

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
CENTER FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
CINCINNATI, OHIO 45226

HEALTH HAZARD EVALUATION DETERMINATION
REPORT NO. HE 78-58-492

PALATINE NURSING HOME
PALATINE, NEW YORK

MAY 1978

I. TOXICITY DETERMINATION

A Health Hazard Evaluation was conducted by the National Institute for Occupational Safety and Health (NIOSH) at the Palatine Nursing Home in April 1978. The intent of the evaluation was to determine whether the nursing staff had contracted scabies as alleged by the initial complainant. On the basis of employees' interviews, physical examination of several employees, review of OSHA Form 100, field visit report by Bureau of Disease Control, New York State Department of Health, and a medical report received from an employee's private physician, it is concluded that the nursing staff had contracted scabies from a patient.

Detailed information concerning the medical results of this determination are contained in the body of this report. General recommendations are included in this determination which are designed to insure the well being of the employees.

II. DISTRIBUTION AND AVAILABILITY OF DETERMINATION REPORT

Copies of this Determination Report are available upon request from the NIOSH, Division of Technical Services, Information Resources and Dissemination Section, 4676 Columbia Parkway, Cincinnati, Ohio 45226. After 90 days the report will be available through the National Technical Information Service (NTIS), Springfield, Virginia. Information regarding its availability through NTIS can be obtained from the NIOSH Publications Office at the Cincinnati, Ohio address.

Copies of this report have been sent to:

1. Medical Director, Palatine Nursing Home
2. Administrator, Palatine Nursing Home
3. Head Nurse, Palatine Nursing Home
4. Director, Bureau of Disease Control, New York State
Department of Health
5. U.S. Department of Labor - Region II
6. NIOSH - Region II

For the purpose of informing the approximately 35 affected employees, copies of this report shall be posted in a prominent place accessible

to the employees for a period of 30 calendar days.

III. INTRODUCTION

Section 20(a)(6) of the Occupational Safety and Health Act of 1970, 29 U.S.C. 669(a)(6), authorizes the Secretary of Health, Education, and Welfare, following a written request by any employer or authorized representative of employees, to determine whether a health hazard exists in a place of employment. The National Institute for Occupational Safety and Health (NIOSH) received such a request from the Administrator of the Palatine Nursing Home regarding the out break of scabies among the nursing staff at the Palatine Nursing Home.

IV. HEALTH HAZARD EVALUATION

A) Introduction

Palatine Nursing Home is a 50 bed unit of recent construction located on a hill, approximately one mile north of the community of Palatine Bridge. The structure has an east-west hall, and the one, two, and four bed rooms are entered by means of this hallway. The nursing station, kitchen, dining room, and administrative office are located in the middle of the unit thus dividing it into an east and west section. A total of 53 employees are employed by the home. The reader is referred to Table A.

B) Function of the Home

The primary function of the Palatine Nursing Home is to provide nursing care 24 hours a day for acute and chronically ill patients who no longer can care for themselves.

C) Evaluation Method-Medical

The medical survey included interviews, and physical examination of 19 employees. The interviews were of the informal type, asking questions about present employment, as well as past and present medical histories. The physical examinations consisted of visual examination of the back, buttocks, chest, abdomen, ankles, dorsal aspects of the interdigital webs, and axillary folds.

D) Evaluation Criteria

Scabies (The Itch): is caused by the human (Sarcoptes scabiei var. hominis) mite, and is characterized by intraepithelial galleries made by the female for depositing eggs and feces. This results in intense itching and in multiform lesions due to scratching. Secondary bacterial infection is common. Itching is worse at night due to the fact that the egg bearing female deposit her eggs in the evening hours by forming winding galleries just beneath the horny layer of the skin. The areas most commonly involved are the dorsal aspects of the interdigital webs, flexures of the wrists, axillary folds, lower abdomen, buttocks, genitalia, and ankles. The head is generally not involved in adults.

The characteristic of a gallery is a zigzag or serpentine, threadlike, grayish or dark brown line, varying from a few millimeters to 1 centimeter long or more. The open end is marked by a minute papulovesicle (colliculus). The mite is sometimes discerned as a whitish or grayish dot at the closed end.

The female is $1/4 - 1/3$ mm. long; the male is about half that size. The adult mite has 4 pairs of legs; the youngest larvae has 3 pairs.

While the galleries are pathognomonic lesions, papules, papulovesicles, urticarial lesion and scratched, eczematized or scaly papules in the classic localizations are often distinctive. All other sites may be affected by secondary wheals, eczematization and pyoderms. In very clean persons, the entire eruption may be restricted to moderate itching and a few scattered wheals or papules.

The galleries are usually most easily seen on the interdigital webs and on the penile foreskin or shaft. Also, the parasite or its ova can be found in clothing, unclean facilities, etc.

Distribution of lesions is suggestive of scabies. Nocturnal itching is typical. Impetigo of the buttocks is almost pathognomonic of scabies. A scabietic individual may manifest only urticaria until mites are meticulously searched for and discovered.

A preparation of benzyl benzoate has been found to be the best medication to cure a case of the scabies. The only disadvantage is the allergic dermatitis which may be produced in occasional case of hypersensitivity to benzocaine. Numerous clinical studies have established gamma benzene hexachloride as an extremely effective anti-scabietic with a low degree to irritancy.

All precautions - the changing of bed linens, good housekeeping, treatment of all persons infested, etc. must be scrupulously observed whatever the remedy or method of treatment.

In many cases pruritus continues to manifest itself for one or more weeks after treatment, despite the disappearance of the clinical picture of scabies. Treatment with an antipruritic, and antieczematous remedies may be necessary. A few lesions may persist even after all mites are dead, particularly the indurated papules on penis and buttocks which may remain for weeks and even months. However, if lesions should persist and if the pruritus is chiefly nocturnal, and if no contact dermatitis is present, another course of treatment is recommended. If the condition still persists, the question of some condition other than scabies must be seriously entertained, provided the possibility of reinfestation can be ruled out.

Occasionally edematous urticarial lesions will appear on one or more occasions at the sites of previous lesions in the axillary regions,

on the buttocks, etc., some weeks after an apparent complete cure. The response is probably allergic - an immunobiologic reaction possibly based on the retention of feces and debris in the galleries. The reaction requires only soothing antipruritic lotions, coupled possibly with the administration of one of the antihistamines.

E. MEDICAL RESULTS AND DISCUSSION

A total of 19 employees were interviewed and examined. Of the 19 interviewed and examined, only 8 from the nursing staff have or have had symptomatology of scabies infection. They all related that the problem did not start until May 1977 at which time a male patient had been admitted to the home from a local hospital. He had a skin rash, which had been diagnosed by the hospital as a dermatitis reaction from medication, and was later diagnosed as scabies. The patient was treated with gamma benzyl hexachloride (Kwell). All of the nursing staff with the exception of two nursing aides who refused to be treated, have been treated with Kwell.

The results of this survey revealed numerous complaints and symptoms of scabies which are related to the employees' job. Evidence could be found to substantiate the hazards alleged in the health hazard request.

The results of the interview and examination reveal significant signs and symptoms of scabies infection among the nursing staff. The sign and symptoms noted were nocturnal itching, intraepithelial galleries on the buttocks, back, chest, abdomen, ankles, dorsal aspects of the interdigital webs, and axillary folds.

At the present time, there is every reason to believe that working conditions at the Palatine Nursing Home are safe. Employees with the existing medical conditions mentioned above can feel assured that working conditions are such that their health will not be impaired or endangered if the recommended procedures are followed that are listed below. Additionally, it is the opinion of the author of this report that no epidemic presently exists at the Palatine Nursing Home.

V. RECOMMENDATIONS

1. All patients admitted to the home be given a complete physical examination within 48 hours after being admitted, unless this has been just prior to admission and a record sent along with the patient.
2. All employees be given a complete physical examination within 30 days after employment and an annual physical to include:
 - a. Skin test for tuberculosis
 - b. SMA 1260
 - c. STS
 - d. Hemoglobin
 - e. Hematocrit
 - f. Urinalysis

State law requires freedom from communicable stages of disease, so a skin examination is also desirable in view of the current problem.

3. Dressing room with lockers, toilets, and showers be provided separate from those used by patients.

4. Staff be treated with gamma benzyl hexachloride compound with a follow-up treatment 10 days later. Those employees who refuse to be treated not be permitted to work until cleared by the Bureau of Disease Control, New York State Department of Health.

VI. AUTHORSHIP

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REFERENCES

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2. Dermatology Diagnosis and Treatment, Marion B. Sulzeberger, M.D., F.A.C.P., Jack Wolf, M.D., Victor H. Witten, M.D., Alfred W. Kopf, M.D., Second Edition, The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1961.

Table A
PALATINE NURSING HOME
Palatine Bridge, New York
HE 78-58

Demographic Data

<u>POSITION</u>	<u>NUMBER OF EMPLOYEE'S/EXAMINED</u>	
Administrator	1	-
Register Nurses	4	2
License Practical Nurses	7	-
Nursing Aides	24	6
Maintenance Worker	1	1
Kitchen Workers	6	6
Housekeeping	4	4
Social Worker (Part Time)	1	-
Clerical Personnel	1	-
Medical Doctors	3	-
Medical Consultant (Part Time)	<u>1</u>	<u>-</u>
TOTAL	53	19