Tuberculosis
End of Module Quiz (9 Questions)

1. Which is not true of TB?
   A. Approximately 2 billion people are infected worldwide
   B. There was no treatment for TB until the 1940s
   C. People with TB prior to treatment were sent to sanatoriums
   D. The 20% rise in TB cases seen between 1985 and 1992 was due solely to the HIV epidemic (Correct)

Incorrect Answer Response: Between 1985 and 1992 there was a resurgence of TB with the number of new cases increasing by about 20% over this period. While the HIV epidemic contributed, the increase is attributed to at least five factors: inadequate funding for TB control and other public health efforts; the HIV epidemic; immigration from countries where TB is common; spread of TB in certain settings; and transmission of multidrug-resistant (MDR) TB.

Relates to Key Learning Point #1: Briefly describe the history of TB.
Where question content is presented: Passport to Partner Services – Key Disease Concepts Unit 7; Topic 2; page 2.

2. How is TB transmitted?
   A. Sharing food or drink
   B. Person to person through the air (Correct)
   C. Sharing toothbrushes
   D. Kissing

Incorrect Answer Response: TB is spread from person to person through the air. When a person with infectious TB disease coughs, sneezes, speaks, or sings, tiny particles containing M. tuberculosis may be expelled. Droplet nuclei can remain suspended in the air for several hours, depending on the environment. If another person inhales air that contains these droplet nuclei, transmission may occur. TB is not spread by sharing food, drink or toothbrushes, or by kissing because TB bacteria must be inhaled in order for infection to occur.

Relates to Key Learning Point #2: Explain how TB is spread.
Where question content is presented: Passport to Partner Services – Key Disease Concepts Unit 7; Topic 3; page 2

3. Which groups are considered more likely to be exposed to or infected with M. tuberculosis?
   A. Low-income groups with poor access to health care, including homeless people
   B. People who live or work in high-risk residential settings (for example, nursing homes, homeless shelters, or correctional facilities)
   C. People who have come to the United States within the last 5 years from areas of the world where TB is common (for example, Asia, Africa, Russia, Eastern Europe, or Latin America)
D. All of the above (Correct)

Incorrect Answer Response:
All of the listed groups are at higher risk for TB:
- People who have come to the U.S. within the last 5 years from areas of the world where TB is common
- Low-income groups with poor access to health care (including the homeless), and
- Those who live or work in high-risk residential settings.
Others at higher risk include: contacts of people known or suspected to have TB disease, cigarette smokers and persons who abuse drugs or alcohol, and health care workers who serve high-risk clients.

Relates to Key Learning Point #6 and #7: List groups of people who are more likely to be exposed to or infected with M. tuberculosis. List the groups of people who are more likely to develop TB disease once infected with M. tuberculosis.

Where question content is presented: Passport to Partner Services – Key Disease Concepts Unit 7; topic page 4; page 3

4. Drug resistant TB:
A. Is caused by *M. tuberculosis* organisms that are resistant to at least one of the first line TB treatment drugs
B. Can be transmitted from person to person or develop during TB treatment when the patient did not follow the treatment as prescribed
C. Can be mono-resistant or poly-resistant
D. All of the above. (Correct)
E. A and B only.

Incorrect Answer Response: All of the statements are true.
- Drug-resistant TB is caused by *M. tuberculosis* organisms that are resistant to at least one of the first-line TB treatment drugs (e.g., isoniazid, rifampin, pyrazinamide, and ethambutol). Drug-resistant TB can be transmitted person to person; referred to as primary resistance.
- Secondary resistance develops during TB treatment, either because the patient was not treated with an appropriate regimen or because the patient did not follow the treatment regimen as prescribed.
- Drug-resistant TB can be mono-resistant (only resistant to one drug), or poly-resistant (resistant to at least two TB drugs, but not both isoniazid and rifampin).

Relates to Key Learning Point #3: Define drug resistant TB.
Where question content is presented: Passport to Partner Services – Key Disease Concepts Unit 7; Topic 2 page 6

5. Which is not true of Latent TB Infection (LTBI) and TB disease?
A. People with latent TB infection (LTBI) cannot spread TB to others
B. People with LTBI often have TB symptoms (Correct)
C. HIV is a risk factor for the progression LTBI to TB disease
D. About 10% of people with LTBI will develop active TB disease at some point
E. Tuberculin skin test or interferon-gamma release assay test results are usually positive if a person is infected with *M. tuberculosis*
When someone is infected with TB and their immune system keeps the bacilli under control, it is referred to as **latent TB infection (LTBI)**. In this stage of infection, people do not have symptoms of TB, and cannot spread TB to others. However, in some people with LTBI (about 10%), the immune system cannot keep the tubercle bacilli under control over time and the bacilli begin to multiply rapidly, and they develop active **TB disease**.

**Relates to Key Learning Point #4 and #5:** Explain the difference between latent TB infection (LTBI) and TB disease. Explain how LTBI and TB disease develop.

**Where question content is presented:** Passport to Partner Services – Key Disease Concepts Unit 7; Topic 2; page 3 and 4.

### 6. What are the components of medical evaluation for TB?

- **A. Medical History, Physical Examination; Tests for TB Infection; Chest x-ray; Bacteriological Examinations (Correct)**
- **B. Symptom Evaluation and tuberculin skin test (TST)**
- **C. Physical Evaluation; Chest x-ray and Culture**
- **D. None of the Above**

**Incorrect Answer Response:** There are five components for conducting a complete medical evaluation for diagnosing TB disease:

- Medical History
- Physical Examination
- Test for TB Infection
- Chest x-ray
- Bacteriological Examinations

**Relates to Key Learning Point #9:** Describe the components of a medical evaluation for diagnosing TB disease. **Where question content is presented:** Passport to Partner Services – Key Disease Concepts Unit 7; Topic 5; page 2.

### 7. Which of the following is not true of testing for and diagnosing of TB?

- **A. QuantiFERON®-TB Gold In-Tube (QFT-GIT), and T-Spot.TB® all use blood samples to test for TB infection**
- **B. Patients with positive test results for TB infection should always be further evaluated for TB disease.**
- **C. Chest x-rays can confirm whether or not a person has TB disease (Correct)**
- **D. Culturing a specimen is necessary to confirm the diagnosis of TB disease**

**Incorrect Answer:** A chest x-ray helps rule out the possibility of pulmonary TB disease in a person who has a positive result to the TST or IGRA. However, chest x-ray results cannot confirm that a person has TB disease, so that is the answer choice that is not true.

IGRAs are blood tests for TB infection that measure a person’s immune reactivity to *M. tuberculosis*. IGRAs tests available in the U.S. include: the QuantiFERON®-TB Gold In-Tube (QFT-GIT), and T-Spot.TB®. Bacteriologic examination, where a specimen is cultured, or grown, so that lab personnel can determine whether it contains *M. tuberculosis*. is a critical
component of the medical evaluation. Culturing a specimen is necessary to determine if it contains *M. tuberculosis* and to confirm the diagnosis of TB disease.

**Relates to Key Learning Point #8:** Describe different types of TB diagnostic tests.
**Where question content is presented:** Passport to Partner Services – Key Disease Concepts Unit 7; Topic 5; page 2.

8. What is the preferred treatment regimen for latent TB Infection (LTBI)?
   - A. Rifampin daily for 4 months
   - B. Isoniazid twice weekly for 6 weeks
   - C. Nothing. No treatment is given until TB infection develops into TB disease
   - D. Isoniazid daily for 9 months (Correct)

**Incorrect Answer:** LTBI treatment is medication that is given to people who have TB infection to prevent them from developing TB disease. The preferred regimen for LTBI treatment is isoniazid given daily for 9 months for both adults and children.

**Relates to Key Learning Point #10:** Describe treatment regimens for LTBI.
**Where question content is presented:** Passport to Partner Services – Key Disease Concepts Unit 7; Topic 6; page 2.

9. Which is not true of treatment for TB disease?
   - A. Serious adverse reactions to isoniazid include neuropathy, stomach upset, and hepatitis
   - B. The initial treatment of TB disease should only include rifampin--additional drugs are added if no response to treatment is noted (Correct)
   - C. Isoniazid, Rifampin, Pyrazinamide and Ethambutol are all drug treatments for TB
   - D. The most effective strategy to ensure adherence to treatment is directly observed therapy (DOT)

**Incorrect Answer:**
- The initial regimen for treating TB disease should include four drugs (isoniazid, rifampin, pyrazinamide, and ethambutol), not rifampin alone.
- The most effective strategy is directly observed therapy (DOT). DOT means that a healthcare worker or another designated person who has received adequate training watches the TB patient swallow each dose of the prescribed drugs.
- Treatment for TB disease lasts longer and requires more drugs than treatment for other infectious diseases. Patients should be seen by a clinician at least monthly during treatment and evaluated for possible adverse reactions, including allergic reactions, hepatitis, eye damage and blurred vision, neuropathy (tingling hands and feet), stomach upset (nausea and vomiting), and bleeding problems.

**Relates to Key Learning Point #11:** Describe treatment regimens for TB disease.
**Where question content is presented:** Passport to Partner Services – Key Disease Concepts Unit 7; Topic 6; page 3, 4 and 5.