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Occupationally Related TB and TB Infection in Health-Care Workers

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Publications resulting from the above named grant

ARTICLES

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ABSTRACTS

1. Jones M, Aton EA, Basset D, Mullen D, O'Rourke S, Schwab EO, Fraser VF. Evaluation of tuberculosis isolation rooms. (APIC) Association for Professionals in Infection Control and Epidemiology 21st Educational and International Conference, Cincinnati, OH 1994. *Am J Infect Control*
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TITLE: Occupationally Related TB and TB Infection in Health-Care Workers

We originally proposed to:

1. Determine the extent to which Barnes-Jewish Hospital adopted the 1990 CDC guidelines for preventing the transmission of TB in health-care facilities in an effort to prevent nosocomial transmission of TB to health-care workers.
2. Monitor implementation of 1990 guidelines not currently addressed by existing programs and define obstacles to full implementation of guidelines.
3. Periodically monitor TB skin test conversions and cases of TB among health-care workers at Barnes-Jewish Hospital.
4. Evaluate the change in TB skin test conversion rates over the period of the study with respect to the level of implementation of the 1990 guidelines.
5. Evaluate the effectiveness of control measures in preventing the transmission of TB in health-care workers.
6. Develop, implement, and evaluate strategies to maximize compliance with the current CDC guidelines.

The status of these objectives and how they have been expanded to include all BJC hospitals is discussed in more detail in the following sections.

(1) TB Skin Testing of Workers

Washington University Employees:

We completed an analysis of TB infection and TB skin testing of Washington University employees.

Physicians:

We completed an analysis of TB skin testing results of physicians to determine their rates of TB skin test positivity and new conversion rates. These physicians include housestaff, fellows, attendings and private physicians. We have 6 years of TST results in about 1800 physicians.

Barnes-Jewish Interns:

We have evaluated the rates of TB infection and utilization of INH among incoming

housestaff.

(2) The Prevalence of TB Among our Patient Population /Worker Exposures

We completed tracking health-care workers exposed to TB patients identified at Barnes-Jewish Hospital. Baseline and post-exposure testing was undertaken. Over 753 health-care workers who cared for these TB patients were identified and only 1 work-related TB skin test conversions was found.

(3) Source Control Measures

BJC System-Wide TB Control Plan: We helped develop a system-wide TB Control Plan which has been approved by the Human Resource Council, Risk Management, Environmental Health and Safety, the Occupational Health Nurse Council and the Infection Control Consortium of BJC. This document clarifies the risk assessment, engineering controls at each hospital and clarifies procedures for transferring high-risk patients to facilities with adequate engineering controls.

(4) Air Decontamination

We performed smoke stick testing of all respiratory isolation rooms at Barnes-Jewish Hospital. We collected information on the room location, type of air handling unit, presence or absence of an ante-room and direction of airflow.

(5) Monitoring of Implementation of 1990 & 1994 CDC Guidelines

This objective was completed in the first three years of the study. Barnes-Jewish Hospital is in compliance with 1994 guidelines. The weakest aspect of the TB Control Plan remains the accuracy and documentation of placing and reading workers TB skin tests and providing meticulous Occupational Health follow-up of workers so that they receive INH prophylaxis.

(6) Evaluation of Effectiveness of Control Measures in Preventing the Transmission of Tuberculosis in Health-Care Workers

We evaluated the outcome of the fit testing programs for Barnes-Jewish Hospital in terms of the numbers of employees tested and their ability to be "successfully fitted" with one of two brands on N-95 respirators. .