____	2790	OFC
2800	OFC	BINDER CLIP, SMALL, BLACK	EA	_____	2800	OFC
2830	OFC	PAPER, CALCULATOR	RL	_____	2830	OFC
2900	OFC	PAPER, PAD, WRITING, 8 1/2" X 11", WHITE	PD	_____	2900	OFC
2902	OFC	PAPER, PAD, WRITING, LEGAL	PD	_____	2902	OFC
2940	OFC	PENCIL, BLACK LEAD, #2	EA	_____	2940	OFC
3000	OFC	PEN, FELT, BLACK, EXPRESSO FINE/MEDIUM TIP	EA	_____	3000	OFC
3002	OFC	PEN, FELT, BLUE, EXPRESSO FINE/MEDIUM TIP	EA	_____	3002	OFC
3004	OFC	PEN, FELT, RED, EXPRESSO FINE/MEDIUM TIP	EA	_____	3004	OFC
3006	OFC	PEN, FELT, GREEN, EXPRESSO FINE/MEDIUM TIP	EA	_____	3006	OFC
3020	OFC	PEN, BLACK INK, BIC	EA	_____	3020	OFC
3030	OFC	PEN, RED INK, BIC	EA	_____	3030	OFC
3031	OFC	PEN, BLUE INK, BIC	EA	_____	3031	OFC

COMPONENT: OFC
 Revised: 3/14/91

INVENTORIED BY _____

Exhibit 5-2. Beginning/End Stand Inventory sheet - Consumable Items (continued)

STAND INVENTORY - MEC SUPPLIES		CIRCLE ONE: BEGIN		END		
STAND	_____	INVENTORY DATE	_____			
CODE	COMP	DESCRIPTION	U/I	ON-HAND	CODE	COMP
3050	OFC	MARKER, BLACK, MAGIC MARKER	EA	_____	3050	OFC
3440	OFC	RUBBERBAND, SIZE 19	EX	_____	3440	OFC
3450	OFC	RUBBERBAND, SIZE 33	EX	_____	3450	OFC
3590	OFC	TAPE, SCOTCH, 3/4"	EA	_____	3590	OFC
3910	OFC	STAMP PAD, BLACK	EA	_____	3910	OFC
3915	OFC	STAMP PAD, RED	EA	_____	3915	OFC
3920	OFC	STAMP PAD INKER, BLACK	EA	_____	3920	OFC
3925	OFC	STAMP PAD INKER, RED	EA	_____	3925	OFC
3950	OFC	STAPLE, STANDARD, 5000'S, BOSTITCH	EX	_____	3950	OFC
4085	OFC	TAPE, PACKING, 2"	RL	_____	4085	OFC
4415	OFC	PAPER, TYPING, GILBERT BOND	SH	_____	4415	OFC
4650	OFC	WHITE OUT, OPAQUE	BT	_____	4650	OFC
5250	OFC	FORM, TRIP EXPENSE REPORT	EA	_____	5250	OFC
5251	OFC	FORM, TIMESHEET, INTERVIEWER	EA	_____	5251	OFC
5252	OFC	FORM, TIMESHEET, SUPERVISOR	EA	_____	5252	OFC

COMPONENT: OFC
 Revised: 3/14/91

INVENTORIED BY _____

only those items found in the physician's room and record the quantity of each item in the appropriate space(s) on the inventory sheet. When the inventory is complete the physician should sign his/her name to the first page of the list and give the completed form to the MEC Manager.

The physician should store supplies where there is sufficient space in the cabinets in the physician's room and/or under the trailer in the designated bin. The inventory of the emergency equipment is addressed in Chapter 7.

Before setting up equipment and organizing supplies for the physician's examination, the physician should use alcohol to clean the counter, examination table and other work areas.

To set up equipment, the physician should:

- Clean the ear prongs and diaphragm of the stethoscope with alcohol and place the stethoscope on the counter or on the wall hooks provided;
- Assemble the blood pressure cuffs and place in the baskets mounted on the wall; blood pressure equipment checks and maintenance are discussed in Section 5.2.2;
- Put new batteries in the penlight, check the light and place on the counter;
- Connect the Body Composition Analyzer 1990B to an electrical socket. Calibrate the unit. Calibration procedures for the 1990B unit are given in Section 4.8;
- Connect the portable ECG machine (Lifepack 6S) to an electrical socket, and turn the power on.

To set up supplies, the physician should:

- Put paper on the examination table;
- Put pillow on the examination table;
- Set up container for gauze pads with alcohol for bioelectric impedance procedure;
- Put the following items on the counter:
 - Soap at the sink,

- Tissues, and
- Sharpened #2 pencils and writing pens.

In addition, the physician should check the emergency kit equipment to make sure it is working and to verify that the supply is current. The emergency kit and procedures are described in Chapter 7.

5.2 Equipment

5.2.1 Description of Equipment and Supplies

Equipment used in the physician's examination includes a stethoscope (adult and pediatric); a wall model mercury manometer; infant, child, adult, large arm, and thigh blood pressure cuffs; the Body Composition Analyzer 1990B; a ruler; an eye blind; and a penlight. Key pieces of the physician's equipment are described below.

Blood Pressure Unit. The blood pressure unit consists of a mercury-gravity manometer from which the pressure is read and an inflation system which includes an unyielding compression cuff containing an inflatable rubber bladder, a pressure bulb and a pressure control valve to control the rate of deflation.

The mercury-gravity manometer consists of a calibrated glass tube connected to a reservoir containing mercury. The mercury reservoir is connected to the compression cuff by a rubber tube. When air pressure is exerted on the mercury in the reservoir by pumping the pressure bulb, the mercury in the glass tube rises. Be sure that the center of the column is at your eye level. There are 2 arm boards that are mounted on the wall above the exam table that are to be used for the procedure. A pillow may also be used to provide added height for an SP's arm to ensure that the arm is at the heart level before the measurement is done.

The inflation system consists of a compression cuff, inflatable rubber bladder, pressure bulb, pressure control valve (thumb valve) and rubber tubing. The compression cuff is made of an unyielding material to exert an even pressure on the inflatable rubber bladder inside the cuff. Velcro fasteners keep the cuff in position when placed on the arm. As described in Chapter 3, five different sized

cuffs, each with a complete inflation system will be available for blood pressure measurement. Depending on the size of an examinee's arm, the physician will use either the infant, the child cuff, the adult cuff, the large arm, or the thigh cuff.

The pressure bulb is used to create pressure in the system by inflating the bladder. The pressure bulb should be held in the right hand with the pressure control valve on the outside.

The pressure control valve controls the rate at which the system is deflated. To close the valve, or inflate the cuff, the valve should be turned with the thumb counter clockwise (towards you). To open the valve, or deflate the cuff, the valve should be turned with the thumb clockwise (away from you).

Stethoscope. A Littman Classic stethoscope (adult and pediatric) with combination head, diaphragm and bell.

Body Composition Analyzer. The Vahalla Scientific Body Composition Analyzer 1990B is the instrument used for measurement of whole body electrical resistance and analysis of body composition.

Additional Supplies. Supplies in the physician's room include disposable tongue blades, ammonia inhalants, paper for the examination table, batteries for the penlight, electrodes for the Body Composition Analyzer, sponge electrodes for the Lifepak 6S, alcohol, plastic gloves, tissues, paper towels, soap, pens and writing paper. The physician's room also contains a pillow for the examination table, a stool for the physician, a step stool for the examinee, a chair, and a clock.

5.2.2 Maintaining Equipment

It is important that equipment is functioning properly so that accurate measurements are possible. Maintenance procedures for key pieces of the physician's examination are described below.

Stethoscope. Each day before use, check the tubing for tears and air leaks and check the diaphragm for cracks.

Penlight. Each day before use check to make sure that the penlight batteries are in working order.

Blood Pressure Unit. The mercury manometer is calibrated when it is manufactured and once calibrated, recalibration is unnecessary. However, regular inspection is necessary to eliminate conditions that could cause the blood pressure measurement to be read as erroneously high or low.

Blood Pressure Equipment Care Checklist

Daily:

1. Check to see that the level of mercury in glass tube is at zero.
2. Check the shape of the meniscus -- it should be a smooth, well-defined curve, and that the mercury looks clean and silver in color.
3. Visually check for mercury droplets outside glass tube.
4. Check that the mercury rises easily in the tubing and that the mercury column does not bounce noticeably when the valve is closed.
5. Check for cracks in the glass tube.
6. Check the cap at the top of the calibrated glass tube to make sure it is securely in place.
7. Check inflation system including pressure control valve and tubing for cracks and/or leaks.
8. Check stethoscope diaphragm for cracks.

Note: Never attempt to repair the equipment yourself.

Weekly:

1. Do the daily checks; then
2. Use the coffee can procedure to check for air and mercury leaks:
 - Connect the inflation system and wrap it around a 1-pound coffee can. Check all of the cuffs to be sure none has a leak. For infant and child cuffs use a soft drink can.
 - Inflate to 250 mm Hg and check that the mercury rises easily, and does not bounce. Look for mercury droplets at the top or bottom of the glass tube, indicating a mercury leak.

- Open valve and deflate to 200 mm Hg and close valve. Wait for 10 seconds. If the mercury column falls more than 10 mm Hg, there is an air leak in the system. Contact the MEC Manager immediately.

If an air leak is located, the cuff is torn, or the valve or connections do not operate properly, call the MEC Manager immediately. Do not measure additional blood pressures with this equipment.

If for any reason the blood pressure equipment cannot be adjusted to operate properly, conduct the physician examination without taking blood pressure readings. When returning the examinee and his/her file to the coordinator, mention that such readings were not taken so that if the examinee must be rescheduled for other reasons, blood pressure readings could be taken at that time. If there are no other reasons for the examinee to return, the examinee will not be rescheduled only to take blood pressure readings.

Mercury Spills and Leaks

Mercury is a metallic substance which gives off a toxic vapor when exposed to the atmosphere. Temperature, ventilation, and sunlight affect the level of the vapor's concentration. **MERCURY VAPORS WILL PERMEATE THE SKIN SURFACE AND ARE POISONOUS WHEN INHALED.**

Check the cap at the top of the calibrated glass tubing. If it is not securely closed, the mercury could leak out. Loss of air and mercury will occur if the glass tube is broken or cracked. Care should be taken in handling the manometer to prevent this. If the tube appears cracked, check for any spilled mercury in the area near the wall mounted manometer. Replace the equipment if necessary.

NOTE: Gloves (latex or vinyl) should be worn when handling spilled or leaking mercury.

The following procedure is recommended for handling spilled or leaking mercury:

- (a) Leakage or spillage on a hard surface (e.g., hard floor, table, etc.):
- **Do not touch the mercury with your bare hands.**
 - NEVER ATTEMPT TO VACUUM UP THE MERCURY.
 - Use the mercury (Hg** Absorb) sponge.
 - a- Remove the sponge from the plastic ziplock bag.
 - b- Dampen the sponge with water.
 - c- Wipe the area contaminated with mercury. Do this slowly to allow for complete absorption of all free mercury. The mercury droplets will be absorbed by the chemical layer (Hg Absorb Powder) on the sponge.
 - d- After finishing with the Hg Absorb sponge, place it back into its plastic ziplock bag.
 - e- Obtain replacement equipment.
- (b) Leakage and/or spillage on a soft or absorbent surface (e.g., rug, etc.):
- **Do not touch the mercury with your bare hands or attempt to vacuum or clean up the spill yourself.**
 - If possible, close off the room and the heat or air conditioning in that room.
 - NEVER SWEEP OR VACUUM UP THE MERCURY.
 - Use the mercury (Hg Absorb) sponge, if possible.
 - Contact the MEC manager to determine if the mercury spill powder should be used for the spill. If necessary, the MEC manager will call the local biohazard waste agency to report such spills. This agency may want to make a follow-up visit to the facility to check for levels of mercury in the exposed area. Request replacement equipment.
 - Use the Mercury Spill Report (Exhibit 5-3) to document a mercury spill. Complete items A1-6, then give the report to the MEC manager.

*Hg is the chemical symbol for mercury.

Exhibit 5-3. Mercury Spill Report (continued)

6. Please list the replacement equipment you will need.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

B. TO BE COMPLETED BY MEC MANAGER:

1. _____ / _____ / _____
Your Name ID No. Date

2. Did you report the incident to a local agency? Yes No

3. If you reported the spill, please list Agency, Contact Person and Telephone Number below:

Agency

Contact Person

Tel. No.

4. Will Agency visit spill site? Yes No

5. If you did not report the spill, please record your reason(s) below:

C. TO BE COMPLETED BY FIELD MANAGER:

1. _____ / _____ / _____
Your Name ID No. Date

2. Was the mercury spill handled correctly?
If no, please explain problems below. Yes No

Body Composition Analyzer. The Valhalla Scientific Body Composition Analyzer B should be calibrated once a day at the beginning or the end of a session. The calibration procedures are described in Section 4.8.

5.3 Pack-up Procedures for the Physician's Room

Every six months the physician will complete the "Non-Consumable Items Inventory" sheet. After the last examination has been given at the stand, the physician uses the End Stand Inventory Sheet (non-consumable items) to inventory all non-consumable supplies remaining and enter this information on the form. See Exhibit 5-4 for a copy of this form. To complete the Beginning/End Stand Inventory Sheet, the physician should circle "END," enter the stand number, the inventory date and his or her I.D. number. For each consumable supply in the physician's room, the physician should enter the amount of each type of supply remaining, in the appropriate space(s) on the inventory sheet. When the inventory is complete, the physician should sign his/her name to the first page of the list. The physician should give the completed inventory form to the MEC Manager. Every six months the physician will also inventory the non-consumable items in the physician's room using the Inventory Sheet (non-consumable items) form. See Exhibit 5-4 for a copy of this form. For each item (equipment or supply) in the physician's room the physician should enter the number of each type of equipment and the amount of each non-consumable supply. The physician should give the completed inventory form to the MEC Manager.

In addition, the physician should secure the physician's room. This means:

- Secure emergency kit,
- Store the emergency kit in its assigned space,
- Stuff roll sheeting around instruments and delicate supplies and secure shelves with paper to minimize movement of items during MEC transport,
- Lock all drawers and cupboards,
- Lay chair and step stool on sides, and
- Secure exam table and use glass tape to secure the table extension.

5.3.1 End of Stand Shipments

Exhibit 5-4. Physician's Inventory Sheet - Non-Consumable Items

STAND INVENTORY - MEC SUPPLIES, NON-CONSUMABLE

STAND _____		INVENTORY DATE _____			
CODE	COMP	DESCRIPTION	U/I ON-HAND	CODE	COMP
0501	PHY	BOOK, PHYSICIANS DESK REF (REORDER EACH YEAR)	EA _____	0501	PHY
0502	PHY	TANNER STAGE REFERENCE CARDS	SE _____	0502	PHY
0504	PHY	BOOK, ARTHRITIS IN BLACK AND WHITE	EA _____	0504	PHY
0505	PHY	BOOK, HARRISON'S TEXTBOOK OF MEDICINE	EA _____	0505	PHY
0506	PHY	BOOK, NELSON'S TEXTBOOK OF PEDIATRICS	EA _____	0506	PHY
0507	PHY	BOOK, EKG REFERENCE BOOK	EA _____	0507	PHY
1020	PHY	CUFF, BLOOD PRESSURE, ADULT	EA _____	1020	PHY
1030	PHY	CUFF, BLOOD PRESSURE, CHILD	EA _____	1030	PHY
1040	PHY	CUFF, BLOOD PRESSURE, INFANT	EA _____	1040	PHY
1050	PHY	CUFF, BLOOD PRESSURE, LARGE ARM	EA _____	1050	PHY
1060	PHY	CUFF, BLOOD PRESSURE, THIGH	EA _____	1060	PHY
1327	PHY	MANUAL, THE ELECTROCARDIO GUIDE	EA _____	1327	PHY
1570	PHY	EYE SHIELD, PLASTIC	EA _____	1570	PHY
1710	PHY	KIT, EMERGENCY, PHYSICIAN	EA _____	1710	PHY
2420	PHY	MANOMETER, WALL MOUNT	EA _____	2420	PHY
2421	PHY	BASKET, MANOMETER, WALL MOUNT	EA _____	2421	PHY
4010	PHY	STETHOSCOPE, PEDIATRIC	EA _____	4010	PHY
4011	PHY	STETHOSCOPE, ADULT	EA _____	4011	PHY
4020	PHY	STETHOSCOPE, TEACHING, ADULT, 2 EAR PIECES	EA _____	4020	PHY
4021	PHY	TIP, EAR, STETHOSCOPE	PR _____	4021	PHY
4022	PHY	STETHOSCOPE, TEACHING, CHILD, 2 EAR PIECES	EA _____	4022	PHY
4023	PHY	TIPS, EAR, STETHOSCOPE, MUSHROOM, SOFT	PR _____	4023	PHY
4024	PHY	BOOK, AMA, HANDBOOK-FIRST AID & EMERGENCY CARE	EA _____	4024	PHY

At the end of each stand all hard copy forms, logs and copies of referral letters will be mailed to NCHS and Westat according to the protocol for end of stand shipments (see Exhibit 5-5). However, the Incident/Emergency Report, MEC Emergency Recording Form and the Physician Summary of the Emergency are to be mailed to Westat as soon as the documentation on the forms is completed. All forms and logs sent to Westat will be photocopied there and sent on to NCHS.

Record of Transmittal Form (Exhibit 5-6) is to be used when mailing any of these completed forms to NCHS or Westat. Use one transmittal for each type of form and complete the transmittal in the following manner:

- To: Record the appropriate Westat or NCHS address
- Date: Record the date you are mailing the forms
- Stand Number: Record the three-digit stand number
- Total Number of Records: Record the total number of forms you are shipping in the space provided
- Total Number of Boxes: Record the total number of boxes containing the type of form you are shipping
- Completed by: Record your four-digit tech ID number
- Type of Record: Enter the type of form you are mailing in the space provided
- Deck Number: Record the DECK number, if applicable of the particular type of form in the space provided. If the form has no DECK number, write "NA" (not applicable) in the space provided.
- Stand Location: Record the location of the stand in space provided.
- Examination Dates: Enter in the appropriate spaces the earliest and the latest examination dates recorded on the forms you are mailing.

Exhibit 5-5. Mail protocol for end of stand shipments

<u>Logs</u>	<u>Copy</u>	<u>Send to</u>
Daily Appointment Schedule	Original	Westat
Physician's Log	Original	Westat
Adult Report of Blood Pressure Findings	Pink Yellow	Westat NCHS
Level II Positive Findings/Medical Contact Log	Original	Westat
Physician's Referral Letter of Findings	Pink Yellow	Westat NCHS
Release Form	Original Copy	NCHS Westat

Exhibit 5-6. NHANES III Record of Transmittal

DHS-6184
Rev. 12/87

DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
Centers for Disease Control
National Center for Health Statistics

NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY III
RECORD OF TRANSMITTAL

TO:	DATE	STAND NUMBER
	TOTAL NUMBER OF RECORDS	
	TOTAL NUMBER OF BOXES	
	COMPLETED BY	

Here are the _____ (Type of Record) For _____ (Stand Location)
(Deck Number)

Examinations were conducted from _____ (Date) through _____ (Date)

Sample numbers of records included are circled below:

001	041	081	121	161	201	241	281	321	361	401	441	481	521	561	601	641	681	721	761	801	841	881	921	961
002	042	082	122	162	202	242	282	322	362	402	442	482	522	562	602	642	682	722	762	802	842	882	922	962
003	043	083	123	163	203	243	283	323	363	403	443	483	523	563	603	643	683	723	763	803	843	883	923	963
004	044	084	124	164	204	244	284	324	364	404	444	484	524	564	604	644	684	724	764	804	844	884	924	964
005	045	085	125	165	205	245	285	325	365	405	445	485	525	565	605	645	685	725	765	805	845	885	925	965
006	046	086	126	166	206	246	286	326	366	406	446	486	526	566	606	646	686	726	766	806	846	886	926	966
007	047	087	127	167	207	247	287	327	367	407	447	487	527	567	607	647	687	727	767	807	847	887	927	967
008	048	088	128	168	208	248	288	328	368	408	448	488	528	568	608	648	688	728	768	808	848	888	928	968
009	049	089	129	169	209	249	289	329	369	409	449	489	529	569	609	649	689	729	769	809	849	889	929	969
010	050	090	130	170	210	250	290	330	370	410	450	490	530	570	610	650	690	730	770	810	850	890	930	970
011	051	091	131	171	211	251	291	331	371	411	451	491	531	571	611	651	691	731	771	811	851	891	931	
012	052	092	132	172	212	252	292	332	372	412	452	492	532	572	612	652	692	732	772	812	852	892	932	972
013	053	093	133	173	213	253	293	333	373	413	453	493	533	573	613	653	693	733	773	813	853	893	933	973
014	054	094	134	174	214	254	294	334	374	414	454	494	534	574	614	654	694	734	774	814	854	894	934	974
015	055	095	135	175	215	255	295	335	375	415	455	495	535	575	615	655	695	735	775	815	855	895	935	975
016	056	096	136	176	216	256	296	336	376	416	456	496	536	576	616	656	696	736	776	816	856	896	936	976
017	057	097	137	177	217	257	297	337	377	417	457	497	537	577	617	657	697	737	777	817	857	897	937	977
018	058	098	138	178	218	258	298	338	378	418	458	498	538	578	618	658	698	738	778	818	858	898	938	978
019	059	099	139	179	219	259	299	339	379	419	459	499	539	579	619	659	699	739	779	819	859	899	939	979
020	060	100	140	180	220	260	300	340	380	420	460	500	540	580	620	660	700	740	780	820	860	900	940	980
021	061	101	141	181	221	261	301	341	381	421	461	501	541	581	621	661	701	741	781	821	861	901	941	981
022	062	102	142	182	222	262	302	342	382	422	462	502	542	582	622	662	702	742	782	822	862	902	942	982
023	063	103	143	183	223	263	303	343	383	423	463	503	543	583	623	663	703	743	783	823	863	903	943	983
024	064	104	144	184	224	264	304	344	384	424	464	504	544	584	624	664	704	744	784	824	864	904	944	984
025	065	105	145	185	225	265	305	345	385	425	465	505	545	585	625	665	705	745	785	825	865	905	945	985
026	066	106	146	186	226	266	306	346	386	426	466	506	546	586	626	666	706	746	786	826	866	906	946	986
027	067	107	147	187	227	267	307	347	387	427	467	507	547	587	627	667	707	747	787	827	867	907	947	987
028	068	108	148	188	228	268	308	348	388	428	468	508	548	588	628	668	708	748	788	828	868	908	948	988
029	069	109	149	189	229	269	309	349	389	429	469	509	549	589	629	669	709	749	789	829	869	909	949	989
030	070	110	150	190	230	270	310	350	390	430	470	510	550	590	630	670	710	750	790	830	870	910	950	990
031	071	111	151	191	231	271	311	351	391	431	471	511	551	591	631	671	711	751	791	831	871	911	951	991
032	072	112	152	192	232	272	312	352	392	432	472	512	552	592	632	672	712	752	792	832	872	912	952	992
033	073	113	153	193	233	273	313	353	393	433	473	513	553	593	633	673	713	753	793	833	873	913	953	993
034	074	114	154	194	234	274	314	354	394	434	474	514	554	594	634	674	714	754	794	834	874	914	954	994
035	075	115	155	195	235	275	315	355	395	435	475	515	555	595	635	675	715	755	795	835	875	915	955	995
036	076	116	156	196	236	276	316	356	396	436	476	516	556	596	636	676	716	756	796	836	876	916	956	996
037	077	117	157	197	237	277	317	357	397	437	477	517	557	597	637	677	717	757	797	837	877	917	957	997
038	078	118	158	198	238	278	318	358	398	438	478	518	558	598	638	678	718	758	798	838	878	918	958	998
039	079	119	159	199	239	279	319	359	399	439	479	519	559	599	639	679	719	759	799	839	879	919	959	999
040	080	120	160	200	240	280	320	360	400	440	480	520	560	600	640	680	720	760	800	840	880	920	960	

Sample numbers of records not included and reasons why are listed below:

- Sample Numbers: Complete this section only if you are mailing the Physician's Referral Letter of Findings, the Adult Report of Blood Pressure Findings, or the Release Form. Circle the three-digit number which corresponds to the 4th, 5th and 6th digit of the NCHS number for each form being sent, if applicable.

Include one copy of the transmittal form in the packet of forms, and keep one copy of the transmittal form for your records. If the packet with completed forms is lost in the mail, this information will enable the packet to be traced and you will have a record of everything that was contained in the packet. Take the packets of forms to the Field Office to be posted.

Address shipments for Westat to:

Westat, Inc.
1650 Research Blvd.
Rockville, MD 20850

Attn: C. Novak

Address shipments for NCHS to:

National Center for Health Statistics
Presidential Building, Room 900
6525 Belcrest Road
Hyattsville, MD 20782

Attn: Jean Findlay

6. QUALITY CONTROL

To ensure complete and accurate data collection and to document the data collection process, a variety of quality control procedures have been developed for this survey. This section describes procedures to be followed by you and by the Westat physician consultant.

6.1 Editing the Physician's Examination Form

In the event that the automation system fails and it is necessary for the physician to use the hard copy Physician's Examination Form, the form should be reviewed and edited by the physician. After filling in information on the Physician's Examination Form, while proceeding through the various components of the examination process for a particular examinee, the physician should review the form for completeness, accuracy and legibility before the examinee leaves the exam room so that data can be retrieved if necessary. The physician should make the following checks of the Physician's Examination Form:

On all pages, see that:

- A response has been marked for all appropriate items keeping the age of the examinee in mind,
- No conflicting responses have been marked for the same item,
- Appropriate skip patterns have been followed, and that
- All entries are legible.

6.2 Verifying Daily Examinee Schedule

The physician should check off each examinee on the schedule provided by the coordinator as s/he is about to begin the physician examination. At the end of each day's session, the physician should review the schedule and check it against the Physician's Log to make sure that all

examinees who were scheduled were seen by the physician. If any examinees were missed, the physician should notify the coordinator immediately.

6.3 Evaluating Level I Referrals

After every Level I referral from the MEC, Westat will produce a summary of the event for presentation to the Physician's Work Group (NCHS). This report will consist of the following items:

- The Emergency/Incident Report Form - completed by the MEC physician;
- A narrative of the event - completed by the MEC physician; and
- A summary report from the Westat physician consultant discussing what happened, the appropriateness of the response to the incident, recommendations for changes in examinee protocols, emergency response, emergency equipment, emergency training, or indicated retraining.

The NCHS Survey Operations Branch will obtain a copy of all data collected on the examinee in both the home interview and in the MEC. The Physician's Work Group will review this material to determine if the event was handled correctly and if any changes are needed in the system.

6.4 Evaluation

The physician's work on the MEC will be constantly monitored and evaluated through observation, performance of replicate examinations and periodic analysis of collected data. The purpose of this constant monitoring and evaluation is to note how well the protocol is being followed and how accurately the physicians are collecting the data being requested of them.

6.4.1 Observation of Physician's Examinations

Four times a year, the physician consultant from Westat will be responsible for observing a sample of about 20 - 30 physician's examinations given per MEC team. Using an observation checklist, the physician consultant will observe whether all appropriate body sites were examined and whether procedures for the examination of each body site were strictly followed, including the position of the

examinee for each part of the examination. Any deviation from standard procedures will be noted by the observer as well as any problems that arise.

Variations in procedures and problems will be reviewed with the MEC physician at the end of the day. If problems or other issues are considered to be serious by NCHS or the physician consultant, retraining will be scheduled.

6.4.2 Review of Emergency Equipment and Procedures

The MEC physicians must be fully knowledgeable concerning all of the emergency equipment and how to assemble and operate it. Four times a year, Westat's consultant physician will review the contents of the emergency kit and the operation of all emergency equipment with the MEC physician. An emergency drill will also be held two times per year for all MEC staff or when a new MEC physician is hired by Westat.

6.4.3 Verification of ECG, Lab Data, and X-Ray Acceptability

The physician consultant will reread the acceptability between 20-25 ECG's, lab reports, and X-rays per exam team, four times a year. Any deviations from standard procedures, will be discussed and retraining conducted as necessary.

6.4.4 Quality Control of Blood Pressure Determination

The quality control program for physicians taking blood pressures in the MEC will consist of the following major elements:

- a. Quarterly recertification of physicians with a Westat home office standard;
- b. Annual retraining of physicians that have had no QC problems in the interim;
- c. Monitoring equipment and equipment repair;
- d. Hearing tests will be administered to all physicians in the MEC at the beginning of their service. Hearing tests will be repeated every two years thereafter; and;

- e. Quarterly reports of blood pressure data analysis from NCHS.

- a. **Recertification of Physicians**

Physicians will be recertified by a Westat home office trainer 4 times a year. The schedule for physicians working one or more years will be, initially at training, at 3 months, at 6 months, and at 9 months. At their 1 year anniversary, they will be retrained and recertified if a retraining for any other reason has not taken place in the interim. Physicians who wish (or are asked) to leave the study and who have not been certified within the previous 3 months will be recertified upon leaving the study.

Recertification will begin with a practice session if requested by the trainer or the physician. The recertification test will involve physicians taking blood pressure measurements on four subjects using the "Y" or teaching stethoscope with a trainer from the Westat home office. The same trainer will monitor the physician for all four subjects. Systolic and diastolic readings for the trainer and physician must be within ± 4 mm of mercury from each other for 80 percent of the measurements to pass recertification. Pulse readings must be within ± 2 beats per 30-second reading. Recertification will include a videotape test.

NCHS will provide software to analyze the recertification test results on the Micro VAX computer in the Field Office. The results of these analyses will be two of the components which determine successful recertification. The third component consists of an evaluation of technique which is outlined on the recertification test form. The procedure must be completely correct for all four of the subjects.

Trainers will enter the results of Blood Pressure Recertification for each physician into the automated system. If the automated system is not available, the trainer will complete the certification/recertification form for each physician and mail these forms to Westat. (Exhibit 6-1)

Physicians who fail the recertification process will be scheduled for retraining and recertification. Physicians who fail recertification procedures despite retraining will be replaced. Retraining will be conducted by a Westat home office trainer. Dr. Brian Dolan, Westat's physician consultant, will be responsible for giving feedback to the physicians as necessary.

Exhibit 6-1. Pulse and Blood Pressure Performance Certification-Instructor Form

TRAINEE NAME: _____ INSTRUCTOR NAME: _____ PRACTICE: _____ DATE: _____
 TEST: _____
 Record Readings for Each Subject in the Spaces Below:

Performance Item*	Child Subject #1	Child Subject #2	Adult Subject #1	Adult Subject #2
A. Pulse Measurement				
a. Radial palpation (+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Reading - Instructor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Trainee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(within ± 4 beats/30 seconds of instructor) (+)				
B. Blood Pressure Measurement				
1. Subject's position	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Cuff Application	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Cuff selection (+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Brachial palpation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Cuff application (+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Test of fit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MILL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1st attempt				
a. Inflation rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Disconnect (lubing Value (Instructor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Value (Trainee) (within ± 10 mm Hg of instructor) (+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd attempt				
a. Inflation rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Disconnect (lubing Value (Instructor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Value (Trainee) (within ± 10 mm Hg of instructor) (+)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* For procedure items enter (✓) if satisfactory and (X) if deficient. Enter note on specific deficiency observed.
 Enter the Actual values for readings.
 (+) indicates an "automatic fail" and entire test must be repeated. For all other items failed, trainee need only repeat that part of the test.

Exhibit 6-1. Pulse and Blood Pressure Performance Certification-Instructor Form

Exhibit 6-1. Pulse and Blood Pressure Performance Certification-Instructor Form (continued)

4. BP Measurement	Adult Subject #1			Adult Subject #2			Adult Subject #3			Adult Subject #4		
	BP #1	BP #2	BP #3	BP #1	BP #2	BP #3	BP #1	BP #2	BP #3	BP #1	BP #2	BP #3
a. 1 minute pause	()	()	()	()	()	()	()	()	()	()	()	()
b. Stethoscope placement (+)	()	()	()	()	()	()	()	()	()	()	()	()
c. Ear tips forward (+)	()	()	()	()	()	()	()	()	()	()	()	()
d. Inflation rate	()	()	()	()	()	()	()	()	()	()	()	()
e. Maximum inflation (Mill ± 10) (+)	()	()	()	()	()	()	()	()	()	()	()	()
f. Deflation rate (<5/sec) (+)	()	()	()	()	()	()	()	()	()	()	()	()
g. Disconnect tubing	()	()	()	()	()	()	()	()	()	()	()	()
h. Pasching-Trainee	()	()	()	()	()	()	()	()	()	()	()	()
- Instructor	()	()	()	()	()	()	()	()	()	()	()	()

At least 4/8 BP values for each subject must be within ± 4 mm Hg of instructor's reading, and then 9/12 BP (or 18/24) values must be within ± 4 mm Hg for all tests. (+)

Use Table 1 to determine if trainee is consistently reading high or low for K1, K5, and total readings. (+)

1. Factors affecting measurement (if any) _____

Scoring

Pulse - Procedure	P	F	P	F	P	F	P	F
- Accuracy	P	F	P	F	P	F	P	F
BP - Procedure	P	F	P	F	P	F	P	F
- Mill	P	F	P	F	P	F	P	F
- Accuracy	P	F	P	F	P	F	P	F

Instructor Comments: _____

Table 1		Find number entered in (3) in this column	Trainee has this # the number listed in (5) in 5 (the number below		
Follow step (1) - (4)	Total readings	K1*	K5*		
(1) # of (+) readings				6-8	0
(2) # of (-) readings				9-11	1
(3) Sum of (1) and (2)				12-14	2
(4) In (1) or (2) reader? (circle)	1	2	1	2	3
(5) If 1 circled in (4), enter # from (1)				17-19	4
If 2 circled in (4), enter # from (1)				20-22	5
If 3 circled in (4), enter # from (2)				23-24	6

*Not applicable for certification.

b. Retraining of Physicians

Once a year all physicians will be retrained by home office trainers in the field. Training will consist of two half-day sessions. The first session will cover blood pressure procedure, quality control measures, the care and repair of equipment, a demonstration, and the video tape test. The second session will be devoted to practice and recertification.

c. Equipment Checks and Repair

Physicians will be required to perform daily and weekly checks on blood pressure equipment. (See Section 5 for Care of Equipment) If any damaged equipment is found, the physician must inform the MEC Manager. The MEC Manager will give the damaged equipment and completed form to the Field Manager from whom s/he will obtain replacement equipment.

d. Hearing Tests

At the beginning of all physicians' service and every two years thereafter, hearing tests will be conducted using the audiometry and tympanometry test given to examinees in the MEC. A hard copy of the audiometry and tympanometry response form will be used to report the hearing test results (see Exhibit 6-2).

The MEC Manager is responsible for scheduling the testing, seeing that response forms are completed correctly, and filing the forms in the blood pressure quality control files in the field office. Copies of these forms should be sent to the Westat home office.

Exhibit 6-2. Audiometry and Tympanometry Form

D TYMPANOMETRY

Right Ear

1 Obtained
2 Not obtained

Left Ear

1 Obtained
2 Not obtained

RESULTS OF TYMPANOMETRY:

1 Satisfactory Test
2 Test incomplete
3 Test not done

REASONS TEST INCOMPLETE OR NOT DONE:

1 Software malfunction
2 Hardware malfunction or lack of supplies
3 Insufficient time available or room not available
4 Examinee refused
5 Examinee medically excluded by staff for safety
6 Examinee has pre-existing condition that would affect validity of test
7 Examinee unable to physically cooperate
8 Examinee unable to understand test instructions due to language barrier
9 Examinee unable to understand test instructions due to other reasons
10 Examinee uncooperative
11 Comments: _____

Exhibit 6-2. Audiometry and Tympanometry Form (continued)

10. Do you have drainage/discharge from either ear?*			2 <input type="checkbox"/> No 3 <input type="checkbox"/> Right 4 <input type="checkbox"/> Left 5 <input type="checkbox"/> Both		
START HERE IF SAMPLE NUMBER ODD			START HERE IF SAMPLE NUMBER EVEN		
B1 AIR CONDUCTION-LEFT EAR			B2 AIR CONDUCTION-RIGHT EAR		
Hearing level (dB) (a)	Frequency (Hz) (b)	Retest L with masking on R** (c)	Hearing level (dB) (a)	Frequency (Hz) (b)	Retest R with masking on L** (c)
	1000			1000	
	2000			2000	
	3000			3000	
	4000			4000	
	6000			6000	
	8000			8000	
	1000			1000	
	500			500	
C RESULTS OF AUDIOMETRY: REASONS TEST INCOMPLETE OR NOT DONE:			1 <input type="checkbox"/> Test done 2 <input type="checkbox"/> Test incomplete 3 <input type="checkbox"/> Test not done 1 <input type="checkbox"/> Hardware malfunction or lack of supplies 2 <input type="checkbox"/> Insufficient time available or room not available 3 <input type="checkbox"/> Examinee refused or uncooperative 4 <input type="checkbox"/> Examinee has pre-existing condition that would affect validity of test 5 <input type="checkbox"/> Examinee unable to physically cooperate 6 <input type="checkbox"/> Examinee unable to understand test instructions due to language barrier 7 <input type="checkbox"/> Examinee unable to understand test instructions due to other reasons 8 <input type="checkbox"/> Comments: _____		
*Tympanometry will not be done if either ear has a tube or drainage. Air conduction will be done only on non-drainage ear(s). **Retest poorer ear with A/C masking on better ear only if difference in A/C-HL between the two ears is 40dB or more. Only retest at frequencies where there is a difference of 40 dB or more. Do not retest at all frequencies.					

Exhibit 6-2. Audiometry and Tympanometry Form (continued)

D TYMPANOMETRY

Right Ear

1 Obtained
2 Not obtained

Left Ear

1 Obtained
2 Not obtained

RESULTS OF TYMPANOMETRY:

1 Satisfactory Test
2 Test incomplete
3 Test not done

REASONS TEST INCOMPLETE OR NOT DONE:

1 Software malfunction
2 Hardware malfunction or lack of supplies
3 Insufficient time available or room not available
4 Examinee refused
5 Examinee medically excluded by staff for safety
6 Examinee has pre-existing condition that would affect validity of test
7 Examinee unable to physically cooperate
8 Examinee unable to understand test instructions due to language barrier
9 Examinee unable to understand test instructions due to other reasons
10 Examinee uncooperative
11 Comments: _____

e. **Quarterly Reports from NCHS**

Westat will identify interviewers with problems of missing data, bias, terminal digit preference, and technical error from the quarterly blood pressure data analyses generated by NCHS. NCHS will provide criteria for what constitutes a problem requiring retraining. Physicians will receive individual feedback regarding their results from these analyses. Physicians with any of these problems will be retrained and recertified in the field. (Any physician who appears to have problems on successive reports despite retraining will be replaced.) NCHS will provide this information, at times requested by Westat, to coordinate with recertification plans.

6.4.5 Replicate Examinations

During all visits to the MEC, NCHS physicians and Westat's consultant physician will duplicate at a minimum, the Tanner Staging, the Blood Pressure measurement, and the Arthritis component of the exam on a number of individuals with the MEC physician.

7. EMERGENCY PROCEDURES

7.1 Medical Emergencies Overview

Before examinations begin at a stand, the MEC Manager will have obtained information from the advance team about the types and availability of emergency medical services and oxygen suppliers in the area where the MEC is located. The MEC manager will also make the arrangements for the emergency medical service to tour the MEC prior to the start day of SP examinations. Emergency medical services can include those available at nearby hospitals, hospital ambulance services, and emergency services available from police and fire rescue squads as well as from other county or local rescue squads. The MEC manager will select the best services available from the standpoint of convenience to the MEC and availability of service and equipment. In some cases, it may be desirable to select two services. This information will be summarized on a fact sheet and posted by all the telephones in the MEC. The phone number "911" is to be used if applicable for the MEC location. However, the telephone numbers of the nearest police, fire, and rescue squads will also be posted. Execution of emergency procedures and the proper use of all emergency equipment will be the responsibility of the MEC physician. The primary response of the MEC physician should be to stabilize the examinee's condition and to expedite a safe transfer to the nearest emergency medical treatment facility.

The MEC examinations are designed to be safe for examinees. To ensure maximal safety the physician must be able to handle the initial management of an examinee in distress.

The response of the physician is limited by a number of factors. There is no trained medical staff in the MEC to assist the physician in case of an emergency (i.e., registered nurses, physician assistants, etc.) which are necessary in a more sophisticated response. This limits what the physician can and should do in the MEC. The MEC is not a diagnostic or treatment center, nor are the physicians necessarily licensed in the states in which the examinations take place. Within these restrictions, the appropriate response of the physician should be, as previously stated, to stabilize the examinee in distress and facilitate a safe and expedited transfer to the nearest medical facility.

The best overall approach to medical emergencies is prevention. The physician may be called upon to decide if some procedures should be administered to certain examinees to avoid potential medical problems if the examinee does not fit easily into the preexisting medical exclusion categories for that procedure. The examining physician can at his/her discretion proscribe certain procedures such as respiratory tests, glucose tolerance tests, and allergy tests if he/she believes the test may endanger an

examinee's health. The specific reasons for excluding the examinee should be recorded in the computer in the comments section of the specific exam component or in the automated MEC coordinator system.

A first aid manual entitled, "The American Medical Association's Handbook of First Aid and Emergency Care 1990," will be available as a reference review guide. Standard first aid approaches are to be followed for common problems such as faints, minor seizures, falls, and other minor injuries. The actions to be carried out by the physician above the first aid level are covered in Section 7.3. The MEC physician will determine the level of referral based on circumstances of each case. Caution should be exercised and there should be no hesitation to send an examinee to an emergency room when circumstances warrant.

7.2 Emergency Procedure

The physician is to be notified immediately of any situation involving an examinee whose safety is of concern. Any questionable situation should be considered an emergency and evaluated by the physician. (Appendix F of the manual discusses the guidelines for all MEC staff in emergency situations and describes in detail the procedures to be followed.) The physician directs the emergency response and makes the appropriate staff assignments for assistance with: (1) cardiopulmonary resuscitation (CPR) and other emergency procedures; (2) obtaining the emergency equipment and other needed items; (3) recording the sequence of events or actions that are taken during the emergency response; (4) placing calls for emergency assistance; (5) directing the emergency team to the examinee's location in the MEC; (6) monitoring the activities of other examinee's in the MEC; (7) maintaining a calm environment; and (8) keeping other MEC staff informed of the situation.

In addition to the equipment and supplies that are transported to the site at the time of the emergency, a list of the medications (prescription and non-prescription) that the examinee is currently taking will be available. This list may provide pertinent medical history information to the physician so that a more accurate assessment of the examinee can be made and the appropriate emergency treatment given. The medication list is the one obtained by the interviewer in the Household Questionnaire. The physician will receive the list from the MEC coordinator at the beginning of each session for the examinees scheduled; it should be reviewed for each examinee by the physician prior to conducting the examination.

When ambulance personnel trained in emergency medical care arrive to transport an examinee in distress (Level I referral) the physician should make an assessment of whether he/she should accompany the examinee to the emergency room. This should be based on maximizing safety for the

examinee. If the physician determines that he/she should accompany the examinee to the hospital, the MEC must be closed. The coordinator will contact the examinee's designated physician/clinic/primary health care provider, if known, as soon as possible to inform them of the incident and the medical facility to which the examinee was taken. The physician should also contact the examinee's designated physician/clinic/primary health care provider as soon as possible to inform them of the occurrence and name of the medical facility to which the examinee was taken and why.

7.3 Medical Management and Referrals

The following section describes medical conditions and actions to be taken by the MEC physician and provides guidance in determining the level of referral for an examinee.

7.3.1 Ventricular Tachycardia

Ventricular tachycardia is of concern because it commonly occurs in the setting of severe myocardial damage (especially myocardial infarction) and can deteriorate rapidly to hemodynamic compromise and ventricular fibrillation.

It is defined as three or more consecutive ventricular ectopic beats at a rate equivalent to more than 100 beats per minute. Characteristically the QRS complexes are wide (0.12 or more seconds in duration) and bizarre. The usual rate for ventricular tachycardia ranges from about 150 to 200 beats per minute. The more rapid the rate, the greater the risk of hemodynamic compromise. The differential diagnosis includes supraventricular tachycardia with aberrant conduction.

Management

Ventricular tachycardia warrants a Level I referral. The following is meant to give some guidance to the MEC physician. The circumstances, including the hemodynamic stability and symptoms, help determine the urgency and the specific stabilizing procedures. As in all emergent and urgent medical circumstances that arise in the MEC, the MEC physician's responsibility is to stabilize the examinee while expediting rapid transfer to the nearest emergency room. For acute sustained ventricular tachycardia in an adult, 50-100 mg of lidocaine given intravenously over 5 minutes is recommended. The lower dose of 50 mg would be used for smaller individuals such as small women and the larger dose of 100 mg for large men. The slow rate of infusion and appropriate dose are important because rapid infusion or too

large a dose may cause CNS depression and, less likely, respiratory arrest. An intravenous line should be started for such an injection while waiting for emergency transportation. The MEC physician should accompany the examinee to the emergency room in this setting.

7.3.2 Tachycardia (Supraventricular)

Supraventricular tachycardia with a ventricular rate equal to or exceeding 200 beats/minute warrants a Level I referral (whether or not there is evidence of hemodynamic compromise). Such a tachycardia at lower rates may or may not warrant such referral depending on the circumstances of the examinee.

7.3.3 Acute Myocardial Infarction

Signs or symptoms suggesting acute myocardial infarction are of concern because of the possibility of acute life-threatening arrhythmias such as ventricular tachycardia and/or sudden hemodynamic collapse.

Recognition of subtle and overt symptoms and signs suggestive of acute myocardial infarction is important for the MEC physician. These range from severe prolonged substernal discomfort to less typical chest pain and/or ST-segment elevation with a convex outward-bowing contour. These signs and symptoms will require some clinical judgment. Accompanying or exclusive symptoms such as nausea, light-headedness, weakness and dyspnea as well as signs such as sweating, pallor, and rales should be weighed on the side of suspicion of acute risk.

Management

As usual, the circumstances will dictate the specific actions. Basic CPR should, of course, be initiated if there is respiratory/circulatory collapse. Stabilization of the examinee, maximizing safety and expedited transfer of the examinee to the nearest emergency room are the goal of management. Starting an intravenous line and accompanying the examinee in the ambulance are generally appropriate.

7.3.4 Atrial Fibrillation/Atrial Flutter

Atrial fibrillation, like many cardiac arrhythmias, can be a sign of an acute event necessitating urgent referral, a subacute event requiring further evaluation and management, or a long-standing arrhythmia that represents a well-managed and controlled chronic cardiac condition with no need for special referral.

Management

In general, its presence should trigger assessment of whether there are symptoms or signs of potential hemodynamic compromise such as a rapid ventricular rate. If the examinee has no sign or symptom of an acute event or risk of hemodynamic compromise (i.e., appears to have chronic atrial fibrillation with a well-controlled ventricular rate) but has not been under a physician's care for the atrial fibrillation, the examinee should be referred as a Level II referral. Atrial flutter is less likely to be a chronic stable rhythm and will often convert to atrial fibrillation. Its management is similar to that of atrial fibrillation.

7.3.5 Generalized Reactions to the Allergen Skin Tests

Generalized reactions to the allergen skin tests are not expected; however, if one does occur, it is important that the examinee immediately receive the proper emergency treatment while awaiting transport to the hospital. Do not wait for the full development of an adverse reaction; if there is any question whether or not a reaction is occurring, the physician should be notified immediately. The physician has the responsibility of diagnosing and treating any adverse reactions to allergen skin testing.

Signs of an adverse reaction can take many forms. The examinee may complain of throat or chest tightness, generalized itching (other than at the site of the allergen skin test), nasal congestion, or trouble breathing. Other signs of an adverse reaction include sneezing, coughing or feeling "funny", faint, dizzy, or weak, or sore throat. If the examinee has a cough or a cold before receiving the allergen skin tests, an adverse reaction may present as an increase in the frequency or severity of the preexisting cough. Continuation of a preexisting cough or the sniffles at the same level after skin testing is not a sign of an adverse reaction. Development of any new symptoms, regardless of severity, not present prior to testing requires notification of the physician.

After the physician arrives, the symptoms that the examinee is experiencing should be fully described. The physician will evaluate the examinee and determine whether or not an adverse reaction is occurring. If an adverse reaction which requires any drug therapy is determined to have occurred, the examinee must be transported to the nearest hospital emergency room by ambulance. The physician will provide basic stabilization treatment while awaiting the arrival of the ambulance.

The examinees developing adverse reactions to allergen skin testing will be treated according to the procedures adopted from Phil Lieberman, M.D., in Conn's Current Therapy, 1981: "The therapy of anaphylaxis and anaphylactoid reactions is subdivided into those procedures which are to be performed immediately and those which require a more detailed evaluation of the patient prior to the institution." Procedures which should be instituted immediately are:

1. The administration of epinephrine is the most important single therapeutic measure. Epinephrine should be administered at the first appearance of symptoms. Early administration can prevent more serious manifestations. The route of administration should be intramuscular or subcutaneous. Intravenous administration should be avoided if possible, being reserved only for those rare instances in which there is loss of consciousness and obvious severe cardiovascular collapse.

The dose of intramuscular or subcutaneous epinephrine is 0.3 to 0.5 ml of a 1:1,000 concentration. Injections may be administered every 10 to 15 minutes until an effect is achieved or until tachycardia or other side effects supervene. The aforementioned subcutaneous and intramuscular dose is for adults. Children should receive a dose of 0.01 ml per kg of 1:1,000 epinephrine to a maximum of 0.3 ml.

2. The airways should be checked immediately. Laryngeal edema and angioedema of the tissue surrounding the airway is the most rapid cause of death.
3. A tourniquet should be placed above the injection site if the agent producing the anaphylaxis was administered by injection. This tourniquet should be removed every 10 to 15 minutes for a 2 to 3 minute period. It has also been suggested that epinephrine be injected into the site of the original injection of antigen. This may slow the absorption of antigen. The dose of epinephrine placed into this injection site is 0.1 to 0.3 ml of 1:1,000 epinephrine.
4. The patient should be placed in a recumbent position and his feet elevated.
5. Nasal oxygen should be started.
6. Vital signs should be obtained and monitored every 10 to 15 minutes for the duration of the attack.

After the procedures noted above have been done, a more extensive evaluation can be performed. The injection of epinephrine may be sufficient to prevent further symptoms. If, however, the patient continues to have difficulty, other measures are instituted as deemed appropriate according to the patient's evaluation.

7. Diphenhydramine (Benadryl) should also be given for any attack which is not relieved by epinephrine alone. As in the case of corticosteroids, diphenhydramine is not lifesaving. Antihistamines act as competitive inhibitors of histamine. They therefore will not reduce symptoms which have already been produced by the action of histamine on receptor sites. However, they are indicated in protracted cases of anaphylaxis to prevent further binding. The dose of diphenhydramine is 25 to 50 mg given intramuscularly or intravenously according to the severity of the situation. The diphenhydramine dose for an infant or younger child, is 1 mg/kg, not exceeding 50 mg per dose or 150 mg per day.

8. Persistent bronchospasm should be treated with intravenous aminophylline. Caution should be taken when aminophylline is given to a hypotensive patient. Administration should be performed by slow intravenous infusion. A dose of 4 to 7 mg per kg is given at a rate of 10 mg per minute. If prompt resolution is not obtained, consideration should be given to the initiation of an intravenous drip administered at a rate of 0.5 to 0.7 mg per kg per hour. The drip should employ aminophylline, 500 mg in 500 cc of 5 percent dextrose in water, providing the concentration of 1 mg/cc ratio.

To treat isolated mild cardiovascular/respiratory symptoms of anaphylaxis such as mild chest tightness, administer Albuteral, two puffs every 5-10 minutes. If there is no response, proceed as for moderate to severe symptoms.

For treatment of itching at the site of the allergen skin test, use an ice pack.

7.3.6 Revised First Aid for the Choking Child

The following section describes the first aid treatment for a child that has aspirated a foreign body. The section is a reprint of an article from **Pediatrics** Vol. 78 No. 1 July 1986.

Aspiration of a foreign body is a common hazard in infancy and childhood. In the last five years, there has been a great effort to educate the public on the prevention of choking due to accidental inhalation of foods or small objects by children. Concomitantly, there has been a campaign to teach the first aid measures essential for evaluation and treatment of choking.

Literature Review

Much of the existing data on treating the choking child has been anecdotal. In 1981, the Committee on Accident and Poison Prevention of the American Academy of Pediatrics reviewed the available literature; the Committee recommended that a foreign body in the upper airway be considered an immediate threat to life and that such a foreign body required urgent removal. In addition, the Committee recognized the effectiveness of natural coughing and recommended that, if a choking child could breathe and was able to speak and/or cough, all maneuvers were unnecessary and potentially dangerous. If the choking child could not breathe, cough, or make a sound, a series of back blows and chest thrusts was recommended. The Committee recommendations resulted in a spirited controversy concerning the most effective management of the choking child.

At the July 1985 National Conference on Standards and Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care, and American Heart Association, American College of Cardiology, and the American Red Cross convened a panel on Management of Foreign Body Airway

Obstruction to review and revise the past recommendations. The panel recommended use of the abdominal thrust--the Heimlich maneuver--as the exclusive method of treating foreign body airway obstruction for adults and children older than one year. No new scientific evidence was presented for the pediatric age group, but the panel agreed that, for uniformity and simplicity of teaching, management of foreign body airway obstruction in children should be the same as in adults.

The 1985 National Conference considered the fact that, for the group aged 0 to 4 years, there was a decline from 600 deaths due to choking in 1974 to 170 deaths due to choking in 1983. The National Conference also considered the potential for injury to the abdominal organs in infants one year of age or younger.

Because of the high risk for injuries resulting from abdominal thrust maneuvers in this age group, the National Conference concluded that **these maneuvers should not be used** in infants one year of age or less. The Surgeon General has also endorsed the Heimlich maneuver as the only method for treatment of choking due to foreign body obstruction of the airway, but, for infants aged one year or less, back blows are still the recommended treatment for choking.

Recommendations

In view of the above, the Committee on Accident and Poison Prevention, in concurrence with the American Heart Association and the American Red Cross, recommends adopting the following revised methods for the management of identified foreign body airway obstruction.

If the Choking Victim is a Small Child

1. Apply a series of up to six to ten abdominal thrusts--Heimlich maneuver--until the foreign body is expelled. The child should be placed on his or her back with the rescuer kneeling **next** to him and placing the heel of **one hand** on the child's abdomen in the midline between the umbilicus and rib cage.

The maneuver should consist of a rapid inward and upward thrust. An older, larger child can be treated as an adult in the standing, sitting, or recumbent (supine) position.

2. If the obstruction is not relieved using the Heimlich maneuver, open the victim's mouth using the tongue-jaw lift; this draws the tongue away from the back of the throat and may help relieve the obstruction. If the foreign body is visualized, it may be manually extracted by a finger sweep. However, blind sweeps may cause further obstruction and thus should be avoided.

3. If no spontaneous respirations result, attempt to ventilate the victim. If unsuccessful, repeat a series of six to ten abdominal thrusts.
4. Repeat steps 1 to 3 and persist in performing the above sequences while rapidly seeking aid from emergency medical services.

If the Choking Victim Is an Infant

1. Place the infant face down on the rescuer's forearm in a 60-degree head-down position with the head and neck stabilized. Rest the forearm firmly against the rescuer's body for additional support.
2. Administer four back blows rapidly with the heel of the hand high between the shoulder blades.
3. If obstruction is not relieved, turn the infant over to a supine position resting on a firm surface and deliver four rapid chest thrusts (similar to external cardiac compressions) over the sternum using two fingers.
4. If breathing is not resumed, open the airway using the tongue-jaw lift technique and attempt to visualize the foreign body. **No blind finger sweeps should be used.**
5. If no spontaneous breathing occurs, attempt ventilation with four breaths by mouth-to-mouth or mouth-to-mouth and nose technique.
6. Repeat steps 1 to 5 and persist in performing the above techniques as needed while rapidly seeking aid from emergency medical services.

The above recommendations (to place infants 1 year of age or younger in a dependent position with head down) allow for the creation of an artificial cough, for increased intrathoracic pressure from the back blows, and for compression of the chest against the forearm; this position also allows an additional effect from gravity.

Pediatricians should be familiar with and counsel parents on choking - the dangers and prevention--as well as the proper evaluation and first aid measures for treating this emergency.

7.3.7 Seizures

In the event that a examinee experiences a seizure while in the MEC, the following steps should be taken to secure the safety of the examinee:

Step 1. Position the examinee on the ground.

- Step 2.** Maintain an airway.
- Step 3.** Remove glasses and loosen collar
- Step 4.** Do not force any object into the mouth of a person experiencing a seizure.
- Step 5.** Remove objects from vicinity of examinee to prevent injury.
- Step 6.** Monitor vital signs.

The MEC physician must use his or her clinical judgment based on the examinee's past medical history, the type and duration of the seizure, the cause of the seizure, and current seizure medication to determine whether or not the person needs emergency medical care or can be sent home.

7.3.8 Hypoglycemia

Most conditions of hypoglycemia can be treated while the subject is conscious with the simple administration of instant glucose and other first aid measures. If hypoglycemia is suspected in the case of an unconscious examinee, the following steps may be taken after emergency assistance is summoned:

Step 1. Recognition of hypoglycemia based on available history. Bizarre behavior and other clinical signs of possible glucose insufficiency should lead the physician to think of hypoglycemia. This may develop in diabetic and nondiabetic individuals. Determine if possible how long it has been since his or her last meal.

Step 2. Basic life support. Immediate management includes positioning (supine), airway maintenance, oxygen administration, and monitoring of vital signs. The hypoglycemic examinee will not regain consciousness until the blood glucose level is elevated.

Step 3. Definitive management. An unconscious person with a prior history of diabetes mellitus is always presumed to be hypoglycemic unless other obvious causes of unconsciousness are present. Definitive management of the unconscious diabetic usually entails the administration of a carbohydrate by the most effective route available. In most instances this will be by intra-venous administration of 50 percent dextrose solution. It must be stressed that the unconscious examinee must never be given anything by mouth, since this may add to the possibility of airway obstruction or pulmonary aspiration. Intravenous administration of 20 to 50 ml of a 50 percent dextrose solution over 2 to 3 minutes restores consciousness within five to ten minutes, the pediatric dose is (1-2 ml/kg/dose IV). The usefulness of this drug is such that it is commonly administered to unconscious persons in whom the cause of unconsciousness is unknown. It serves in these instances to eliminate hypoglycemia as a possible cause of the problem, yet its administration does not cause problems of hyperglycemia to develop.

7.3.9 Hypovolemia/Hypotension

One liter of Ringer's Lactate is included in the emergency kit for treatment of hypovolemia/hypotension. The maximum fluid to be pushed in a child is 10-20 ml/kg. Aminophylline for treatment of anaphylaxis may be given with the Ringer's Lactate or with 5% dextrose in water.

7.3.10 Use of Oxygen

When the oxygen tank is used in the MEC, if the sample person does not have Chronic Obstructive Pulmonary Disease (COPD), the flow rate should be set between 3-6 liters\minute. With the use of the nasal canulas this flow range produces a forced inspiratory oxygen of 40%-50%.

If the sample person has COPD, the flow rate should be set at 2 liters per minute. At this rate, there is little to no danger of interfering with the hypoxic-breathing stimulus present in COPD.

7.4 Emergency Supplies and Equipment

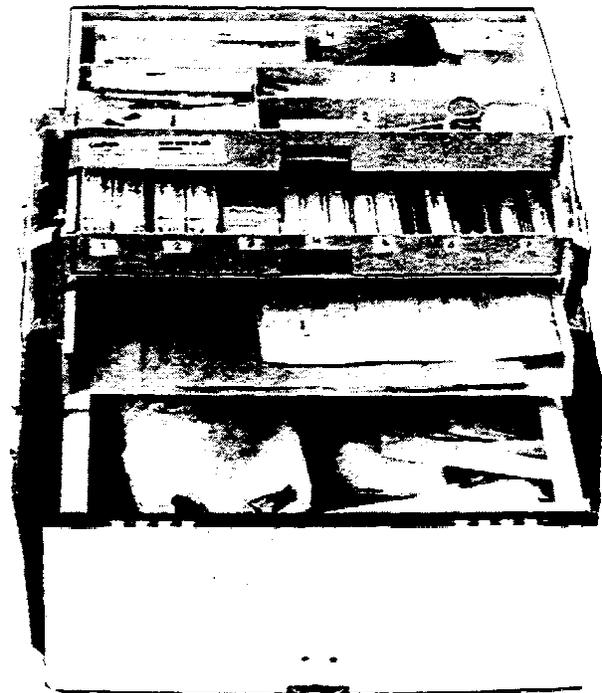
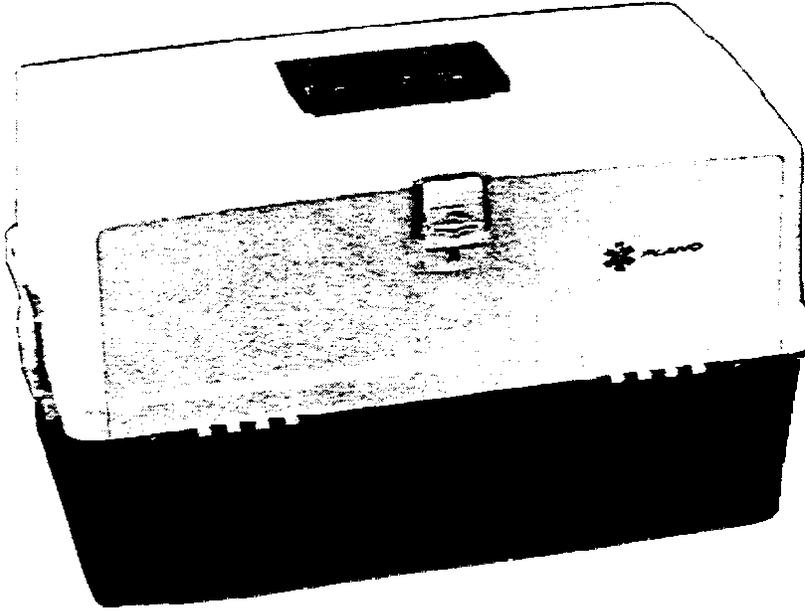
A MEC emergency kit (see Exhibit 7-1) with a limited number of medical supplies will be located in the physician's room. An additional back-up emergency kit will be kept in the Field Office. This kit will not be a complete kit, but will contain all the disposable items, including "one time use" drugs. This back up kit will be kept in the field office and will not only be locked at all times, but will be kept in a locked closet or file cabinet. Only the physician should administer emergency procedures and use any of the contents of the emergency kit.

7.4.1 Inventory and Replacement of Emergency Supplies and Equipment

Exhibits 7-2 (Physician's Room) and 7-3 (Field Office) are Inventory Forms that list the emergency medications and equipment that are available and should be used in the emergency situations described in the previous section.

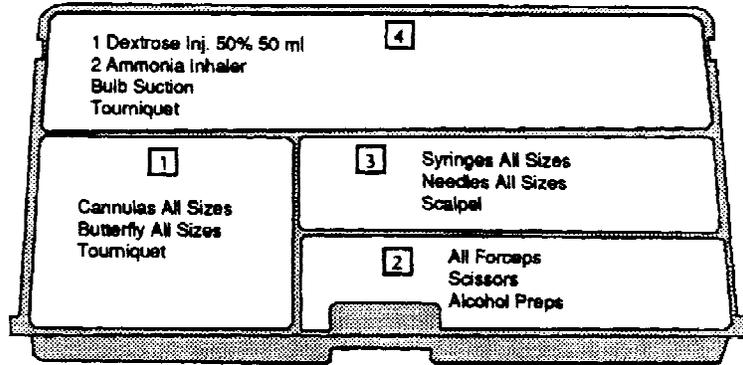
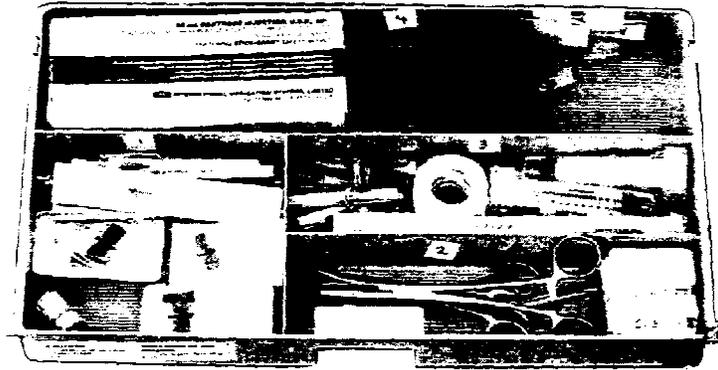
At the beginning and end of each stand the physician should inventory the Medical Emergency Equipment/Supplies in the physician's room and in the back up kit in the Field Office. In addition at the beginning of the stand, the physician should check each piece of emergency equipment to see that it is functioning properly.

MEC Emergency Kit

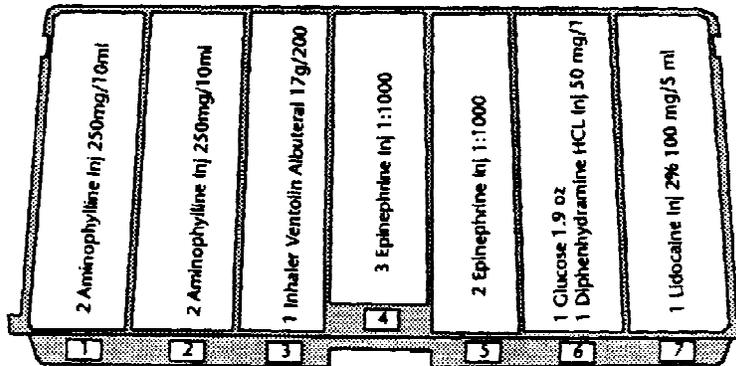
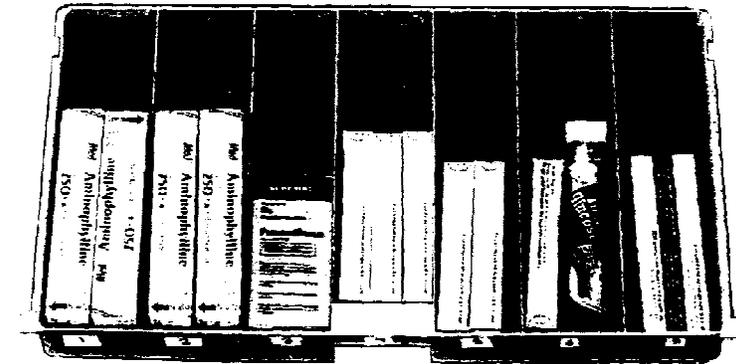


At the beginning of the stand the physician should enter the following information on the Medical Emergency Equipment Supplies Inventory Form:

Exhibit 7-1. Medical Emergency Kit (continued)



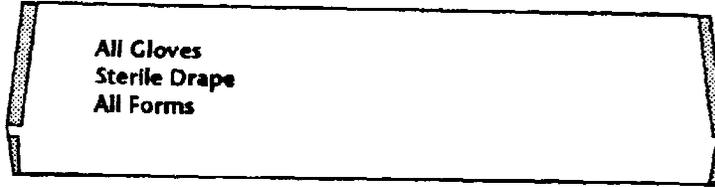
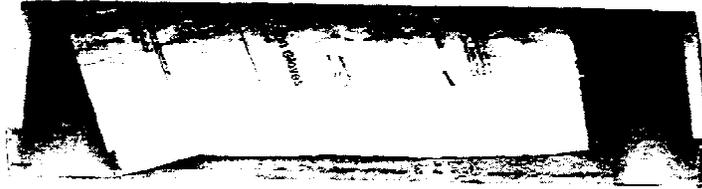
Tier I



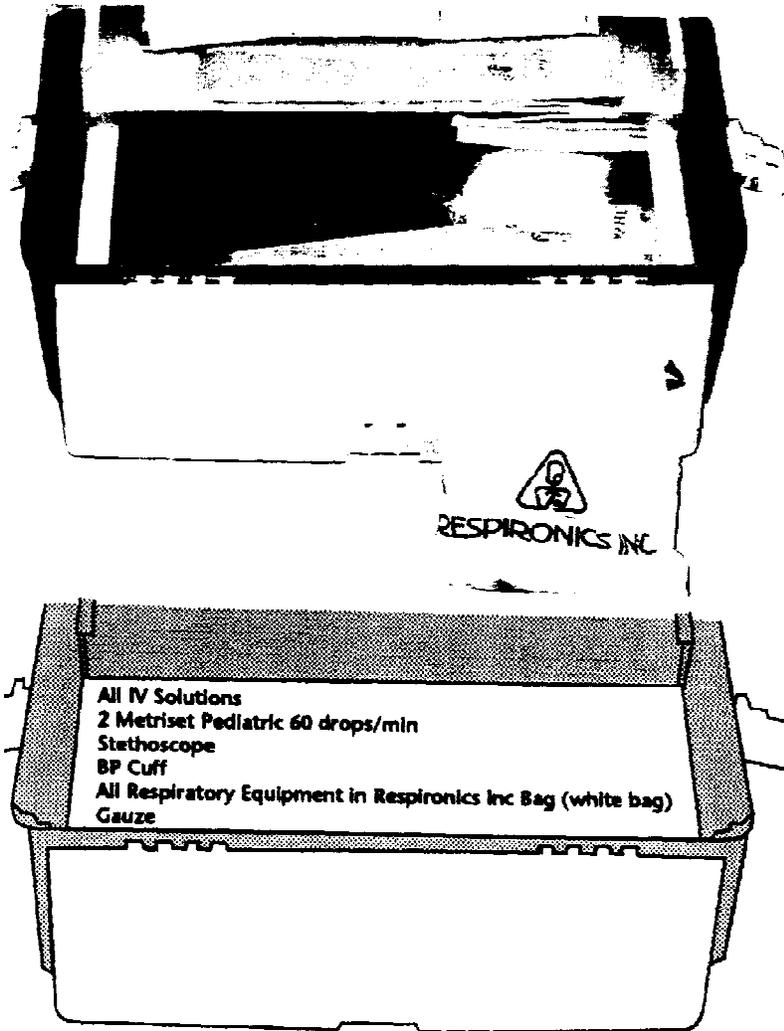
Tier II

Circle One: BEGIN ... END: Circle "BEGIN" at the beginning of the stand, circle "END" at the end of the stand.

Exhibit 7-1. Medical Emergency Kit (continued)



Tier 3



Bottom Storage

Stand #:

Record the 3-digit stand number in the space provided.

Exhibit 7-2. Stand Inventory-Emergency Kit, Physician

STAND INVENTORY - EMERGENCY KIT, PHYSICIAN

CIRCLE ONE: BEGIN END

STAND _____ INVENTORY DATE _____

PHYSICIAN ID# _____

CODE	DESCRIPTION		U/I	REQ QTY	ON-HAND	LOT #	EXP DATE
0080	ALCOHOL PREPS, MEDI-PAK	(TIER 1-2)	EA	20	_____	_____	_____
0990	MASK, CPR, SEAL EASY	(BOTTOM)	EA	1	_____	_____	_____
1020	CUFF, BLOOD PRESSURE, ADULT	(BOTTOM)	EA	1	_____	_____	_____
1810	GAUZE, 2 X 2, STERILE	(BOTTOM)	PG	5	_____	_____	_____
1821	GAUZE, 4 X 4, NON-STERILE, 200'S	(BOTTOM)	PG	25	_____	_____	_____
3990	STETHOSCOPE, STANDARD, BLACK, CLASSIC II	(BOTTOM)	EA	1	_____	_____	_____
4140	TAPE, PAPER, SURGICAL W/DISPENSER	(TIER 1-3)	RL	1	_____	_____	_____
4280	TOURNIQUET, LATEX, ADULT	(TIER 1-1)	EA	1	_____	_____	_____
6000	BULB, SUCTION, EMERGENCY KIT	(TIER 1-4)	EA	1	_____	_____	_____
6001	GAUZE, 4 X 4, STERILE	(BOTTOM)	EA	5	_____	_____	_____
6004	MASK, AMBU ADULT LARGE, #5	(BOTTOM)	EA	1	_____	_____	_____
6005	MASK, AMBU, ADULT MEDIUM, #4	(WALL)	EA	1	_____	_____	_____
6006	MASK, AMBU, CHILD, #3	(BOTTOM)	EA	1	_____	_____	_____
6008	CANNULA, 18 GA, 1 3/4", MEDICUT	(TIER 1-1)	EA	2	_____	_____	_____
6009	CANNULA, 20 GA, 1 1/4", MEDICUT	(TIER 1-1)	EA	2	_____	_____	_____
6010	CANNULA, 22 GA, 1", MEDICUT	(TIER 1-1)	EA	2	_____	_____	_____
6011	NEEDLE, 19 GA, BUTTERFLY	(TIER 1-1)	EA	2	_____	_____	_____
6012	NEEDLE, 21 GA, BUTTERFLY	(TIER 1-1)	EA	2	_____	_____	_____
6013	NEEDLE, 23 GA, BUTTERFLY	(TIER 1-1)	EA	2	_____	_____	_____
6014	NEEDLE, 25 GA, 5/8"	(TIER 1-3)	EA	2	_____	_____	_____
6015	NEEDLE, 18/19 GA, 1 1/2"	(TIER 1-3)	EA	2	_____	_____	_____
6016	NEEDLE, 20 GA, 1 1/2"	(TIER 1-3)	EA	2	_____	_____	_____
6017	NEEDLE, 14/16 GA, 1 1/2"	(TIER 1-3)	EA	2	_____	_____	_____
6018	SCALPEL, DISP, #23	(TIER 1-3)	EA	1	_____	_____	_____

COMPONENT: EMB
Revised 8/1/91

INVENTORIED BY _____

Inventory Date:

Use 2 digits each to record the current month, day and year, zero fill.

Exhibit 7-2. Stand Inventory-Emergency Kit, Physician (continued)

STAND INVENTORY - EMERGENCY KIT, PHYSICIAN CIRCLE ONE: BEGIN END

STAND _____ INVENTORY DATE _____

PHYSICIAN ID# _____

CODE	DESCRIPTION		U/I	REQ QTY	ON-HAND	LOT #	EXP DATE
6019	AIRWAY, ORAL, LARGE, #3	(BOTTOM)	EA	1	_____	_____	_____
6020	AIRWAY, ORAL, MEDIUM, #2	(BOTTOM)	EA	1	_____	_____	_____
6021	AIRWAY, ORAL, SMALL, #1	(BOTTOM)	EA	1	_____	_____	_____
6022	AIRWAY, ORAL, INFANT, #0	(BOTTOM)	EA	1	_____	_____	_____
6023	FORCEPS, LARGE	(TIER 1-2)	EA	1	_____	_____	_____
6024	FORCEPS, SMALL, CURVED	(TIER 1-2)	EA	1	_____	_____	_____
6025	SCISSORS, SUTURE	(TIER 1-2)	EA	1	_____	_____	_____
6026	SYRINGE, 12 CC, DISP, STERILE	(TIER 1-3)	EA	2	_____	_____	_____
6027	SYRINGE, 1 CC, TUBERCULIN, STERILE	(TIER 1-3)	EA	2	_____	_____	_____
6028	METRISSET, PEDIATRIC, 60 DROPS/MIN	(BOTTOM)	SE	2	_____	_____	_____
6029	FORM, EMERGENCY INCIDENT	(TIER 3)	EA	4	_____	_____	_____
6030	FORM, EMERGENCY RECORDING FORM	(TIER 3)	EA	4	_____	_____	_____
6031	EPINEPHRINE INJ, USP, 1:1000	(TIER 2-4&5)	EA	5	_____	_____	_____
6032	DIPHENHYDRAMINE HCL INJ, USP, 50 MG/1 ML	(TIER 2-6)	EA	1	_____	_____	_____
6033	ANINOPHYLLINE INJ, USP, 250 MG/10 ML	(TIER 2-1&2)	EA	4	_____	_____	_____
6034	DEXTROSE, 5X, 500 ML	(BOTTOM)	EA	1	_____	_____	_____
6035	DEXTROSE INJ., USP, 50X, 50ML	(TIER 1-1)	BT	1	_____	_____	_____
6036	GLUCOSE, 1.9 OZ TUBE	(TIER 2-6)	TO	1	_____	_____	_____
6037	LIDOCAINE INJ, USP, 2X, 100 MG/5ML	(TIER 2-7)	EA	1	_____	_____	_____
6038	INHALER, VENTOLIN ALBUTERAL, 17G/200	(TIER 2-3)	EA	1	_____	_____	_____
6039	RINGERS LACTATE, IV, 1000 CC	(BOTTOM)	EA	1	_____	_____	_____
6040	AMMONIA INHALER, EMERGENCY KIT	(TIER 1-1)	EA	2	_____	_____	_____
6041	REGULATOR/GAUGE ASSEMBLY, OXYGEN	(WALL)	EA	1	_____	_____	_____
6042	GLOVE, STERILE, LATEX, UNSIZE	(TIER 3)	PR	2	_____	_____	_____

COMPONENT: EMR INVENTORIED BY _____
 Revised 8/1/91

Physician ID #:

Record your 4-digit ID number.

Exhibit 7-2. Stand Inventory-Emergency Kit, Physician (continued)

STAND INVENTORY - EMERGENCY KIT, PHYSICIAN

CIRCLE ONE:

BEGIN

END

STAND _____ INVENTORY DATE _____

PHYSICIAN ID# _____

CODE	DESCRIPTION	U/I	REQ QTY	ON-HAND	LOT #	EXP DATE
6043	FORM, INVENTORY, EMB KIT, PHY ROOM, 8/17/90 (TIER 3)	EA	4	_____	_____	_____
6045	FORM, LAERDAL PARTS LIST DIAGRAM (TIER 3)	EA	1	_____	_____	_____
6046	ELECTRODE, SPONGE, LIFEPAK MONITOR (BOTTOM)	EA	12	_____	_____	_____
6047	DRAPE, STERILE, FOR EMERGENCY PURPOSES (TIER 3)	EA	2	_____	_____	_____
6048	CANNULA, NASAL (BOTTOM)	EA	2	_____	_____	_____
	OXYGEN TANK, METAL, 14 CUBIC FEET (WALL)	EA	1	_____	_____	_____
	REGULATOR/GAUGE ASSEMBLY (WALL)	EA	1	_____	_____	_____
	AMBU BAG W/O INTAKE VALVE (WALL)	EA	1	_____	_____	_____
	INTAKE VALVE (WALL)	EA	1	_____	_____	_____
	EXTENSION TUBE (BOTTOM)	EA	1	_____	_____	_____

COMPONENT: EMB
revised 8/1/91

INVENTORIED BY _____

For each item on the list, record the quantity present in the "On Hand" column. The log # if applicable and if the item has an expiration date, record the expiration date in the "Expiration Date"

Exhibit 7-3. Stand Inventory-Emergency Kit, Field Office

STAND INVENTORY - EMERGENCY KIT, PHYSICIAN CIRCLE ONE: BEGIN END

STAND _____ INVENTORY DATE _____

PHYSICIAN ID# _____

CODE	DESCRIPTION	U/I	REQ	ON-HAND	LOT #	EXP DATE
			QTY			
6043	FORM, INVENTORY, EMR KIT, PHY ROOM, 8/17/90 (TIER 3)	EA	4	_____	_____	_____
6045	FORM, LABRDAL PARTS LIST DIAGRAM (TIER 3)	EA	1	_____	_____	_____
6046	ELECTRODE, SPONGE, LIFEPAK MONITOR (BOTTOM)	EA	12	_____	_____	_____
6047	DRAPE, STERILE, FOR EMERGENCY PURPOSES (TIER 3)	EA	2	_____	_____	_____
6048	CANNULA, NASAL (BOTTOM)	EA	2	_____	_____	_____
	OXYGEN TANK, METAL, 14 CUBIC FEET (WALL)	EA	1	_____	_____	_____
	REGULATOR/GAUGE ASSEMBLY (WALL)	EA	1	_____	_____	_____
	AMB0 BAG W/O INTAKE VALVE (WALL)	EA	1	_____	_____	_____
	INTAKE VALVE (WALL)	EA	1	_____	_____	_____
	EXTENSION TUBE (BOTTOM)	EA	1	_____	_____	_____

COMPONENT: EMR INVENTORIED BY _____
 revised 8/1/91

column. If an item has exceeded its expiration date, circle the item in red. The physician should sign the first page of the Emergency Kit Inventory Form. This same procedure should be repeated for the back-up

Exhibit 7-3. Stand Inventory-Emergency Kit, Field Office (continued)

STAND INVENTORY - EMERGENCY KIT, BACKUP		CIRCLE ONE: BEGIN		END		
STAND	INVENTORY DATE					
PHYSICIAN ID#						
CODE	DESCRIPTION	U/I	REQ QTY	ON-HAND	LOT #	EXP DATE
6026	SYRINGE, 12 CC, DISP, STERILE (TIER 1-3)	EA	2			
6027	SYRINGE, 1 CC, TUBERCULIN, STERILE (TIER 1-3)	EA	2			
6028	METRISSEY, PEDIATRIC, 60 DROPS/MIN (BOTTOM)	SE	2			
6029	FORM, EMERGENCY INCIDENT (TIER 3)	EA	4			
6030	FORM, EMERGENCY RECORDING FORM (TIER 3)	EA	4			
6031	EPINEPHRINE INJ, USP, 1:1000 (TIER 2-4&5)	EA	5			
6032	DIPHENHYDRAMINE HCL INJ, USP, 50 MG/1 ML (TIER 2-6)	EA	1			
6033	AMINOPHYLLINE INJ, USP, 250 MG/10 ML (TIER 2-1&2)	EA	4			
6034	DEXTROSE, 5%, 500 ML (BOTTOM)	EA	1			
6035	DEXTROSE INJ., USP, 50%, 50ML (TIER 1-1)	BT	1			
6036	GLUCOSE, 1.9 OZ TUBE (TIER 2-6)	TU	1			
6037	LIDOCAINE INJ, USP, 2%, 100 MG/5ML (TIER 2-7)	EA	1			
6038	INHALER, VENTOLIN ALBUTERAL, 17G/200 (TIER 2-3)	EA	1			
6039	RINGERS LACTATE, IV, 1000 CC (BOTTOM)	EA	1			
6040	AMMONIA INHALER, EMERGENCY KIT (TIER 1-1)	EA	2			
6042	GLOVE, STERILE, LATEX, UNISIZE (TIER 3)	PB	2			
6044	FORM, INVENTORY, EHR KIT, FLD OPC, 8/17/90 (TIER 3)	EA	4			
6047	DRAPE, STERILE, FOR EMERGENCY PURPOSES (TIER 3)	EA	2			
6048	CANNULA, NASAL (BOTTOM)	EA	2			
	REGULATOR/GAUGE ASSEMBLY	EA	1			

COMPONENT: EHR INVENTORIED BY _____

emergency kit on the Emergency Kit Inventory-Field Office form.

The completed inventory form should be given to the MEC Manager. The MEC Manager will immediately contact Westat and NCHS to order any items that are missing or expired and send copies of the completed form to NCHS and Westat.

In the event that an emergency occurs and supplies and/or equipment from the emergency kit are used and discarded, the emergency kit should be refilled immediately with the items from the back-up kit that is kept in the Field Office. The physician should complete the Medical Emergency Equipment/Supplies Inventory form for the Backup Kit, listing the quantities remaining for each item in the "On hand" column for each form, and circling the items which need to be replaced. The completed form should be given to the MEC Manager who will immediately contact Westat and NCHS to obtain replacement supplies. Replace all items in the back-up emergency kit so when it is again complete it can be stored in the Field Office as the back-up emergency kit.

7.4.2 Cleaning and Sterilization of Emergency Equipment

This is discussed in the Infection Control Manual, Section 1000.

7.5 Reporting and Recording Forms

7.5.1 Incident/Emergency Report Form

A hard copy form entitled "Incident/Emergency Report Form" will be utilized to document any occurrence involving an SP that warranted notification of the MEC physician in an emergency or for an evaluation. An example of the form is shown in Exhibit 7-4. The form is completed by the physician and should include an accurate assessment of the incident or emergency

Outcome of Emergency Procedures Used: (Briefly describe)

N/A

Identification of Emergency Services Used: (Be specific)

N/A

1. _____ _____ _____ () _____	2. _____ _____ _____ () _____
---	---

Identification of Medical Facility to which examinee was taken: (Be specific)

N/A

() _____

Physician/Coordinator contacted examinee's designated Physician/Clinic on _____/_____/_____
mo. day yr.

N/A

Physician Examiner Number: _____

MEC Coordinator Number: _____

Physician did _____ did not _____ accompany examinee to medical facility. N/A

Personal belongings sent with SP YES NO N/A

_____ Physician signature	_____ MEC Coordinator signature
------------------------------	------------------------------------

Date signed: _____/_____/_____
mo. day yr.

Stand No.: _____

Location: _____

COMMENTS: _____

- Month, day, year, and time of the incident or emergency
- Examinee sample identification number

- Examinee age (enter number of months or years)
- Examinee sex (check either Male or Female)
- Examinee symptoms (list specific symptoms separately like shortness of breath, dizziness, chest pain, etc.)
- Medical/emergency procedures followed (briefly describe what was done in the order in which it was done; if not applicable enter "N/A"; vital sign measurements would be recorded here if applicable)
- Emergency equipment (list all needles, syringes, instruments, and equipment used being sure to note if the oxygen and resuscitation equipment were used in combination; if not applicable, enter "N/A")
- Emergency drugs administered (list names of all drugs used, dosage levels, route used, and time given; if not applicable, enter "N/A")
- Outcomes (briefly describe outcomes of the incident/emergency by relating them to individual procedures performed; if not applicable, enter "N/A")
- Identification of emergency services used (list specific name, address and telephone number, including area code, if hospital ambulance service or police, fire, county or local rescue squad used; if not applicable, enter "N/A")
- Identification of medical facility to which examinee was taken (list name, address and telephone number, including area code, where examinee was taken; if not applicable, enter "N/A")
- Month, day and year physician or coordinator (circle either physician or coordinator) contacted the examinee's physician/clinic, if known (circle either physician or clinic); if not applicable, enter "N/A"
- Physician examiner number
- Coordinator examiner number
- Physician did/did not (check either did or did not) accompany examinee to medical facility, if not applicable, enter "N/A"
- Check the "yes" box if the examinee's personal belongings were sent with the examinee. Check the "no" box if the examinee's personal belongings were not sent along with the examinee.
- Physician signature
- Coordinator signature
- Month, day, and year of signature
- Stand number
- Location of MEC

- Comments section should include a summary statement of the Physician's Clinical Impression of what occurred with the SP and any additional information that warrants documentation on the report.

NOTE: Copies of other reports, i.e., lab data, ECG, etc., should be submitted with the report if relevant.

7.5.2 MEC Emergency Recording Form

A hard copy form entitled "MEC Emergency Recording Form" will be utilized for recording the sequence of events or actions that are taken during the emergency response. An example of the form is shown in Exhibit 7-5. The form is completed by the staff member designated by the physician for recording purposes. Copies of the form will be kept in the Emergency Kit. To complete the form, the staff member includes the following information:

- Date of the emergency response
- Time that the emergency response started
- Time that the emergency response ended
- Location of the emergency in the MEC
- Examinee's name
- Examinee's sample number
- Physician's name
- SP found by (staff member that initiated the emergency response)
- SP status post emergency (include whether SP was or was not transported by ambulance to emergency room)

Exhibit 7-5. MEC Emergency Recording Form

DATE: _____
 TIME STARTED: _____
 TIME ENDED: _____
 LOCATION OF EMERGENCY: _____
 SP NAME: _____
 SP SAMPLE NUMBER: _____
 PHYSICIAN: _____
 SP FOUND BY: _____
 SP STATUS POSTEMERGENCY: _____

TIME	HEART RATE/ RHYTHM	BLOOD PRESSURE	RESPIRATORY RATE	PULSE (describe)	OTHER OBSERVATIONS	MEDICATIONS TREATMENTS/IV'S

The second part of the form is for the specific measurements (including the time done) obtained during the emergency response such as:

- Heart rate and rhythm
- Blood pressure
- Respiratory rate
- Pulse measurement
- Other observations
- Medications/treatments/IV's administered

7.5.3 Physician's Log

All incidents and Level I referrals should also be documented on the Physician's Log (hard copy form). An example of the log and the instructions for completing it are given in Section 4.3.

7.5.4 Log Telephone Contact Screen

The physician should record all telephone calls made to an examinee's medical provider for Level I referrals. This information is recorded in the automated system using the procedure called, "Log Telephone Contact." There is also a hard copy form available when necessary. An example of the screen and instructions for using it are given in Section 4.5.1.

7.5.5 Referral Screens

All Level I Referrals should be reviewed and updated using the Referrals to Be Completed screen or the Review Referral by NCHS # screen. Examples of these screens and instructions for using them are given in Section 4.6 and 4.7.

7.5.6 Physician Report of Incidents and Emergencies

Following the resolution of a Level I medical emergency in the MEC, the physician should write a detailed description of the event. This description is to be written in narrative form and should include an accurate assessment of the incident or emergency situation and provide a detailed description of the procedures followed. Appendix F of this manual includes the "Guidelines for Documentation of

MEC Emergency" that are to be followed by the physician in writing the summary. All documentation of incidents, MEC emergencies, and Level 1 referrals should be faxed to the Director of Operations, as soon as possible, after the incident occurs. The original of the summary will be sent to Westat with the Incident/Emergency Report Form and the MEC Emergency Recording Form, at the end of the stand.

APPENDIX A

Introduction to the MEC Automation System

- A.1 Background**
- A.2 Sequence of a Session at the Terminal**
- A.3 The SP Introduction Screen**
- A.4 The SP Examination Results Screen**
- A.5 Edit Checks in the System**
- A.6 Logging off the System**

APPENDIX A

INTRODUCTION TO THE MEC AUTOMATION SYSTEM

A.1 Background

The purpose of the MEC Automation System is to automate the data collection for NHANES III with the primary goal of improving the timeliness and quality of the data. The system has been designed to make data collection and manipulation an easy and reliable process.

The system is composed of hardware, which are tangible pieces of equipment, and software which are the communication systems and management systems run on the hardware.

A.1.1 The MEC Automation System Hardware

The MEC automation system hardware is provided and serviced by Digital Equipment Corporation (DEC), and consists of two industrial MicroVax computers running VMS (a DEC operating system) and ORACLE, VAXmates running, MS-DOS and DECNET-DOS, and VT320 terminals and printers connected to the MicroVAX computers through terminal servers and an ethernet network. Figure A-1 illustrates MEC automation system configuration.

The Data Terminal

There two types of data terminals used on the MEC, the VT320 which is known as a "dumb" terminal and the VAXmate which is known as a "smart" terminal. The VT320 (Figure A-2) has two components: a cathode ray tube (CRT), commonly called a video screen or monitor, and a keyboard. It is connected to the MicroVAX through a computer which is called a terminal server. The VAXmate (Figure A-3) has a monitor, a keyboard, and a floppy disk drive. It is a personal computer which is directly connected to the MicroVAX. The main difference between the two types of terminals is that the VAXmate is a computer which can function and run software

Figure A-1. MEC automation system configuration

NHANES 3 Mobile Examination Center Data Collection System Configuration

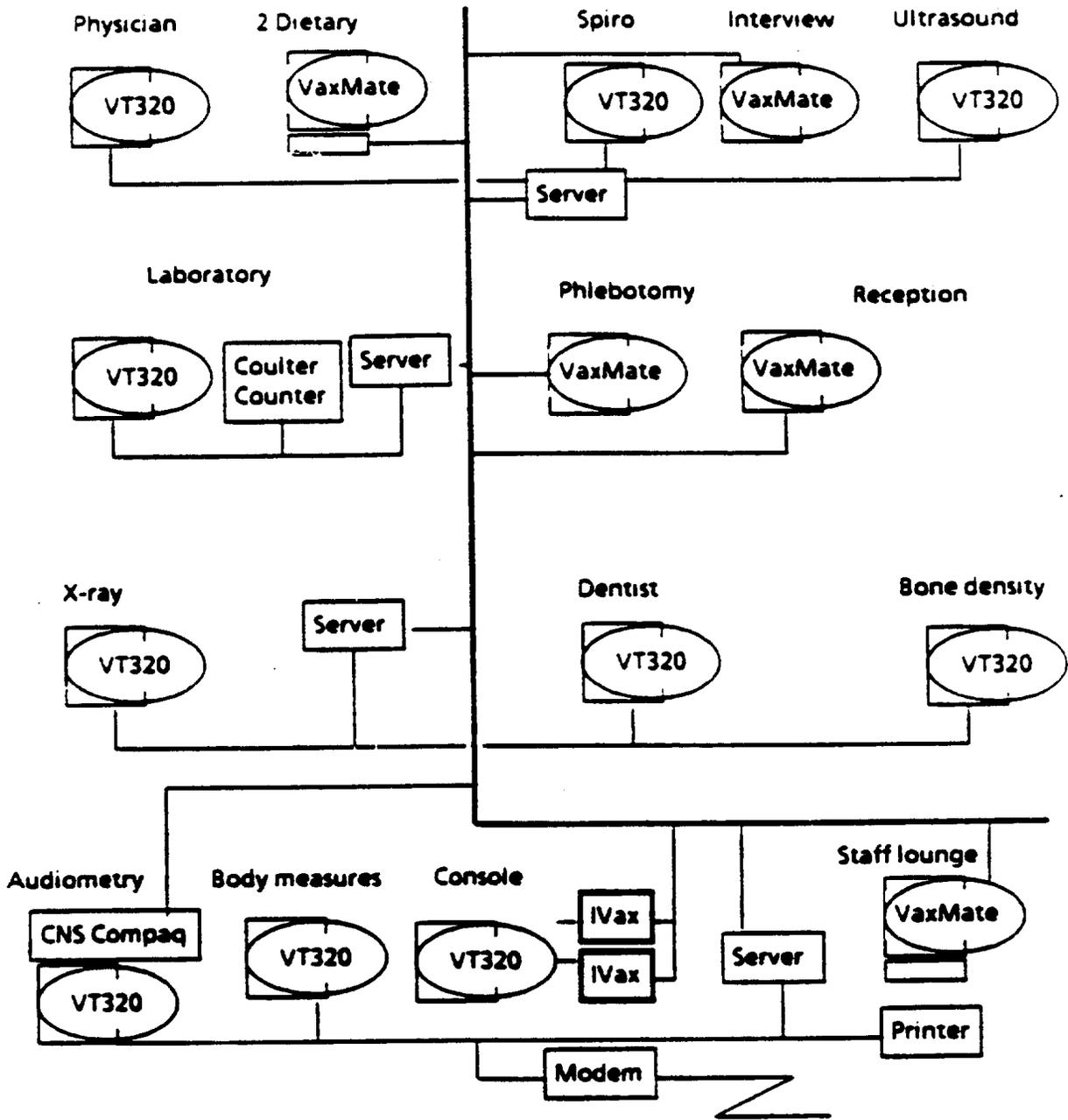


Figure A-2. VT320 terminal

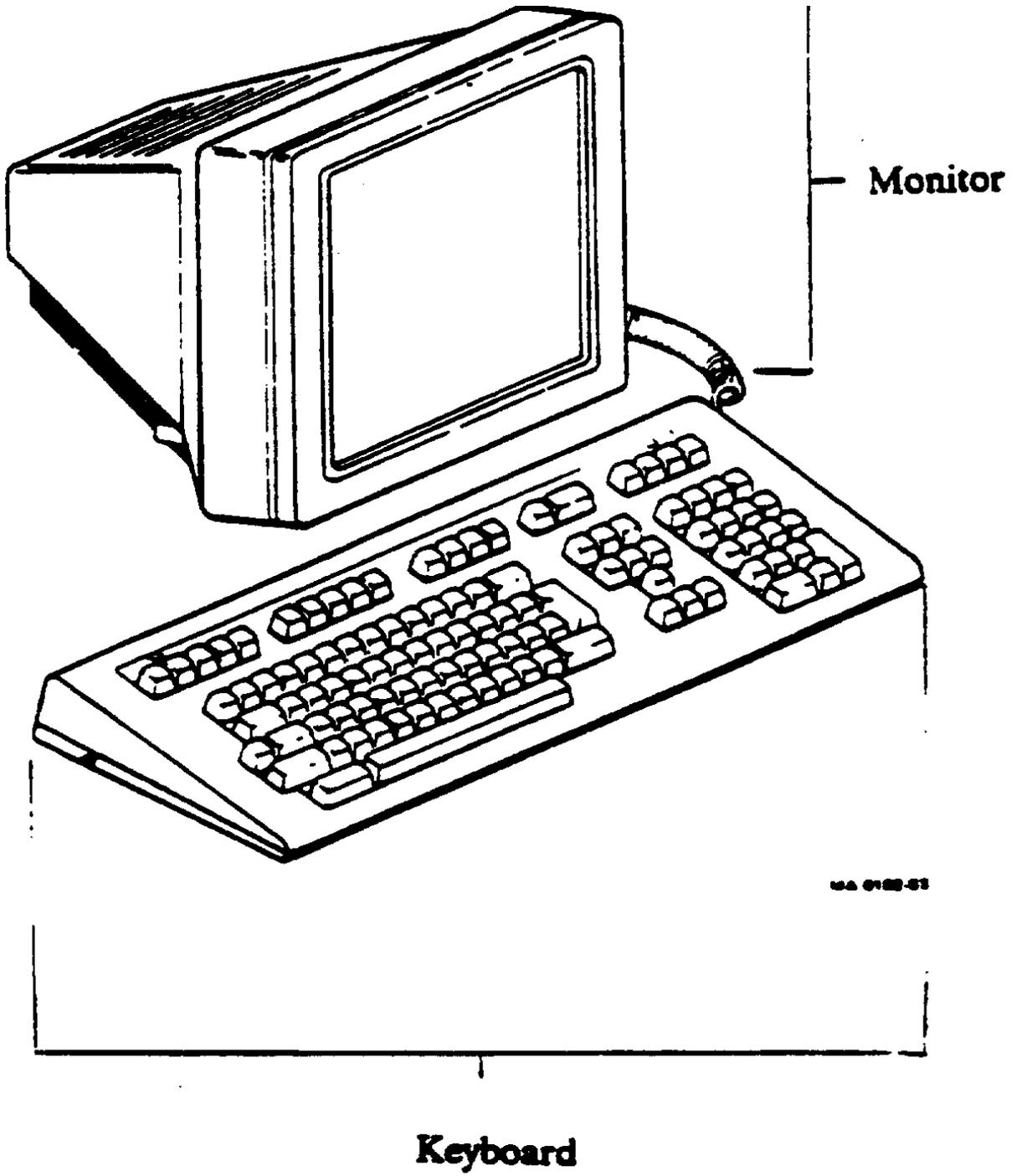
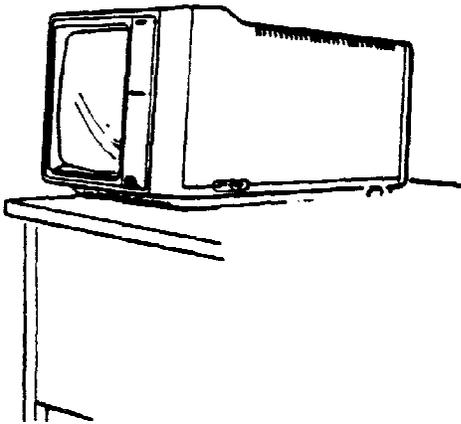
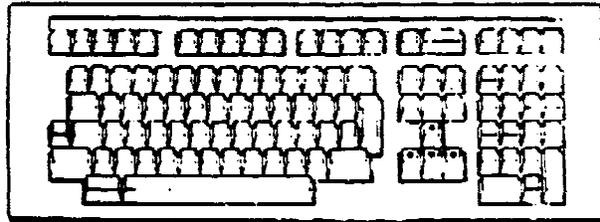
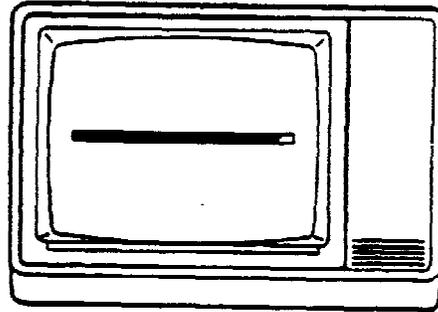


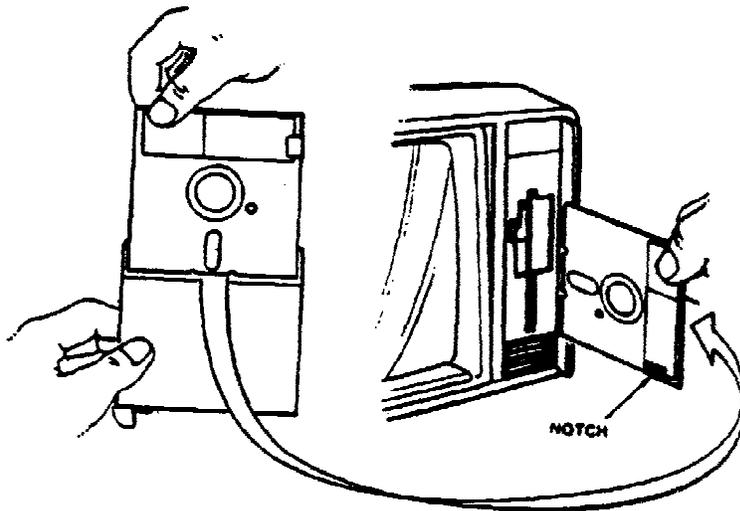
Figure A-3. VAXmate terminal



Monitor



Keyboard



Floppy Disk Drive

programs independently of the MicroVAX, including a program which directs the VAXmate to emulate (function like) a VT320.

Description of the Keyboard

The keyboard (Figure A-4) for the data terminal has four groups of keys, four indicator lights, and two audible indicators. The keys are grouped by function (see Figure A-5).

- Main keypad
- Editing keypad
- Numeric keypad
- Top-row function keys

Throughout this manual, references to specific keys are enclosed in angle brackets (< >).

The main keypad is similar to a standard typewriter keyboard. The alpha and numeric keys are used to type letters and numbers. The editing keypad has six editing keys and four arrow keys. Pressing an arrow key moves the cursor in the direction of the arrow. The keys of the numeric keypad are used to enter any numeric data, such as coded questionnaire responses or examination results or an examinee's identification number or age.

Every stroke of a terminal key creates a specific electronic signal to be transmitted to the computer. For this reason, alpha and numeric keys cannot be used interchangeably and a space cannot be used indiscriminately. For example, the USER cannot type "l" (the letter l) in place of "1" (one) and vice versa. If a key is inadvertently pressed which sends an invalid signal to the system, the system is programmed to reject the signal and to display an error message on the terminal screen.

There are several keys including <Return>, the edit keys and arrow keys, the top row of the numeric keypad, and the top row function keys which have special functions. The keys are listed and defined in Exhibit A-1.

Figure A-4. The terminal keyboard

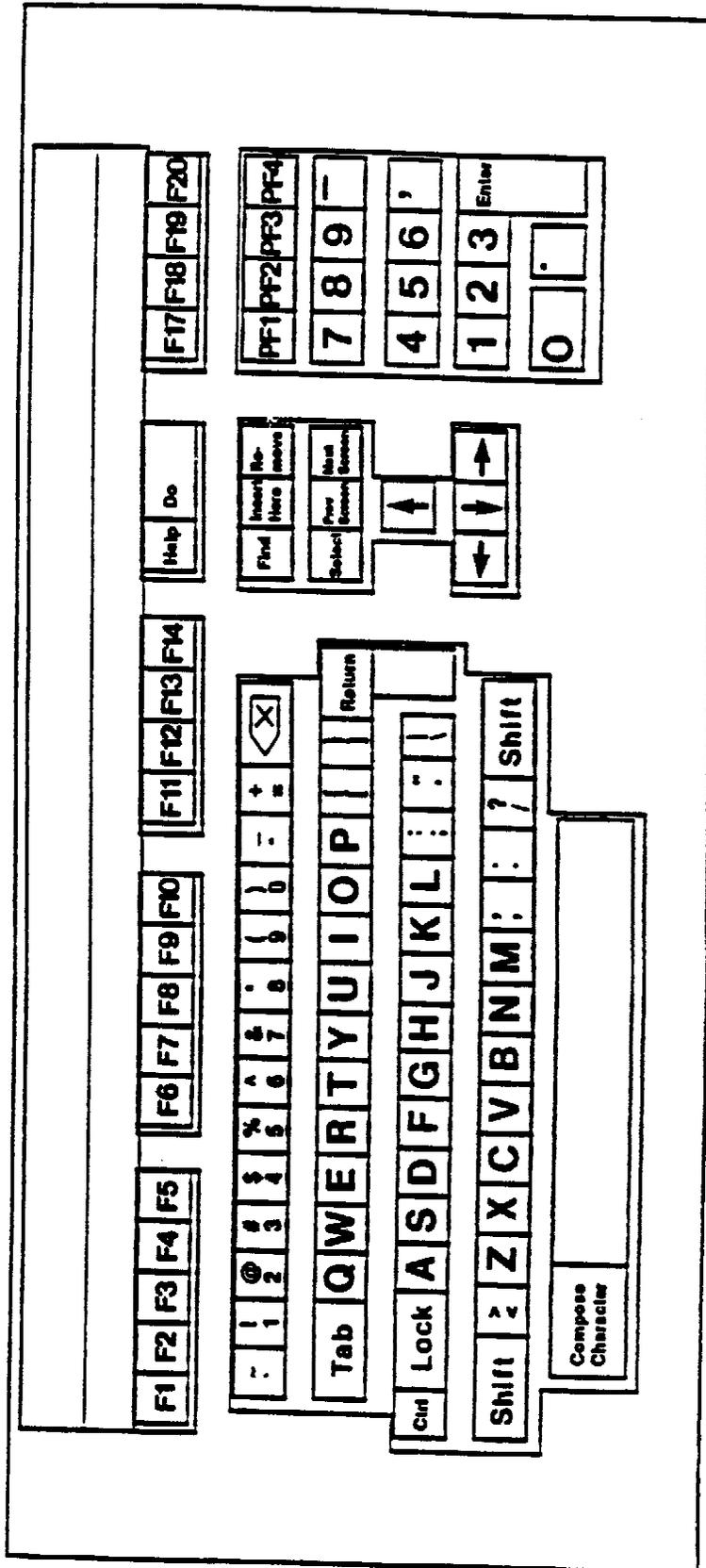


Figure A-5. Keys of the terminal keyboard

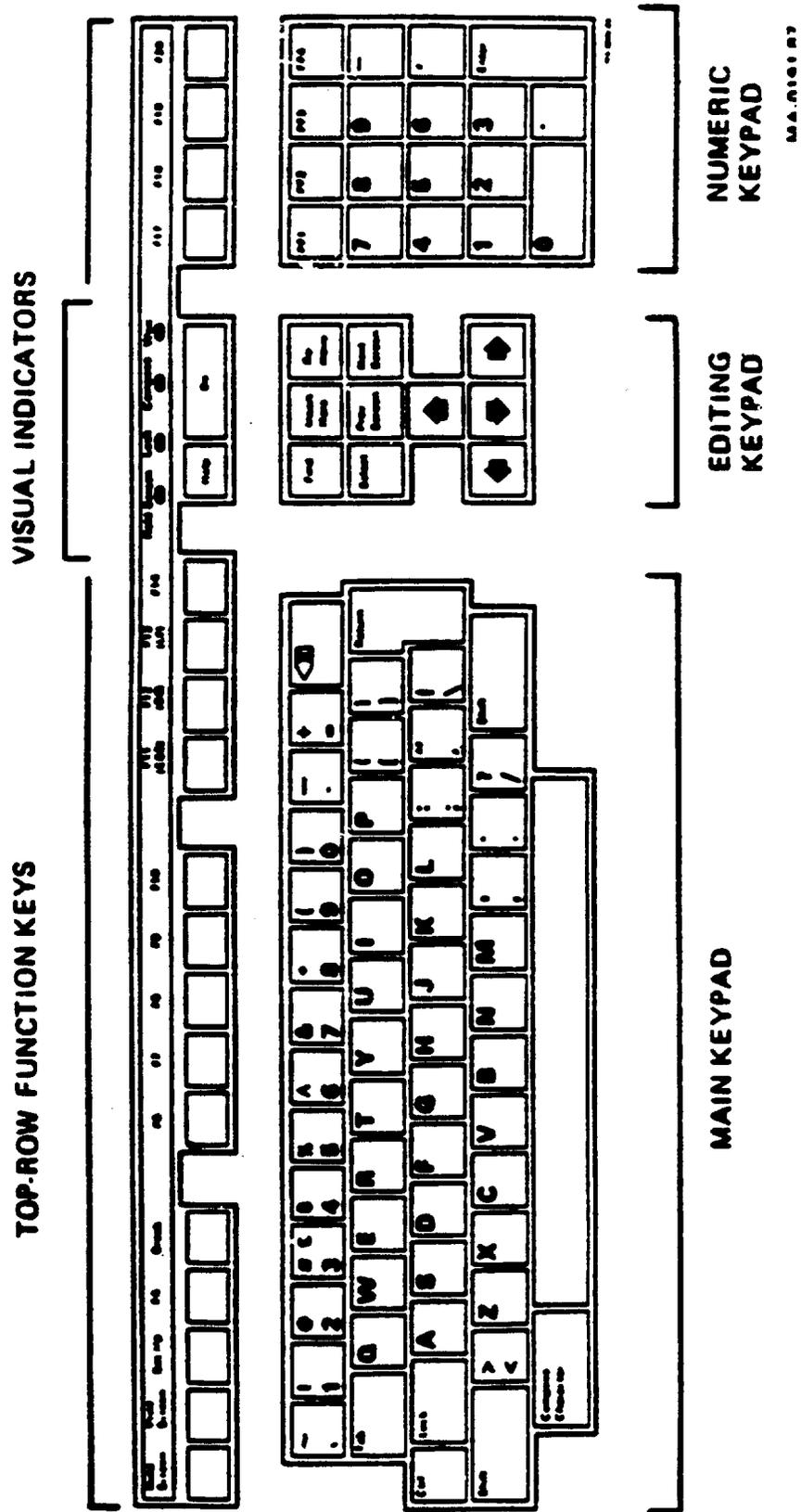


Exhibit A-1. The special function of edit keys

Refer to Figure 1-5. Begin at the top left of the keyboard and read from left to right.

<u>KEY</u>	<u>FUNCTION</u>
<F1> (Hold Screen)	Freezes the screen display. Turns on/off the Hold Screen light.
<F9> (Print Screen)	Option 1 prints the screen display. Option 5 prints Oracle errors.
<F12> (Previous Field)	Moves the cursor to the previous field.
<F14>	Replace vs. Insert text.
<F17>	Redraws the screen display; the cursor will remain in the same location
<F20>	Deletes characters from a field. Press once to delete all characters to the right of the cursor. Press twice to delete all characters in field.
< > (Backspace)	Moves the cursor back to delete a character within a field.
<Insert Here>	Inserts information at the cursor location.
<Remove>	Clears old SP information and resets the form to be used again.
<PF4>	Exits a program.
<Return>	Enters data and moves the cursor to the next field.
<Select>	Enters a selection from a list of choices.
<Prev Scrn>	Displays the previous screen.
<Next Scrn>	Displays the next screen in a program. Also commits data to the MEC database.
< ↑ > (Up arrow)	Moves the cursor to the previous field.
< ↓ > (Down arrow)	Moves the cursor to the next field.
< ← > (Left arrow)	Moves the cursor back within a field.
< → > (Right arrow)	Moves the cursor forward within a field.
< > (Space bar)	Moves the cursor to the right to delete a character within a field.

Not all of the special function keys are valid or useful at all times. If a function key is not useful at a particular time, the programmers have provided an error message that will display at the bottom of the terminal screen when the key is pressed.

The keyboard has four indicator lights (see Figure A-4), which should always be off. If <Hold Screen> is inadvertently pressed during a session at the terminal, the Hold Screen indicator light turns on and the display on the screen is frozen. Pressing <Hold Screen> again releases the screen and turns off the Hold Screen indicator light.

The keyboard has two audible indicators, a keyclick and a bell. The keyclick is the clicking sound which is heard when a key is pressed. The warning bell sounds whenever the USER receives an error message.

A.1.2 The MEC Automation System Software

The MEC system software functions on several levels: 1) the VMS operating system; 2) the database management system, Oracle; and, 3) the USER interface.

VMS Operating System

VMS is an operating system for the VAX similar to DOS on a microcomputer. It controls the communication between the MicroVAX systems hardware. DECNET, which is part of the VMS operating system, controls the communication between the two MicroVAX computers, the MicroVAX and the VAXMate, and the MicroVAX computers and the terminal servers. The USER (coordinator, health technician, or laboratory technician) interfaces with the VMS system during the Log On and Log Off procedures.

ORACLE

Oracle is a relational database management system with special applications for programming data entry procedures. As a relational database management system, ORACLE manages the

MEC database by organizing the data in two dimensional tables and providing a language, SQL (Structure Query Language), and several facilities by which programmers may communicate with ORACLE to enter, modify and retrieve the data. USERS (the coordinator, the health and laboratory technicians) do not use SQL. They may, however, at some time during a session at the terminal, see a SQL error message from Oracle displayed at the bottom of the terminal screen. Oracle error messages are the result of programming errors or a problem with data management which could result in inconsistencies in the data; they will be discussed further in Section A.2.3, Making Corrections.

The USER Interface System

USER interface programs have been written for the coordination system and the examination component system by NCHS programmers using special applications of ORACLE.

Both the coordination system and the examination component system use a MENU system to allow the USERS to quickly choose one of several programs in each system.

The programs for the coordination system are used to check sample persons (SPs) into the MEC, to build a list of required exam components, to schedule SPs, MEC examination stations and MEC staff to complete required components, and to check SPs out of the MEC. In addition, the coordination system monitors Glucose Tolerance Test times, alerts the phlebotomist to deadlines, accounts for payment of SPs and generates a session summary status for the field office following each exam session.

Programs written for the examination component system enable USERS (health and lab technicians) to enter, modify, and delete data, to print reports, logs, worksheets or shipping transmittals, and to transmit data from a component instrument to the MicroVAX and from the MicroVAX to a floppy diskette. Several of the components including Dietary, use programs written with software other than ORACLE. These programs are run independently on the VAXmates and then the data is transmitted to the MicroVAX.

The data entry programs have been written so that the information presented on the screen appears as a written record on a physical form, that is, as though it were a page of a Questionnaire or a Log. When the information requested on a screen is entered (by the USER), it is committed to the database, just as a written record is stored in a file drawer.

A.2 Sequence of a Session at the Terminal

A USER begins a session at the terminal by turning on the terminal and logging on (establishing an electronic connection) to the MicroVAX using the VMS operating system. Once a USER is connected to the MicroVAX, the USER interface system is used to access specific applications (programs) within a component. Applications are accessed according to the component room the USER is in. The coordinator working in the coordinating area accesses the coordination system application, the phlebotomist in the venipuncture area accesses the laboratory application, the X-Ray technician in the X-Ray room accesses the X-Ray application and so on. Each application has a Main Menu of several choices of procedures or submenus from which the USER may choose to begin specific data entry, review, modification, deletion, or transmission procedures. When the USER has completed the selected procedures, s/he: 1) returns to the submenu and then to Main Menu, or returns directly to the Main Menu; and 2) Logs Off (disconnects) from the MicroVAX.

A.2.1 Logging On To The System

The Log On process is essential; it connects the terminal to a selected MicroVAX computer and verifies USER authorization. The Log On procedures differ depending on the type of terminal the USER is accessing. The procedures for logging on to the MEC automation system with a VT320 are given in Exhibit A-2. The procedures for logging on to the MEC automation system with a VAXMate are given in Exhibit A-3. The narrative explanation of procedure and what is displayed on the terminal screen is in regular type; what the USER does is in **bold type**.

There are several valid responses that can be entered at the local prompt which appears during the log on process at the VT320. At the beginning of the day the USER should type " C MEC(nc) " at the local prompt. Typing "C MEC" signals the computer that USER wants to connect to the MEC automation system. The numeric character, (n), indicates the number of the MEC, 1,2 or 3, where the USER is located. The last alpha character, (c), signals one of the two MicroVAX computers, A or B, located on the MEC. USERS should select MicroVAX A unless specifically instructed by the MEC Manager or an NCHS programmer to select MicroVAX B. If at some time during a session at the terminal, the USER is disconnected from the system without logging out, the USER may type "Resume" at the local prompt, which will reconnect the terminal to the MEC(nc) system.

Exhibit A-2. Logging on to the system with the VT320

1. **The on/off switch is located at the rear of the base of the CRT. Turn the switch to the ON position.**
2. **The screen lights up and the cursor (a blinking box of light) appears in the upper left corner of the screen. Locate the Return key (<Return>) on the terminal key board and press it two times.**
3. **The screen displays a local prompt (Local >). Type "C MEC(nc)". (Where n = MEC 1, 2, or 3 and c = MicroVax A or B). Press <Return>.**
4. **The screen displays a prompt for a Username (USERNAME:). Type the name of the component you wish to access. Press <Return>. For example, if you wish to access the laboratory application, type "LAB".**
5. **You are now connected to the MicroVAX and ready to begin. The screen displays the Main Menu for the component name you typed in at the Username prompt.**

Exhibit A-3. Logging on to the system with a VAXmate

1. **Locate the floppy disk labeled "MECnc boot disk". (Where n = MEC 1, 2 or 3 and c = MicroVAX A or B).**
2. **Insert the floppy disk into the floppy disk drive. The floppy disk drive is located on the right side of the VAXmate terminal next to the monitor.**
3. **The on/off switch is located at the rear of the base of the monitor. Turn the switch to the On position. A horizontal bar appears on the monitor as the VAXmate warms up. After this the VAXmate will access the disk drive to load the programs it will be using.**

A.2.2 The Menu System

After the log on process is complete, the USER is presented with a Main Menu screen which lists choices of procedures or submenus specific for each application. The menu system relieves the burden on USERS of remembering all of the functions of a system and of knowing the commands to access them. Refer to Exhibit A-4 for an example of a Main Menu screen and instructions on how to select an option on a menu. Each option on the menu is preceded by an input field. Selecting a particular option by moving the cursor to the input field in front of the desired choice and pressing <Select>, transmits a preprogrammed signal to the computer. The computer responds to a specific signal by displaying the appropriate submenu or the first screen of a selected procedure.

A.2.3 Entering Data

When the alpha and numeric keys are pressed, the characters that are typed appear on the video screen in a space called the input field, which is marked by a blinking square of light referred to as the "cursor". However, the typed characters are not recognized by the computer until <Enter> or <Return> is pressed. Each time <Return> is pressed, the computer is signaled to read and assess validity of the set of characters (an entry) in the input field. If the entry is an invalid one, the computer is programmed to reject the entry and to display an error message at the bottom of the screen. The entry must be corrected before the USER can successfully complete the application procedure.

Exhibit A-4. Using a menu screen

Laboratory menu _____
Choice _____

- Phlebotomy _____
- Home Exam -Venipuncture _____
- Hematology _____
- Urinalysis _____
- Blood Processing _____
- Shipping _____
- Quality Control _____
- Edit Data in Database _____
- System functions _____

Introduction _____
Home Exam _____
Hematology _____
Urinalysis _____
Processing _____
Shipping _____
QC _____
Edit _____
System _____

Char Mode: Replace Page 1

Count: *9

CALLED FROM: The Log On process.

SUMMARY OF USE: What you do is in bold type.

1. The cursor appears in the input field at the left of the first choice in the menu.
2. The cursor is moved down the list of choices with <↓> or <Return> and back up the list of choices with <↑> or <F12>.
3. Move the cursor to the choice you want. Press <Select>.
4. The computer will display the first screen of the program you select. For example, if you select Phlebotomy, the computer will display the SP Introduction screen.

If you select Blood Processing, the computer will display the submenu for Blood Processing.
5. If you want to end the menu program without making a selection, press <PF4>.

Exhibit A-4. Using a menu screen (continued)

Laboratory menu _____

Choice _____

-- Phlebotomy _____
-- Home Exam -Venipuncture _____
-- Hematology _____
-- Urinalysis _____
-- Blood Processing _____
-- Shipping _____
-- Quality Control _____
-- Edit Data in Database _____
-- System functions _____

Introduction _____
Home Exam _____
Hematology _____
Urinalysis _____
Processing _____
Shipping _____
QC _____
Edit _____
System _____

Char Mode: Replace Page 1

Count: *9

6. It is not necessary to move the cursor up and down the list of choices to select the program you want. Instead you:
 - a. Press <Insert Here>. The cursor moves to the "Choice" input field at the top of screen.
 - b. Type the name of the program you wish to access. Press <Return>. The computer displays the first screen of the selected program.

Moving from Field to Field on the Same Screen

A "screen" is a series of input fields formatted as though it were a page in a questionnaire or a log or some other type of paper data collection form. The path of the cursor from one input field to another is preprogrammed according to the results entered into each input field. However, the USER does have some control over the movement of the cursor, and on occasions when correcting an entry, or when selecting an option from a Menu, the USER can move the cursor from one input field to another by using <↓> or <Return> to move the cursor forward and using <↑> or <F12> to move the cursor back.

Moving Forward and Backward From Screen to Screen

When responses have been entered into all of the input fields on a screen the USER presses <Next Screen> to cause a new set of input fields, that is, the next screen in a procedure, to appear on the monitor. Pressing <Next Screen> will also commit data to the MEC database at several pre-programmed intervals in the procedure by signaling the computer to read and assess the entire set of entries for a screen or set of screens. If the set of entries is valid, the computer will accept the data and commit it to the database. If any of the entries are invalid, the computer will reject the data and display an error message at the bottom of the screen. Also, if the USER has reached the end of a particular procedure, pressing <Next Screen> signals the computer to display the menu from which the procedure was selected.

On some occasions, the USER may want to review or correct data from a set of input fields which were completed earlier in a data entry procedure and have been removed from the terminal screen. Pressing <Previous Screen> will signal the computer to retrieve and display the information that was on the terminal screen immediately before the present display. If necessary, the USER can back up through every screen in a program by pressing <Previous Screen> until the Menu Screen is reached.

Making Corrections

Often, in order to correct an entry in an input field, the USER may want to move the cursor back and forth within one input field to change or delete a character. The <^> moves the cursor back within an input field and the <=> moves the cursor forward within an input field. Once the USER

has correctly positioned the cursor within the input field, s/he can type over the old entry. The space bar, <back space>, or <F20> can also be used to delete characters and reposition the cursor within an input field.

If at any time during a session at the terminal, the USER receives an ORACLE error message, the USER should use <F9> to print the screen which was being displayed on the monitor when the ORACLE error occurred. If the USER receives a USER interface system message, for example a message stating an entry was out of range, the USER should use <i> or <ó> to return the input field, then retype and reenter the variable.

A.3 The SP Introduction Screen

The SP Introduction Screen is used with every component where a technician interviews or examines a sample person. The SP Introduction Screen has several functions: (1) to allow the USER to confirm the identification of the SP; (2) to create a record of the examination procedure for the SP; and (3) to identify the technician who will conduct the interview or the examination. An example of the SP Introduction Screen and instructions for completing it are given in Exhibit A-5.

A.4 The SP Examination Results Screen

The SP Examination Results Screen is the final screen of every program used to enter information from an SP interview or examination. The purpose of the SP Examination Results Screen is to allow the technician to comment on the results of the interview or examination procedure.

If an interview or examination is successfully completed, the technician (USER) selects "Satisfactory test" from the list of choices presented on the Examination Results Screen menu. The technician may also enter a comment in the comments input field. If the interview or the examination was complete but not satisfactory, or if the interview or examination was not done, the technician selects "Test complete but unsatisfactory" or "Test not done" from the menu. Selecting either of the last two choices signals the computer to display another menu with a list of possible conditions specific to the type of interview or examination that may have contributed to an incomplete or unsatisfactory test. The technician selects the choice which best explains the condition of the interview or examination. The technician may

Exhibit A-5. How to complete the SP Introduction screen

Introduction

1) Technician	2) Examinee
Tech# 1988	Sample# _____
Name Phil Dexaminer _____	Name _____
	Age ____ Years/Months _
	Sex _

3) Procedures

_____	_____
_____	_____
_____	_____
_____	_____

Char Mode: Replace Page 1

Count: *0

CALLED FROM: Main Menu.

SUMMARY OF USE: What you do is in bold type.

1. The cursor is located at the Tech # input field. Type your four digit Tech # and press <Enter>.
 - a. If your Tech # is in the database, your name is displayed in the Name input field and the cursor moves to the NCHS # input field.
 - b. If your Tech # is not in the database, the following message is displayed at the bottom of the screen: "Unknown Technician. Please verify Tech #".

If your Tech # is incorrect, retype your correct four digit Tech # and press <Enter>.

If your Tech # is correct, press <Enter>.
 - c. If your name still does not appear in the Name input field, see the MEC manager. Only known technicians are to access data collection applications.
2. The cursor is located at the NCHS # input field. Type in the seven digit SP ID number and press <Enter>.
 - a. If the Sample number is in the database, the SP's name, age and sex are displayed in the appropriate input fields, and the cursor moves to the Procedures menu at the bottom half of the screen.

Exhibit A-5. How to complete the SP Introduction screen (continued)

Introduction

1) Technician	2) Examinee
Tech# 1988	Sample# _____
Name Phil Dexaminer _____	Name _____
	Age ____ Years/Months _
	Sex _

3) Procedures

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Char Mode: Replace Page 1

Count: *0

- b. If the Sample number is not in the database, the following message is displayed at the bottom of the screen: "Unknown examinee, please verify Sample #".

Check the Daily Appointment Schedule, the SP Control Record, and if necessary, check with the Coordinator to verify that you entered the Sample number correctly.

If the number you typed was not correct, type the correct Sample number in the Sample # input field.

If the number you typed was correct, you must complete the Name, Age, Years/Months and Sex input fields.

Refer to the SP Control Record, and type the SP's name, age and sex in the appropriate fields. Press <Return> after each variable is entered.

The cursor moves to the Procedures menu at the bottom half of the screen.

3. The cursor appears at the left of the first choice of the Procedures menu. Use the <↑> <↓> <F12> and <Enter> to move the cursor to the procedure you want. Press <Select>.

The first screen of the selected procedure appears on the terminal monitor.

also enter a comment to give any additional explanation as needed. An example of the SP Examination Results Screen and instructions for completing it are given in Exhibit A-6.

A.5 Edit Checks in the System

There are basically three types of errors that can be detected by the computer: consistency errors, range errors and ORACLE errors. Edit checks are designed to detect all types of errors. Consistency errors are errors which occur in situations in which conflicting information has been entered, usually at separate but related questions. For example:

X2. At what age did you smoke your first cigarette?

25 Years

X6. How many years have you smoked?

5 Years

X16. May I have your age please?

23 Years

Obviously, it is not possible for this examinee to have smoked his/her first cigarette at an age which is greater than the current age. Conflicting information has been entered, a consistency error has been made. The computer is programmed to reject inconsistent data and to display an error message at the bottom of the terminal screen. The inconsistent data must be corrected before the USER can complete the data entry program.

The second type of error is referred to as a "range" error. For every question, the computer has been programmed to accept a range of answers. For example, in the question:

D3. Is the dental clinic or place where (Person) saw the

Exhibit A-6. How to complete the Examination Results screen

Name Bee lngtested _____ Sample# 1988807

Examination results

Select one

- x Satisfactory test _____
- Test complete but unsatisfactory _____
- Test not done _____
- _____
- _____
- _____
- _____
- _____
- _____

Comments:

Char Mode: Replace Page 1

Count: *0

CALLER FROM: All interview and examination applications.

SUMMARY OF USE: What you do is in bold type.

1. The cursor appears at the input field to the left of the first choice on the examination results menu. Use **<↑>**, **<↓>**, **<F12>** or **<Return>** to move the cursor to the choice which most accurately describes the results of the examination and press **<Select>**.

If you select "Satisfactory test", the cursor moves to the Comments input field.

If you select "Test complete but unsatisfactory" or "Test not done", a second results menu is displayed.

The cursor appears at the input field to the left of the first choice on the second menu.

2. Use **<↑>**, **<↓>**, **<F12>** or **<Return>** to move the cursor to the choice which most accurately describes the condition which caused the incomplete or unsatisfactory results of the examination and press **<Select>**.

The cursor moves to the Comments input field.

Exhibit A-6. How to complete the Examination Results screen (continued)

Name Bee Ingtsted _____ Sample# 1988807

Examination results

Select one

- Computer malfunction _____
- Insufficient time or room not available _____
- Examinee refused or uncooperative. _____
- Medically excluded by staff for safety _____
- Can't see screen/vision problems _____
- Can't manipulate buttons _____
- Unable to understand test instructions due to language barrier _____
- Unable to understand intructions due to other reasons _____
- _____
- _____

Comments:

You can write any comments in this area that you think will be _____
useful in interpreting the data you have entered. _____
You can also use this area to report unusual occurances or problems. _____

Char Mode: Replace Page 1

Count: *0

3. The cursor is located at the Comments input field. Type any comment which is needed to adequately explain the results of the examination. Press <Return> and then press <Next Scrn>.

If no comment is needed, press <Next Scrn>.

The following message is displayed at the bottom of the screen: "One (two) record(s) processed", "Press any key to acknowledge". Press any key.

The Introduction screen with the SP information is displayed on the terminal screen.

4. The cursor is located at the first choice of the Procedures menu. If the SP has other examinations in the same room, move the cursor to the appropriate procedure and press <Select>.

If you are ready to examine a new SP, press <Remove> to clear the SP Introduction screen.

dentist a facility of the Veterans Administration:

Yes.....1
No.....2

The computer has been programmed to accept a "1" or a "2". All other answers are "out of range" and the computer will not accept them. It responds by displaying a error message at the bottom of the terminal screen. The USER can correct error by reading the message carefully and following its instructions.

ORACLE errors and ORACLE error messages are the result of a programming or data management problems. They rarely occur, but when they do, the USER should press <F9> and choose option "1" to print the information that is displayed on the screen at the time the ORACLE error occurred, and also option "5" to print the error information. The USER should follow the instructions given in the ORACLE error message and if possible, complete the program. If it is not possible to complete the program, the USER should press <PF4> to exit the program..

A.6 Logging Off the System

"Logging off" is the process of disconnecting the VAXMate from the MicroVAX or the VT320 from the terminal server. The Log off procedure (see Exhibit A-7) is performed at the end of the day before the terminal is turned off. If the USER is on a VT320 or a VAXmate, pressing <PF4> at a Main Menu display will automatically disconnect the VAXmate from the MicroVAX or the VT320 from the terminal server.

Exhibit A-7. Logging off the system

1. You should be at the Main Menu screen for the component room. Press <PF4>. Note: If you are not at the Main Menu screen for a particular component room, <PF4> can be used to exit any program and return you to the Main Menu screen.
2. The local prompt is displayed (Local >). Type "LO".
3. Flip the On/Off switch to Off.

APPENDIX B

Sequence of Procedures in Physician Exam By Age

APPENDIX B
SEQUENCE OF PROCEDURES IN PHYSICIAN EXAM BY AGE

Age 60+

- 1. Check for locomotion as examinee enters room.**
Examinee sits down
- 2. Check for limb abnormalities, amputations, casts.**
 - a. Record information on locomotion and observation
- 3. Perform Upper Extremity Joint Exam**
 - b. Record information on upper extremity joint exam
- 4. Ascertain cuff size, MIL, then pulse, etc. for blood pressure**
 - c. During the first 30 second wait between the MIL and first BP, obtain the pulse and record all information obtained
- 5. Perform the 1st Blood Pressure**
 - d. Record 1st blood pressure
- 6. Listen to the chest/heart during this 2nd 30-second wait**
- 7. Perform the 2nd Blood Pressure**
 - e. Record 2nd blood pressure reading
- 8. Perform the Foot Joint Exam during this 3rd 30-second wait**
- 9. Perform the 3rd Blood Pressure**
 - f. Record the 3rd blood pressure reading, chest and heart*Examinee lies down*
- 10. Perform the Knee Joint Examination**
 - g. Record lower extremity joint exam
- 11. Perform Bioelectrical Impedance procedure**
 - h. Record bioelectrical impedance measurements, physician's impression, results of exam, reason test incomplete or not done (if appropriate), and referral information

Age 19-59

1. **Check for locomotion as examinee enters room; check posterior of knee for dermatitis**

Examinee sits down

2. **Check for limb abnormalities, amputations, casts**

- a. Record information on locomotion and observation

3. **Ascertain cuff size, MIL, then pulse, etc., for blood pressure**

- b. During the first 30-second wait, between the MIL and the 1st blood pressure, obtain the pulse and record all information obtained

4. **Perform 1st blood pressure**

- c. Record 1st blood pressure reading

5. **Listen to chest/heart during this 2nd 30-second wait**

6. **Perform 2nd blood pressure**

- d. Record 2nd blood pressure reading

7. **Perform examination of hands, wrists and elbows for dermatitis, during this 3rd 30-second wait**

8. **Perform 3rd blood pressure**

- e. Record 3rd blood pressure reading, chest, heart and dermatitis

Examinee lies down

9. **Perform Bioelectrical Impedance procedure**

- f. Record bioelectrical impedance measurements, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral information

Age 12-18

1. **Check for locomotion as examinee enters room; check posterior of knee for dermatitis**
Examinee sits down
2. **Check for limb abnormalities, amputations, casts**
3. **Check eyes for globes and strabismus**
 - a. Record information on locomotion, observation and eyes
4. **Ascertain cuff size, MIL, then pulse, etc. for blood pressure**
 - b. During this first 30-second wait, between the MIL and 1st blood pressure, obtain the pulse and record all information obtained
5. **Perform 1st blood pressure**
 - c. Record 1st blood pressure reading
6. **Listen to chest/heart and perform breast evaluation of Tanner Staging on females during this 2nd 30-second wait**
7. **Perform 2nd blood pressure**
 - d. Record 2nd blood pressure reading
8. **Perform examination of hands, wrists and elbows for dermatitis during this 3rd 30-second wait**
9. **Perform 3rd blood pressure**
 - e. Record 3rd blood pressure reading, chest, heart and dermatitis*Examinee lies down*
10. **Perform Bioelectrical Impedance procedure**
 - f. Record Bioelectrical Impedance*Female examinee remains lying down, Male examinee stands*
11. **Perform genital and pubic hair evaluation of Tanner Staging on females and males**
 - g. Record Tanner Staging, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral information

Age 8-11

1. **Check for locomotion as examinee enters room; check posterior of knee for dermatitis**
Examinee sits down
2. **Check for limb abnormalities, amputations, casts**
3. **Check eyes for globes and strabismus**
 - a. Record information on locomotion, observation and eyes
4. **Ascertain cuff size, MIL, then pulse, etc. for blood pressure**
 - b. During this first 30-second wait, between the MIL and 1st blood pressure, obtain the pulse and record all information obtained
5. **Perform 1st blood pressure**
 - c. Record 1st blood pressure reading
6. **Listen to chest/heart and perform breast evaluation of Tanner Staging on females during this 2nd 30-second wait**
7. **Perform 2nd blood pressure**
 - d. Record 2nd blood pressure reading
8. **Perform examination of hands, wrists and elbows for dermatitis during this 3rd 30-second wait**
9. **Perform 3rd blood pressure**
 - e. Record 3rd blood pressure reading, chest, heart and dermatitis*Female examinee lies down, male examinee stands*
10. **Perform genital and pubic hair evaluation of Tanner Staging on females and males**
 - f. Record Tanner Staging, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral information

Age 5-7

1. **Check for locomotion as examinee enters room; check posterior of knee for dermatitis**
Examinee sits down
2. **Check for limb abnormalities, amputations, casts**
3. **Check eyes for globes and strabismus**
 - a. Record information on locomotion, observation and eyes
4. **Ascertain cuff size, MIL, then pulse, etc. for blood pressure**
 - b. During this first 30-second wait, between the MIL and 1st blood pressure, obtain the pulse and record all information obtained
5. **Perform 1st blood pressure**
 - c. Record 1st blood pressure reading
6. **Listen to chest/heart during this 2nd 30-second wait**
7. **Perform 2nd blood pressure**
 - d. Record 2nd blood pressure reading
8. **Perform examination of hands, wrists and elbows for dermatitis during this 3rd 30-second wait**
9. **Perform 3rd blood pressure**
 - e. Record 3rd blood pressure reading, chest, heart and dermatitis, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral information

Age 3-4

1. **Check for locomotion as examinee enters room**
Examinee sits down
2. **Check for limb abnormalities, amputations, casts**
3. **Check eyes for globe and tracking light**
4. **Listen to chest and heart**
5. **Measure central pulse**
 - a. Record information on locomotion, observation, eyes, central pulse, chest and heart
6. **Measure breast size**
 - b. Record breast size, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral.

Age 2 Mos - 2 Years

1. **Check for limb abnormalities, amputation, casts**
Examinee sits down
2. **Check eyes for globe and tracking light**
3. **Listen to chest and heart**
4. **Measure central pulse**
 - a. Record information on observation, eyes, central pulse, chest and heart
5. **Measure breast size**
 - b. Record breast size, physician's impression, results of exam, reason test incomplete or not done (if appropriate) and referral

APPENDIX C

Automated System

- C1 Using the Automated System**
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APPENDIX C1

USING THE AUTOMATED SYSTEM

The following sections describe the use of the automated system of the Physician's Exam Component, including how to log on and off of the system, how to use the Physician's Menu, and how to use each of the programs called from the Physician's Menu System. Exhibit C1-1 contains a partial listing of terms used in this discussion of the automated system.

C1.1 Logging On To The System

"Logging on" means connecting your terminal to the VAX computer where the data is stored. Complete the following steps to log on to the VT320 terminal in the Physician's room.

1. Turn on the terminal using the on/off switch at the rear of the base of the terminal. Press the Return key two or three times.
2. At the local prompt (Local>), type "C MEC(nc)", (where n = the number of your MEC, 1, 2, or 3, and c = A or B, for MicroVAX A or B) and then press Return. Use MicroVAX A unless instructed otherwise by your MEC manager.
3. At the USERNAME prompt, type "PHYSICIAN" and press Return. The Physician's Menu will be displayed.

C1.2 Logging Off Of The System

"Logging off" means disconnecting your terminal from the VAX. You must log off of your terminal when you are not using it, i.e., at the end of each session. Complete the following steps to log off the VT320 terminal in the Physician's room.

1. At the Physician's Main Menu, press PF4. If you are not at the Main Menu screen, PF4 can be used to exit any program and return you to the Main Menu screen.

Exhibit C1-1. Terms

Hardware - the actual machines

Software - the programs written to allow you to store and access data

MicroVAX - multi-user computer used in the MEC. The computer that data is stored on.

DECServer - the computer which connects your terminal to the MicroVAX.

Terminal - Video screen and keyboard for data entry.

Oracle DBMS - Name of the software the physician's exam is written in.

Commit/Processed - Oracle message that data has been saved.

Logging on or off - Connecting/disconnecting your terminal to the MicroVAX.

Cursor - visual indicator showing the position of next entry. "The blinking box" on the screen.

Field - underlined area on screen where data is displayed and updated.

Screen - A set of fields displayed at one time on the monitor. One "page" of the exam.

"Display only" field - one which does not allow the data to be updated.

Default value - data filled in by the computer which can be changed.

Record - data from one row in a database table

Function keys - keys programmed to perform specific tasks

'Select' - Press the SELECT key to choose a value from a list

'Insert Here' - Press the INSERT HERE key during the Physician's Exam to call up the Comment Screen and enter freeform comments.

Quit - Leave a screen without saving changes to the data

2. The local prompt will be displayed (Local>). Type LO and press Return.

The screen will say "logged out port ____."

3. Turn the terminal off using the on/off switch.

C1.3 The Physician's Menu

The Physician's Menu screen is the main menu for the physician's automation system. It is the first screen to appear on the terminal monitor after you log on to the VAX with the username 'Physician'. A copy of the menu screen is displayed below.

```
Physician's Menu_____
Choice top_____
Select one
___ Physician's Exam _____
___ Bioelectric Log _____
___ Referrals to be Completed _____
___ Review Referral by SP# _____
___ Log Telephone Contact _____
___ Log Referral Letter _____
___ Print report of referrals for stand _____
___ Enter Physician Exam from Paper _____
___
___ Introduction _____
___ BioLog _____
___ Referral _____
___ RefNCHS _____
___ Contlog _____
___ RefLetter _____
___ @ref_report _____
___ Paper _____
___
___
```

Form: Physician's Main Menu

The cursor will appear to the left of the list of choices. Move the cursor using the down arrow key to move down the list, and the up arrow key to move up the list. Move the cursor to the choice you want and press Select to call the program for that choice. Press PF4 to exit the menu screen and log off (disconnect from) the VAX without selecting a choice.

The following sections explain how to use the programs for each of the choices on the Physician's Menu.

C1.4 The Physician's Exam

As the Physician's Exam is performed, the information collected should be entered directly into the computer.

The screens for the Physician's Exam are displayed according to the protocol, based on age and sex of the sample person. Appendix C2 contains a copy of each of the screens for the exam and a flow chart which illustrates the flow of the exam.

Each screen in the exam is given a screen number based on the order it is used, and a name which is a descriptive word or abbreviation for the section. The screen number and the screen name are shown on the bottom left corner of each screen and in the boxes on the flow chart. On the flow chart, the age range and sex of the SPs for whom the screen is called up is shown next to the arrows between the boxes.

The automated Physician's Exam begins with a screen called 'Introduction', and ends with one called 'Result'. Each of the screens between these two, in the body of the exam, are either data screens or menu screens. The following sections describe the use of the automated Physician's Exam, including (1) how to begin the Physician's Exam, (2) how to use the Introduction Screen, (3) keys to use on the Physician's Exam screens, (4) what data screens are, and how to use them, (5) what menu screens are, and how to use them, (6) what the Comment Screen is, and how to use it, and (7) how to use the Result screen. Refer to the flow chart, the screens, and the "Description of Procedures" section as you read the following sections describing the use of the automated system.

1. **To begin the automated Physician's Exam**, log onto a terminal using the username PHYSICIAN, as described above. From the Physician's Menu, choose "Physician's Exam" by positioning the cursor in front of that choice and pressing the Select key. The Introduction screen will be displayed.

2. **The Introduction Screen** is used to check the sample person information and begin the Physician's Exam.

```

Introduction
          Technician                               Examinee
Tech#   _____ 3312 _____                Sample# _____ 9921347 _____
Name    _____ James Petrie _____          Name _____ George Schrier _____
                                                Age _____ 62 _____ Years/Months _____ Y _____
                                                Sex _____ M _____

          Procedures
_____  _____ Physician's Exam _____          _____ Introduction _____
_____  _____                               _____
_____  _____                               _____
_____  _____                               _____
_____  _____                               _____

```

Form: Introduction

To complete the Introduction Screen, first enter your technician's number and press Enter. Your name will be displayed. If you entered your tech number incorrectly, a message on the screen will ask you to re-enter it. Next enter the Sample Person number of the SP you are about to examine. Information about the SP will be displayed. Check that this information is correct. Under the heading 'Procedures' at the bottom of the screen, "Physician's Exam" will be listed. Start the Physician's Exam by positioning the cursor in front of the choice, and pressing the Select key. The appropriate data and menu screens will be called up in the order shown on the flow chart.

When the Physician's Exam is completed, the last screen called up will be the Result Screen, which is described in one of the sections below. From the Result Screen, you will return to the Introduction Screen. At that point you can do either of two things. If you wish to complete another Physician's Exam, press the Remove key to clear the screen and prepare for the next SP. If you wish to return to the Physician's Main Menu, press PF4, (the exit key), and the menu screen will be called up.

3. **Valid keys to be used during the Physician's Exam:**

- Number Keypad - Enters numeric data
- Alpha Keys - Enters Comments, names, etc.
- Enter, Return - Moves cursor to next field
- F12 - Moves cursor to previous field
- Insert Here - Calls the Comment Screen
- Next Screen - Moves the cursor to the next screen
- Prev Screen - Moves the cursor to the previous screen.
- PF4 - Exits exam and calls Result Screen.
- F9 - Prints current screen or program error.
- Select - On screen 5.2, section Upper Extremities/Joint Manifestations, (screen MCP), puts an 'X' in the field to indicate positive findings.

Left Arrow

Right Arrow - Left and Right arrow are used in fields wider than one character, move the cursor left or right within the field.

4. **Data screens** are screens which collect data about specific items in the exam. For example, Screen 2, Locomotion, is a data screen. This screen contains fields for the entry of whether the SP has a limp or shuffle, and whether the SP has any other abnormalities associated with his/her gait.

Name George Schrier NCHS # 9921347

LOCOMOTION

Gait:

Limp/ Shuffle
 Other Abnormalities

1. No
2. Yes
8. Data Not Collected

<input type="checkbox"/> 1. No Findings 2. Findings 8. Some Data Not Collected
--

Screen: 2

Form: Locom

On each data screen, the data items to be collected are listed starting at the top left of the screen, with the codes and their explanations listed on the right. Complete the procedure as described in the appropriate section of the manual under 'Procedures and Definitions', and enter the result of each procedure.

If there are several procedures listed on the screen, there may be a box on the lower right side of the screen similar to the following:

—	1.	No Findings
	2.	Findings
	8.	Some Data Not Collected

The value indicated in the box provides a summary of the individual data items on the screen. The computer will determine the overall value to be put in the box, or a value can be entered by the user. If there are no findings on any of the data items on the screen, you may enter '1' for no findings in the field in this box. This will enter a '1' in each of the data items and clear out any data recorded in them.

When all items on the screen are completed, pressing 'Next Screen' will call the next screen in the sequence for the SP. The message "1 record processed" will be displayed, indicating that the data has been saved. To return to the previous screen in the sequence, press 'Prev Screen'.

5. **Menu screens** are screens which display a list of exam categories. The menu screens allow you to enter an overall 'no findings' or an overall 'data not collected' for a section, or to choose to call up a data screen and enter the result of each data item in that category separately.

Screen 4, "Obs Menu", or Observation Menu, is included below as an example of a menu screen.

```
Name _____ George Schrier _____ NCHS # _____ 9921347 _____

Observation Menu:                               1. No Findings
                                                    2. Findings (Enter data screen)
                                                    8. Some Data Not Collected

__ __ Paralysis/Paresis of arm or leg, Wheelchair Bound
__ __ Amputee/Cast: Arm (shoulder, elbow, wrist, fingers)
__ __ Amputee/Cast: Leg (hip, knee, ankle, toes)

Press <Next> for next screen,
      <Prev> to return to previous screen.

Screen: 4

_____
Form: ObsMenu
```

On each menu screen, the exam categories listed correspond to the data screens which can be called up at that point. To the left of the list of categories are two fields. The cursor can be moved between the left most column of fields, and for each category you should enter one of the choices listed on the top right side of the screen. The right hand column of fields indicate whether there is already data in the database for the SP for the particular category, and what previous result was entered. The value in the right hand field will be changed by the program if you change the data on the corresponding data screen.

For each category listed on the menu screen a value can be entered in the left hand column of fields using the list of choices at the top right side of the screen. The codes for each menu screen are:

1. No Findings
2. Findings (Enter data screen)
8. Some Data Not Collected

Entries should be made as follows:

- Enter a '1', 'No Findings', if, using the cues listed on the menu screen for the subject, you are sure that there are no positive findings for any of the data items in the category.
- Enter an '8', 'Some Data Not Collected', if you are unable to collect the data for all items in the category.
- Enter a '2', 'Findings (Enter Data Screen)', if
 - If there are positive findings for any of the items listed in the category, or
 - If the results of the items are not all '1' (No Findings) or all '8' (Data not collected), or
 - If there was an entry made previously which needs to be checked or changed. The result of a previously made entry is indicated by a '1', '2', or '8' in the right hand column next to the category. If the previous entry was a '2' (Findings) or an '8' (Some Data Not Collected), and the new entry is to be '1', (No Findings), you must choose '2' to Enter Data Screen, check the results which were previously entered, and then change the results to a '1' (No Findings).

Entries may be made in the left hand column of the menu screen for one or more categories at a time.

After making an entry in the menu screen field for one or more category, press the Next Screen key. If a '2' is entered in any of the left hand menu fields, the data screen corresponding to that category will be called up. When the data screen is completed, pressing the Next Screen key will return you to the menu screen. If a

'2' is entered for one or more menu category, the data screens for those categories will be called one after another when you press the Next Screen key.

Once results for each category are recorded, pressing the Next Screen key will call the next screen for the SP according to the protocol.

- 6. **The Comment Screen** can be used at any point during the Physician's Exam to make comments about any data item for an SP. An example of the Comment Screen is shown below, as called from the data screen Locom, which was described in the section on data screens.

<u>9921347</u> NCHS #	<u>3312</u> TECH#	<u>GAIT</u> Block Name
<u>GAIT_LIMP</u> Field Name		<u>LOCOM</u> Form Name

COMMENT SCREEN

Form: Comment

VALID KEYS:

- Return, Enter - Moves cursor to next field
- F12 - Moves cursor to previous field
- Next Screen - Returns you to the current physician's exam screen

To call up the Comment Screen, position the cursor in the field which indicates the item for which you will enter the comment, and press the Insert Here key. The screen will display the Sample number of the SP, your tech number, and the field name, block name, and form name of the program. The example above was called

from the screen Locom, when the cursor was in field next to the prompt "Gait: Limp/Shuffle."

Type in your comment, and press Enter at the end of each line of comment. When your comment is complete, press the Next Screen key to return to the screen you were using.

7. **The Result Screen** is called automatically at the end of the Physician's exam, as shown on the flowchart. A copy of the Result Screen is shown below.

Name George Schrier Sample # 9921347

Examination results

Select one

- Exam complete _____
- BIA not done _____
- Refused or uncooperative _____
- Out of time _____
- Physically unable to cooperate _____
- Unable to understand instructions _____
- Equipment problem _____
- Other reason _____
- _____
- _____

Comments:

Form: Result

The cursor will appear to the left of the list of choices. Move the cursor using the down arrow key to move down the list, and the up arrow key to move up the list. Move the cursor to the appropriate exam result, and press Select to choose that result. The cursor will move to the comments field at the bottom of the screen. Enter any necessary comments regarding the exam. Press the Next Screen key to exit the Result Screen and return to the Introduction screen.

C1.5 Bioelectric Impedance Calibrations Log

The Bioelectric Impedance Calibration values should be recorded on the log screen. The Bioelectric Impedance Log screen is displayed below, followed by an explanation of how to use it.

```
Bioelectric Impedance Calibrations Log
Tech# _____

_____ Stand
_____ Log Date
(DD-MON-YY)

___ Session      1. AM
                 2. PM
                 3. EVE
___ 1. beginning of session
   2. end of session

_____ BIA RES Value      (Use 888 for Cannot Obtain.)
_____ BIA REA Value
_____ Test Device RES Value
_____ Test Device REA Value

Comment: _____

Press <Next Screen> to save data and return to menu.
Press <Help> to see valid range for field.
```

Form: BioLog

1. Select 'Bioelectric Log' from the Physician's Menu.
2. Enter your Tech number and press Enter. Your name will be displayed. If you enter your tech number incorrectly, or if your tech number is not in the database, a message will be displayed. Enter your number correctly or see your MEC manager.
3. Enter the Stand number and press Enter. After you have used the screen for the first time at a stand, the stand number will be called up. If the number called up is incorrect, you should overwrite it.
4. The current date will be displayed next to the prompt 'Log Date'. If you are entering information for the current day, press Enter. If you are entering Bioelectric log data for a day other than the date displayed, enter the date for which the test was done and press Enter. The date must be entered in the format indicated below the field, e.g., 10-JUL-89.
5. Enter the Session number and whether it is the beginning or the end of the session, using the codes listed to the right of the fields. Press enter after each.
6. Enter the results of the calibrations test, and press Enter after each. To display the valid range for each of the fields, press the 'Help' key. If you cannot obtain results, enter the code '888'.
7. Enter any comment regarding the test, such as the reason that the test was not done.

8. Press the Next Screen key to commit the information and return to the menu screen.

C1.6 Referrals to be Completed

The 'Referrals to be Completed' screen is used to enter the referral level and the referral information for each SP who is examined. This screen will display the referral data for all SP's for whom the referral record is not marked as complete. The screen is shown below, followed by instructions on how to use it.

Name _____ NCHS# _____ Age ____ Sex __ Exam Date _____
Referral Level: ____ (number 1-3) _____

Reason: _____

1. Reviewed: OK	__ X-Ray	Letter sent: _____	Phoned: _____
2. Reviewed: Referral	__ Blood pressure		
3. Not in Protocol	__ Hematology	__ Medical Emer/Accident	
8. Didn't See	__ EKG	__ Other _____	

Statement of what SP was told: _____

SP's Response: _____

Was consent form signed with designated provider listed? ____ (1=yes,2=no)

Did SP refuse to designate provider or sign release? ____ (1=Yes,2=No,3=Com,4=N/A)

Witness: _____

Was the incident form filled out? ____ (1=yes,2=no,3=N/A)

Comments: _____

Is referral complete? _ (1=yes,2=no)
<F12> prev field,<Down Arrow> next SP,<Up Arrow> previous, <Next Screen> if done

Form: Referral

VALID KEYS:

- | | | |
|---------------|---|------------------------------------|
| Return, Enter | - | Moves cursor to next field |
| F12 | - | Moves cursor to previous field |
| Down Arrow | - | Moves cursor to next SP record |
| Up Arrow | - | Moves cursor to previous SP record |
| Next Screen | - | Returns you to menu |

1. Select 'Referrals to be Completed' from the Physician's Menu.

The screen will come up, and will display the referral data for the most recent SP for whom the referral is not complete. The referral records will be displayed in order according to when the SP was seen in the Physician's Exam, with the SP most recently seen being listed first. A referral record is considered complete when the user enters a '1' (yes) in response to the question "Is referral complete?".

2. When the screen first comes up, the cursor will be at the "Referral level" field on the top, left side of the screen. A summary of the data collected in the Physician's exam for the SP will be displayed on the top, right side of the screen. If a referral level was entered at the end of the Physician's Exam, it will be displayed.

Check the SP number and name. If you are prepared to enter referral information about this SP, then follow the steps outlined below. To enter information about another SP, press the down arrow key until you the SP number you are looking for is displayed. Then follow the steps outlined here.

3. Enter the referral level and press enter. The cursor will move to the section titled "Reason".
4. For each possible reason for the referral (X-Ray, Blood Pressure, Hematology, EKG, or Medical Emer/Accident), enter one of the results (1=Reviewed: OK; 2=Reviewed: Referral; 3=Not in Protocol; 8=Didn't See). If the reason for the referral was something other than the choices listed, enter '2' (Reviewed: Referral) next to the category 'Other', and type in the reason.
5. For all SPs with a referral level of 1 or 2, the following items should be done:
 - (a) Type in a statement of what you told the SP, and type the SP's response, pressing Return after each.
 - (b) Enter whether the consent form was signed with a designated provider listed.
 - (c) Enter whether the SP refused to designate a provider or sign a release. The codes are: 1=yes, 2=no, 3=See Comment, 4=Not Applicable. If you enter '3', you must type a comment explaining the situation.
 - (d) Type in the name of the witness if the SP refused to designate a provider, and press Return.
 - (e) Enter whether the incident form was filled out. The codes are 1=yes, 2=no, 3=Not Applicable.
6. Enter any comments regarding the referral or the referral process.
7. Enter whether the referral is complete. When a referral is marked as complete, it will no longer be called up on this screen. To view or change information on a referral that has been marked as complete, you must use the procedure 'Review Referral by SP #'.

8. When you are done entering referral information for one SP, you have several choices:
- (a) If you want to enter referral information for another SP, press the down arrow key until you see the SP number and name of the SP. Then enter information as described above.
 - (b) If you are done entering referral information, press the Next Screen key. You will return to the menu.

C1.7 Review Referral by SP

The 'Review Referral by SP #' screen is used to review or enter referral information about any SP, by entering the SP number. The screen will display any previously entered referral data for the SP.

Name _____ NCHS# _____ Age ___ Sex ___ Exam Date _____
Referral Level: ___ (number 1-3) _____

Reason:

1. Reviewed: OK	___ X-Ray	Letter sent: _____	Phoned: _____
2. Reviewed: Referral	___ Blood pressure		
3. Not in Protocol	___ Hematology	___ Medical Emer/Accident	
8. Didn't See	___ EKG	___ Other _____	

Statement of what SP was told: _____
SP's Response: _____
Was consent form signed with designated provider listed? ___ (1=yes,2=no)
Did SP refuse to designate provider or sign release? ___ (1=Yes,2=No,3=Com,4=N/A)
Witness: _____
Was the incident form filled out? ___ (1=yes,2=no,3=N/A)

Comments: _____

Is referral complete? _ (1=yes,2=no)
<Remove> to enter sample# of next SP, <Next Screen> if done

Form: RefNCHS

VALID KEYS:

- | | | |
|---------------|---|--|
| Return, Enter | - | Moves cursor to next field |
| F1 | - | Moves cursor to previous field |
| Remov | - | Prepares screen for you to enter next SP number. |
| Next Screen - | | Returns you to menu |

1. Select 'Review Referral by SP #' from the Physician's Menu.
2. Type in the SP number of the SP for whom you will enter referral information. The SP information and any referral information which has already been entered will be displayed.
3. Complete the referral screen as described above in the section 'Referrals to be Completed'.

4. When you have finished, you have two choices:
 - (a) To review or enter referral information for another SP, press the Remove key. This will save the information on the screen, and then clear the screen so you are ready to enter the next SP's number.
 - (b) When you are done entering referrals on this screen, press the Next Screen key. This will save the information on the screen and return you to the menu.

C1.8 Log Telephone Contact

The 'Log Telephone Contact' screen is used to enter information regarding any telephone contacts with the SP's providers.

NCHS# _____ Name _____ Age ____ Sex ____ Exam Date _____
Referral Level: ____ (number 1-3) ____ X-Ray
Reason: 1. Reviewed: OK 8. Didn't See ____ Blood Pressure ____ EKG
2. Reviewed: Problem ____ Hematology ____ Medical Emer/Acc
3. Not in Protocol Other _____
Consent form signed: ____ SP refused to designate provider or sign: ____
Date of letter: _____

Was provider telephoned? ____ (1=yes,2=no,3=see comment,4=N/A)
Telephone # of contact: _____ Date of Call: _____ (DD-MON-YY)
Name of contact and/or facility: _____
Position of contact: _____
What provider was told: _____

Comments on call: _____

<Remove> for next SP, <Next Screen> when done

Form:ContLog

VALID KEYS:

- Return, Enter - Moves cursor to next field
- F12 - Moves cursor to previous field
- Remove - Prepares screen for you to enter next SP number.
- Next Screen - Returns you to menu

1. Select 'Log Telephone Contact' from the Physician's Menu.
2. Enter the SP number and press Enter. Information about the SP and about your referral of the SP will be displayed in the top section of the screen. The cursor will move to the question "Was provider telephoned?".
3. Enter whether the provider was telephoned. Enter the telephone number of the contact, the date of your call, the name and position of the contact person, and what you told the provider. Press Return or Enter after each entry.
4. Enter any comments regarding the call in the space provided at the bottom of the screen.

5. When you have finished, you have two choices:
 - (a) To enter Telephone Contact information for another SP, press the Remove key. This will save the information on the screen, and then clear the screen so you are ready to enter the next SP's number.
 - (b) When you are done entering telephone contacts on this screen, press the Next Screen key. This will save the information on the screen and return you to the menu.

C1.9 Log Referral Letter

The 'Log Referral Letter' screen is used to keep a log of the referral letters you write.

NCHS# _____ Name _____ Age ____ Sex __ Exam Date _____
Referral Level: ____ (number 1-3) ____ X-Ray
Reason: 1. Reviewed: OK 8. Didn't See ____ Blood Pressure ____ EKG
2. Reviewed: Problem ____ Hematology ____ Medical Emer/Acc
3. Not in Protocol Other _____

Tech# _____
Date letter sent: _____ (DD-MMM-YY)
Letter sent to: _____
Position: _____

Consent form signed: _____
SP refused to designate
provider or sign: _____

<Remove> for next SP,
<Next Screen> when done.

Form: RefLetter

VALID KEYS:

- Return, Enter - Moves cursor to next field
- F12 - Moves cursor to previous field
- Remove - Prepares screen for you to enter next SP number.
- Next Screen - Returns you to menu

1. Select 'Log Referral Letter' from the Physician's Menu.
2. Enter the SP number and press Enter. Information about the SP and about your referral of the SP will be displayed in the top section of the screen.
3. Enter your tech number, the date the letter was sent, and the name and position of the person the letter was sent to.
4. When you have finished, you have two choices:
 - (a) To enter Referral Letter information for another SP, press the Remove key. This will save the information on the screen, and then clear the screen so you are ready to enter the next SP's number.
 - (b) When you are done entering data on this screen, press the Next Screen key. This will save the information on the screen and return you to the menu.

C1.10 Print report of referrals for stand

This procedure should be used if you wish to review your referrals for the stand up to the current date. Select 'Print Report of Referrals' from the Physician's Menu. The screen will display a message indicating that the Referral Report will be generated and printed. Press Return to acknowledge the message and return to the menu screen. Allow time for the report to be generated, then check the printer to see if the report has been printed.

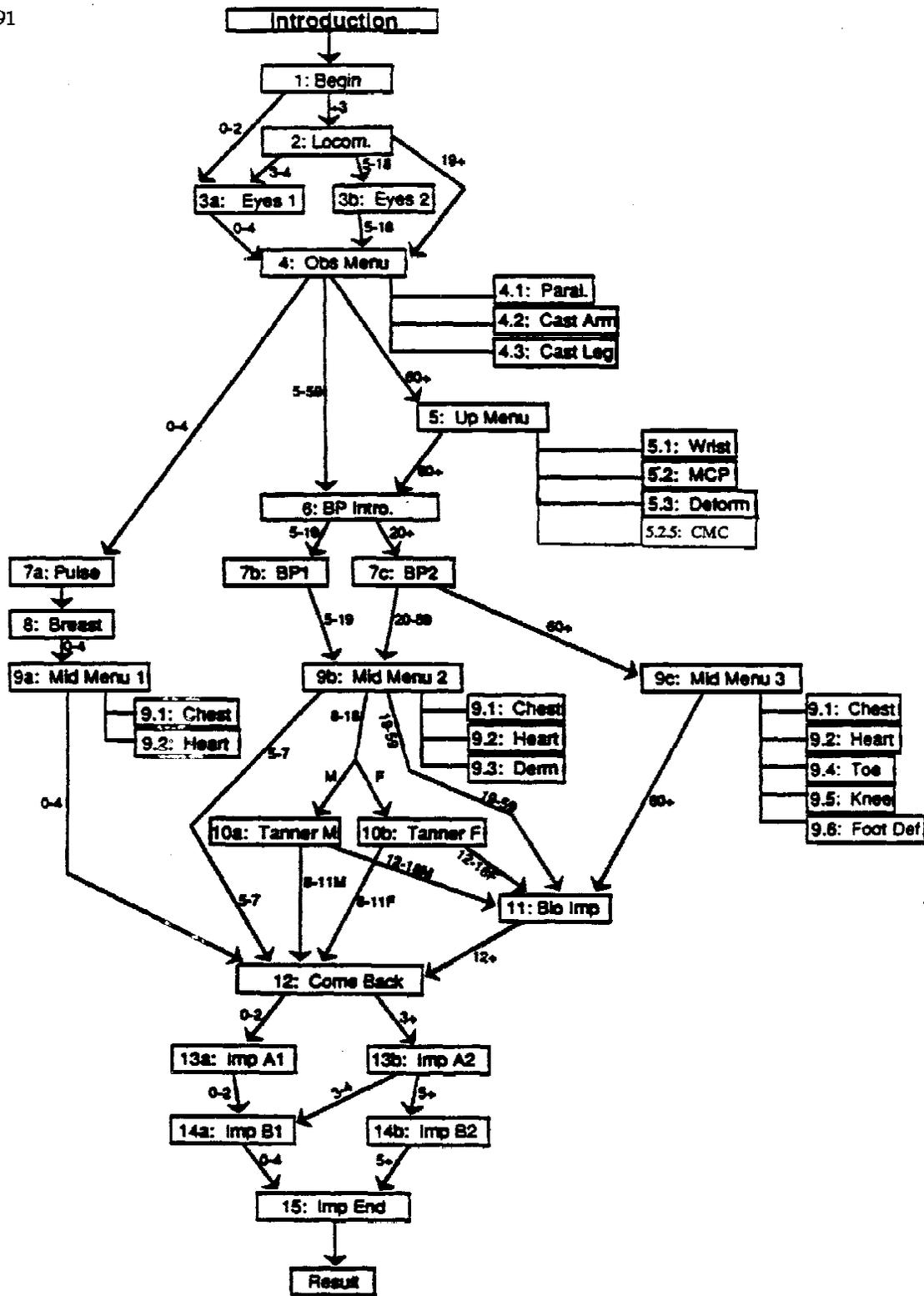
C1.11 Enter Physician Exam from Paper

This procedure allows you to enter Physician's Exam data collected on a paper form into the computer. This should be used only if you are required to use hard copy forms for an extended period of time due to computer or automation problems. The first screen called up prompts you for your tech number and the SP number. After that, the same screens are called up as in the regular automated Physician's Exam.

1. Select 'Enter Physician's Exam from Paper' on the Physician's Menu.
2. Enter your Tech number and the SP number.
3. Verify that the SP information (name, age, sex) is correct.
4. Press the Next Screen key to call the first screen of the Physician's exam. The rest of the Physician's Exam screens will be displayed and should be completed as described in the section 'The Physician's Exam'.

Physician's Exam Flow Chart

August 1991



C2-1

Introduction

Technician

Examinee

Tech# _____

Sample# _____

Name _____

Name _____

Age ____ Years/Months _

Sex _

Procedures

Form: Introduction

Name _____ NCHS # _____

Beginning Physician's Exam

Form: Begin

Name _____

NCHS # _____

EYES

Globe missing or blind

- 1. None, No Findings
- 2. Right
- 3. Left
- 4. Both
- 8. Data Not Collected

Tracks light

- 1. Yes
- 2. No
- 8. Data Not Collected

Screen: 3a

Form: Eyes1

Name _____

NCHS # _____

EYES

- Globe missing or blind
- 1. None, No Findings
 - 2. Right
 - 3. Left
 - 4. Both
 - 8. Data Not Collected

- Strabismus
- 1. No Findings
 - 2. Observation
 - 3. Cover/uncover test
 - 8. Data Not Collected

Screen: 3b

Form: Eyes2

Name _____ NCHS # _____

LIMB ABNORMALITY

Paralysis/Paresis:

- Arm 1. None, No Findings
- Leg 2. Right
- 3. Left
- 4. Both
- 8. Data Not Collected

**Confined to Wheelchair
or Stretcher**

- 1. No
- 2. Yes

- | |
|-------------------------------|
| - 1. No Findings |
| 2. Findings |
| 8. Some Data
Not Collected |

Screen: 4.1

Form: Paral

Name _____ NCHS # _____

LIMB ABNORMALITY

Amputee/Cast on Arm:

Right					Left					Arm
—					—					
1	2	3	4	5	5	4	3	2	1	Fingers

1. No Findings
2. Findings
8. Some Data
Not Collected

- 1. No Findings
- 3. Amputee
 - a. yes: at shoulder joint
 - b. yes: below shoulder & above elbow joint
 - c. yes: at elbow joint
 - d. yes: below elbow & above wrist
 - e. yes: at wrist joint
 - f. yes: distal to wrist joint
 - g. yes: finger
- 4. Cast

Screen: 4.2

Form: castarm

Name _____

NCHS # _____

LIMB ABNORMALITY

Amputee/Cast on Leg:

Right Left

— —

Leg

- 1. No Findings
- 3. Amputee
 - a. yes: at hip joint
 - b. yes: below hip & above knee joint
 - c. yes: at knee joint
 - d. yes: below knee & above ankle joint
 - e. yes: at ankle joint
 - f. yes: distal to ankle joint
 - g. yes: great toe
- 4. Cast

1. No Findings
2. Findings
8. Some Data
Not Collected

Screen: 4.3

Form: castleg

Name _____

NCHS # _____

Upper Extremities Menu Screen:

- Wrist Manifestations
 (tender, swelling, pain)
- Fingers: MCP, PIP, DIP
 (tender, swelling, pain)
- CMC Manifestations
- Deformities

1. No Findings
2. Findings (Enter data screen)
8. Some Data Not Collected

Press <Next> to call Next Screen,
 <Prev> to return to Observation Menu.

Screen: 5

Form: upmenu

Name _____

NCHS # _____

Wrist

- Tender on Palpation
- Swelling
- Pain on Passive Motion

- 1. None, No Findings
- 2. Right
- 3. Left
- 4. Both
- 8. Data Not Collected

- *-----*
- | |
|--|
| <input type="checkbox"/> 1. No Findings |
| <input type="checkbox"/> 2. Findings |
| <input type="checkbox"/> 8. Some Data
Not Collected |

Screen: 5.1

Form: Wrist

Name _____ NCHS# _____

HAND JOINT MANIFESTATIONS

Use <Select> to indicate positive findings.

	RIGHT					LEFT				
	1	2	3	4	5	5	4	3	2	1
MCP Tender	-	-	-	-	-	-	-	-	-	-
MCP Swelling	-	-	-	-	-	-	-	-	-	-
MCP Pain	-	-	-	-	-	-	-	-	-	-
PIP Tender	-	-	-	-	-	-	-	-	-	-
PIP Swelling	-	-	-	-	-	-	-	-	-	-
PIP Pain	-	-	-	-	-	-	-	-	-	-
DIP Tender	-	-	-	-	-	-	-	-	-	-
DIP Swelling	-	-	-	-	-	-	-	-	-	-
DIP Pain	-	-	-	-	-	-	-	-	-	-

- 1. No Findings
- 2. Findings
- 8. Some Data Not Collected

Screen: 5.2

Form: MCP

Name _____ NCHS # _____

CMC JOINT MANIFESTATIONS

- | | |
|---|-----------------------|
| <input type="checkbox"/> Crepitus | 1. None, No Findings |
| <input type="checkbox"/> Tender on Palpation | 2. Right |
| <input type="checkbox"/> Swelling | 3. Left |
| <input type="checkbox"/> Pain on Passive Motion | 4. Both |
| | 8. Data Not Collected |

- 1. No Findings
2. Findings
8. Some Data
Not Collected

Screen: 5.2.5

Form: cmc

Name _____ NCHS # _____

JOINT DEFORMITIES

- Heberden's Nodes
 - Bouchard's Nodes
 - Swan Neck
 - Boutonniere Joints
 - Ulnar Deviation or
Subluxation at MCP or Wrist
 - Subcutaneous Nodules on
Shaft of forearm
 - Bony thickening/spurs at
CMC joint
- 1. None, No Findings
 - 2. Right
 - 3. Left
 - 4. Both
 - 8. Data Not Collected

```
*-----*
| 1. No Findings |
| 2. Findings    |
| 8. Some Data   |
|   Not Collected |
*-----*
```

Screen: 5.3

Form: deform

Name _____ NCHS # _____
BLOOD PRESSURES

Cuff width
- 1. Infant
2. Child
3. Adult
4. Large
5. Thigh
8. Data Not Collected

Arm
- 1. Right
2. Left
8. Data Not Collected

Have you had any alcohol, coffee,
or cigarettes in the past 30 minutes?

- 1. No
2. Yes
8. Data Not Collected

Pulse Rate (15 seconds)
- 0. Skip for now
888. Cannot Obtain

Irregular Pulse
- 1. No
2. Yes
8. Data Not Collected

MIL:
- (888=Cannot Obtain)

(¿Ha fumado algún cigarillo o
tomado algún alcohol o café
en los últimos 30 minutos?)

Screen: 6

Char Mode: Replace Page 1

Count: *0

Name _____ NCHS # _____

Central Pulse Rate (30 seconds)

___ (888 = cannot obtain
0 = skip for now)

Screen: 7a

Form: Pulse

Name _____ NCHS # _____

NOTE: 888 = Cannot Obtain

BLOOD PRESSURES:

MIL _____

	K1	K4	K5	Refused
First Blood Pressure	___	___	___	-
Second Blood Pressure	___	___	___	-
Third Blood Pressure	___	___	___	-

(0 in K1 = skip for now
888 in K1 = cannot obtain)

Average Blood Pressure ___ ___ ___ Statement: _

Screen: 7b

Char Mode: Replace Page 1

Count: *0

Name _____ NCHS # _____

NOTE: 888 = Cannot Obtain

BLOOD PRESSURES:

MIL _____

	K1	K4	K5	Refused
First Blood Pressure	___	___	___	___
Second Blood Pressure	___	___	___	___
Third Blood Pressure	___	___	___	___

(0 in K1 = skip for now
888 in K1 = cannot obtain)

Average Blood Pressure ___ ___ ___ Statement: ___

Screen: 7b

Char Mode: Replace Page 1

Count: *0

Name _____ NCHS# _____

Breast Size: (largest diameter)

Right _____ mm. Left _____ mm.

0 = refused
888 = cannot obtain

Screen: 8

Form: Breast-

Name _____ NCHS # _____

MENU SCREEN:

1. No Findings
2. Findings (Enter data screen)
8. Some Data Not Collected

Chest:

- - Chest (auscultate posterior portion of each lung)
- - Heart Murmurs (systolic, diastolic)

Screen: 9a

Form: MidMenu1

Name _____ NCHS # _____

MENU SCREEN:

1. No Findings
2. Findings (Enter data screen
8. Some Data Not Collected

Chest:

- - Chest (auscultate posterior portion of each lung)
- - Heart Murmurs (systolic, diastolic)
- - Dermatitis: Hand (redness/inflammation, vesicles)
Lichenified (wrist, elbow, knees)

Screen: 9b

Form: MidMenu2

Name _____ NCHS # _____

CHEST: 1. No, No Findings
2. Yes, Findings
8. Data Not Collected

LUNG

R _ L _ Decreased breath sounds

R _ L _ Adventitious sounds
(rales, wheezes, rhonchi)

-----*
1. No Findings
2. Findings
8. Some Data
Not Collected
-----*

Screen: 9.1

Form: Chest

Name _____ NCHS # _____

HEART

- 0 = None
 - 1-6 = Grade
 - 8 = Data Not Collected
- Systolic murmur
- Diastolic murmur

1. No Findings
2. Findings
8. Some Data
Not Collected

Screen: 9.2

Form: Heart

Name _____ NCHS # _____

Hand Dermatitis:

- | | |
|------------------|-----------------------------------|
| - Palms | 1. None, No Findings |
| - Palmar Fingers | 2. Redness / Inflammation |
| - Dorsal | 3. Vesicles |
| - Dorsal Fingers | 4. Both Inflammation and Vesicles |
| | 8. Data Not Collected |

Lichenified Dermatitis:

- Wrists, elbows, knees
- 1. No, No Findings
 - 2. Yes, Findings
 - 8. Data Not Collected

- | |
|-------------------------------|
| 1. No Findings |
| - 2. Findings |
| 8. Some Data
Not Collected |

Screen: 9.3

Form: Derm

Name _____

NCHS # _____

TOE JOINT MANIFESTATIONS

- 1. No Findings
- 2. Findings
- 8. Data Not Collected

	Tender on Palpation		Swelling		Pain, Passive Motion	
	Right	Left	Right	Left	Right	Left
Great Toe:						
DIP	-	-	-	-	-	-
MTF	-	-	-	-	-	-

1. No Findings
2. Findings
8. Some Data Not Collected

Screen: 9.4

Form: toe

Name _____ NCHS # _____

KNEE JOINT MANIFESTATIONS

- | | |
|--------------------------|-----------------------|
| | 1. None, No Findings |
| - Crepitus | 2. Right |
| - Tender on Palpation | 3. Left |
| - Swelling | 4. Both |
| - Pain on Passive Motion | 8. Data Not Collected |

Maximum Limitation on Passive Motion

- | | |
|---------|-----------------------|
| - Right | 0. 145 degrees |
| - Left | 1. 130-144 degrees |
| | 2. 115-129 degrees |
| | 3. 75-114 degrees |
| | 4. 74 degrees or less |
| | 8. Data not collected |

- | |
|-------------------------------|
| - 1. No Findings |
| 2. Findings |
| 8. Some Data
Not Collected |

Screen: 9.5

Form: knee

Name _____ NCHS # _____

FOOT DEFORMITIES

- Hammer Toes
 - Bunions
- 1. None, No Findings
 - 2. Right
 - 3. Left
 - 4. Both
 - 8. Data Not Collected

- 1. No Findings

2. Findings

8. Some Data

Not Collected

Screen: 9.6

Form: FootDef

Name _____ NCHS # _____

TANNER STAGE:

Chaperone _____

- Pubic hair (number 1-5) 0 = refused
- Genitalia (number 1-5) 0 = refused

Screen: 10a

Form: TannerM

Name _____ NCHS # _____

TANNER STAGE:

Chaperone _____

- Pubic hair (number 1-5) (0 = Refused)
- Breast (number 1-5; Grade least developed breast)

Screen: 10b

Form: TannerF

Name _____ NCHS # _____

BIOELECTRIC IMPEDANCE MEASURES

BIA should not be done on pregnant women or anyone with a pacemaker.

Do you have a pacemaker device in your heart? _ (1=Yes, 2=No)

If female < 60 years old, ask: Is there any possibility that you
might be pregnant? _ (1=Yes, 2=No, 3=Don't know)

BIA Resistance (ohms) _____	Cannot Obtain
BIA Reactance (ohms) _____	Use <Select>

Screen: 11

Form: bioimp

Name _____ NCHS # _____

Searching database for skipped entries...
(please wait)

Screen: 12

Form: ComeBack

Name _____ NCHS # _____

Searching database for skipped entries...
(please wait)

Screen: 12

Form: ComeBack

Name _____

NCHS # _____

PHYSICIAN'S IMPRESSIONS:

Health Status:

- 1. Excellent
- 2. Very Good
- 3. Good
- 4. Fair
- 5. Poor
- 8. Data Not Collected

Disabling cognitive impairment preventing compliance with exam

- 1. No
- 2. Yes
- 8. Data Not Collected

Possible Active Infection

- 1. No
- 2. Yes
- 8. Data Not Collected

Screen: 13a

Form: ImpA1

Name _____ NCHS # _____

PHYSICIAN'S IMPRESSIONS: (cont)

Functional Abilities:

	Level of Difficulty	Prognosis Over 1 Year
Play	-	-
	1. None	1. Full Recovery
	2. Some	2. Partial Recovery
	3. Moderate	3. No Change
	4. Could Not Be Done	4. More Deterioration
	8. Data Not Collected	8. Data Not Collected

Screen: 14a

Form: ImpBl

Name _____

NCHS # _____

PHYSICIAN'S IMPRESSIONS: (cont)
Functional Abilities:

Activity	Level of Difficulty	Prognosis Over 1 Year
Walking 1/4 mile	-	-
Running 100 yards	-	-
Stooping, Crouching, Kneeling	-	-
Small Hand Movements - open	-	-
door, jar; pick up a pencil	-	-
Heavy Housework, Gardening,	-	-
Exercise	-	-
	1. None 2. Some 3. Moderate 4. Could Not Be Done 8. Data Not Collected	1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioratio 8. Data Not Collecte

Screen: 14b

Form: ImpB2

Name _____ Sample# _____

Examination results

Select one

- Exam complete _____
- BIA not done _____
- Refused or uncooperative _____
- Out of time _____
- Physically unable to cooperate _____
- Unable to understand instructions _____
- Equipment problem _____
- Other reason _____
- _____
- _____

Comments:

Form: Result

NCHS#	TECH#	Block Name
Field Name		Form Name

COMMENT SCREEN

Form: Comment

Bioelectric Impedance Calibrations Log
Tech# _____

Date Recorded: _____
Entry number: _____

____ Stand
____ Log Date
(DD-MON-YY)

- ____ Session 1. AM
 2. PM
 3. EVE
____ 1. beginning of session
____ 2. end of session

____ Fat % error value (Use 888 for Cannot Obtain.)
____ Ohms % error value
____ Test Device Resistance Value
____ Test Device Reactance Value
____ Test Device Impedance Value
____ Test Device Phase Value

Comment: _____

Press <NEXT SCREEN> to save data and return to menu.
Press <HELP> to see valid range for field.

V2.0

Char Mode: Replace Page 1

Count: *0

Name _____ WCHS# _____ Age _____ Sex _____ Exam Date _____

Tech# _____

Referral Level: _ (number 1-3) _____

Reason: _____

1. Reviewed: OK _____ X-Ray _____ Letter sent: _____ Phoned: _____

2. Reviewed: Referral _____ Blood pressure _____

3. Not in Protocol _____ Hematology _____ Medical Emer/Accident _____

8. Didn't See _____ EKG _____ Other _____

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained from SP to contact doctor? _____ (1=yes, 2=no, 3=N/A)

Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

----- Witness: _____

Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _____ (1=yes, 2=no) REFERRAL'S TO BE COMPLETE

<F12> prev field, <Down Arrow> next SP, <Up Arrow> previous, <Next Screen> if don

Form: referral

Techn# _____
 Referral Level: _ (number 1-3) _____
 Reason: _____
 1. Reviewed: OK _____ X-Ray _____ Letter sent: _____ Phoned: _____
 2. Reviewed: Referral _ Blood pressure _____
 3. Not in Protocol _ Hematology _____ Medical Emer/Accident _____
 4. Didn't See _ EKG _____ Other _____

 Statement of what SP was told: _____
 SP's Response: _____
 Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)
 Did SP refuse to give permission to contact doctor? _ (1=Yes, 2=No, 3=Com, 4=N)
 ----- Witness: _____
 Was the incident form filled out? _ (1=yes, 2=no, 3=N/A)

 Comments: _____

 Is referral complete? _ (1=yes, 2=no) REVIEW REFERRAL BY _____
 Press <Remove> for next SP, or <Next Screen> when done.
 Form: refnchs

NCHS# _____ Name _____ Age _____ Sex _____ Exam Date _____
Referral Level: _____ (number 1-3) _____ X-Ray _____
Reason: 1. Reviewed: OK 8. Didn't See _____ Blood pressure _____ EKG
2. Reviewed: Problem _____ Hematology _____ Medical Emer/Acc
3. Not in Protocol _____ Other _____

Tech# _____

Date letter sent: _____ (DD-MMM-YY)

Letter sent to: _____
Position: _____

Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)
Did SP refuse to give permission to contact doctor? (1=Yes, 2=NO, 3=N/A, 4=C)

<Remove> for next SP,
<Next Screen> when done.

Form: reflecter

Referral Level: (number 1-3) X-Ray EKG
 1 Reviewed: OK 2 Reviewed: Problem Blood pressure Medical Emer/Acc
 3 Not in Protocol 8 Didn't See Hemat Other

Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)
 Did SP refuse to give permission to contact doctor? (1=Yes, 2=No, 3=Com, 4=N/A)

*-----Witness:-----
 Was provider telephoned? (1=yes, 2=no, 3=see comment, 4=N/A)
 Telephone# of contact: _____ Date of Call: _____ (DD-MON-YY)
 Name of contact and/or facility: _____

Position of contact: _____

What provider was told: _____

Comments on call: _____

Press <Remove> for next SP, or <Next Screen> when done. LOG TELEPHONE CONTACT

Form: contlog

Explanation of File Layout Document

The purpose of the file layout is to describe each of the files containing NHANES III data for the Physician Component. The descriptions and file layouts reflect Version 5 of the Physician's exam. Refer to the Physician's Exam flow chart and the Physician Component screens in Appendix C1 and C2 of the Physician Manual for documentation of the automation programs.

The title on each page of the file layout includes the file name. There is one section for each file, and the pages are numbered within each section.

At the beginning of each section, the table name and a description of the table are listed. The name of each variable in the table is listed in the order it is found in the file. For each variable, the following items are listed:

1. the variable name,
2. the column positions containing the variable in the file,
3. the variable type (A - Alpha, N - Numeric, D - Date),
4. the variable description, including a "unique index" statement which indicates the unique identifier for the table,
5. the valid codes, format or range for the variable,
6. the name of the screen on which the data item was entered.

There are three types of files for the Physician Component. SP data files such as PHY_EXAM_1 which contains blood pressure data, Non-SP data files such as BIOLOG which contains QC data from tests of the Bioelectric Impedance device, and Non-data files which are not for analysis, such as BP_RANGE which contains the ranges used to determine the blood pressure statement during the exam.

PHYSICIAN COMPONENT

SP DATA TABLES

TABLE NAME	DECK NUMBER
-----	-----
CAST	610B
COMMENT_SCREEN	610C
JOINT_A	610D
JOINT_B	610E
PHY_EXAM_1	610G
PHY_EXAM_2	610H
PHY_MENU	610I
QUEST_LOG	610J
REFERRAL	610K

NON-SP DATA TABLES

TABLE NAME	DECK NUMBER
-----	-----
BIOLOG	610A
STAND_INFO	610L

NON-DATA TABLES

TABLE NAME	DECK NUMBER
-----	-----
BIORANGE	610S
BP_RANGE	610T
SPANQUES	610U

Variable Name	Column Numbers	Item Description and Codes
File: BIOLOG		Bioelectric Impedance Calibrations Log. (Not SP data)
DECK_NO	1-4	(A) Deck Number: "610A".
STAND_NO	5-7	(N) Stand Number. From screen: BioLog 100 - 999 = RANGE
TECH_NO	8-11	(A) Staff Number. From screen: BioLog
DATE_RECORDED	12-22	(D) Date data was entered in computer. Same as LOG_DATE except when calibration data could not be entered on collection date. From screen: BioLog DD-MON-YYYY = FORMAT
ENTRY_NO	23-25	(N) Counter of entries for each test reading. Highest ENTRY NO is final (correct) entry for that reading. From screen: BioLog
LOG_DATE	26-36	(D) Date on which test was done. From screen: BioLog DD-MON-YYYY = FORMAT
SESSION_C	37-37	(A) Session on which test was done. From screen: BioLog 1 = MORNING SESSION 2 = AFTERNOON SESSION 3 = EVENING SESSION
BEGIN_END	38-38	(A) Test done at beginning or end of session. From screen: BioLog 1 = BEGINNING OF SESSION 2 = END OF SESSION

File layout for NHANES III application
LABORATORY file BIOLOG

5-97

Variable Name	Column Numbers	Item Description and Codes
BIA_RES	39-45	(N) BIA Resistance Value (ohms). From screen: BioLog 888 - CANNOT OBTAIN
BIA_REA	46-52	(N) BIA Reactance Value (ohms). From screen: BioLog 888 - CANNOT OBTAIN
TEST_RES	53-59	(N) Test Device RES Value (ohms). From screen: BioLog 888 - CANNOT OBTAIN
TEST_REA	60-66	(N) Test Device REA Value (ohms). From screen: BioLog 888 - CANNOT OBTAIN
COMMENT_1	67-106	(A) Freeform comment regarding tests. From screen: BioLog
EXP	107-114	(N) Date record was exported for backup.

August 23, 1991

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
File: CAST		Cast or Paralysis on Limbs, Amputee, or Wheelchair confined.
DECK_NO	1-4	(A) Deck Number: "610B".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index CAST_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.PARALYSIS	16-16	(A) Summary of Paralysis/Paresis Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
PARAL_FINDINGS	17-17	(A) Overall Findings in Paralysis category (Paralysis/Paresis of arm or leg, or Confined to Wheelchair). From screen: Paral 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
PARALYSIS_ARM	18-18	(A) Paralysis/Paresis of Arm. From screen: Paral 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
PARALYSIS_LEG	19-19	(A) Paralysis/Paresis of Leg.

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		From screen: Paral
		1 - NO FINDINGS
		2 - FINDINGS: RIGHT
		3 - FINDINGS: LEFT
		4 - FINDINGS: BOTH
		8 - DATA NOT COLLECTED
WHEELCHAIR	20-20	(A) Confined to Wheelchair or Stretcher. From screen: Paral
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - DATA NOT COLLECTED
MENU.CAST_ARM	21-21	(A) Summary of Cast Arm Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
CAST_ARM_FINDINGS	22-22	(A) Overall Findings for data items in Cast ? category (shoulder, elbow, wrist, fingers). From screen: CastArm
		1 - NO FINDINGS
		2 - FINDINGS
		8 - SOME DATA NOT COLLECTED
CAST_ARM_LEFT	23-24	(A) Cast/Amputee of Left Arm. From screen: CastArm
		1 - NO FINDINGS
		3A - AMPUTEE AT SHOULDER
		3B - AMPUTEE BELOW SHOULDER/ABOVE ELBOW JOINT
		3C - AMPUTEE AT ELBOW JOINT
		3D - AMPUTEE BELOW ELBOW/ABOVE WRIST
		3E - AMPUTEE AT WRIST JOINT
		3F - AMPUTEE DISTAL TO WRIST JOINT
		4 - CAST
		8 - SOME DATA NOT COLLECTED
CAST_ARM_RIGHT	25-26	(A) Cast/Amputee of Right Arm. From screen: CastArm

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
FINGER_R_1	43-44	(A) Cast/Amputee of Right Finger 1. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_2	45-46	(A) Cast/Amputee of Right Finger 2. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_3	47-48	(A) Cast/Amputee of Right Finger 3. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_4	49-50	(A) Cast/Amputee of Right Finger 4. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_5	51-52	(A) Cast/Amputee of Right Finger 5. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
MENU.CAST_LEG	53-53	(A) Summary of Cast Leg Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED

FILE LAYOUT FOR NAMES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		1 - NO FINDINGS 3A - AMPUTEE AT SHOULDER JOINT 3B - AMPUTEE BELOW SHOULDER/ABOVE ELBOW JOINT 3C - AMPUTEE AT ELBOW JOINT 3D - AMPUTEE BELOW ELBOW/ABOVE WRIST 3E - AMPUTEE AT WRIST JOINT 3F - AMPUTEE DISTAL TO WRIST JOINT 4 - CAST 8 - SOME DATA NOT COLLECTED
CAST_SHOULDER_RIGHT	27-27	(A) Cast/Amputee of Right Shoulder. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_SHOULDER_LEFT	28-28	(A) Cast/Amputee of Left Shoulder. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_ELBOW_RIGHT	29-29	(A) Cast/Amputee of Right Elbow. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_ELBOW_LEFT	30-30	(A) Cast/Amputee of Left Elbow. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_WRIST_RIGHT	31-31	(A) Cast/Amputee of Right Wrist. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
CAST_WRIST_LEFT	32-32	(A) Cast/Amputee of Left Wrist. From screen: CastArm 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
FINGER_L_1	33-34	(A) Cast/Amputee of Left Finger 1. From screen: CastArm 1 - NO FINDINGS 3G - AMPUTEE FINGER 4 - CAST 8 - SOME DATA NOT COLLECTED
FINGER_L_2	35-36	(A) Cast/Amputee of Left Finger 2. From screen: CastArm 1 - NO FINDINGS 3G - AMPUTEE FINGER 4 - CAST 8 - SOME DATA NOT COLLECTED
FINGER_L_3	37-38	(A) Cast/Amputee of Left Finger 3. From screen: CastArm 1 - NO FINDINGS 3G - AMPUTEE FINGER 4 - CAST 8 - SOME DATA NOT COLLECTED
FINGER_L_4	39-40	(A) Cast/Amputee of Left Finger 4. From screen: CastArm 1 - NO FINDINGS 3G - AMPUTEE FINGER 4 - CAST 8 - SOME DATA NOT COLLECTED
FINGER_L_5	41-42	(A) Cast/Amputee of Left Finger 5. From screen: CastArm 1 - NO FINDINGS 3G - AMPUTEE FINGER 4 - CAST 8 - SOME DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
CAST_LEG_FINDINGS	54-54	(A) Overall Findings for data items in Cast Leg category (Hip, Knee, Ankle, Great Toes). From screen: CastLeg 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
CAST_LEG_LEFT	55-56	(A) Cast/Amputee of Left Leg. From screen: CastLeg 1 = NO FINDINGS 3A = AMPUTEE AT HIP JOINT 3B = AMPUTEE BELOW HIP/ABOVE KNEE JOINT 3C = AMPUTEE AT KNEE JOINT 3D = AMPUTEE BELOW KNEE/ABOVE ANKLE JOINT 3E = AMPUTEE AT ANKLE JOINT 3F = AMPUTEE DISTAL TO ANKLE JOINT 4 = CAST 8 = SOME DATA NOT COLLECTED
CAST_LEG_RIGHT	57-58	(A) Cast/Amputee of Right Leg. From screen: CastLeg 1 = NO FINDINGS 3A = AMPUTEE AT HIP JOINT 3B = AMPUTEE BELOW HIP/ABOVE KNEE JOINT 3C = AMPUTEE AT KNEE JOINT 3D = AMPUTEE BELOW KNEE/ABOVE ANKLE JOINT 3E = AMPUTEE AT ANKLE JOINT 3F = AMPUTEE DISTAL TO ANKLE JOINT 4 = CAST 8 = SOME DATA NOT COLLECTED
CAST_HIP_RIGHT	59-59	(A) Cast/Amputee of Right Hip. From screen: CastLeg 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CAST_HIP_LEFT	60-60	(A) Cast/Amputee of Left Hip. From screen: CastLeg 1 = NO FINDINGS 2 = YES, FINDINGS

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		8 - DATA NOT COLLECTED
CAST_KNEE_RIGHT	61-61	(A) Cast/Amputee of Right Knee. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_KNEE_LEFT	62-62	(A) Cast/Amputee of Left Knee. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_ANKLE_RIGHT	63-63	(A) Cast/Amputee of Right Ankle. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_ANKLE_LEFT	64-64	(A) Cast/Amputee of Left Ankle. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
GREAT_TOE_RIGHT	65-65	(A) Cast/Amputee of Right Great Toe. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
GREAT_TOE_LEFT	66-66	(A) Cast/Amputee of Left Great Toe. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
EXP	67-74	(N) Date record was exported for backup.

File layout for NEANUS III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
File: JOINT_A		Wrist, Upper Extremities Deformities, Joint Examination (Knees, Great Toes, Foot Deformities).
DECK_NO	1-4	(A) Deck Number: "610D".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index JOINT_A_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.WRIST	16-16	(A) Summary of Wrist Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
WRIST_FINDINGS	17-17	(A) Overall Findings for data items in Hand Joint Manifestations Category (Wrist: Tender, Swelling, Pain). From screen: Wrist 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
WRIST_TENDER	18-18	(A) Wrist: Tender on Palpation. From screen: Wrist 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED

File layout for NEANLS III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
File: JOINT_A		Wrist, Upper Extremities Deformities, Joint Examination (Knees, Great Toes, Foot Deformities).
DECK_NO	1-4	(A) Deck Number: "610D".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index JOINT_A_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.WRIST	16-16	(A) Summary of Wrist Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
WRIST_FINDINGS	17-17	(A) Overall Findings for data items in Hand Joint Manifestations Category (Wrist: Tender, Swelling, Pain). From screen: Wrist 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
WRIST_TENDER	18-18	(A) Wrist: Tender on Palpation. From screen: Wrist 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
WRIST_SWELLING	19-19	(A) Wrist: Swelling. From screen: Wrist 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
WRIST_PAIN	20-20	(A) Wrist: Pain on Passive Motion. From screen: Wrist 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
MENU.DEFORM	21-21	(A) Summary of Upper Extremities Deformities Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
JOINT_DEF_FINDINGS	22-22	(A) Overall Findings for data items in Upper Extremities Deformities Category. From screen: Deform 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
HEBERDEN_NODES	23-23	(A) Heberden Nodes (DIP). From screen: Deform 1 = NONE, NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
BOUCHARD_NODES	24-24	(A) Bouchard Nodes (PIP). From screen: Deform 1 = NONE, NO FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_A

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Variable Name	Column Numbers	Item Description and Codes
		2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
SWAN_NECK	25-25	(A) Swan Neck. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
BOUTONNIERE_JOINTS	26-26	(A) Boutonniere Joints. From screen: Deform 1 - NONE, NO FINDINGS 2 - YES, FINDINGS 3 - FINDINGS: RIGHT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
UD_VS_SW	27-27	(A) Ulnar Deviation or Subluxation at MCP or Wrist. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
SUBCUTANEOUS_NODULES	28-28	(A) Subcutaneous Nodules on Shaft of Forearm. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
CMC_JOINT	29-29	(A) Bony thickening/spurs at CMC_Joint. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
MENU.TOE	30-30	(A) Summary of Toe Section from Mid Menu (Table Phy_Menu). From screen: MidMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
TOE_FINDINGS	31-31	(A) Overall Findings for data items in Great Toe Joint Category (DIP, MTP: Tender, Swelling, Pain). From screen: Toe 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
MTP_TEND_R_GREAT	32-32	(A) Right Great Toe, MTP: Tender on Palpation. From screen: Toe 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
MTP_TEND_L_GREAT	33-33	(A) Left Great Toe, MTP: Tender on Palpation. From screen: Toe 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
MTP_SWELL_R_GREAT	34-34	(A) Right Great Toe, MTP: Swelling. From screen: Toe 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
MTP_SWELL_L_GREAT	35-35	(A) Left Great Toe, MTP: Swelling. From screen: Toe 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
MTP_PAIN_R_GREAT	36-36	(A) Right Great Toe, MTP: Pain on Passive Motion. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MTP_PAIN_L_GREAT	37-37	(A) Left Great Toe, MTP: Pain on Passive Motion From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_TEND_R_GREAT	38-38	(A) Right Great Toe, DIP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_TEND_L_GREAT	39-39	(A) Left Great Toe, DIP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_SWELL_R_GREAT	40-40	(A) Right Great Toe, DIP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_SWELL_L_GREAT	41-41	(A) Left Great Toe, DIP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IF_PAIN_R_GREAT	42-42	(A) Right Great Toe, DIP: Pain on Passive Motion.

File layout for NHANES III application
LABORATORY file JOINT_A

Page 4

Variable Name	Column Numbers	Item Description and Codes
		From screen: Toe
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - DATA NOT COLLECTED
IP_PAIN_L_GREAT	43-43	(A) Left Great Toe, DIP: Pain on Passive Motion From screen: Toe
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - DATA NOT COLLECTED
MENU.KNEE	44-44	(A) Summary of Knee Section from Mid Menu (Table Phy_Menu). From screen: MidMenu
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
KNEE_FINDINGS	45-45	(A) Overall Findings for data items in Knee Joint Manifestations Category (Knee: Crepitus, Tender, Swelling, Pain). From screen: Knee
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
KNEE_CREPITUS	46-46	(A) Knee: Crepitus. From screen: Knee
		1 - NO FINDINGS
		2 - FINDINGS: RIGHT
		3 - FINDINGS: LEFT
		4 - FINDINGS: BOTH
		8 - DATA NOT COLLECTED
KNEE_TENDER	47-47	(A) Knee: Tender on Palpation. From screen: Knee
		1 - NONE, NO FINDINGS
		2 - FINDINGS: RIGHT
		3 - FINDINGS: LEFT
		4 - FINDINGS: BOTH
		8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
KNEE_SWELL	48-48	(A) Knee: Swelling. From screen: Knee 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
KNEE_PAIN	49-49	(A) Knee: Pain on Passive Motion. From screen: Knee 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
KNEE_MOTION_R	50-50	(N) Right Knee: Range of Movement on Passive Motion. From screen: Knee 0 = 145 DEGREES 1 = 130-144 DEGREES 2 = 115-129 DEGREES 3 = 75-114 DEGREES 4 = < 74 DEGREES 8 = DATA NOT COLLECTED
KNEE_MOTION_L	51-51	(N) Left Knee: Range of Movement on Passive Motion. From screen: Knee 0 = 145 DEGREES 1 = 130-144 DEGREES 2 = 115-129 DEGREES 3 = 75-114 DEGREES 4 = < 74 DEGREES 8 = DATA NOT COLLECTED
MENU.CMC	52-52	(A) Summary of CMC Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED

File layout for N.A.M.E.B. III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
CMC_FINDINGS	53-53	(A) Overall Findings for data items in Upper Extremities CMC Manifestations Category. From screen: CMC 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CMC_CREPITUS	54-54	(A) CMC: Crepitus. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_TENDER	55-55	(A) CMC: Tender on Palpation. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_SWELL	56-56	(A) CMC: Swelling. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_PAIN	57-57	(A) CMC: Pain on Passive Motion. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
MENU.FOOT	58-58	(A) Summary of Foot Section from Mid Menu (Table Phy Menu). From screen: MidMenu

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
FOOT_DEF_FINDINGS	59-59	(A) Overall Findings for data items in Foot Deformities Category (Hammer toes, Bunions). From screen: FootDef 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
HAMMER_TOES	60-60	(A) Hammer Toes. From screen: FootDef 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
BUNIONS	61-61	(A) Bunions. From screen: FootDef 1 = NO FINDINGS 2 = FINDINGS: RIGHT 3 = FINDINGS: LEFT 4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
EXP	62-69	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
File: JOINT_B		Hand Joint Manifestations (MCP, PIP, and DIP Joints).
DECK_NO	1-4	(A) Deck Number: "610E".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index JOINT_B_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.MCP	16-16	(A) Summary of Hand Joint Manifestations Section from Upper Extremities Menu (Table Phy_Menu). From screen: Up Menu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
FINGER_FINDINGS	17-17	(A) Overall Findings for data items in Hand Joint Manifestations Category. From screen: MCP 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
MCP_TEND_R_1	18-18	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_3	20-20	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_4	21-21	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_5	22-22	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_1	23-23	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_2	24-24	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_4	26-26	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_5	27-27	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_1	28-28	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_2	29-29	(A) Right Finger 2, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_3	30-30	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHEKEL III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_SWELL_R_4	31-31	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_5	32-32	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_1	33-33	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_2	34-34	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_3	35-35	(A) Left Finger 3, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_4	36-36	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_SWELL_L_5	37-37	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_1	38-38	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_2	39-39	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_3	40-40	(A) Left Finger 3, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_4	41-41	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_5	42-42	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_PAIN_R_1	43-43	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_2	44-44	(A) Right Finger 2, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_3	45-45	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_4	46-46	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_5	47-47	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_R_2	48-48	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_B

page

Variable Name	Column Numbers	Item Description and Codes
		8 = DATA NOT COLLECTED
PIP_TEND_R_3	49-49	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_R_4	50-50	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_R_5	51-51	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_L_2	52-52	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_L_3	53-53	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_L_4	54-54	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_L_5	55-55	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_2	56-56	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_3	57-57	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_4	58-58	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_5	59-59	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_2	60-60	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_3	61-61	(A) Left Finger 3, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_4	62-62	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_5	63-63	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_2	64-64	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_3	65-65	(A) Left Finger 3, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_4	66-66	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP

File layout for NHANES III application
LABORATORY file JOINT_B

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Variable Name	Column Numbers	Item Description and Codes
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_5	67-67	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_2	68-68	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_3	69-69	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_4	70-70	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_5	71-71	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_1	72-72	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Tenderness.

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_2	73-73	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_3	74-74	(A) Right Finger 3, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_4	75-75	(A) Right Finger 4, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_5	76-76	(A) Right Finger 5, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_1	77-77	(A) Left Finger 1, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_2	78-78	(A) Left Finger 2, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

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Variable Name	Column Numbers	Item Description and Codes
		Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_3	79-79	(A) Left Finger 3, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_4	80-80	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_5	81-81	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_1	82-82	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_2	83-83	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
DIP_SWELL_L_4	90-90	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_L_5	91-91	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_1	92-92	(A) Left Finger 1, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_2	93-93	(A) Left Finger 2, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_3	94-94	(A) Left Finger 3, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_4	95-95	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
DIP_PAIN_L_5	96-96	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_1	97-97	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_2	98-98	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_3	99-99	(A) Right Finger 3, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_4	100-100	(A) Right Finger 4, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_5	101-101	(A) Right Finger 5, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		8 - DATA NOT COLLECTED
EXP	102-109 (N)	Date record was exported for backup.

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
File: PHY_EXAM_1		Locomotion, Eyes, Tanner Staging, Dermatitis, and Bioelectric Impedance Data
DECK_NO	1-4	(A) Deck Number: "610G".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index PHY_EXAM_1_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
GAIT_FINDINGS	16-16	(A) Overall Findings for Locomotion. From screen: Locom 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
GAIT_LIMP	17-17	(A) Limp or Shuffle. From screen: Locom 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
GAIT_ABNORMAL	18-18	(A) Other Gait Abnormalities. From screen: Locom 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
MISSING	19-19	(A) Globe Missing or Blind. From screen: Eyes1, Eyes2 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
		4 = BOTH 8 = DATA NOT COLLECTED
TRACK_LIGHT	20-20	(A) Tracks Light. From screen: Eyes1 1 = TRACKS LIGHT, NO FINDINGS 2 = DOES NOT TRACK LIGHT, FINDINGS 8 = DATA NOT COLLECTED
STRABISMUS	21-21	(A) Strabismus by Observation or by Cover/Uncover Test. From screen: Eyes2 1 = NO FINDINGS 2 = OBSERVATION 3 = COVER/UNCOVER TEST 8 = DATA NOT COLLECTED
CHAPERONE	22-51	(A) Name of Chaperone present during Tanner Staging. (not required). From screen: TannerM, TannerF
PUBIC_HAIR_STAGE	52-52	(N) Pubic Hair Stage. From screen: TannerM 0 = REFUSED 1 - 5 = RANGE
GENITALIA_STAGE	53-53	(N) Genitalia Stage. From screen: TannerM 0 = REFUSED 1 - 5 = RANGE
BREAST_STAGE	54-54	(N) Breast Stage (least developed breast). From screen: TannerF 0 = REFUSED 1 - 5 = RANGE
BREAST_RIGHT	55-61	(N) Right Breast Size (largest diameter, in mm.). From screen: Breast 888 = CANNOT OBTAIN

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
BREAST_LEFT	62-68	(N) Left Breast Size (largest diameter, in mm.) From screen: Breast 888 = CANNOT OBTAIN
MENU.DERM	69-69	(A) Summary of Dermatitis Section from Mid Menu 2 (Table Phy_Menu). From screen: MidMenu2 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DERMATITIS_FINDINGS	70-70	(A) Overall Findings for Dermatitis Section (Hand Derm. on Palms, Palmar Fingers, Dorsal, Dorsal Fingers, or Lichenified Derm. on Wrists, Elbows or Knees). From screen: Derm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DERM_PALM	71-71	(A) Palms: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_PALMAR_FINGERS	72-72	(A) Palmar Fingers: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_DORSAL	73-73	(A) Dorsal: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
		2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_DORSAL_FINGERS	74-74	(A) Dorsal Fingers: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
LICHENIFIED_DERMATITIS	75-75	(A) Lichenified Dermatitis on Wrists, Elbows, or Knees. From screen: Derm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
RESIS	76-78	(N) BIA Resistance (ohms). From screen: BioImp
CANNOT_RESIS	79-79	(A) Cannot Obtain BIA Resistance Value. From screen: BioImp X = CANNOT OBTAIN
REACT	80-82	(N) BIA Reactance (ohms). From screen: BioImp
CANNOT_REACT	83-83	(A) Cannot Obtain BIA Reactance Value. From screen: BioImp X = CANNOT OBTAIN
PREGNANT	84-84	(A) Findings of Pregnancies in SP's. From screen: BIOIMP 1 = YES 2 = NO 3 = DON'T KNOW

File layout for NHANES III application
 LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
PACEMAKER	85-85	(A) Findings of Pacemakers in SP's. From screen: BIOIMP 1 = YES 2 = NO 3 = DON'T KNOW
EXP	86-93	(N) Date record was exported for backup.

Variable Name	Column Numbers	Item Description and Codes
File: PHY_EXAM_2		Blood Pressure, Chest, Heart and Physician Impression Data
DECK_NO	1-4	(A) Deck Number: "610H".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index PHY_EXAM_2_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
TIME_OF_DAY	16-20	(D) Time of Blood Pressure Readings. From screen: BPINTRO, PULSE
CUFF_WIDTH	21-21	(N) Cuff Size used for Blood Pressure Readings From screen: BPINTRO 1 - INFANT 2 - CHILD 3 - ADULT 4 - LARGE 5 - THIGH
ARM	22-22	(A) Arm used for Blood Pressure Readings. From screen: BPINTRO 1 - RIGHT 2 - LEFT
DRUGS	23-23	(A) Answer to question: Have you had any alcohol, coffee or cigarettes in the past 30 minutes? From screen: BPINTRO 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for PHISYS III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
PULSE_RATE	24-26	(N) Pulse Rate (15 seconds). From screen: BPINTRO 888 - CANNOT OBTAIN
IRREGULAR_PULSE	27-27	(A) Irregular Pulse. From screen: BPINTRO 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CENTRAL_PULSE_RATE	28-30	(N) Central Pulse Rate (30 Seconds). From screen: PULSE 888 - CANNOT OBTAIN
MIL	31-33	(N) MIL: Maximum Inflation Level. From screen: BPINTRO
BP_1_K1	34-36	(N) K1 Value for 1st Blood Pressure. From screen: BP1, BP2 888 - CANNOT OBTAIN
BP_1_K4	37-39	(N) K4 Value for 1st Blood Pressure. From screen: BP1 888 IN K1 - CANNOT OBTAIN
BP_1_K5	40-42	(N) K5 Value for 1st Blood Pressure. From screen: BP1, BP2 888 IN K1 - CANNOT OBTAIN
BP_1_REFUSED	43-43	(A) 1st Blood Pressure Refused. From screen: BP1, BP2 X - REFUSED
BP_2_K1	44-46	(N) K1 Value for 2nd Blood Pressure. From screen: BP1, BP2 888 - CANNOT OBTAIN

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
BP_2_K4	47-49	(N) K4 Value for 2nd Blood Pressure. From screen: BP1 888 IN K1 - CANNOT OBTAIN
BP_2_K5	50-52	(N) K5 Value for 2nd Blood Pressure. From screen: BP1, BP2 888 IN K1 - CANNOT OBTAIN
BP_2_REFUSED	53-53	(A) 2nd Blood Pressure Refused. From screen: BP1, BP2 X - REFUSED
BP_3_K1	54-56	(N) K1 Value for 3rd Blood Pressure. From screen: BP1, BP2 888 - CANNOT OBTAIN
BP_3_K4	57-59	(N) K4 Value for 3rd Blood Pressure. From screen: BP1 888 IN K1 - CANNOT OBTAIN
BP_3_K5	60-62	(N) K5 Value for 3rd Blood Pressure. From screen: BP1, BP2 888 IN K1 - CANNOT OBTAIN
BP_3_REFUSED	63-63	(A) 3rd Blood Pressure Refused. From screen: BP1, BP2 X - REFUSED
AVE_K1	64-66	(N) Computed average of K1 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee. From screen: BP1, BP2
AVE_K4	67-69	(N) Computed average of K4 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee.

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		From screen: BP1
AVE_K5	70-72	(N) Computed average of K5 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee. From screen: BP1, BP2
STATEMENT	73-73	(A) Number indicating Blood Pressure statements read to examinee based on average of second and third BP readings. From screen: BP1, BP2 From table BP_Range.
MENU.CHEST	74-74	(A) Summary of Chest Section from Mid Menu (Table Phy Menu). From screen: MidMenu1,2,3 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CHEST_FINDINGS	75-75	(A) Overall Findings for data items in Chest Category (Decreased Breath Sounds, Adventitious Sounds). From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
DECREASED_R	76-76	(A) Decreased Breath Sounds in Posterior Portion of Right Lung. From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
DECREASED_L	77-77	(A) Decreased Breath Sounds in Posterior Portion of Left Lung. From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
ADVENTITIOUS_R	78-78	(A) Adventitious Sounds (Rales, Wheezes, Rhonchi in Posterior Portion of Right Lung. From screen: Chest 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
ADVENTITIOUS_L	79-79	(A) Adventitious Sounds (Rales, Wheezes, Rhonchi in Posterior Portion of Left Lung. From screen: Chest 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MENU.HEART	80-80	(A) Summary of Heart Section from Mid Menu (Table Phy_Menu). From screen: MidMenu1,2,3 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
HEART_FINDINGS	81-81	(A) Overall Findings for data items in Heart Category (Systolic and Diastolic Murmurs). From screen: Heart 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
SYSTOLIC_MURMUR	82-82	(N) Systolic Murmur. From screen: Heart 0 = NONE 1-6 = GRADE 8 = DATA NOT COLLECTED
DIASTOLIC_MURMUR	83-83	(N) Diastolic Murmur. From screen: Heart 0 = NONE 1-6 = GRADE 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
STATUS	84-84	(A) Physician Impression: Health Status. From screen: ImpA1, ImpA2 1 - EXCELLENT 2 - VERY GOOD 3 - GOOD 4 - FAIR 5 - POOR 8 - DATA NOT COLLECTED
COGNITIVE_IMPAIR	85-85	(A) Physician Impression: Evidence of disabling cognitive impairment preventing subject from complying with examination. From screen: ImpA1, ImpA2 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
VIRAL_INFECTION	86-86	(A) Physician Impression: Possible Active Infection. From screen: ImpA1, ImpA2 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
SPEECH	87-87	(A) Physician Impression: Able to Communicate Appropriately for Age. From screen: ImpA2 1 - YES 2 - NO 8 - DATA NOT COLLECTED
PLAY	88-88	(A) Estimated Level of Difficulty: Play. From screen: ImpA2 1 - No Difficulty 2 - Some Difficulty 3 - Moderate Difficulty 4 - Could Not Be Done 8 - Data Not Collected
PLAY_PROG	89-89	(A) Prognosis over 1 year: Play. From screen: ImpA2 1 - Full Recovery

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
WALK	90-90	(A) Estimated Level of Difficulty: Walking 1/4 Mile. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
WALK_PROG	91-91	(A) Prognosis over 1 Year: Walking 1/4 Mile. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
RUNNING	92-92	(A) Estimated Level of Difficulty: Running 100 Yards. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
RUN_PROG	93-93	(A) Prognosis over 1 Year: Running 100 Yards. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
STOOP	94-94	(A) Estimated Level of Difficulty: Stooping, Crouching or Kneeling. From screen: ImpB2 1 = No Difficulty

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		2 - Some Difficulty 3 - Moderate Difficulty 4 - Could Not Be Done 8 - Data Not Collected
STOOP_PROG	95-95	(A) Prognosis over 1 Year: Stooping, Crouching or Kneeling. From screen: ImpB2 1 - Full Recovery 2 - Partial Recovery 3 - No Change 4 - More Deterioration 8 - Data Not Collected
HAND	96-96	(A) Estimated level of difficulty: Small motor movements in hand like opening a jar, opening a door, or picking up a pencil. From screen: ImpB2 1 - No Difficulty 2 - Some Difficulty 3 - Moderate Difficulty 4 - Could Not Be Done 8 - Data Not Collected
HAND_PROG	97-97	(A) Prognosis over 1 year: Small motor movements in hand like opening a jar, opening a door, or picking up a pencil. From screen: ImpB2 1 - Full Recovery 2 - Partial Recovery 3 - No Change 4 - More Deterioration 8 - Data Not Collected
HOUSEWORK	98-98	(A) Estimated Level of Difficulty: Doing Heavy Housework, gardening, exercise or play. From screen: ImpB2 1 - No Difficulty 2 - Some Difficulty 3 - Moderate Difficulty 4 - Could Not Be Done 8 - Data Not Collected
HOUSEWORK_PROG	99-99	(A) Prognosis over 1 Year: Doing Heavy

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Page

Variable Name	Column Numbers	Item Description and Codes
		Housework, gardening, exercise or play. From screen: ImpB2
		1 = Full Recovery
		2 = Partial Recovery
		3 = No Change
		4 = More Deterioration
		8 = Data Not Collected

EXP

100-107 (N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
File: PHY_MENU		Summary of data in each section from the corresponding menu screen.
DECK_NO	1-4	(A) Deck Number: "610I".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index MENU_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam. From screen: Begin
SEX	15-15	(A) Sex of SP as recorded at time of exam. From screen: Begin F - FEMALE M - MALE
PARALYSIS_DONE	16-16	(A) Summary of Paralysis/Paresis Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CAST_ARM_DONE	17-17	(A) Summary of Cast Arm Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CAST_LEG_DONE	18-18	(A) Summary of Cast Leg Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
WRIST_DONE	19-19	(A) Summary of Wrist Section from Upper Extremities Menu. From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
MCP_DONE	20-20	(A) Summary of MCP/PIP/DIP Section from Upper Extremities Menu. From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
DEFORM_DONE	21-21	(A) Summary of Upper Extremities Deformities Section from Upper Extremities Menu. From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CHEST_DONE	22-22	(A) Summary of Chest Section from Mid Menu. From screen: MidMenu1,2,3 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
HEART_DONE	23-23	(A) Summary of Heart Section from Mid Menu. From screen: MidMenu1,2,3 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
DERM_DONE	24-24	(A) Summary of Dermatitis Section from Mid Menu. From screen: MidMenu2 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED

File layout for NHANES III application
 LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
		From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
KNEE_DONE	26-26	(A) Summary of Knee Section from Mid Menu. From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
FOOT_DONE	27-27	(A) Summary of Foot Deformities Section from Mid Menu. From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
CMC_DONE	28-28	(A) Summary of CMC Joint Manifestations Section from the UPPER EXTREMITIES MENU. From screen: Upmenu
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
EXP	29-36	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file QUEST_LOG

Variable Name	Column Numbers	Item Description and Codes
File: QUEST_LOG		Log table of SPs who entered the physician's component.
DECK_NO	1-4	(A) Deck Number: "610J".
PROC_ID	5-7	(N) Procedure ID Number. From screen: Begin
EVENT	8-15	(N) Event Number. From screen: Begin
EXAM_SESSION	16-23	(N) "Current Shift" from table IDENTIFIERS at time of exam. From screen: Begin
NCHS_NO	24-30	(N) Sample Person ID Number. From screen: Begin
AGE	31-33	(N) Age of SP as recorded at time of exam. From screen: Begin
AGE_UNIT	34-34	(A) Age Unit of SP as recorded at time of exam From screen: Begin
SEX	35-35	(A) Sex of SP as recorded at time of exam. From screen: Begin
TECH_NO	36-39	(N) Staff Number. From screen: Begin
EXP	40-47	(N) Date record was exported for backup.

File layout for NHANES III application
 LABORATORY file REFERRAL

Page

Variable Name	Column Numbers	Item Description and Codes
File: REFERRAL		Referral Data for Level 1, 2, and 3 MEC Referrals
EXP	-	(N) Date record was exported for backup.
DECK_NO	1-4	(A) Deck Number: "610K".
NCHS_NO	5-11	(N) Sample Person ID Number.

UNIQUE index REFERRAL_NCHS_NO

File layout for NHANES III application
LABORATORY file STAND_INFO

Variable Name	Column Numbers	Item Description and Codes

File: STAND_INFO		Stand Information
DECK_NO	1-4	(A) Deck Number: "610L".
STAND_NO	5-7	(A) Stand Number.
MEC_PHONE	8-22	(A) MEC Phone Number.
CLOSE_DATE	23-33	(D) Date Stand Closes.
		DD-MON-YYYY = FORMAT
MEC_DOCTOR	34-63	(A) Name of MEC Physician.
EXP	64-71	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file BIORANGE

Variable Name	Column Numbers	Item Description and Codes
File: BIORANGE		Table of Bioelectric Impedance Ranges by Age and Sex for Physician Exam. Static non-data table.
DECK_NO	1-4	(A) Deck Number: "610S".
AGE_LOW	5-7	(N) Minimum age for test value range.
AGE_HIGH	8-10	(N) Maximum age for test value range.
RANGE_LOW	11-13	(N) Minimum test value for age range and sex.
RANGE_HIGH	14-16	(N) Maximum test value for age range and sex.
SEX	17-17	(A) Valid sex for test value range.
TEST	18-22	(A) Abbreviated test name: RESIS is BIA Resistance; REACT is BIA Reactance.
EXP	23-30	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file BP_RANGE

Variable Name	Column Numbers	Item Description and Codes
File: BP_RANGE		Table of Blood Pressure Ranges for Physician Exam, used to determine Blood Pressure Statement to be read to SP. Static non-data table.
DECK_NO	1-4	(A) Deck Number: "610T".
AGE_LOW	5-7	(N) Minimum age for blood pressure statment range.
AGE_HIGH	8-10	(N) Maximum age for blood pressure statment range.
SYS_LOW	11-13	(N) Minimum systolic value for blood pressure statment range.
SYS_HIGH	14-16	(N) Maximum systolic value for blood pressure statement range.
DIA_LOW	17-19	(N) Minimum diastolic value for blood pressure statment range.
DIA_HIGH	20-22	(N) Maximum diastolic value for blood pressure statement range.
BP_STATEMENT	23-23	(A) Number of Blood Pressure Statement to be read to SP.
EXP	24-31	(N) Date record was exported for backup.

File layout for NHANES III application
 LABORATORY file SPANQUES

Page

Variable Name	Column Numbers	Item Description and Codes
File: SPANQUES		Spanish Translation of questions asked.
DECK_NO	1-4	(A) Deck Number: "610U".
SCREEN	5-34	(A) Screen name where question is displayed and asked.
QUESTION	35-36	(N) Question number.
LINE_1	37-116	(A) First line of text.
LINE_2	117-196	(A) Second line of text.
LINE_3	197-276	(A) Third line of text.
EXP	277-284	(N) Date record was exported for backup.

NCHS# _____ Name _____ Age _____ Sex _____ Birth Date _____
Tech# _____
Referral Level: _ (number 1-3) _____ X-Ray _____ EKG _____
1 Reviewed: OK _ 2 Reviewed: Problem _ Blood pressure _ Medical Emer/Acc _____
3 Not in Protocol 8 Didn't See _____ Hemat _ Other _____

Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)
Did SP refuse to give permission to contact doctor? (1=Yes, 2=No, 3=Com, 4=N/A)

Witness: _____
Was provider telephoned? _ (1=yes, 2=no, 3=see comment, 4=N/A)
Telephone# of contact: _____ Date of Call: _____ (DD-MON-YY)
Name of contact and/or facility: _____

Position of contact: _____

What provider was told: _____

Comments on call: _____

Press <Remove> for next SP, or <Next Screen> when done. LOG TELEPHONE CONTI

Form: contlog

NCHS# _____ Name _____
Referral Level: _ (number 1-3) _____

- Reason:
- | | | | |
|-----------------------|---|--|---------------|
| 1. Reviewed: OK | <input type="checkbox"/> X-Ray | Letter sent: _____ | Phoned: _____ |
| 2. Reviewed: Referral | <input type="checkbox"/> Blood pressure | | |
| 3. Not in Protocol | <input type="checkbox"/> Hematology | <input type="checkbox"/> Medical Emer/Accident | |
| 4. Didn't See | <input type="checkbox"/> ERG | <input type="checkbox"/> Other _____ | |

Statement of what SP was told: _____

SP's Response:
Was oral consent obtained from SP to contact doctor? _____ (1=Yes, 2=No, 3=N/A)
Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

Witness:
Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _____ (1=yes, 2=no) PHYSICIAN'S IMPRESSION
Press <Remove> for next SP, or <Next Screen> when done.

Form: impend

Name _____ NCHS# _____ Age _____ Sex _____ Exam Date _____

Tech# _____

Referral Level: _ (number 1-3) _____

Reason: _____

1. Reviewed: OK _____ X-Ray _____ Letter sent: _____ Phoned: _____

2. Reviewed: Referral _____ Blood pressure _____

3. Not in Protocol _____ Hematology _____ Medical Emer/Accident _____

4. Didn't See _____ EKG _____ Other _____

* _____

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained from SP to contact doctor? _ (1=yes, 2=no, 3=N/A)

Did SP refuse to give permission to contact doctor? _ (1=Yes, 2=No, 3=Com, 4=N/A)

* _____ Witness: _____

Was the incident form filled out? _ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _ (1=yes, 2=no) REFERRAL'S TO BE COMPLETE

<F12> prev field, <Down Arrow> next SP, <Up Arrow> previous, <Next Screen> if do

Form: referral

NCHS# _____ Name _____ Age _____ Sex _____
 Referral Level: _____ (number 1-3) _____ X-Ray _____
 Reason: 1. Reviewed: OK 8. Didn't See _____ Blood pressure _____ EKG _____
 2. Reviewed: Problem _____ Hematology _____ Medical Emer/Acc _____
 3. Not in Protocol _____ Other _____

Tech# _____

Date letter sent: _____ (DD-MMM-YY)

Letter sent to: _____
 Position: _____

Was oral consent obtained from SP to contact doctor? (1=Yes,2=No,3=N/A)
 Did SP refuse to give permission to contact doctor? (1=Yes,2=NO,3=Com,4=N/)

<Remove> for next SP,
 <Next Screen> when done.

LOG REFERRAL LETT

Form: reflecter

NCH# _____ Age _____ Sex _____ Exam Date _____

Tech# _____

Referral Level: _____ (number 1-3)

Reason: _____

- 1. Reviewed: OK _____ X-Ray _____ Letter sent: _____ Phoned: _____
- 2. Reviewed: Referral _____ Blood pressure _____
- 3. Not in Protocol _____ Hematology _____ Medical Emer/Accident _____
- 8. Didn't See _____ EKG _____ Other _____

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained from SP to contact doctor? _____ (1=Yes, 2=No, 3=N/A)

Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _____ (1=yes, 2=no)

REVIEW REFERRAL BY SP

Press <Remove> for next SP, or <Next Screen> when done.

Form: refnchs

APPENDIX C3

Code Book for Flat Files

Explanation of File Layout Document

The purpose of the file layout is to describe each of the files containing NHANES III data for the Physician Component. The descriptions and file layouts reflect Version 5 of the Physician's exam. Refer to the Physician's Exam flow chart and the Physician Component screens in Appendix C1 and C2 of the Physician Manual for documentation of the automation programs.

The title on each page of the file layout includes the file name. There is one section for each file, and the pages are numbered within each section.

At the beginning of each section, the table name and a description of the table are listed. The name of each variable in the table is listed in the order it is found in the file. For each variable, the following items are listed:

1. the variable name,
2. the column positions containing the variable in the file,
3. the variable type (A = Alpha, N = Numeric, D = Date),
4. the variable description, including a "unique index" statement which indicates the unique identifier for the table,
5. the valid codes, format or range for the variable,
6. the name of the screen on which the data item was entered.

There are three types of files for the Physician Component. SP data files such as PHY EXAM 1 which contains blood pressure data, Non-SP data files such as BIOLOG which contains QC data from tests of the Bioelectric Impedance device, and Non-data files which are not for analysis, such as BP RANGE which contains the ranges used to determine the blood pressure statement during the exam.

PHYSICIAN COMPONENT

SP DATA TABLES

TABLE NAME	DECK NUMBER
CAST	610B
COMMENT_SCREEN	610C
JOINT_A	610D
JOINT_B	610E
PHY_EXAM_1	610G
PHY_EXAM_2	610H
PHY_MENU	610I
QUEST_LOG	610J
REFERRAL	610K

NON-SP DATA TABLES

TABLE NAME	DECK NUMBER
BIOLOG	610A
STAND_INFO	610L

NON-DATA TABLES

TABLE NAME	DECK NUMBER
BIORANGE	610S
BP_RANGE	610T
SPANQUES	610U

File layout for NHANES III application
LABORATORY file BIOLOG

Variable Name	Column Numbers	Item Description and Codes
File: BIOLOG		Bioelectric Impedance Calibrations Log. (Not SP data)
DECK_NO	1-4	(A) Deck Number: "610A".
STAND_NO	5-7	(N) Stand Number. From screen: BioLog 100 - 999 = RANGE
TECH_NO	8-11	(A) Staff Number. From screen: BioLog
DATE_RECORDED	12-22	(D) Date data was entered in computer. Same as LOG_DATE except when calibration data could not be entered on collection date. From screen: BioLog DD-MON-YYYY = FORMAT
ENTRY_NO	23-25	(N) Counter of entries for each test reading. Highest ENTRY NO is final (correct) entry for that reading. From screen: BioLog
LOG_DATE	26-36	(D) Date on which test was done. From screen: BioLog DD-MON-YYYY = FORMAT
SESSION_C	37-37	(A) Session on which test was done. From screen: BioLog 1 = MORNING SESSION 2 = AFTERNOON SESSION 3 = EVENING SESSION
BEGIN_END	38-38	(A) Test done at beginning or end of session. From screen: BioLog 1 = BEGINNING OF SESSION 2 = END OF SESSION

LABORATORY file BIOLÖG

Variable Name	Column Numbers	Item Description and Codes
BIA_RES	39-45	(N) BIA Resistance Value (ohms). From screen: BioLog 888 = CANNOT OBTAIN
BIA_REA	46-52	(N) BIA Reactance Value (ohms). From screen: BioLog 888 = CANNOT OBTAIN
TEST_RES	53-59	(N) Test Device RES Value (ohms). From screen: BioLog 888 = CANNOT OBTAIN
TEST_REA	60-66	(N) Test Device REA Value (ohms). From screen: BioLog 888 = CANNOT OBTAIN
COMMENT_1	67-106	(A) Freeform comment regarding tests. From screen: BioLog
EXP	107-114	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
File: CAST		Cast or Paralysis on Limbs, Amputee, or Wheelchair confined.
DECK_NO	1-4	(A) Deck Number: "610B".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index CAST_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.PARALYSIS	16-16	(A) Summary of Paralysis/Paresis Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
PARAL_FINDINGS	17-17	(A) Overall Findings in Paralysis category (Paralysis/Paresis of arm or leg, or Confined to Wheelchair). From screen: Paral 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
PARALYSIS_ARM	18-18	(A) Paralysis/Paresis of Arm. From screen: Paral 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
PARALYSIS_LEG	19-19	(A) Paralysis/Paresis of Leg.

LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		From screen: Paral
		1 = NO FINDINGS
		2 = FINDINGS: RIGHT
		3 = FINDINGS: LEFT
		4 = FINDINGS: BOTH
		8 = DATA NOT COLLECTED
WHEELCHAIR	20-20	(A) Confined to Wheelchair or Stretcher. From screen: Paral
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
MENU.CAST_ARM	21-21	(A) Summary of Cast Arm Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = SOME DATA NOT COLLECTED
CAST_ARM_FINDINGS	22-22	(A) Overall Findings for data items in Cast category (shoulder, elbow, wrist, fingers). From screen: CastArm
		1 = NO FINDINGS
		2 = FINDINGS
		8 = SOME DATA NOT COLLECTED
CAST_ARM_LEFT	23-24	(A) Cast/Amputee of Left Arm. From screen: CastArm
		1 = NO FINDINGS
		3A = AMPUTEE AT SHOULDER
		3B = AMPUTEE BELOW SHOULDER/ABOVE ELBOW JOINT
		3C = AMPUTEE AT ELBOW JOINT
		3D = AMPUTEE BELOW ELBOW/ABOVE WRIST
		3E = AMPUTEE AT WRIST JOINT
		3F = AMPUTEE DISTAL TO WRIST JOINT
		4 = CAST
		8 = SOME DATA NOT COLLECTED
CAST_ARM_RIGHT	25-26	(A) Cast/Amputee of Right Arm. From screen: CastArm

file layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		1 = NO FINDINGS 3A = AMPUTEE AT SHOULDER JOINT 3B = AMPUTEE BELOW SHOULDER/ABOVE ELBOW JOINT 3C = AMPUTEE AT ELBOW JOINT 3D = AMPUTEE BELOW ELBOW/ABOVE WRIST 3E = AMPUTEE AT WRIST JOINT 3F = AMPUTEE DISTAL TO WRIST JOINT 4 = CAST 8 = SOME DATA NOT COLLECTED
CAST_SHOULDER_RIGHT	27-27	(A) Cast/Amputee of Right Shoulder. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CAST_SHOULDER_LEFT	28-28	(A) Cast/Amputee of Left Shoulder. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CAST_ELBOW_RIGHT	29-29	(A) Cast/Amputee of Right Elbow. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CAST_ELBOW_LEFT	30-30	(A) Cast/Amputee of Left Elbow. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CAST_WRIST_RIGHT	31-31	(A) Cast/Amputee of Right Wrist. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED

file layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
CAST_WRIST_LEFT	32-32	(A) Cast/Amputee of Left Wrist. From screen: CastArm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
FINGER_L_1	33-34	(A) Cast/Amputee of Left Finger 1. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_L_2	35-36	(A) Cast/Amputee of Left Finger 2. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_L_3	37-38	(A) Cast/Amputee of Left Finger 3. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_L_4	39-40	(A) Cast/Amputee of Left Finger 4. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_L_5	41-42	(A) Cast/Amputee of Left Finger 5. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED

File layout for NIMES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
FINGER_R_1	43-44	(A) Cast/Amputee of Right Finger 1. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_2	45-46	(A) Cast/Amputee of Right Finger 2. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_3	47-48	(A) Cast/Amputee of Right Finger 3. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_4	49-50	(A) Cast/Amputee of Right Finger 4. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
FINGER_R_5	51-52	(A) Cast/Amputee of Right Finger 5. From screen: CastArm 1 = NO FINDINGS 3G = AMPUTEE FINGER 4 = CAST 8 = SOME DATA NOT COLLECTED
MENU.CAST_LEG	53-53	(A) Summary of Cast Leg Section from Observation Menu (Table Phy_Menu). From screen: ObsMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
CAST_LEG_FINDINGS	54-54	(A) Overall Findings for data items in Cast Leg category (Hip, Knee, Ankle, Great Toes). From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CAST_LEG_LEFT	55-56	(A) Cast/Amputee of Left Leg. From screen: CastLeg 1 - NO FINDINGS 3A - AMPUTEE AT HIP JOINT 3B - AMPUTEE BELOW HIP/ABOVE KNEE JOINT 3C - AMPUTEE AT KNEE JOINT 3D - AMPUTEE BELOW KNEE/ABOVE ANKLE JOINT 3E - AMPUTEE AT ANKLE JOINT 3F - AMPUTEE DISTAL TO ANKLE JOINT 4 - CAST 8 - SOME DATA NOT COLLECTED
CAST_LEG_RIGHT	57-58	(A) Cast/Amputee of Right Leg. From screen: CastLeg 1 - NO FINDINGS 3A - AMPUTEE AT HIP JOINT 3B - AMPUTEE BELOW HIP/ABOVE KNEE JOINT 3C - AMPUTEE AT KNEE JOINT 3D - AMPUTEE BELOW KNEE/ABOVE ANKLE JOINT 3E - AMPUTEE AT ANKLE JOINT 3F - AMPUTEE DISTAL TO ANKLE JOINT 4 - CAST 8 - SOME DATA NOT COLLECTED
CAST_HIP_RIGHT	59-59	(A) Cast/Amputee of Right Hip. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
CAST_HIP_LEFT	60-60	(A) Cast/Amputee of Left Hip. From screen: CastLeg 1 - NO FINDINGS 2 - YES, FINDINGS

LABORATORY file CAST

Variable Name	Column Numbers	Item Description and Codes
		8 = DATA NOT COLLECTED
CAST_KNEE_RIGHT	61-61	(A) Cast/Amputee of Right Knee. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
CAST_KNEE_LEFT	62-62	(A) Cast/Amputee of Left Knee. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
CAST_ANKLE_RIGHT	63-63	(A) Cast/Amputee of Right Ankle. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
CAST_ANKLE_LEFT	64-64	(A) Cast/Amputee of Left Ankle. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
GREAT_TOE_RIGHT	65-65	(A) Cast/Amputee of Right Great Toe. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
GREAT_TOE_LEFT	66-66	(A) Cast/Amputee of Left Great Toe. From screen: CastLeg
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
EXP	67-74	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file COMMENT_SCREEN

Variable Name	Column Numbers	Item Description and Codes
File: COMMENT_SCREEN		Comment Data recorded on the Comment Screen for all parts of the Physician Exam. Match FORM_NAME to form names on flow chart.
DECK_NO	1-4	(A) Deck Number: "610C".
NCHS_NO	5-11	(A) Sample Person ID Number. From screen: calling screen
TECH_NO	12-15	(A) Staff Number. From screen: calling screen
FORM_NAME	16-45	(A) Name of Form from which the Comment Screen was called. From screen: calling screen
BLOCK_NAME	46-75	(A) Name of Block in the form from which the Comment Screen was called. From screen: calling screen
FIELD_NAME	76-105	(A) Name of Field from which the Comment Screen was called. From screen: calling screen
TIME_STAMP	106-116	(D) Date comment was entered. From screen: Comment DD-MON-YYYY - FORMAT
LINE_NO	117-118	(A) Line Number of Comment. From screen: Comment
COMMENT	119-178	(A) Freeform Comment. From screen: Comment
EXP	179-186	(N) Date record was exported for backup.

file layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
File: JOINT_A		Wrist, Upper Extremities Deformities, Joint Examination (Knees, Great Toes, Foot Deformities).
DECK_NO	1-4	(A) Deck Number: "610D".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index JOINT_A_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.WRIST	16-16	(A) Summary of Wrist Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
WRIST_FINDINGS	17-17	(A) Overall Findings for data items in Hand Joint Manifestations Category (Wrist: Tender, Swelling, Pain). From screen: Wrist 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
WRIST_TENDER	18-18	(A) Wrist: Tender on Palpation. From screen: Wrist 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
WRIST_SWELLING	19-19	(A) Wrist: Swelling. From screen: Wrist 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
WRIST_PAIN	20-20	(A) Wrist: Pain on Passive Motion. From screen: Wrist 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
MENU.DEFORM	21-21	(A) Summary of Upper Extremities Deformities Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
JOINT_DEF_FINDINGS	22-22	(A) Overall Findings for data items in Upper Extremities Deformities Category. From screen: Deform 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
HEBERDEN_NODES	23-23	(A) Heberden Nodes (DIP). From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
BOUCHARD_NODES	24-24	(A) Bouchard Nodes (PIP). From screen: Deform 1 - NONE, NO FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
SWAN_NECK	25-25	(A) Swan Neck. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
BOUTONNIERE_JOINTS	26-26	(A) Boutonniere Joints. From screen: Deform 1 - NONE, NO FINDINGS 2 - YES, FINDINGS 3 - FINDINGS: RIGHT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
UD_VS_SW	27-27	(A) Ulnar Deviation or Subluxation at MCP or Wrist. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
SUBCUTANEOUS_NODULES	28-28	(A) Subcutaneous Nodules on Shaft of Forearm. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
CMC_JOINT	29-29	(A) Bony thickening/spurs at CMC_Joint. From screen: Deform 1 - NONE, NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT

file layout for NHANES III application
 LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		4 = FINDINGS: BOTH 8 = DATA NOT COLLECTED
MENU.TOE	30-30	(A) Summary of Toe Section from Mid Menu (Table Phy_Menu). From screen: MidMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
TOE_FINDINGS	31-31	(A) Overall Findings for data items in Great Toe Joint Category (DIP, MTP: Tender, Swelling, Pain). From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
MTP_TEND_R_GREAT	32-32	(A) Right Great Toe, MTP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MTP_TEND_L_GREAT	33-33	(A) Left Great Toe, MTP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MTP_SWELL_R_GREAT	34-34	(A) Right Great Toe, MTP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MTP_SWELL_L_GREAT	35-35	(A) Left Great Toe, MTP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
MTP_PAIN_R_GREAT	36-36	(A) Right Great Toe, MTP: Pain on Passive Motion. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MTP_PAIN_L_GREAT	37-37	(A) Left Great Toe, MTP: Pain on Passive Motion. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_TEND_R_GREAT	38-38	(A) Right Great Toe, DIP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_TEND_L_GREAT	39-39	(A) Left Great Toe, DIP: Tender on Palpation. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_SWELL_R_GREAT	40-40	(A) Right Great Toe, DIP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_SWELL_L_GREAT	41-41	(A) Left Great Toe, DIP: Swelling. From screen: Toe 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
IP_PAIN_R_GREAT	42-42	(A) Right Great Toe, DIP: Pain on Passive Motion.

File layout for NMANES III application
LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		From screen: Toe
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
IP_PAIN_L_GREAT	43-43	(A) Left Great Toe, DIP: Pain on Passive Motion From screen: Toe
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = DATA NOT COLLECTED
MENU.KNEE	44-44	(A) Summary of Knee Section from Mid Menu (Table Phy_Menu). From screen: MidMenu
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = SOME DATA NOT COLLECTED
KNEE_FINDINGS	45-45	(A) Overall Findings for data items in Knee Joint Manifestations Category (Knee: Crepitus, Tender, Swelling, Pain). From screen: Knee
		1 = NO FINDINGS
		2 = YES, FINDINGS
		8 = SOME DATA NOT COLLECTED
KNEE_CREPITUS	46-46	(A) Knee: Crepitus. From screen: Knee
		1 = NO FINDINGS
		2 = FINDINGS: RIGHT
		3 = FINDINGS: LEFT
		4 = FINDINGS: BOTH
		8 = DATA NOT COLLECTED
KNEE_TENDER	47-47	(A) Knee: Tender on Palpation. From screen: Knee
		1 = NONE, NO FINDINGS
		2 = FINDINGS: RIGHT
		3 = FINDINGS: LEFT
		4 = FINDINGS: BOTH
		8 = DATA NOT COLLECTED

LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
KNEE_SWELL	48-48	(A) Knee: Swelling. From screen: Knee 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
KNEE_PAIN	49-49	(A) Knee: Pain on Passive Motion. From screen: Knee 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
KNEE_MOTION_R	50-50	(N) Right Knee: Range of Movement on Passive Motion. From screen: Knee 0 - 145 DEGREES 1 - 130-144 DEGREES 2 - 115-129 DEGREES 3 - 75-114 DEGREES 4 - < 74 DEGREES 8 - DATA NOT COLLECTED
KNEE_MOTION_L	51-51	(N) Left Knee: Range of Movement on Passive Motion. From screen: Knee 0 - 145 DEGREES 1 - 130-144 DEGREES 2 - 115-129 DEGREES 3 - 75-114 DEGREES 4 - < 74 DEGREES 8 - DATA NOT COLLECTED
MENU.CMC	52-52	(A) Summary of CMC Section from Upper Extremities Menu (Table Phy_Menu). From screen: UpMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED

LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
CMC_FINDINGS	53-53	(A) Overall Findings for data items in Upper Extremities CMC Manifestations Category. From screen: CMC 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CMC_CREPITUS	54-54	(A) CMC: Crepitus. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_TENDER	55-55	(A) CMC: Tender on Palpation. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_SWELL	56-56	(A) CMC: Swelling. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
CMC_PAIN	57-57	(A) CMC: Pain on Passive Motion. From screen: CMC 1 - NONE, NO FINDINGS 2 - RIGHT 3 - LEFT 4 - BOTH 8 - SOME DATA NOT COLLECTED
MENU.FOOT	58-58	(A) Summary of Foot Section from Mid Menu (Table Phy Menu). From screen: MidMenu

File layout for NAMES III application
 LABORATORY file JOINT_A

Variable Name	Column Numbers	Item Description and Codes
		1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
FOOT_DEF_FINDINGS	59-59	(A) Overall Findings for data items in Foot Deformities Category (Hammer toes, Bunions). From screen: FootDef 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
HAMMER_TOES	60-60	(A) Hammer Toes. From screen: FootDef 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
BUNIONS	61-61	(A) Bunions. From screen: FootDef 1 - NO FINDINGS 2 - FINDINGS: RIGHT 3 - FINDINGS: LEFT 4 - FINDINGS: BOTH 8 - DATA NOT COLLECTED
EXP	62-69	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
File: JOINT_B		Hand Joint Manifestations (MCP, PIP, and DIP Joints).
DECK_NO	1-4	(A) Deck Number: "610E".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index JOINT_B_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
MENU.MCP	16-16	(A) Summary of Hand Joint Manifestations Section from Upper Extremities Menu (Table Phy_Menu). From screen: Up Menu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
FINGER_FINDINGS	17-17	(A) Overall Findings for data items in Hand Joint Manifestations Category. From screen: MCP 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
MCP_TEND_R_1	18-18	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
MCP_TEND_R_2	19-19	(A) Right Finger 2, Metacarpophalangeal (MCP) Joint: Tenderness.

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_3	20-20	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_4	21-21	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_R_5	22-22	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_1	23-23	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_2	24-24	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_3	25-25	(A) Left Finger 3, Metacarpophalangeal (MCP)

File layout for NAMES III application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_4	26-26	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_TEND_L_5	27-27	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_1	28-28	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_2	29-29	(A) Right Finger 2, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_3	30-30	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

file layout for NHANES III application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_SWELL_R_4	31-31	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_R_5	32-32	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_1	33-33	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_2	34-34	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_3	35-35	(A) Left Finger 3, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_SWELL_L_4	36-36	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

 REPORT FOR NAME: application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_SWELL_L_5	37-37	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_1	38-38	(A) Left Finger 1, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_2	39-39	(A) Left Finger 2, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_3	40-40	(A) Left Finger 3, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_4	41-41	(A) Left Finger 4, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_L_5	42-42	(A) Left Finger 5, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
MCP_PAIN_R_1	43-43	(A) Right Finger 1, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_2	44-44	(A) Right Finger 2, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_3	45-45	(A) Right Finger 3, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_4	46-46	(A) Right Finger 4, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
MCP_PAIN_R_5	47-47	(A) Right Finger 5, Metacarpophalangeal (MCP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_R_2	48-48	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS

File layout for NAMES III application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		8 - DATA NOT COLLECTED
PIP_TEND_R_3	49-49	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
PIP_TEND_R_4	50-50	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
PIP_TEND_R_5	51-51	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
PIP_TEND_L_2	52-52	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
PIP_TEND_L_3	53-53	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS X - YES, FINDINGS 8 - DATA NOT COLLECTED
PIP_TEND_L_4	54-54	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK - NO FINDINGS

File layout for NHANES III application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_TEND_L_5	55-55	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_2	56-56	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_3	57-57	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_4	58-58	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_R_5	59-59	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_2	60-60	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP

File layout for names in application.
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_3	61-61	(A) Left Finger 3, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_4	62-62	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_SWELL_L_5	63-63	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_2	64-64	(A) Left Finger 2, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_3	65-65	(A) Left Finger 3, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_4	66-66	(A) Left Finger 4, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_L_5	67-67	(A) Left Finger 5, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_2	68-68	(A) Right Finger 2, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_3	69-69	(A) Right Finger 3, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_4	70-70	(A) Right Finger 4, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
PIP_PAIN_R_5	71-71	(A) Right Finger 5, Proximal Interphalangeal (PIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_R_1	72-72	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Tenderness.

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_R_2	73-73	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_R_3	74-74	(A) Right Finger 3, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_R_4	75-75	(A) Right Finger 4, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_R_5	76-76	(A) Right Finger 5, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_L_1	77-77	(A) Left Finger 1, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP
		BLANK = NO FINDINGS
		X = YES, FINDINGS
		8 = DATA NOT COLLECTED
DIP_TEND_L_2	78-78	(A) Left Finger 2, Distal Interphalangeal (D

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
		Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_3	79-79	(A) Left Finger 3, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_4	80-80	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_TEND_L_5	81-81	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Tenderness. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_1	82-82	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_2	83-83	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NMANES III application
 LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
DIP_SWELL_R_3	84-84	(A) Right Finger 3, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_4	85-85	(A) Right Finger 4, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_R_5	86-86	(A) Right Finger 5, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_L_1	87-87	(A) Left Finger 1, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_L_2	88-88	(A) Left Finger 2, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_L_3	89-89	(A) Left Finger 3, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
DIP_SWELL_L_4	90-90	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_SWELL_L_5	91-91	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Swelling. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_1	92-92	(A) Left Finger 1, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_2	93-93	(A) Left Finger 2, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_3	94-94	(A) Left Finger 3, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_L_4	95-95	(A) Left Finger 4, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
DIP_PAIN_L_5	96-96	(A) Left Finger 5, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_1	97-97	(A) Right Finger 1, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_2	98-98	(A) Right Finger 2, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_3	99-99	(A) Right Finger 3, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_4	100-100	(A) Right Finger 4, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS 8 = DATA NOT COLLECTED
DIP_PAIN_R_5	101-101	(A) Right Finger 5, Distal Interphalangeal (DIP) Joint: Pain on Passive Motion. From screen: MCP BLANK = NO FINDINGS X = YES, FINDINGS

NLS# _____ NAME _____ Sex _____ Exam Date _____

Tech# _____

Referral Level: _____ (number 1-3)

Reason: _____

- 1. Reviewed: OK _____ X-Ray _____ Letter sent: _____ Phoned: _____
- 2. Reviewed: Referral _____ Blood pressure _____
- 3. Not in Protocol _____ Hematology _____ Medical Emer/Accident _____
- 8. Didn't See _____ EKG _____ Other _____

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained from SP to contact doctor? _____ (1=Yes, 2=No, 3=N/A)

Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _____ (1=yes, 2=no) REVIEW REFERRAL BY SP#
Press <Remove> for next SP, or <Next Screen> when done.

Form: refnchs

Referral Level: _ (number 1-3)

Reason:

- | | | | |
|-----------------------|---|--|---------------|
| 1. Reviewed: OK | <input type="checkbox"/> X-Ray | Letter sent: _____ | Phoned: _____ |
| 2. Reviewed: Referral | <input type="checkbox"/> Blood pressure | | |
| 3. Not in Protocol | <input type="checkbox"/> Hematology | <input type="checkbox"/> Medical Emer/Accident | |
| 4. Didn't See | <input type="checkbox"/> EKG | <input type="checkbox"/> Other _____ | |

Statement of what SP was told:

SP's Response:

Was oral consent obtained from SP to contact doctor? _____ (1=Yes, 2=No, 3=N/A)

Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

----- Witness: _____
Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _____ (1=yes, 2=no)

PHYSICIAN'S IMPRESSION

Press <Remove> for next SP, or <Next Screen> when done.

Form: impend

Referral Level: _ (number 1-3)

Reason:

- | | | | |
|-----------------------|------------------|-------------------------|---------------|
| 1. Reviewed: OK | - X-Ray | Letter sent: _____ | Phoned: _____ |
| 2. Reviewed: Referral | - Blood pressure | | |
| 3. Not in Protocol | - Hematology | - Medical Emer/Accident | |
| 8. Didn't See | - EKG | - Other _____ | |

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained from SP to contact doctor? _____ (1=yes, 2=no, 3=N/A)

Did SP refuse to give permission to contact doctor? _____ (1=Yes, 2=No, 3=Com, 4=N/A)

Was the incident form filled out? _____ (1=yes, 2=no, 3=N/A)

Comments: _____

Is referral complete? _ (1=yes, 2=no) REFERRAL'S TO BE COMPLETED
<F12> prev field, <Down Arrow> next SP, <Up Arrow> previous, <Next Screen> if done

Form: referral

Tech# _____

Referral Level: _ (number 1-3)

1 Reviewed: OK - 2 Reviewed: Problem - X-Ray - EKG
3 Not in Protocol 8 Didn't See - Blood pressure - Medical Emer/Acc
- Hemat - Other _____

Was oral consent obtained from SP to contact doctor? (1=Yes, 2=No, 3=N/A)

Did SP refuse to give permission to contact doctor? (1=Yes, 2=No, 3=Com, 4=N/A)

*-----Witness: _____

Was provider telephoned? _ (1=yes, 2=no, 3=see comment, 4=N/A)

Telephone# of contact: _____ Date of Call: _____ (DD-MON-YY)

Name of contact and/or facility: _____

Position of contact: _____

What provider was told: _____

Comments on call: _____

Press <Remove> for next SP, or <Next Screen> when done. LOG TELEPHONE CONTACT

Form: contlog

File layout for NHANES III application
LABORATORY file BP_RANGE

Variable Name	Column Numbers	Item Description and Codes
File: BP_RANGE		Table of Blood Pressure Ranges for Physician Exam, used to determine Blood Pressure Statement to be read to SP. Static non-data table.
DECK_NO	1-4	(A) Deck Number: "610T".
AGE_LOW	5-7	(N) Minimum age for blood pressure statment range.
AGE_HIGH	8-10	(N) Maximum age for blood pressure statment range.
SYS_LOW	11-13	(N) Minimum systolic value for blood pressure statment range.
SYS_HIGH	14-16	(N) Maximum systolic value for blood pressure statement range.
DIA_LOW	17-19	(N) Minimum diastolic value for blood pressure statment range.
DIA_HIGH	20-22	(N) Maximum diastolic value for blood pressure statement range.
BP_STATEMENT	23-23	(A) Number of Blood Pressure Statement to be read to SP.
EXP	24-31	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file SPANQUES

Variable Name	Column Numbers	Item Description and Codes
File: SPANQUES		Spanish Translation of questions asked.
DECK_NO	1-4	(A) Deck Number: "610U".
SCREEN	5-34	(A) Screen name where question is displayed and asked.
QUESTION	35-36	(N) Question number.
LINE_1	37-116	(A) First line of text.
LINE_2	117-196	(A) Second line of text.
LINE_3	197-276	(A) Third line of text.
EXP	277-284	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file STAND_INFO

Variable Name	Column Numbers	Item Description and Codes

File: STAND_INFO		Stand Information
DECK_NO	1-4	(A) Deck Number: "610L".
STAND_NO	5-7	(A) Stand Number.
MEC_PHONE	8-22	(A) MEC Phone Number.
CLOSE_DATE	23-33	(D) Date Stand Closes.
		DD-MON-YYYY = FORMAT
MEC_DOCTOR	34-63	(A) Name of MEC Physician.
EXP	64-71	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file STAND_INFO

Variable Name	Column Numbers	Item Description and Codes

File: STAND_INFO		Stand Information
DECK_NO	1-4	(A) Deck Number: "610L".
STAND_NO	5-7	(A) Stand Number.
MEC_PHONE	8-22	(A) MEC Phone Number.
CLOSE_DATE	23-33	(D) Date Stand Closes.
		DD-MON-YYYY = FORMAT
MEC_DOCTOR	34-63	(A) Name of MEC Physician.
EXP	64-71	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file BIORANGE

Variable Name	Column Numbers	Item Description and Codes
File: BIORANGE		Table of Bioelectric Impedance Ranges by Age and Sex for Physician Exam. Static non-data table.
DECK_NO	1-4	(A) Deck Number: "610S".
AGE_LOW	5-7	(N) Minimum age for test value range.
AGE_HIGH	8-10	(N) Maximum age for test value range.
RANGE_LOW	11-13	(N) Minimum test value for age range and sex.
RANGE_HIGH	14-16	(N) Maximum test value for age range and sex.
SEX	17-17	(A) Valid sex for test value range.
TEST	18-22	(A) Abbreviated test name: RESIS is BIA Resistance; REACT is BIA Reactance.
EXP	23-30	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file QUEST_LOG

Variable Name	Column Numbers	Item Description and Codes
File: QUEST_LOG		Log table of SPs who entered the physician's component.
DECK_NO	1-4	(A) Deck Number: "610J".
PROC_ID	5-7	(N) Procedure ID Number. From screen: Begin
EVENT	8-15	(N) Event Number. From screen: Begin
EXAM_SESSION	16-23	(N) "Current_Shift" from table IDENTIFIERS at time of exam. From screen: Begin
NCHS_NO	24-30	(N) Sample Person ID Number. From screen: Begin
AGE	31-33	(N) Age of SP as recorded at time of exam. From screen: Begin
AGE_UNIT	34-34	(A) Age Unit of SP as recorded at time of exam From screen: Begin
SEX	35-35	(A) Sex of SP as recorded at time of exam. From screen: Begin
TECH_NO	36-39	(N) Staff Number. From screen: Begin
EXP	40-47	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file REFERRAL

Variable Name	Column Numbers	Item Description and Codes
File: REFERRAL		Referral Data for Level 1, 2, and 3 MEC Referrals
EXP	-	(N) Date record was exported for backup.
DECK_NO	1-4	(A) Deck Number: "610K".
NCHS_NO	5-11	(N) Sample Person ID Number.

UNIQUE index REFERRAL_NCHS_NO

File layout for NHANES III application
LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
WRIST_DONE	19-19	(A) Summary of Wrist Section from Upper Extremities Menu. From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
MCP_DONE	20-20	(A) Summary of MCP/PIP/DIP Section from Upper Extremities Menu. From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DEFORM_DONE	21-21	(A) Summary of Upper Extremities Deformities Section from Upper Extremities Menu. From screen: UpMenu 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
CHEST_DONE	22-22	(A) Summary of Chest Section from Mid Menu. From screen: MidMenu1,2,3 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
HEART_DONE	23-23	(A) Summary of Heart Section from Mid Menu. From screen: MidMenu1,2,3 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DERM_DONE	24-24	(A) Summary of Dermatitis Section from Mid Menu. From screen: MidMenu2 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
TOE_DONE	25-25	(A) Summary of Toe Section from Mid Menu.

file layout for NHANES III application
 LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
		From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
KNEE_DONE	26-26	(A) Summary of Knee Section from Mid Menu. From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
FOOT_DONE	27-27	(A) Summary of Foot Deformities Section from Mid Menu. From screen: MidMenu3
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
CMC_DONE	28-28	(A) Summary of CMC Joint Manifestations Section from the UPPER EXTREMITIES MENU. From screen: Upmenu
		1 - NO FINDINGS
		2 - YES, FINDINGS
		8 - SOME DATA NOT COLLECTED
EXP	29-36	(N) Date record was exported for backup.

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

page

Variable Name	Column Numbers	Item Description and Codes
		Housework, gardening, excercise or play. From screen: ImpB2
		1 - Full Recovery
		2 - Partial Recovery
		3 - No Change
		4 - More Deterioration
		8 - Data Not Collected

EXP

100-107 (N) Date record was exported for backup.

LABORATORY file PHY_MENU

Variable Name	Column Numbers	Item Description and Codes
File: PHY_MENU		Summary of data in each section from the corresponding menu screen.
DECK_NO	1-4	(A) Deck Number: "610I".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index MENU_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam. From screen: Begin
SEX	15-15	(A) Sex of SP as recorded at time of exam. From screen: Begin F - FEMALE M - MALE
PARALYSIS_DONE	16-16	(A) Summary of Paralysis/Paresis Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CAST_ARM_DONE	17-17	(A) Summary of Cast Arm Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CAST_LEG_DONE	18-18	(A) Summary of Cast Leg Section from Observation Menu. From screen: ObsMenu 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED

File layout for NHANES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
WALK	90-90	(A) Estimated Level of Difficulty: Walking 1/4 Mile. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
WALK_PROG	91-91	(A) Prognosis over 1 Year: Walking 1/4 Mile. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
RUNNING	92-92	(A) Estimated Level of Difficulty: Running 100 Yards. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
RUN_PROG	93-93	(A) Prognosis over 1 Year: Running 100 Yards. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
STOOP	94-94	(A) Estimated Level of Difficulty: Stooping, Crouching or Kneeling. From screen: ImpB2 1 = No Difficulty

File layout for NHANES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
STOOP_PROG	95-95	(A) Prognosis over 1 Year: Stooping, Crouching or Kneeling. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
HAND	96-96	(A) Estimated level of difficulty: Small motor movements in hand like opening a jar, opening a door, or picking up a pencil. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
HAND_PROG	97-97	(A) Prognosis over 1 year: Small motor movements in hand like opening a jar, opening a door, or picking up a pencil. From screen: ImpB2 1 = Full Recovery 2 = Partial Recovery 3 = No Change 4 = More Deterioration 8 = Data Not Collected
HOUSEWORK	98-98	(A) Estimated Level of Difficulty: Doing Heavy Housework, gardening, exercise or play. From screen: ImpB2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
HOUSEWORK_PROG	99-99	(A) Prognosis over 1 Year: Doing Heavy

File layout for NHANES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
ADVENTITIOUS_R	78-78	(A) Adventitious Sounds (Rales, Wheezes, Rhonchi) in Posterior Portion of Right Lung. From screen: Chest 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
ADVENTITIOUS_L	79-79	(A) Adventitious Sounds (Rales, Wheezes, Rhonchi) in Posterior Portion of Left Lung. From screen: Chest 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MENU.HEART	80-80	(A) Summary of Heart Section from Mid Menu (Table Phy_Menu). From screen: MidMenu1,2,3 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
HEART_FINDINGS	81-81	(A) Overall Findings for data items in Heart Category (Systolic and Diastolic Murmurs). From screen: Heart 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
SYSTOLIC_MURMUR	82-82	(N) Systolic Murmur. From screen: Heart 0 = NONE 1-6 = GRADE 8 = DATA NOT COLLECTED
DIASTOLIC_MURMUR	83-83	(N) Diastolic Murmur. From screen: Heart 0 = NONE 1-6 = GRADE 8 = DATA NOT COLLECTED

File layout for NHANES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
STATUS	84-84	(A) Physician Impression: Health Status. From screen: ImpA1, ImpA2 1 = EXCELLENT 2 = VERY GOOD 3 = GOOD 4 = FAIR 5 = POOR 8 = DATA NOT COLLECTED
COGNITIVE_IMPAIR	85-85	(A) Physician Impression: Evidence of disabling cognitive impairment preventing subject from complying with examination. From screen: ImpA1, ImpA2 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
VIRAL_INFECTION	86-86	(A) Physician Impression: Possible Active Infection. From screen: ImpA1, ImpA2 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
SPEECH	87-87	(A) Physician Impression: Able to Communicate Appropriately for Age. From screen: ImpA2 1 = YES 2 = NO 8 = DATA NOT COLLECTED
PLAY	88-88	(A) Estimated Level of Difficulty: Play. From screen: ImpA2 1 = No Difficulty 2 = Some Difficulty 3 = Moderate Difficulty 4 = Could Not Be Done 8 = Data Not Collected
PLAY_PROG	89-89	(A) Prognosis over 1 year: Play. From screen: ImpA2 1 = Full Recovery

File layout for NHANES III application
LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
BP_2_K4	47-49	(N) K4 Value for 2nd Blood Pressure. From screen: BP1 888 IN K1 - CANNOT OBTAIN
BP_2_K5	50-52	(N) K5 Value for 2nd Blood Pressure. From screen: BP1, BP2 888 IN K1 - CANNOT OBTAIN
BP_2_REFUSED	53-53	(A) 2nd Blood Pressure Refused. From screen: BP1, BP2 X - REFUSED
BP_3_K1	54-56	(N) K1 Value for 3rd Blood Pressure. From screen: BP1, BP2 888 - CANNOT OBTAIN
BP_3_K4	57-59	(N) K4 Value for 3rd Blood Pressure. From screen: BP1 888 IN K1 - CANNOT OBTAIN
BP_3_K5	60-62	(N) K5 Value for 3rd Blood Pressure. From screen: BP1, BP2 888 IN K1 - CANNOT OBTAIN
BP_3_REFUSED	63-63	(A) 3rd Blood Pressure Refused. From screen: BP1, BP2 X - REFUSED
AVE_K1	64-66	(N) Computed average of K1 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee. From screen: BP1, BP2
AVE_K4	67-69	(N) Computed average of K4 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee.

File layout for NHANES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
		From screen: BP1
AVE_K5	70-72	(N) Computed average of K5 Values for 2nd and 3rd Blood Pressures for determination of statement read to examinee. From screen: BP1, BP2
STATEMENT	73-73	(A) Number indicating Blood Pressure statement read to examinee based on average of second and third BP readings. From screen: BP1, BP2 From table BP_Range.
MENU.CHEST	74-74	(A) Summary of Chest Section from Mid Menu (Table Phy_Menu). From screen: MidMenu1,2,3 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
CHEST_FINDINGS	75-75	(A) Overall Findings for data items in Chest Category (Decreased Breath Sounds, Adventitious Sounds). From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - SOME DATA NOT COLLECTED
DECREASED_R	76-76	(A) Decreased Breath Sounds in Posterior Portion of Right Lung. From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED
DECREASED_L	77-77	(A) Decreased Breath Sounds in Posterior Portion of Left Lung. From screen: Chest 1 - NO FINDINGS 2 - YES, FINDINGS 8 - DATA NOT COLLECTED

File layout for NAMES III application
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
File: PHY_EXAM_2		Blood Pressure, Chest, Heart and Physician Impression Data
DECK_NO	1-4	(A) Deck Number: "610H".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index PHY_EXAM_2_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
TIME_OF_DAY	16-20	(D) Time of Blood Pressure Readings. From screen: BPINTRO, PULSE
CUFF_WIDTH	21-21	(N) Cuff Size used for Blood Pressure Readings From screen: BPINTRO 1 = INFANT 2 = CHILD 3 = ADULT 4 = LARGE 5 = THIGH
ARM	22-22	(A) Arm used for Blood Pressure Readings. From screen: BPINTRO 1 = RIGHT 2 = LEFT
DRUGS	23-23	(A) Answer to question: Have you had any alcohol, coffee or cigarettes in the past 30 minutes?. From screen: BPINTRO 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED

FILE LAYOUT FOR NAMES III APPLICATION
 LABORATORY file PHY_EXAM_2

Variable Name	Column Numbers	Item Description and Codes
PULSE_RATE	24-26	(N) Pulse Rate (15 seconds). From screen: BPINTRO 888 = CANNOT OBTAIN
IRREGULAR_PULSE	27-27	(A) Irregular Pulse. From screen: BPINTRO 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
CENTRAL_PULSE_RATE	28-30	(N) Central Pulse Rate (30 Seconds). From screen: PULSE 888 = CANNOT OBTAIN
MIL	31-33	(N) MIL: Maximum Inflation Level. From screen: BPINTRO
BP_1_K1	34-36	(N) K1 Value for 1st Blood Pressure. From screen: BP1, BP2 888 = CANNOT OBTAIN
BP_1_K4	37-39	(N) K4 Value for 1st Blood Pressure. From screen: BP1 888 IN K1 = CANNOT OBTAIN
BP_1_K5	40-42	(N) K5 Value for 1st Blood Pressure. From screen: BP1, BP2 888 IN K1 = CANNOT OBTAIN
BP_1_REFUSED	43-43	(A) 1st Blood Pressure Refused. From screen: BP1, BP2 X = REFUSED
BP_2_K1	44-46	(N) K1 Value for 2nd Blood Pressure. From screen: BP1, BP2 888 = CANNOT OBTAIN

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
		2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_DORSAL_FINGERS	74-74	(A) Dorsal Fingers: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
LICHENIFIED_DERMATITIS	75-75	(A) Lichenified Dermatitis on Wrists, Elbows, or Knees. From screen: Derm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
RESIS	76-78	(N) BIA Resistance (ohms). From screen: BioImp
CANNOT_RESIS	79-79	(A) Cannot Obtain BIA Resistance Value. From screen: BioImp X = CANNOT OBTAIN
REACT	80-82	(N) BIA Reactance (ohms). From screen: BioImp
CANNOT_REACT	83-83	(A) Cannot Obtain BIA Reactance Value. From screen: BioImp X = CANNOT OBTAIN
PREGNANT	84-84	(A) Findings of Pregnancies in SP's. From screen: BIOIMP 1 = YES 2 = NO 3 = DON'T KNOW

file layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
PACEMAKER	85-85	(A) Findings of Pacemakers in SP's. From screen: BIOIMP 1 = YES 2 = NO 3 = DON'T KNOW
EXP	86-93	(N) Date record was exported for backup.

Variable Name	Column Numbers	Item Description and Codes
		4 = BOTH 8 = DATA NOT COLLECTED
TRACK_LIGHT	20-20	(A) Tracks Light. From screen: Eyes1 1 = TRACKS LIGHT, NO FINDINGS 2 = DOES NOT TRACK LIGHT, FINDINGS 8 = DATA NOT COLLECTED
STRABISMUS	21-21	(A) Strabismus by Observation or by Cover/Uncover Test. From screen: Eyes2 1 = NO FINDINGS 2 = OBSERVATION 3 = COVER/UNCOVER TEST 8 = DATA NOT COLLECTED
CHAPERONE	22-51	(A) Name of Chaperone present during Tanner Staging. (not required). From screen: TannerM, TannerF
PUBIC_HAIR_STAGE	52-52	(N) Pubic Hair Stage. From screen: TannerM 0 = REFUSED 1 - 5 = RANGE
GENITALIA_STAGE	53-53	(N) Genitalia Stage. From screen: TannerM 0 = REFUSED 1 - 5 = RANGE
BREAST_STAGE	54-54	(N) Breast Stage (least developed breast). From screen: TannerF 0 = REFUSED 1 - 5 = RANGE
BREAST_RIGHT	55-61	(N) Right Breast Size (largest diameter, in mm.). From screen: Breast 888 = CANNOT OBTAIN

file layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
BREAST_LEFT	62-68	(N) Left Breast Size (largest diameter, in mm. From screen: Breast 888 = CANNOT OBTAIN
MENU.DERM	69-69	(A) Summary of Dermatitis Section from Mid Men 2 (Table Phy_Menu). From screen: MidMenu2 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DERMATITIS_FINDINGS	70-70	(A) Overall Findings for Dermatitis Section (Hand Derm. on Palms, Palmar Fingers, Dorsal, Dorsal Fingers, or Lichenified Derm. on Wrists, Elbows or Knees). From screen: Derm 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
DERM_PALM	71-71	(A) Palms: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_PALMAR_FINGERS	72-72	(A) Palmar Fingers: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS 2 = REDNESS/INFLAMMATION 3 = VESICLES 4 = BOTH INFLAMMATION AND VESICLES 8 = DATA NOT COLLECTED
DERM_DORSAL	73-73	(A) Dorsal: Redness/Inflammation, Vesicles. From screen: Derm 1 = NO FINDINGS

File layout for NHANES III application
LABORATORY file JOINT_B

Variable Name	Column Numbers	Item Description and Codes
<hr/>		
		8 - DATA NOT COLLECTED

EXP 102-109 (N) Date record was exported for backup.

Page -

File layout for NHANES III application
LABORATORY file PHY_EXAM_1

Variable Name	Column Numbers	Item Description and Codes
File: PHY_EXAM_1		Locomotion, Eyes, Tanner Staging, Dermatitis, and Bioelectric Impedance Data
DECK_NO	1-4	(A) Deck Number: "610G".
NCHS_NO	5-11	(N) Sample Person ID Number. UNIQUE index PHY_EXAM_1_NCHS_NO
AGE_YEAR	12-14	(N) Age of SP in years as recorded at time of exam.
SEX	15-15	(A) Sex of SP as recorded at time of exam.
GAIT_FINDINGS	16-16	(A) Overall Findings for Locomotion. From screen: Locom 1 = NO FINDINGS 2 = YES, FINDINGS 8 = SOME DATA NOT COLLECTED
GAIT_LIMP	17-17	(A) Limp or Shuffle. From screen: Locom 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
GAIT_ABNORMAL	18-18	(A) Other Gait Abnormalities. From screen: Locom 1 = NO FINDINGS 2 = YES, FINDINGS 8 = DATA NOT COLLECTED
MISSING	19-19	(A) Globe Missing or Blind. From screen: Eyes1, Eyes2 1 = NONE, NO FINDINGS 2 = RIGHT 3 = LEFT

APPENDIX D1

Physician Examination Hard Copy Form

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <h3 style="margin: 0;">3. OBSERVATION (ALL AGES)</h3> </div> <p>a. Limb abnormality by observation</p> <p>(1) Paralysis/paresis</p> <p><input type="checkbox"/> Arm</p> <p><input type="checkbox"/> Leg</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div> <p>(2) <input type="checkbox"/> Confined to Wheelchair or Stretcher</p>	<p>1. None, No Findings</p> <p>2. Right</p> <p>3. Left</p> <p>4. Both</p> <p>8. Data Not Collected</p>																																
<p>b. Amputee/Cast</p> <p>(1) Arm</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Right</td> <td style="text-align: center;">Left</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </table> <p style="margin-left: 40px;"> (a) At shoulder joint (b) Below shoulder and above elbow joint (c) At elbow joint (d) Below elbow and above wrist joint (e) At wrist joint (f) Distal to wrist </p> <table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td><td style="text-align: center;">5</td> <td style="text-align: center;">5</td><td style="text-align: center;">4</td><td style="text-align: center;">3</td><td style="text-align: center;">2</td><td style="text-align: center;">1</td> </tr> <tr> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> <td style="border: 1px solid black; width: 20px; height: 20px;"></td> </tr> </table> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div>	Right	Left		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		1	2	3	4	5	5	4	3	2	1											<p>1. None, No Findings</p> <p>3. Yes, Amputee</p> <p>4. Yes, Cast</p> <p>8. Data Not Collected</p>
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<p>(2) Leg</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Right</td> <td style="text-align: center;">Left</td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </table> <p style="margin-left: 40px;"> (a) At hip joint (b) Below hip and above knee joint (c) At knee joint (d) Below knee and above ankle joint (e) At ankle joint (f) At distal to ankle </p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div>	Right	Left		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<p>1. None, No Findings</p> <p>3. Yes, Amputee</p> <p>4. Yes, Cast</p> <p>8. Data Not Collected</p>																	
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<input type="checkbox"/>	<input type="checkbox"/>																																

4. UPPER EXTREMITIES (Ages 60 and Older)

HAND JOINT MANIFESTATIONS

1. No Findings

8. Data Not Collected

a. Wrist

Tender on Palpation

Swelling

Pain on Passive Motion

1. None, No Findings

2. Right

3. Left

4. Both

8. Data Not Collected

b. MCP

1. No Findings

8. Data Not Collected

Right

Left

Tenderness

1	2	3	4	5	5	4	3	2	1

Swelling

--	--	--	--	--	--	--	--	--	--

Pain on Passive Motion

--	--	--	--	--	--	--	--	--	--

1. None, No Findings

2. Findings

8. Some Data Not Collected

c. PIP

Right

Left

Tenderness

2	3	4	5	5	4	3	2

Swelling

--	--	--	--	--	--	--	--

Pain on Passive Motion

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4. UPPER EXTREMITIES (Cont'd)																
<p>d. DIP</p> <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td></td> <td style="text-align: center;">Right</td> <td style="text-align: center;">Left</td> </tr> <tr> <td></td> <td style="text-align: center;">1 2 3 4 5</td> <td style="text-align: center;">5 4 3 2 1</td> </tr> <tr> <td style="padding-right: 20px;">Tenderness</td> <td style="text-align: center;"> _ _ _ _ </td> <td style="text-align: center;"> _ _ _ _ </td> </tr> <tr> <td style="padding-right: 20px;">Swelling</td> <td style="text-align: center;"> _ _ _ _ </td> <td style="text-align: center;"> _ _ _ _ </td> </tr> <tr> <td style="padding-right: 20px;">Pain on Passive Motion</td> <td style="text-align: center;"> _ _ _ _ </td> <td style="text-align: center;"> _ _ _ _ </td> </tr> </table>		Right	Left		1 2 3 4 5	5 4 3 2 1	Tenderness	_ _ _ _	_ _ _ _	Swelling	_ _ _ _	_ _ _ _	Pain on Passive Motion	_ _ _ _	_ _ _ _	<ol style="list-style-type: none"> 1. None, No Findings 2. Findings 8. Some Data Not Collected
	Right	Left														
	1 2 3 4 5	5 4 3 2 1														
Tenderness	_ _ _ _	_ _ _ _														
Swelling	_ _ _ _	_ _ _ _														
Pain on Passive Motion	_ _ _ _	_ _ _ _														
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div> <p>e. CMC Joint Manifestations</p> <p>Crepitus</p> <p><input type="checkbox"/> Tender on Palpation</p> <p><input type="checkbox"/> Swelling</p> <p><input type="checkbox"/> Pain on Passive Motion</p>	<ol style="list-style-type: none"> 1. None, No Findings 2. Right 3. Left 4. Both 5. Data Not Collected 															
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div> <p>f. DEFORMITIES (Ages 60 and Older)</p> <p><input type="checkbox"/> Heberden's Nodes (DIP)</p> <p><input type="checkbox"/> Bouchard's Nodes (PIP)</p> <p><input type="checkbox"/> Swan Neck</p> <p><input type="checkbox"/> Boutonniere Joints</p> <p><input type="checkbox"/> Ulnar Deviation or Subluxation at MCP or Wrist</p> <p><input type="checkbox"/> Subcutaneous Nodules on Shaft of Forearm</p> <p><input type="checkbox"/> Bony Thickening/Spurs at CMC Joint</p>	<ol style="list-style-type: none"> 1. None, No Findings 2. Right 3. Left 4. Both 8. Data Not Collected 															

<p>5. CENTRAL PULSE RATE (2 Months - 4 Years)</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Central Pulse Rate (30 Seconds)</p>	<p>888 = Cannot Obtain</p>
<p>6. BLOOD PRESSURE (Ages 5 and Older)</p> <p>a. <input type="checkbox"/> Cuff Width</p>	<p>1. Infant 2. Child 3. Adult 4. Large 5. Thigh</p>
<p>b. <input type="checkbox"/> Arm</p>	<p>1. Right 2. Left</p>
<p>c. <input type="checkbox"/> Have you had any alcohol, coffee or cigarettes in the past 30 minutes? (Ha fumado cigarillos o tomado algun alcohol o cafe en los ultimos 30 minutos?)</p>	<p>1. No. 2. Yes 8. No Data Collected</p>
<p>d. <input type="checkbox"/> Pulse Rate (15 Seconds)</p>	<p>888 = Cannot Obtain</p>

<p>6. BLOOD PRESSURE (Cont'd)</p> <p>h. Second Blood Pressure</p> <p>Ages 5-19 K1, K4, and K5</p> <p>K1 K4 K5</p> <table border="1" style="width: 100px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 33px;"></td> <td style="width: 33px;"></td> <td style="width: 33px;"></td> </tr> </table> <p>Ages 20 and Over K1 and K5</p> <p>K1 K5</p> <table border="1" style="width: 80px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 40px;"></td> <td style="width: 40px;"></td> </tr> </table> <p><input type="checkbox"/> Refused</p>						<p>888 in K1 = Cannot Obtain</p>
<p>i. Third Blood Pressure</p> <p>Ages 5-19 K1, K4, and K5</p> <p>K1 K4 K5</p> <table border="1" style="width: 100px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 33px;"></td> <td style="width: 33px;"></td> <td style="width: 33px;"></td> </tr> </table> <p>Ages 20 and Over K1 and K5</p> <p>K1 K5</p> <table border="1" style="width: 80px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 40px;"></td> <td style="width: 40px;"></td> </tr> </table> <p><input type="checkbox"/> Refused</p>						<p>888 in K1 = Cannot Obtain</p>
<p>j. Average of Second & Third Readings</p> <p>Ages 5-19 K1, K4, and K5</p> <p>K1 K4 K5</p> <table border="1" style="width: 100px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 33px;"></td> <td style="width: 33px;"></td> <td style="width: 33px;"></td> </tr> </table> <p>Ages 20 and Over K1 and K5</p> <p>K1 K5</p> <table border="1" style="width: 80px; height: 20px; margin-left: 20px;"> <tr> <td style="width: 40px;"></td> <td style="width: 40px;"></td> </tr> </table>						<p>888 in K1 = Cannot Obtain</p>
<p>k. Statement to Examinee: <input style="width: 40px; height: 15px;" type="text"/></p> <p style="text-align: right;">Number 1-4</p>						

<p>7. CHEST (All Ages)</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <input type="checkbox"/> 1. No Findings 8. Data Not Collected </div> <p>(Auscultate Posterior Portion of Each Lung):</p> <p>a. Breath Sounds—Intensity</p> <p><input type="checkbox"/> R <input type="checkbox"/> L Decreased Breath Sounds</p> <p><input type="checkbox"/> R <input type="checkbox"/> L Adventitious Sounds (Rales, Wheezes, Rhonchi)</p>	<p>1. None, No Findings</p> <p>2. Yes, Findings</p> <p>8. Data Not Collected</p>
<p>8. HEART (All Ages)</p> <p><input type="checkbox"/> a. Systolic Murmur</p> <p><input type="checkbox"/> b. Diastolic Murmur</p>	<p>0 = None</p> <p>1–6 = Grade</p> <p>8 = Data Not Collected</p>
<p>9. DERMATITIS (Ages 5–59 Years)</p> <p>a. Hand Dermatitis</p> <p><input type="checkbox"/> Palms</p> <p><input type="checkbox"/> Palmar Fingers</p> <p><input type="checkbox"/> Dorsal</p> <p><input type="checkbox"/> Dorsal Fingers</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <input type="checkbox"/> 1. No Findings 8. Data Not Collected </div>	<p>1. None, No Findings</p> <p>2. Redness/Inflammation</p> <p>3. Vesicles</p> <p>4. Both Inflammation and and Vesicles</p> <p>8. Data Not Collected</p>
<p>b. Lichenified Dermatitis</p> <p><input type="checkbox"/> Wrists, Elbows, Knees</p>	<p>1. None, No Findings</p> <p>2. Yes, Findings</p> <p>8. Data Not Collected</p>

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>10. JOINT EXAMINATION (Ages 60 and Older)</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div> <p>a. Great Toe</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Tender on Palpation</th> <th colspan="2">Swelling</th> <th colspan="2">Pain on Passive Motion</th> </tr> <tr> <th>R</th> <th>L</th> <th>R</th> <th>L</th> <th>R</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>DIP</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>MTP</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Tender on Palpation		Swelling		Pain on Passive Motion		R	L	R	L	R	L	DIP	<input type="checkbox"/>	MTP	<input type="checkbox"/>	<p>1. None, No Findings</p> <p>2. Findings</p> <p>8. Data Not Collected</p>										
		Tender on Palpation		Swelling		Pain on Passive Motion																						
	R	L	R	L	R	L																						
DIP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																						
MTP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																						
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px; text-align: center;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div> <p>b. Knee Joint Manifestations</p> <p><input type="checkbox"/> Crepitus</p> <p><input type="checkbox"/> Tender on Palpation</p> <p><input type="checkbox"/> Swelling</p> <p><input type="checkbox"/> Pain on Passive Motion</p>	<p>1. None, No Findings</p> <p>2. Right</p> <p>3. Left</p> <p>4. Both</p> <p>8. Data Not Collected</p>																											
<p>Maximum Limitation on Passive Motion</p> <p><input type="checkbox"/> Right</p> <p><input type="checkbox"/> Left</p>	<p>0. 145°</p> <p>1. 130° - 144°</p> <p>2. 115° - 129°</p> <p>3. 75° - 114°</p> <p>4. ≤74°</p> <p>8. Data Not Collected</p>																											
<p>c. Foot Deformities</p> <p><input type="checkbox"/> Hammer Toes</p> <p><input type="checkbox"/> Bunions</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; text-align: center;"> <input type="checkbox"/> 1. No Findings <input type="checkbox"/> 8. Data Not Collected </div>	<p>1. None, No Findings</p> <p>2. Right</p> <p>3. Left</p> <p>4. Both</p> <p>8. Data Not Collected</p>																											

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>11. TANNER STAGING AND BREAST SIZE</p> </div> <p>Ages 2 Months - 4 Years:</p> <p>a. Breast Size (Largest Diameter)</p> <p>Right Left</p> <p><input type="text"/> mm. <input type="text"/> mm.</p>	<p>88 = Cannot Obtain</p>
<p>Ages 8 - 18 Years: Chaperon Name _____</p> <p>b. Tanner Stage _____</p> <p><input type="checkbox"/> Pubic Hair (Male and Female)</p> <p><input type="checkbox"/> Genitalia (Male)</p> <p><input type="checkbox"/> Breast (Female) - Grade least developed breast</p>	<p>Stage 1-5</p> <p>0 = Refused</p>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>12. BIOELECTRIC IMPEDANCE MEASURES (Ages 12 and Older)</p> </div> <p>(BIA should not be done on pregnant women or anyone with a pacemaker.)</p> <p>■ Are you now pregnant?</p> <p>■ Do you now have a pacemaker?</p> <p>a. BIA Resistance (ohms) _____</p> <p><input type="checkbox"/> Cannot Obtain</p> <p>b. BIA Reactance (ohms) _____</p> <p><input type="checkbox"/> Cannot Obtain</p>	<p>1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> D.K.</p> <p>1. <input type="checkbox"/> Yes 2. <input type="checkbox"/> No 3. <input type="checkbox"/> D.K.</p>

<p>13. PHYSICIAN'S IMPRESSION</p> <p><input type="checkbox"/> a. Health Status (All Ages):</p>	<p>1. Excellent</p> <p>2. Very Good</p> <p>3. Good</p> <p>4. Fair</p> <p>5. Poor</p> <p>8. Data Not Collected</p>
<p><input type="checkbox"/> b. Evidence of disabling cognitive impairment preventing subject from complying with examination. (All Ages)</p>	<p>1. No</p> <p>2. Yes</p> <p>8. Data Not Collected</p>
<p><input type="checkbox"/> c. Possible Active Infection (All Ages)</p>	<p>1. No</p> <p>2. Yes</p> <p>8. Data Not Collected</p>
<p><input type="checkbox"/> d. Speech (Ages 3 and Up)</p> <p>Able to communicate appropriately for age</p>	<p>1. Yes</p> <p>2. No</p> <p>8. Data Not Collected</p>

13. PHYSICIAN'S IMPRESSION (Cont'd)

e. Estimate of Functional Abilities (Ages 5 and Older):

Activity	Estimated Level of Difficulty	If Difficulty, Prognosis Over 1 Year
1. Walking 1/4 Mile	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected
2. Running 100 Yards	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected
3. Stooping, Crouching or Kneeling	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected
4. Small motor movements in hand like opening a jar, opening a door, or picking up a pencil	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected
5. Doing heavy housework, gardening, exercise or play	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected

13. PHYSICIAN'S IMPRESSION (Cont'd)

f. Estimate of Functional Abilities (Ages 2 Months to 4 Years Only):

Activity	Estimated Level of Difficulty	If Difficulty, Prognosis Over 1 Year
1. Play	<input type="checkbox"/> 1. No Difficulty 2. Some Difficulty 3. Moderate Difficulty 4. Could Not Be Done 8. Data Not Collected	<input type="checkbox"/> 1. Full Recovery 2. Partial Recovery 3. No Change 4. More Deterioration 8. Data Not Collected

14. RESULTS OF EXAMINATION

- Exam Complete
- BIA Not Done
- Refused/Uncooperative
- Out of Time
- Physically Unable to Cooperate
- SP Unable to Understand Instructions
- Equipment Problem
- Other Reason
- Done at Prior Session

COMMENTS: _____

REFERRAL

DATE OF EXAM / /

NAME _____

TIME OF EXAM :

AGE SEX

SESSION NO.

SAMPLE NO. _____

Referral Level: (Number 1-3)

Letter Sent: Phoned:

- X-RAY
- BLOOD PRESSURE
- HEMATOLOGY
- EKG
- MEDICAL EMERGENCY/ACCIDENT
- OTHER _____

- 1. Reviewed: OK
- 2. Reviewed: Referral
- 3. Not in Protocol
- 8. Didn't See

Statement of what SP was told: _____

SP's Response: _____

Was oral consent obtained?
Name _____ Phone _____
Address _____

- 1. Yes
- 2. No

Did SP refuse to designate provider or sign release?

Witness: _____

- 1. Yes
- 2. No
- 3. Com
- 4. N/A

Was the incident form filled out?

Comments: _____

- 1. Yes
- 2. No
- 3. N/A

Is referral complete?

- 1. Yes
- 2. No

APPENDIX D2

Physician Exam Spanish Translation

MEDICION DE LA PRESION SANGUINEA (17+ AÑOS DE EDAD)

IF SETTING IS INAPPROPRIATE FOR BLOOD PRESSURE MEASUREMENT, GO TO ZA9.

Ahora le voy a explicar los procedimientos para medir el pulso y la presión sanguínea. Es importante que permanezca tranquilo y sentado para la medición, la cuál va a tomar más o menos 15 minutos. Quisiera sugerir que si el teléfono o el timbre de la puerta suenan yo responda por usted. ¿Estaría bien esto?

Primero, buscaré el pulso en su brazo derecho. Luego voy a poner la banda de medir la presión alrededor de su brazo. Tomaré el pulso y entonces inflaré la banda. Sentirá una sensación de presión en el brazo cuando la banda esté inflada. Inflaré la banda un máximo de cinco veces. Mientras yo este midiendo la presión de la sangre, es mejor que evitemos cualquier conversación. Si tiene algunas preguntas, estaré muy complacido de contestarlas antes o después de que las mediciones sean tomadas.

ASK SP TO REMOVE ANY OUTER CLOTHING/JEWELRY AND TO ROLL UP SLEEVE. OBSERVE SP'S ARM FOR CONDITIONS PREVENTING MEASUREMENT. IF CONDITIONS ARE PRESENT, RECORD IN ZA9 AND DISCONTINUE PROCEDURE. OTHERWISE GO TO ZA1.

<p>ZA1. ¿Conoce de alguna razón médica por la cuál este procedimiento no debería hacerse?</p> <p>CODE YES ONLY IF THE PROBLEM EXISTS ON BOTH ARMS.</p> <p>IF BLOOD PRESSURE PROCEDURE SHOULD NOT BE DONE DUE TO MEDICAL REASONS, DO NOT TAKE THE MEASUREMENT.</p>	<p>1 <input type="checkbox"/> S ¿Cuál es la razón médica? —</p> <p>01 <input type="checkbox"/> RECENT SURGERY 02 <input type="checkbox"/> UPPER BODY CIRCULATORY PROBLEM 03 <input type="checkbox"/> PAIN/INJURY 04 <input type="checkbox"/> OTHER _____ } (END) SPECIFY</p> <p>2 <input type="checkbox"/> N (GO TO ZA2)</p>
<p>IF SP OBSERVED RECORD, OTHERWISE ASK:</p> <p>ZA2. ¿Ha consumido alguna comida, alcohol, café, o ha fumado algún cigarrillo en los últimos 30 minutos?</p>	<p>1 <input type="checkbox"/> S ¿Qué ha consumido? — MARK ALL THAT APPLY</p> <p>1 <input type="checkbox"/> Comida 2 <input type="checkbox"/> Alcohol 3 <input type="checkbox"/> Café 4 <input type="checkbox"/> Cigarrillos</p> <p>2 <input type="checkbox"/> N</p>
<p>ZA3. Ahora le tomaré el pulso y la presión sanguínea.</p>	<p>CUFF SIZE SELECTED:</p> <p>1 <input type="checkbox"/> CHILD 3 <input type="checkbox"/> LARGE 2 <input type="checkbox"/> ADULT 4 <input type="checkbox"/> THIGH</p>
<p>ZA4. ARM SELECTED</p>	<p>1 <input type="checkbox"/> RIGHT 2 <input type="checkbox"/> LEFT — REASON:</p> <p>01 <input type="checkbox"/> INJURY, RASH 02 <input type="checkbox"/> CAST, DRESSING 03 <input type="checkbox"/> PLACEMENT OF EQUIPMENT 04 <input type="checkbox"/> OTHER _____ SPECIFY</p>
<p>ZA5. SP'S PULSE RATE FOR 30 SECONDS</p>	<p>____ PULSE (GO TO ZA6) 00 <input type="checkbox"/> NEVER FOUND PULSE (GO TO ZA9)</p>
<p>*A6. PULSE REGULAR/RHYTHMIC</p>	<p>1 <input type="checkbox"/> Y 2 <input type="checkbox"/> N</p>

ZA7. MAXIMUM INFLATION LEVEL (MIL) ATTEMPTS										
ENTER A READING OR 'NOT DONE' REASON.										
	READING	MIL NOT DONE								
a. <u>FIRST</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td> _ _ _ </td> </tr> <tr> <td colspan="2">MIL</td> </tr> </table>	_ _ _	_ _ _	MIL		<table border="1"> <tr> <td>1 <input type="checkbox"/> NOT ATTEMPTED</td> <td rowspan="3">} (ZA7b)</td> </tr> <tr> <td>2 <input type="checkbox"/> FAILED ATTEMPT (MISSED READING, OPEN VALVE, ETC.)</td> </tr> <tr> <td>3 <input type="checkbox"/> EQUIPMENT FAILURE (Z11)</td> </tr> </table>	1 <input type="checkbox"/> NOT ATTEMPTED	} (ZA7b)	2 <input type="checkbox"/> FAILED ATTEMPT (MISSED READING, OPEN VALVE, ETC.)	3 <input type="checkbox"/> EQUIPMENT FAILURE (Z11)
_ _ _	_ _ _									
MIL										
1 <input type="checkbox"/> NOT ATTEMPTED	} (ZA7b)									
2 <input type="checkbox"/> FAILED ATTEMPT (MISSED READING, OPEN VALVE, ETC.)										
3 <input type="checkbox"/> EQUIPMENT FAILURE (Z11)										
b. <u>SECOND</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td> _ _ _ </td> </tr> <tr> <td colspan="2">MIL</td> </tr> </table>	_ _ _	_ _ _	MIL		<table border="1"> <tr> <td>1 <input type="checkbox"/> NOT ATTEMPTED</td> <td rowspan="3">} (ZA9)</td> </tr> <tr> <td>2 <input type="checkbox"/> 2 ATTEMPTS FAILED</td> </tr> <tr> <td>3 <input type="checkbox"/> EQUIPMENT FAILURE</td> </tr> </table>	1 <input type="checkbox"/> NOT ATTEMPTED	} (ZA9)	2 <input type="checkbox"/> 2 ATTEMPTS FAILED	3 <input type="checkbox"/> EQUIPMENT FAILURE
_ _ _	_ _ _									
MIL										
1 <input type="checkbox"/> NOT ATTEMPTED	} (ZA9)									
2 <input type="checkbox"/> 2 ATTEMPTS FAILED										
3 <input type="checkbox"/> EQUIPMENT FAILURE										

ZA8. BLOOD PRESSURE ATTEMPTS																		
ENTER A READING OR A 'NOT DONE/REFUSED' REASON FOR EACH ATTEMPT NECESSARY.																		
	READING	BP NOT DONE	BP REFUSED															
a. <u>FIRST</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA8b)</td> </tr> <tr> <td>SBP</td> </tr> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA8b)</td> </tr> <tr> <td>DBP</td> </tr> </table>	_ _ _	} (ZA8b)	SBP	_ _ _	} (ZA8b)	DBP	<table border="1"> <tr> <td>666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)</td> <td rowspan="2">} (ZA8b)</td> </tr> <tr> <td>667 <input type="checkbox"/> EQUIPMENT FAILURE</td> </tr> </table>	666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (ZA8b)	667 <input type="checkbox"/> EQUIPMENT FAILURE	<table border="1"> <tr> <td>997 <input type="checkbox"/> TIME CONSTRAINTS</td> <td rowspan="3">} (ZA9)</td> </tr> <tr> <td>998 <input type="checkbox"/> DISCOMFORT</td> </tr> <tr> <td>999 <input type="checkbox"/> OTHER</td> </tr> <tr> <td colspan="2">SPECIFY</td> </tr> </table>	997 <input type="checkbox"/> TIME CONSTRAINTS	} (ZA9)	998 <input type="checkbox"/> DISCOMFORT	999 <input type="checkbox"/> OTHER	SPECIFY	
_ _ _	} (ZA8b)																	
SBP																		
_ _ _	} (ZA8b)																	
DBP																		
666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (ZA8b)																	
667 <input type="checkbox"/> EQUIPMENT FAILURE																		
997 <input type="checkbox"/> TIME CONSTRAINTS	} (ZA9)																	
998 <input type="checkbox"/> DISCOMFORT																		
999 <input type="checkbox"/> OTHER																		
SPECIFY																		
b. <u>SECOND</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA8c)</td> </tr> <tr> <td>SBP</td> </tr> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA8c)</td> </tr> <tr> <td>DBP</td> </tr> </table>	_ _ _	} (ZA8c)	SBP	_ _ _	} (ZA8c)	DBP	<table border="1"> <tr> <td>666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)</td> <td rowspan="2">} (ZA8c)</td> </tr> <tr> <td>667 <input type="checkbox"/> EQUIPMENT FAILURE</td> </tr> </table>	666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (ZA8c)	667 <input type="checkbox"/> EQUIPMENT FAILURE	<table border="1"> <tr> <td>997 <input type="checkbox"/> TIME CONSTRAINTS</td> <td rowspan="3">} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)</td> </tr> <tr> <td>998 <input type="checkbox"/> DISCOMFORT</td> </tr> <tr> <td>999 <input type="checkbox"/> OTHER</td> </tr> <tr> <td colspan="2">SPECIFY</td> </tr> </table>	997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)	998 <input type="checkbox"/> DISCOMFORT	999 <input type="checkbox"/> OTHER	SPECIFY	
_ _ _	} (ZA8c)																	
SBP																		
_ _ _	} (ZA8c)																	
DBP																		
666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (ZA8c)																	
667 <input type="checkbox"/> EQUIPMENT FAILURE																		
997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)																	
998 <input type="checkbox"/> DISCOMFORT																		
999 <input type="checkbox"/> OTHER																		
SPECIFY																		
c. <u>THIRD</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td rowspan="2">} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)</td> </tr> <tr> <td>SBP</td> </tr> <tr> <td> _ _ _ </td> <td rowspan="2">} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)</td> </tr> <tr> <td>DBP</td> </tr> </table>	_ _ _	} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)	SBP	_ _ _	} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)	DBP	<table border="1"> <tr> <td>666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)</td> <td rowspan="2">} (IF LESS THAN 5 INFLATIONS GO TO ZA8d. IF 5 INFLATIONS AND AT LEAST ONE BP, GO TO ZA10. OTHERWISE, GO TO ZA9)</td> </tr> <tr> <td>667 <input type="checkbox"/> EQUIPMENT FAILURE</td> </tr> </table>	666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (IF LESS THAN 5 INFLATIONS GO TO ZA8d. IF 5 INFLATIONS AND AT LEAST ONE BP, GO TO ZA10. OTHERWISE, GO TO ZA9)	667 <input type="checkbox"/> EQUIPMENT FAILURE	<table border="1"> <tr> <td>997 <input type="checkbox"/> TIME CONSTRAINTS</td> <td rowspan="3">} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)</td> </tr> <tr> <td>998 <input type="checkbox"/> DISCOMFORT</td> </tr> <tr> <td>999 <input type="checkbox"/> OTHER</td> </tr> <tr> <td colspan="2">SPECIFY</td> </tr> </table>	997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)	998 <input type="checkbox"/> DISCOMFORT	999 <input type="checkbox"/> OTHER	SPECIFY	
_ _ _	} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)																	
SBP																		
_ _ _	} (GO TO ZA10 ONLY IF 3 READINGS OR 5 INFLATIONS OBTAINED. OTHERWISE, GO TO ZA8d)																	
DBP																		
666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (IF LESS THAN 5 INFLATIONS GO TO ZA8d. IF 5 INFLATIONS AND AT LEAST ONE BP, GO TO ZA10. OTHERWISE, GO TO ZA9)																	
667 <input type="checkbox"/> EQUIPMENT FAILURE																		
997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)																	
998 <input type="checkbox"/> DISCOMFORT																		
999 <input type="checkbox"/> OTHER																		
SPECIFY																		
d. <u>FOURTH</u> ATTEMPT	<table border="1"> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA10)</td> </tr> <tr> <td>SBP</td> </tr> <tr> <td> _ _ _ </td> <td rowspan="2">} (ZA10)</td> </tr> <tr> <td>DBP</td> </tr> </table>	_ _ _	} (ZA10)	SBP	_ _ _	} (ZA10)	DBP	<table border="1"> <tr> <td>666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)</td> <td rowspan="2">} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA8)</td> </tr> <tr> <td>667 <input type="checkbox"/> EQUIPMENT FAILURE</td> </tr> </table>	666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA8)	667 <input type="checkbox"/> EQUIPMENT FAILURE	<table border="1"> <tr> <td>997 <input type="checkbox"/> TIME CONSTRAINTS</td> <td rowspan="3">} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)</td> </tr> <tr> <td>998 <input type="checkbox"/> DISCOMFORT</td> </tr> <tr> <td>999 <input type="checkbox"/> OTHER</td> </tr> <tr> <td colspan="2">SPECIFY</td> </tr> </table>	997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)	998 <input type="checkbox"/> DISCOMFORT	999 <input type="checkbox"/> OTHER	SPECIFY	
_ _ _	} (ZA10)																	
SBP																		
_ _ _	} (ZA10)																	
DBP																		
666 <input type="checkbox"/> MISSED READING (INTERRUPTION, NOISE, OPEN VALVE, ETC.)	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA8)																	
667 <input type="checkbox"/> EQUIPMENT FAILURE																		
997 <input type="checkbox"/> TIME CONSTRAINTS	} (GO TO ZA10 IF AT LEAST ONE BP OBTAINED. OTHERWISE, GO TO ZA9)																	
998 <input type="checkbox"/> DISCOMFORT																		
999 <input type="checkbox"/> OTHER																		
SPECIFY																		

ZA9. REASON FOR NOT TAKING BLOOD PRESSURE MEASUREMENT:

01 SP REFUSED (NO TIME, DISINTEREST)

02 WITHERED ARMS, INJURY, DRESSING, RASH (ON BOTH ARMS)

03 2 FAILED MIL

04 INAPPROPRIATE SETTING

05 EQUIPMENT FAILURE

08 OTHER, SPECIFY:

(END)

ZA10. IF ZA8 HAS A READING FOR	THEN AVERAGE	IF ZA8 HAS A READING FOR	THEN AVERAGE
01 <input type="checkbox"/> a,b,c	b,c	08 <input type="checkbox"/> b,c	c
02 <input type="checkbox"/> a,b,d	b,d	09 <input type="checkbox"/> b,d	d
03 <input type="checkbox"/> a,c,d	c,d	10 <input type="checkbox"/> c,d	d
04 <input type="checkbox"/> b,c,d	c,d	11 <input type="checkbox"/> a	a
05 <input type="checkbox"/> a,b	b	12 <input type="checkbox"/> b	b
06 <input type="checkbox"/> a,c	c	13 <input type="checkbox"/> c	c
07 <input type="checkbox"/> a,d	d	14 <input type="checkbox"/> d	d

ZA11.

	SYSTOLIC / DIASTOLIC	
TOTAL		
AVERAGE		

ZA12. CIRCLE INTERSECTION OF SYSTOLIC & DIASTOLIC

SYSTOLIC	DIASTOLIC				
	≤ 84	85-89	90-104	105-114	> 115
≤ 139	1	2	3	4	5
140-159	3	3	3	4	5
160-199	4	4	4	4	5
200 +	4	4	4	4	5

ENTER AVERAGE OF BP READINGS AND PULSE ON REPORT OF PULSE & BLOOD PRESSURE FINDINGS AND CIRCLE SAME NUMBER AS ZA12.

ZA13. ADDITIONAL COMMENTS/PROBLEMS:

Appendix E

PHYSICIAN EXAM TEST INSTRUCTIONS

<u>Section Title</u>	<u>Instructions</u>
Upper Extremities/Joint Exam	<i>Does this hurt when I touch it? Does this hurt when I move it?</i>
Lower Extremities/Joint Exam	<i>Does this hurt when I touch it? Does this hurt when I move it?</i>
Blood Pressure	<i>Have you smoked any cigarettes or had any alcohol or coffee to drink in the last 30 minutes?</i>
Bioelectric Impedance	<ol style="list-style-type: none"><i>1. Please lie down on the examination table.</i><i>2. This test tells us about the composition of your body weight. It does not hurt.</i><i>3. Please remove your right shoe.</i><i>4. I am going to place these pads on your right hand and foot after I rub these areas with alcohol.</i>

5. *Please lie perfectly still.*

6. *The test is complete.*

Appendix E

PHYSICIAN EXAM TEST INSTRUCTIONS

<u>Section Title</u>	<u>Instructions</u>
Upper Extremities/Joint Exam	<i>¿Le duele cuando lo toco? ¿Le duele cuando lo muevo?</i>
Lower Extremities/Joint Exam	<i>¿Le duele cuando lo toco? ¿Le duele cuando lo muevo?</i>
Blood Pressure	<i>¿Ha fumado algún cigarrillo o tomado algún alcohol o café en los últimos 30 minutos?</i>
Bioelectric Impedance	<ol style="list-style-type: none"><i>1. Pro favo recuestese en la mesa de examinación?</i><i>2. Esta prueba nos dice acerca de la composición del peso de su cuerpo. No duele.</i><i>3. Quitese el zapato derecho.</i>

4. *Voy a poner estas almohadillas en su mano derecha y pie después de frotar estas áreas con alcohol.*
5. *Por favor permanezca totalmente quieto.*
6. *La prueba está completa.*

APPENDIX F

Guidelines for MEC Emergencies

April 14, 1989

NHANES III

GUIDELINES FOR MEC EMERGENCIES

Reporting Emergencies

- Examinee complaints, unusual behavior, or obvious emergencies such as loss of consciousness should be reported to the MEC physician immediately. Any questionable situation should be considered an emergency and evaluated by the physician.
- If you find an examinee unconscious or unable to be alone, stay with the examinee, call another staff person to help immediately, and start CPR if needed.
- Notify the MEC physician as soon as possible.
- The physician will assume command of the situation and make staff assignments as appropriate.

Location of Emergency Equipment

- All MEC staff should know where to locate the following items:

Phone number of the nearest Fire and Rescue Squad if 911 not applicable for the MEC location.

Household questionnaires.

Portable ECG, oxygen tank, and blood pressure equipment.

Emergency drug kit.

The emergency phone numbers will be posted by the telephones in the coordinator's area and in the staff room.

The Household Questionnaires are kept in the yellow folders in the MEC Interview room. (Check with your MEC Interviewer for exact place.) The physician may need to refer to the medication pages of the questionnaire in an emergency.

The portable ECG machine, oxygen tank, blood pressure equipment, and emergency drug kit will be kept in the physician's exam room. All staff members should be able to recognize and locate this equipment without delay.

Staff Assignments

The physician will direct the emergency response. In order to facilitate the response, MEC staff members may be asked to function in one of several roles:

- Assistants - Two assistants will stay with the physician and the examinee to help with CPR or any other task required and allow the physician to devote full attention to the examinee.
- Runner - The runner will be directed to place calls for emergency assistance. If possible, calls should be placed from the phone in the staff room to avoid alarming examinees. The runner will also help keep other MEC staff members informed of the situation and will be available to obtain emergency equipment or other needed items and perform tasks directed by the physician.
- Recorder - The recorder will be responsible for documenting the time of the emergency and the sequence of events that follow the initiation of emergency care on the MEC Emergency Recording Form (Exhibit F-1). The order of the events and time sequence are the critical elements in documentation. MEC Emergency Recording Forms will be kept in the emergency drug kit.
- Supervisor - The supervisor will assist in clearing the halls and staff room, assist in notifying the emergency squad, and keep the rest of the MEC under control while the emergency is in progress. In most instances the MEC manager will fill this role. However, another staff member will be designated by the physician in the manager's absence.
- Guides for Rescue Squads - Two staff members will be posted at the entrances to trailers one and four to guide the rescue squad into the MEC. The MEC Manager will designate staff members for these assignments.

Other staff members should remain clear of the site and assist in keeping order in the MEC unless asked to help. Staff members should remain in exam rooms with other examinees until the emergency is over.

Documentation

After the examinee has left the MEC, the MEC manager should make sure that the incident and outcome is documented in the automated system. The physician will also complete a full report on a separate form. The recorder's notes of the event will be especially important in the completion of the physician's report.

Exhibit F-1

NHANES III

M.E.C. EMERGENCY RECORDING FORM

DATE _____

TIME STARTED _____

TIME ENDED _____

LOCATION OF EMERGENCY _____

SP NAME _____

SP SAMPLE NUMBER _____

PHYSICIAN NUMBER _____

SP FOUND BY _____

SP STATUS POST EMERGENCY _____

Time	Heart Rate/ Rhythm	Blood Pressure	Respiratory Rate	Pulse (describe)	Other Observations	Medications Treatments/IVs

Time	Heart Rate/ Rhythm	Blood Pressure	Respiratory Rate	Pulse (describe)	Other Observations	Medications Treatments/IVs

NHANES III

MEC EMERGENCY PROCEDURE CHECKLIST

- **Stay with the SP. Institute CPR if necessary.**

- **Have someone else call physician.**

- **Physician to designate 2 assistants, runner, reporter, someone to call emergency/rescue team, supervisor, guides for rescue squad.**

- **Emergency kit, portable ECG, medication pages from Household Questionnaire should be brought to emergency location.**

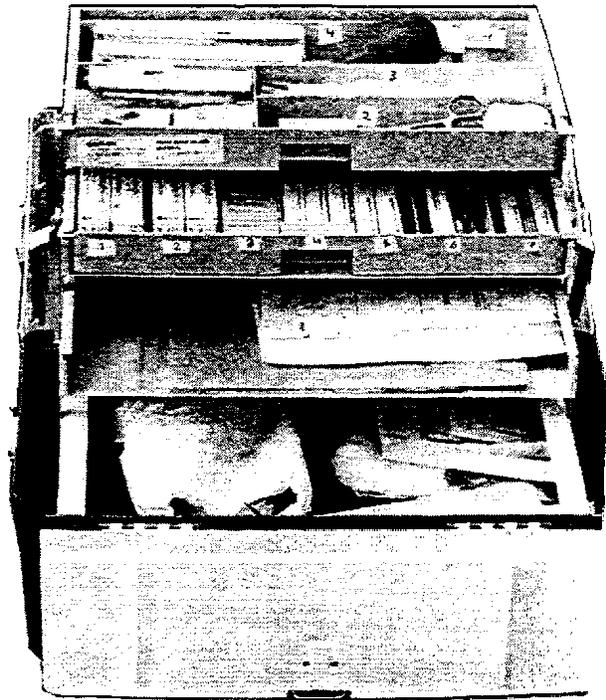
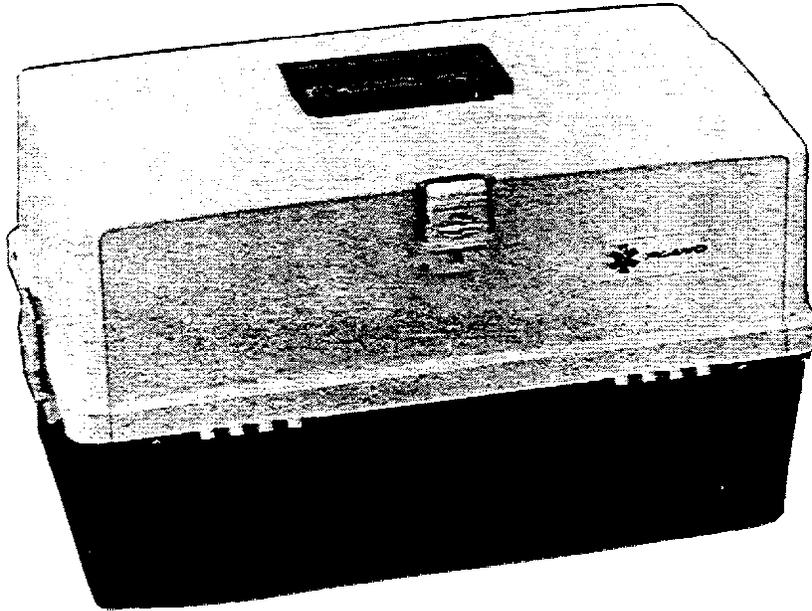
- **Staff not involved in emergency should clear area of emergency.**

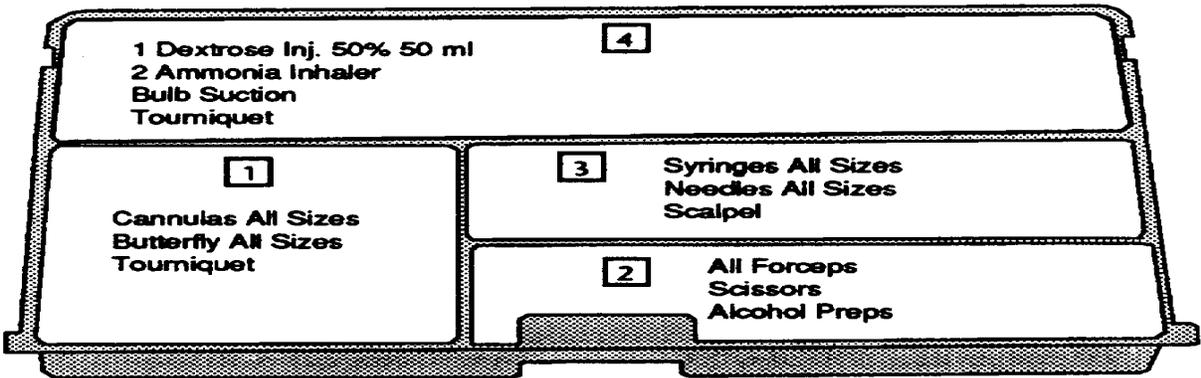
NHANES III

GUIDELINES FOR DOCUMENTATION OF MEC EMERGENCY

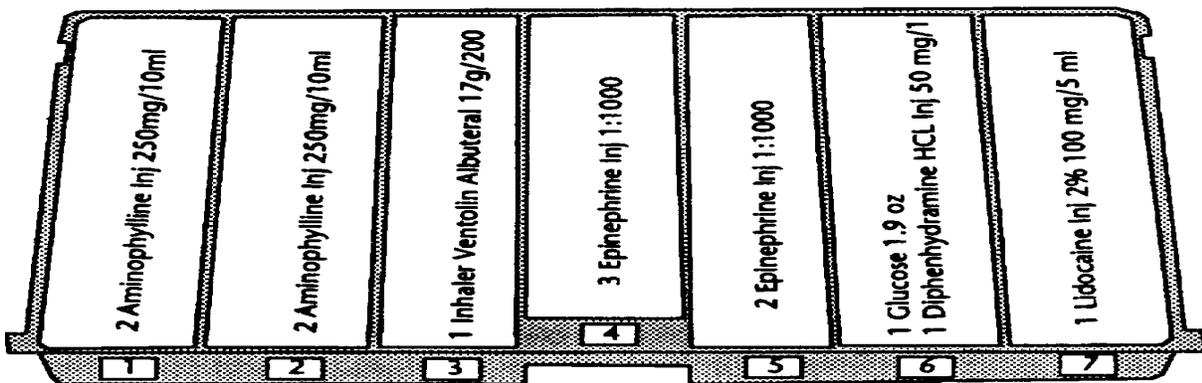
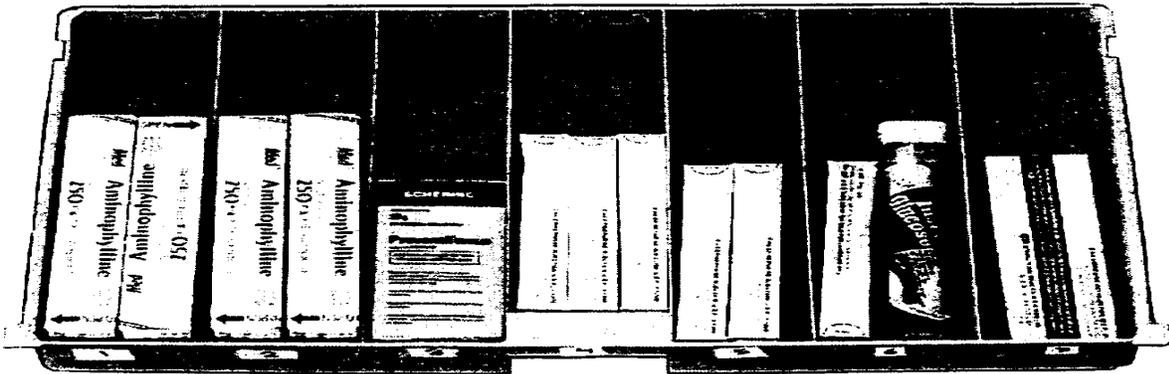
1. Time incident began
2. Where subject found and by whom
3. Description of characteristics of subject (age, sex, race)
4. Clinical symptoms observed
5. Time physician was notified and by whom
6. Names of designated recorder, runner and 2 assistants, and the person told to call emergency squad.
7. Were emergency kit, portable ECG, and medication sheets obtained?
If not, why not?
8. Treatment/procedures which were initiated and at what times
9. Time ambulance arrived/left
10. Did physician accompany subject in ambulance?
11. Did family member accompany subject in ambulance?
12. Was SP's physician notified?

MEC Emergency Kit





Tier I

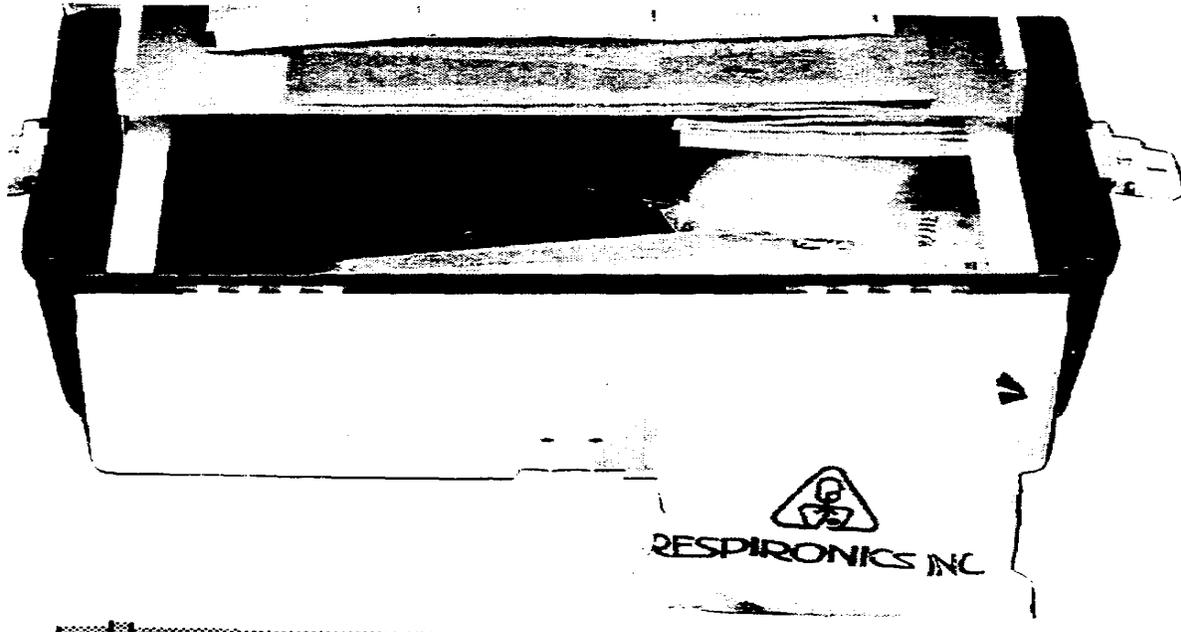


Tier II



**All Gloves
Sterile Drape
All Forms**

Tier 3



**All IV Solutions
2 Metriset Pediatric 60 drops/min
Stethoscope
BP Cuff
All Respiratory Equipment in Respironics Inc Bag (white bag)
Gauze**

Bottom Storage