

Hartman's  
In-Service Education SourceBook Series



# Tuberculosis Update

Charles A. Illian, RN, BSN

SECOND EDITION



# TUBERCULOSIS UPDATE

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## NOTICE TO THE READER

Though the guidelines contained in this text are based on consultations with healthcare professionals, they should not be considered absolute recommendations. The instructor and readers should follow employer, local, state, and federal guidelines concerning healthcare practices. These guidelines change, and it is the reader's responsibility to be aware of these changes and of the policies and procedures of her or his healthcare facility/agency.

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# FYI

When discussing tuberculosis it is important to remember that we are experiencing a resurgence of a disease which had almost been eliminated. The resurgence of TB in the United States can be traced to four major catalysts: an increasingly elderly population, the emergence of HIV and AIDS, the large number of persons infected with TB who are non-compliant with their drug therapies, and an influx of foreign-born persons with TB.

Chances of contracting tuberculosis in the workplace are extremely low. However, since there does exist a small chance, education and work practice behaviors are critical to prevent occupational exposure. The purpose of this in-service is to provide the information needed to reduce the risk of occupational exposure to TB in long-term care settings.

This lesson plan is designed to offer flexibility in presenting an in-service on tuberculosis. The lesson plan is organized by learning objectives. Each objective is followed by several learning activities.

The first five learning objectives present general information about tuberculosis. The last two objectives deal with topics that are specific to facilities: the exposure control plan and infection control procedures. However, each state has different guidelines. We have provided an outline and some basic teaching tools. You will need to integrate the specific policies and procedures of your facility and/or state into this section.

We include for your use reproductions of several handouts from the Centers for Disease Control and Prevention (CDC). The CDC will send you additional copies of these handouts upon request. The handout "Tuberculosis

Overview," contains most of the information from the various CDC handouts, condensed to a few pages. There are several other items available from the CDC which are not included in this package, but which can be very helpful. These items include several full-color posters on TB. This in-service contains an order form for the CDC to order additional educational materials. Be sure to send the order form in to the CDC right away as it can take some time to receive the materials.

The Centers for Disease Control and Prevention (CDC) published the final version of their tuberculosis guidelines on October 28, 1994. Copies of these guidelines can be obtained from the CDC from their web site, [www.cdc.gov](http://www.cdc.gov) or by calling 1-888-232-3228.

Many people confuse these guidelines with the Occupational Safety and Health Administration (OSHA) proposed rule which was published in October, 1997. As of the printing of this SourceBook, the proposed rule has not been finalized by agreement from many parties. The proposed rule has caused a lot of debate. OSHA plans on re-opening the proposed rule for discussion in October 2000. In the interim OSHA is using their Respiratory Protection Standard and the CDC guidelines for the prevention of the transmission of tuberculosis in the healthcare setting.

Please note that limited permission is granted to photocopy the handouts for use at the site originally purchasing this in-service. Photocopying other parts of this in-service, including the lesson plan, is expressly prohibited.

To use the handouts, photocopy the number needed for your group. Consider using different

colors of paper to organize the different handouts or to make some stand out.

Convert transparency masters to acetates for use with an overhead projector. You can do this by purchasing transparency film at an office supply store and photocopying the transparency masters onto the acetates, or you can have a copy company do it for you. If overhead projection is not convenient for your presentation area, you may wish to copy the information from the transparency masters onto a chalkboard or flip chart.

We hope you find this in-service helpful. And, as always, we welcome your comments and suggestions.

**Happy Teaching!**

## LESSON PLAN

# Introduction and Assessment

ESTIMATED TIME:

15 minutes

TOOLS:

Handout: Assessment A

Handout: Assessment A Answer Key

Handout: Assessment B

Handout: Assessment B Answer Key

Handout: Note-Taking Worksheet

Handout: Key Terms

Handout: General Facts on TB Training

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LEARNING ACTIVITY:

Discussion

***Distribute Handout:  
Assessment A or Assessment B***

Two different assessments are provided for your use: one has true/false questions and one has multiple choice. You may choose to use one as a pre-test and one as a post-test, or you may want to use the true/false assessment as a discussion tool to introduce the in-service and use the multiple choice assessment as a more formal post-test. If you are using one assessment as a discussion tool in your introduction, consider having the participants complete the assessment in small groups, then ask each group how they think they did. Ask which questions they feel certain they answered correctly. This will make a good lead-in to the learning objectives.

***Distribute Handout:  
Note-Taking Worksheet***

Tell participants to take notes on the worksheet during all the lectures and discussion. This will help them learn and retain the information and provide them with a review of the information in the future.

***Distribute Handout:  
Key Terms***

Tell participants to keep this handout and read over it.

***Distribute Handout:  
General Facts on TB Training***

Have participants read it on their own time.



# Assessment A

Name .....

Date .....

**True or False.** For each of the following statements, circle T for true or F for false.

1. The germ that causes TB remains infectious for less than five seconds outside the human body. **T F**
2. Your employer has written TB policies and a TB exposure control plan. **T F**
3. Since 1995 the incidence of TB disease has decreased in the United States. **T F**
4. Skin testing at the time of hire is the only screening needed to detect TB infection in workers. **T F**
5. Tuberculosis is caused by a bacterium which is spread through droplets in the air. **T F**
6. A person with a strong immune system who is exposed to TB may not develop the disease. **T F**
7. TB infection and active TB disease are the same condition. **T F**
8. In 85% of TB cases, TB is found in the lungs. However, TB can attack other organs of the body.  
**T F**
9. Negative pressure means that air flows into an isolation room from the hall when you open the door.  
**T F**
10. A client or resident who is fatigued and coughing has TB and should be isolated immediately. **T F**
11. Surgical masks are adequate respiratory protection against airborne TB. **T F**
12. A person with TB disease is not contagious after three weeks of treatment. **T F**
13. Immune-compromised people, e.g. people with HIV, people undergoing chemotherapy, etc. are at increased risk of developing active TB disease. **T F**
14. A healthcare worker who uses a particulate respirator does not need to be periodically retested for TB. **T F**
15. Weakness, feeling sick, weight loss, night sweats, and a persistent cough are symptoms of TB. **T F**

# Assessment A Answer Key

1. False. According to the CDC, we do not know how long the tuberculosis organism can remain infectious outside the body.
2. True.
3. True.
4. False. Workers must be periodically retested to detect new TB infection. (Also, because it takes two to ten weeks after infection before the body will react to the skin test, screening at time of hire may result in false negative results for some employees who were recently infected.)
5. True. However, we do not know how long TB can remain suspended in the air, or how long it remains infectious while in the air, or how many TB bacilli are required to cause infection.
6. True. A strong immune system may be able to “wall off” the TB bacilli and prevent development of TB disease. This condition is called TB infection.
7. False. With TB infection the person carries the TB bacillus, but is not ill or infectious. With TB disease a person is ill and infectious to others.
8. True.
9. True. This is to limit the airborne disease from spreading outside the room.
10. False. The symptoms of TB are common and may be the result of a number of other conditions. However, if symptoms persist longer than three weeks, TB is suspected and the person should be tested.
11. False. Special masks called particulate respirators are required. These masks filter out organisms which are very, very small (one to five microns).
12. True. However, it is crucial that a person with TB disease continue to take any medication until treatment is complete. Non-compliance with drug therapy can cause much more serious strains of TB to develop.
13. True.
14. False. Workers using particulate respirators must be periodically retested to be sure that the equipment is effectively protecting them.
15. True. If these symptoms continue for longer than three weeks they can indicate TB.

# Assessment B

Name .....

Date .....

**Multiple Choice.** Circle the letter of the answer that best completes the statement or answers the question.

1. Tuberculosis is:

- a. a bloodborne disease that is carried on mucous droplets.
- b. a bloodborne disease that is carried in many bodily fluids.
- c. an airborne disease that can be released by coughing, laughing, or singing.
- d. an airborne disease that can be released by many bodily fluids.

2. All of the following statements about tuberculosis are true except:

- a. Tuberculosis germs are exhaled by people with TB disease.
- b. The disease is carried on mucous droplets suspended in the air.
- c. There are eight million new cases of TB worldwide this year.
- d. The germs that cause tuberculosis can only live outside the human body for five seconds or less.

3. A person with TB disease may exhibit any of the following symptoms except:

- a. fever
- b. ringing in the ears
- c. coughing up blood
- d. night sweats

4. Because many of the symptoms of TB are common, TB will only be suspected when the symptoms persist:

- a. longer than three weeks
- b. longer than two weeks
- c. despite treatment with oral antibiotics
- d. despite a regimen of bed rest

5. A person with TB infection:

- a. can infect others
- b. feels sick
- c. must be treated with anti-TB drugs to control symptoms
- d. must be treated with anti-TB drugs to prevent later development of TB disease

6. All of the following statements about TB disease are true except:

- a. Signs of illness are present.