

## THE RISKS OF TB TRANSMISSION

Undiagnosed TB patients, who are not isolated, pose the greatest risk. There are also patient characteristics and environmental factors that increase the likelihood of transmission.

### Patient Characteristics

- Respiratory tract disease with involvement for the lung or pleura
- Presence of cough
- Presence of cavitation on chest X-ray
- Presence of acid-fast bacilli (AFB) in the sputum
- Respiratory tract disease involving the larynx
- Respiratory tract disease with involvement of the lung or pleura
- Failure to cover the mouth/nose when coughing or sneezing
- Incorrect, lack of, short duration or no anti-tuberculosis treatment
- Undergoing cough inducing or aerosol generating procedure

### Environmental Factors

- Exposure to TB in small, enclosed spaces
- Inadequate local or general ventilation that results in insufficient dilution and/or removal of infectious droplet nuclei
- Recirculation of air containing infectious droplet nuclei
- Inadequate cleaning and disinfection of medical equipment
- Improper procedures for handling specimens.

## RESOURCES

ANA: <http://www.nursingworld.org/osh>

Francis J. Curry National TB Center:  
[www.nationaltbcenter.edu](http://www.nationaltbcenter.edu)

2000 CDC Core Curriculum on TB:  
[www.cdc.gov/nchstp/tb/pubs/corecurr/default.htm](http://www.cdc.gov/nchstp/tb/pubs/corecurr/default.htm)

NIOSH: [www.cdc.gov/niosh/topics/tb/default.html](http://www.cdc.gov/niosh/topics/tb/default.html)

OSHA: [www.osha.gov/SLTC/tuberculosis/index.html](http://www.osha.gov/SLTC/tuberculosis/index.html)

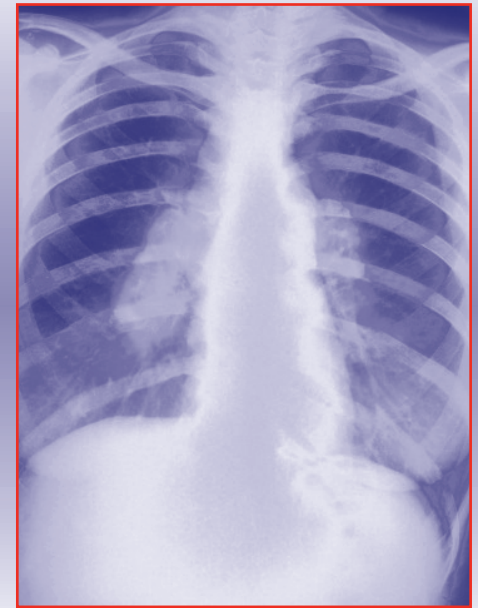
**Call (800) 274-4ANA**  
and ask for information about  
joining your state nurses association.



8515 GEORGIA AVENUE  
SUITE 400  
SILVER SPRING, MD 20910-3492

[WWW.NURSINGWORLD.ORG](http://WWW.NURSINGWORLD.ORG)

## Preventing Transmission of Tuberculosis



Occupational Health & Safety Series

## TB: A CONTINUING BATTLE

**T**uberculosis (TB) is a serious, contagious disease caused by *Mycobacterium tuberculosis*. It primarily affects the lungs, but can damage any tissue or organ in the body. TB is an airborne pathogen and can be spread by patients with active TB when they expel droplet nuclei into the air by coughing, sneezing, or speaking. These droplets must be inhaled to cause infection. Despite a decline in the incidence of TB and Multi-Drug Resistant TB (MDR-TB), the occupational risks remain significant, especially for frontline health care workers.

## LEGAL PROTECTIONS

In 1994, the Centers for Disease Control and Prevention (CDC) published TB control guidelines based on a risk assessment process that classified health care facilities according to five categories of TB risk and a corresponding series of administrative, environmental, and personal protective control measures. But, these are voluntary guidelines with no enforcement mechanism, and cases of TB in health care workers continue to occur. Based on increasing numbers of complaints received from health care workers, the Occupational Safety and Health Administration (OSHA) issued a compliance directive to instruct OSHA inspectors on how to issue citations and for what deficiencies using OSHA's General Duty Clause. Therefore, if health care workers have concerns that they are not being protected adequately from TB exposure, filing an OSHA complaint is an option.

## TAKING ACTION: SEVEN STEPS FOR AN EFFECTIVE TB PREVENTION PROGRAM

Health care workers are mainly exposed to TB via patients with unsuspected and undiagnosed infectious TB. Early identification of persons with active TB is critical in the setting.

1. **Identify the risk for TB:** What are the TB rates in the community served by your health care setting? How many active TB cases have been confirmed at your setting? What is the skin test conversion rate among staff? What is the relationship of skin test conversions in workers to active TB cases? How many exposures were there to staff and other patients?
2. **Assign clear responsibility:** Assign responsibility. TB infection control in the setting including a written TB infection control plan.
3. **Implement administrative controls:** Create a clear system for early identification, triage, and prompt treatment of suspected TB cases. Train and educate HCW about TB.
4. **ID and screen employees at risk:** Screen and evaluate HCW's at risk of exposure to TB in the workplace.
5. **Assure effective and immediate isolation:** Make working negative pressure isolation rooms available in case active TB cases are identified. Implement a respiratory protection program.

6. **Provide and use protective respirators:** Use National Institute for Occupational Safety and Health (NIOSH)-approved filter respirators along with the appropriate worker training and fit testing. **Particulate Respirators** are reusable and disposable, and remove small particles like TB droplet nuclei from the air you breathe. They are lightweight, do not restrict mobility, and are low cost compared to other respirators. **Powered Air-Purifying Respirators (PAPRs)** use a blower to pass contaminated air through a HEPA filter, which removes the contaminant and supplies purified air to a face piece hood or helmet. PAPRs provide better protection and are more comfortable. The motor must be blowing air to be safe and effective, so they can be noisy, and communication can be difficult.
7. **Regular program evaluation:** Routinely review and analyze prevention program, especially if exposures continue. Make results of evaluations available to employees.

## ANA'S ROLE IN TB PREVENTION

ANA has long been involved in efforts to protect health care workers from TB. Educating nurses and health care facilities on the risks and components of a strong prevention program is an ANA priority. TB remains a significant occupational hazard for millions of workers. Compliance with CDC's voluntary recommendations has been inadequate. The General Duty Clause is not a substitute for an OSHA standard. The currently proposed OSHA standard is reasonable, feasible, and not burdensome. Thus, ANA will continue to fight for an OSHA TB Standard.