

# Module 5: Infectiousness and Infection Control

## Slide 1: (Title Slide.) Self-Study Modules, Module 5, Infectiousness and Infection Control

### Slide 2: Module 5: Objectives

At completion of this module, learners will be able to:

- Describe the factors that determine the infectiousness of a TB patient
- Describe the main goals of a TB infection-control program
- Describe the three levels of control measures that are the basis of an effective TB infection-control program
- Describe the purpose and the characteristics of a TB airborne infection isolation (AII) room
- Describe the circumstances when personal respirators should be used

### Slide 3: Module 5: Overview

- Infectiousness
- TB Infection Control
  - TB Infection Control Measures
  - TB Risk Assessment
  - Infection Control in Nontraditional Facility-Based Settings
  - TB Infection Control in the Home
  - Case Studies

### Slide 4: (Title Slide.) Infectiousness

#### Slide 5: Infectiousness (1)

- Infectiousness is directly related to number of tubercle bacilli TB patients expel into air
- TB patients generally expel more tubercle bacilli if their cough produces a lot of sputum
- Only people with TB of the lungs, airway, or larynx are infectious

#### Slide 6: Infectiousness (2)

- Factors generally associated with infectiousness:
  - Presence of cough
  - Cavity in the lung
  - Acid-fast bacilli on sputum smear
  - TB of lungs, airway, or larynx
  - Not covering mouth when coughing
  - Not receiving adequate treatment or prolonged illness
  - Undergoing cough inducing procedures
  - Positive sputum cultures
- 

#### Slide 7: Infectiousness (3)

- Infectiousness appears to decline rapidly after adequate treatment is started; however:
  - How quickly infectiousness declines varies from patient to patient (weeks to months)
  - Patients with drug-resistant TB may not respond to initial drug regimen; meaning they may remain infectious for longer

#### Slide 8: Infectiousness (4)

- Patients can be considered non-infectious when they meet all of the following criteria:
  - Received adequate treatment for 2 weeks or longer
  - Symptoms have improved
  - Three consecutive negative sputum smears from sputum collected in 8 to 24 hour intervals (at least one early morning specimen)

#### **Slide 9: Infectiousness (5)**

- Children are less likely than adults to be infectious
  - Children generally do not produce a lot of sputum when they cough
  - Young children can still transmit TB if they exhibit signs of infectiousness
- **[IMAGE: Woman holding a toddler]**

#### **Slide 10: Infectiousness: Study Question 5.1**

- List 7 factors that affect the infectiousness of a TB patient.
  - Presence of a cough
  - Chest x-ray showing cavity in lung
  - Positive acid-fast bacilli sputum smear result
  - TB of lungs, airway, or larynx
  - Patient not covering mouth or nose when coughing
  - Not receiving adequate treatment or having prolonged illness
  - Undergoing cough-inducing procedures

#### **Slide 11: Infectiousness: Study Question 5.2**

- Why does the site of disease affect the infectiousness of a TB patient?
  - Usually only people with pulmonary or laryngeal TB are infectious. These people may be coughing and expelling tubercle bacilli into air.
  - People with extrapulmonary TB are generally not infectious

#### **Slide 12: Infectiousness: Study Question 5.3**

- When can a TB patient be considered noninfectious? List all 3 criteria.
  - When they meet all of the following criteria:
    - Received adequate TB treatment for a minimum of 2 weeks
    - Symptoms have improved
    - 3 consecutive negative sputum smears from sputum collected in 8-24 hour intervals (one being early morning specimen)

#### **Slide 13: (Title Slide.) TB Infection Control**

##### **Slide 14: TB Infection Control (1)**

- Infection control is an important strategy to prevent the spread of TB
  - Several outbreaks of TB in health care settings, including multidrug-resistant TB (MDR TB) and extensively drug-resistant TB (XDR TB), have occurred
- All health care and congregate settings should implement TB infection-control measures

##### **Slide 15: TB Infection Control (2)**

- TB is most likely to be transmitted when health care workers (HCWs) and patients come in contact with persons who:
  - Have unsuspected TB disease

- Are not receiving adequate treatment
- Have not been isolated from others

**Slide 16: TB Infection Control (3): Role of the Health Department**

- Health department TB control programs should:
  - Ensure each of their clinics develop a TB infection-control program
  - Provide consultation about TB infection control to other health care and congregate settings

**Slide 17: TB Infection Control (4): Role of the Health Department**

- Health departments should specifically assist health care settings with:
  - Understanding infection control principles
  - Reporting confirmed or suspected TB cases
  - Conducting contact investigations
  - Ensuring a plan for TB patients to receive follow-up care after discharge
  - Conducting risk assessments, testing, surveillance, and outbreak investigations
  - Planning and implementation of TB control activities

**Slide 18: TB Infection-Control Program (1)**

- Main goals of a TB infection-control program are to ensure early and prompt:
  - Detection of TB disease
  - Airborne precautions (e.g., isolation of people who have or are suspected of having TB disease)
  - Treatment of people who have or are suspected of having TB disease

**Slide 19: TB Infection-Control Program (2): Detection of TB disease**

- HCWs should suspect TB disease in anyone with any of these symptoms:
  - Persistent cough
  - Chest pain
  - Bloody sputum
  - Weight loss or loss of appetite
  - Fever
  - Chills
  - Night sweats
  - [IMAGE: Man coughing into tissue]

**Slide 20: TB Infection-Control Program (3): Detection of TB disease**

- When a health care worker suspects that a patient has TB disease, the patient should be:
  - Placed in an area away from other patients and evaluated
  - Given a surgical mask to wear
  - Given tissues and asked to cover nose and mouth when coughing or sneezing

**Slide 21: TB Infection-Control Program (4): Airborne Precautions**

- Airborne precautions should be taken for any person who has signs or symptoms of TB disease
- If facility has an AII room, TB suspects and TB patients should be placed there
- Health care settings, such as TB clinics, should implement a respiratory-protection program

**Slide 22: TB Infection-Control Program (5): Treatment**

- Patients diagnosed with TB should start treatment immediately

- DOT should be used to ensure adherence
- [IMAGE: Health care worker administering DOT to a TB patient]

**Slide 23: TB Infection Control: Study Question 5.4**

- Under what circumstances is TB most likely to be transmitted in health care facilities?
  - TB is most likely to be transmitted when health care workers and patients come into contact with persons who:
    - Have unsuspected TB disease
    - Are not receiving adequate treatment
    - Have not been isolated from others

**Slide 24: TB Infection Control: Study Question 5.5**

- How can the health department assist health care settings in preventing the spread of TB?
  - The health department can help health care facilities with:
    - Understanding infection control principles
    - Reporting confirmed or suspected TB cases
    - Conducting contact investigations
    - Ensuring there is a plan for TB patients to receive follow-up care after they are discharged
    - Risk assessments, testing, surveillance, and outbreak investigations
    - Planning and implementing TB control activities

**Slide 25: TB Infection Control: Study Question 5.6**

- What are the main goals of a TB infection-control program?
  - The main goals are to detect TB disease early and to promptly isolate and treat people who have TB disease.

**Slide 26: TB Infection Control: Study Question 5.7**

- What would make a health care worker suspect that a patient has TB disease?
  - Persistent cough
  - Bloody sputum
  - Weight loss or loss of appetite
  - Fever
  - Night sweats

**Slide 27: TB Infection Control: Study Question 5.8**

- What should be done when a health care worker suspects that a patient has TB disease?
  - The patient should be
    - Placed in an area away from other patients and evaluated
    - Given surgical mask to wear
    - Given tissues and asked to cover nose and mouth when coughing or sneezing
  - Patients who are diagnosed with TB should start appropriate treatment at once

**Slide 28: (Title Slide.) TB Infection Control: TB Infection Control Measures**

**Slide 29: TB Infection Control Measures (1): Hierarchy of Infection Control**

- Administrative Controls [IMAGE: Two administrators working at a table]
- Environmental Controls [IMAGE: Female patient in a hospital bed]
- Respiratory Protection [IMAGE: Female health care worker wearing respiratory protection]

### Slide 30: TB Infection Control Measures (2)

- Three levels of control measures:
  - Administrative controls: managerial measures to reduce risk of exposure to *M. tuberculosis*
  - Environmental controls: engineering systems to prevent the spread of and reduce the concentration of infectious *M. tuberculosis* droplet nuclei in air
  - Respiratory-protection controls: personal protection to further minimize risk for exposure to *M. tuberculosis*

### Slide 31: (Title Slide.) TB Infection Control TB Infection Control Measures: Administrative Controls

#### Slide 32: Administrative Controls (1)

- Administrative controls:
  - First and most important level of TB infection-control program
  - Goal is to reduce risk of exposure to persons who might have TB disease

#### Slide 33: Administrative Controls (2)

- Administrative control activities:
  - Assigning someone responsibility for TB infection control
  - Developing and implementing a written TB infection control plan
  - Conducting a TB risk assessment
  - Ensuring availability of prompt laboratory processing, testing, and reporting of results

#### Slide 34: Administrative Controls (3)

- Administrative control activities (cont.):
  - Implementing effective work practices for managing patients who may have TB
  - Ensuring proper cleaning and sterilization or disinfection of equipment
  - Educating, training, and counseling HCWs about TB
  - Testing and evaluating workers who are at risk for TB or may be exposed to TB

#### Slide 35: Administrative Controls (4)

- Administrative control activities (continued):
  - Applying epidemiology-based prevention principles
  - Using posters to remind patients of proper cough etiquette
  - Coordinating efforts between health departments and high risk settings
- **[IMAGE: Poster titled “Cover Your Cough: Stop the Spread of Germs that Make You and Others Sick!” The poster instructs people to cover their mouth and nose with a tissue when they cough or sneeze and to put their used tissue in a waste basket. Patients may be asked to put on a surgical mask to protect others. The poster also instructs people to wash hands with soap and warm water for 20 seconds or clean with alcohol-based hand cleaner.]**

### Slide 36: (Title Slide.) TB Infection Control: TB Infection Control Measures Environmental Controls

#### Slide 37: Environmental Controls

- Second level of infection-control program

- Consist of technologies that are designed to prevent the spread and reduce the concentration of TB in the air
  - Ventilation technologies
  - High efficiency particulate air filtration (HEPA)
  - Ultraviolet germicidal irradiation (UVGI)

**Slide 38: Ventilation Technologies (1)**

- Ventilation is the movement of air in a building and the replacement of air inside with air from outside
- Ventilation technologies include:
  - Natural ventilation
  - Mechanical ventilation

**Slide 39: Ventilation Technologies (2): Natural Ventilation**

- Doors and windows should be open
- Fans can be used to distribute air
- HCW should sit near fresh air source
- Can be useful for nontraditional settings that do not have a central ventilation system
- [IMAGE: Woman opening a window for ventilation]

**Slide 40: Ventilation Technologies (3): Mechanical Ventilation**

- Refers to the use of technological equipment to circulate and move air
- Consists of two types of technologies
  - Local exhaust ventilation
  - General ventilation
- Should be used by hospitals, TB clinics, and other settings where TB patients are expected

**Slide 41: Ventilation Technologies (4): Mechanical Ventilation**

- Local exhaust ventilation
  - Stops airborne contaminants from spreading into general environment
  - Includes external hoods, booths, and tents
  - Should be used for cough-inducing procedures

**Slide 42: Ventilation Technologies (5): Mechanical Ventilation**

- General ventilation systems:
  - Dilute contaminated air
  - Remove contaminated air
  - Control airflow patterns in patient and procedure rooms (e.g., negative pressure in AII room)

**Slide 43: Ventilation Technologies (6): Mechanical Ventilation**

- AII rooms are designed to prevent spread of droplet nuclei expelled by patient
  - Negative pressure
  - Clean air flows from corridors into AII room
- Air cannot escape AII room
  - Exhausted outdoors or passed through filter
- [IMAGE: Drawing of an AII room showing the direction of airflow in the room. Image credit: Curry International TB Center.]

#### **Slide 44: HEPA Filters**

- HEPA filters are special filters used to remove droplet nuclei from air
- Must be used when releasing air from:
  - Local exhaust ventilation booths to surrounding area
  - All room to general ventilation system
- [IMAGE: Drawing of a fixed ceiling-mounted room-air recirculation system using a HEPA filter. Image credit: Curry International TB Center.]

#### **Slide 45: UVGI**

- UVGI is air cleaning technology that consists of lamps that give off UV light, which can kill tubercle bacilli
- Should be used with other infection control measures
- UV light can be harmful to skin and eyes
- [IMAGE: Drawing of an upper-air UVGI in a dormitory. The UV lamp fixture is suspended from the ceiling. Image credit: Curry International TB Center.]

#### **Slide 46: (Title Slide.) TB Infection Control: TB Infection Control Measures Respiratory-Protection Controls**

##### **Slide 47: Respiratory-Protection Controls (1)**

- Third level of infection-control that includes:
  - Implementing a respiratory-protection program
  - Training health care workers on respiratory-protection
  - Educating patients on respiratory hygiene

##### **Slide 48: Respiratory-Protection Controls (2): Personal Respirators**

- Respirators filter out droplet nuclei
- Should be used in:
  - TB All rooms
  - Rooms where cough-inducing or aerosol generating procedures are done
  - Ambulances transporting infectious TB patients
  - Homes of infectious TB patients

##### **Slide 49: Respiratory-Protection Controls (3): Personal Respirators**

- Important that respirator fits properly:
  - Fit test used to determine which respirator to wear
  - User seal check should be done each time a respirator is put on
- [IMAGE: Health care worker undergoing a fit test for a personal respirator. Image credit: Paul Jensen.]

##### **Slide 50: Respiratory-Protection Controls (4): Personal Respirators**

- Respirators that can be used to protect against *M. tuberculosis*:
  - Nonpowered respirators with N95, N99, N100, R95, R99, R100, P95, P99, and P100 filters
  - Powered air-purifying respirators (PAPRs) with high-efficiency filters
  - Supplied-air respirators
- [TOP IMAGE: Four different styles of personal respirators.]
- [BOTTOM IMAGE: Scientist wearing a powered air purifying respirator (PAPR), which is filtering the air that she is breathing. Image credit: Greg Knobloch.]

**Slide 51: Respiratory-Protection Controls (5): Respirators and Surgical Masks**

- Important to understand the difference between respirators and surgical masks
  - Respirators protect individuals from inhaling droplet nuclei
  - Surgical masks stop droplet nuclei from being exhaled into air by infectious TB patients or suspects

**Slide 52: Respiratory-Protection Controls (6): Respirators**

- Health care worker wearing a personal respirator
- [IMAGE: Health care worker wearing a personal respirator]

**Slide 53: Respiratory-Protection Controls (7): Surgical Masks**

- Patient wearing a surgical mask
- [IMAGE: Patient wearing a surgical mask]

**Slide 54: TB Infection-Control: Study Question 5.9**

- What are the three levels of control that form the basis of a TB infection-control program?
  - Administrative controls
  - Environmental controls
  - Respiratory-protection controls

**Slide 55: Administrative Controls: Study Question 5.10**

- List 5 administrative control measures that should be taken in health care settings to reduce the risk of exposure to persons who may have TB disease.
  - Assign responsibility for TB infection control
  - Conduct TB risk assessment
  - Develop and implement a written TB infection-control plan
  - Ensure prompt availability of recommended laboratory processing, testing, and reporting of results
  - Implement effective work practices for the management of patients
  - Ensure proper cleaning, sterilization, or disinfection of equipment
  - Train and educate health care workers
  - Test and evaluate health care workers for TB
  - Apply epidemiology-based prevention principles
  - Use posters and signs educating and advising respiratory hygiene and cough etiquette
  - Coordinate efforts with health department and high-risk health care and congregate settings

**Slide 56: Environmental Controls: Study Question 5.11**

- Where sputum induction, bronchoscopy, or other cough-inducing procedures should be done?
  - These medical procedures should be done in special AII rooms or sputum induction booths to prevent any droplet nuclei expelled during the procedure from reaching other parts of the facility.

**Slide 57: Environmental Controls: Study Question 5.12**

- What is a TB AII room? What are the important characteristics of an AII room?
  - Airborne infection isolation (AII) rooms have special characteristics to prevent spread of droplet nuclei expelled by a TB patient. They are at negative pressure relative to other

parts of the facility, and air from the room is exhausted directly to the outdoors or passed through a filter.

**Slide 58: Ventilation Systems: Study Question 5.13**

- How do ventilation systems help prevent the spread of TB?
  - Ventilation systems maintain negative pressure and exhaust air properly. These systems can also be designed to minimize the spread of TB in other areas of the facility.

**Slide 59: Ventilation Systems: Study Question 5.14**

- Give 4 examples of settings where personal respirators should be used.
  - TB AII rooms
  - Rooms where cough-inducing procedures are done
  - Ambulances or other vehicles transporting infectious TB patients
  - Homes of infectious TB patients

**Slide 60: Respiratory Protection-Controls: Study Question 5.15**

- What is the difference in use between a respirator and a surgical mask?
  - Respirators protect individuals from inhaling droplet nuclei
  - Surgical masks stop droplet nuclei from being exhaled into the air by the person wearing them

**Slide 61: (Title Slide.) TB Infection Control TB Risk Assessment**

**Slide 62: TB Risk Assessment (1)**

- Administrative control measure
- Helps to inform infection control plan
- Determines types of controls needed for setting
- Serves as an initial and ongoing monitoring and evaluation tool for infection-control program
- Helps determine frequency of employee testing

**Slide 63: TB Risk Assessment (2)**

- Risk assessment examines many factors, including:
  - Number of patients with TB disease in setting
  - Promptness of detection, isolation, and evaluation of patients with suspected or confirmed TB
  - Evidence of transmission of *M. tuberculosis* in setting
  - Community rate of TB disease

**Slide 64: TB Risk Classification**

- Low risk
  - Persons with TB disease are not expected to be encountered
- Medium risk
  - Possible exposure to persons with TB disease
  - Possible exposure to clinical TB specimens
- Potential ongoing transmission
  - Setting where there is evidence of person-to-person transmission of *M. tuberculosis* in past year

**Slide 65: TB Testing Frequency**

<b>TB Risk Classification</b>	<b>Frequency for TB Testing</b>
<b>Low Risk</b>	<ul style="list-style-type: none"><li>▪ Conduct baseline test when health care worker is hired</li><li>▪ No further testing needed unless exposure occurs</li></ul>
<b>Medium Risk</b>	<ul style="list-style-type: none"><li>▪ Conduct baseline test when health care worker is hired</li><li>▪ Repeat test annually</li></ul>
<b>Potential Ongoing Transmission</b>	<ul style="list-style-type: none"><li>▪ Conduct baseline test when health care worker is hired</li><li>▪ Repeat test every 8 to 10 weeks until there is no evidence of <i>M. tuberculosis</i> transmission in setting</li></ul>

**Slide 66: (Title Slide.) TB Infection Control: Infection Control in Nontraditional Facility–Based Settings**

**Slide 67: Special Considerations (1)**

- Nontraditional facility-based settings where TB patients receive care should establish and follow an infection-control program
- Includes settings such as:
  - Nursing homes
  - Correctional facilities
  - Homeless shelters
  - Drug treatment centers
  - Emergency medical services
  - Home-based health care
  - Outreach settings

**Slide 68: Special Considerations (2): Correctional Facilities**

- Medical settings within correctional facilities should:
  - Classify as medium risk or higher
  - Test all staff annually
  - Implement a respiratory-protection program with at least one AII room

**Slide 69: Special Considerations (3): Correctional Facilities**

- Medical settings within correctional facilities should (cont.):
  - Have inmates with suspected or confirmed TB disease wear surgical mask when transported
  - Establish and maintain a tracking system for inmate testing and treatment

**Slide 70: Special Considerations (4): Homeless Shelters**

- Should observe the same TB infection-control measures as outpatient clinics
- Several factors in shelter environment can influence likelihood of TB transmission:
  - Crowdedness of shelter
  - Ventilation system of shelter

**Slide 71: Special Considerations (5): Emergency Medical Services (EMS)**

- EMS workers should be included in TB testing program based on risk for the setting
- Persons with infectious TB who are transported in ambulance should wear surgical mask
- Drivers, health care workers, and other staff should consider wearing a respirator
- Ambulance should allow for maximum amount of outdoor air to be circulated in vehicle

**Slide 72: Special Considerations (6): Long-Term Care Facilities (LTCFs)**

- LTCFs (e.g., hospices and nursing homes) should:
  - Symptom screen and possibly test new employees and residents
  - Have administrative and environmental controls IF they accept patients with infectious TB
- Persons with TB disease who are non-infectious can stay in LTCFs and do not need AII room

**Slide 73: (Title Slide.) TB Infection Control TB Infection Control in the Home**

**Slide 74: TB Infection Control in the Home (1): Patient Returning Home**

- TB patients and TB suspects may be sent home after starting treatment, even though they may be infectious

**Slide 75: TB Infection Control in the Home (2): Patient Returning Home**

- Criteria for patient to return home:
  - Follow-up plan has been made with the local TB program
  - Patient on TB treatment and DOT arranged
  - No infants or children younger than 5 years of age or persons with immunocompromising conditions in home

**Slide 76: TB Infection Control in the Home (3): Patient Returning Home**

- Criteria for patient to return home (cont.):
  - All household members have already been exposed to TB patient
  - Patient is willing to not travel outside of home until sputum smear results are negative

**Slide 77: TB Infection Control in the Home (4): Patient Returning Home**

- TB patients and members of household should take steps to prevent spread of TB
- Patients with TB should be instructed to:
  - Cover mouth and nose with tissue when coughing or sneezing
  - Sleep alone
  - Not have visitors until noninfectious

**Slide 78: TB Infection Control in the Home (5): Health Care Workers (HCWs)**

- HCWs should:
  - Be trained in detecting TB signs and symptoms
  - Take precautions to protect themselves:
    - Instruct patient to cover mouth when coughing
    - Wear personal respirator
    - Collect sputum in well-ventilated areas
    - Participate in TB testing and prevention programs

**Slide 79: TB Risk Assessment: Study Question 5.16**

- What are 3 different TB risk classifications that can be assigned to health care settings?

- Low risk
- Medium risk
- Potential ongoing transmission

**Slide 80: TB Risk Assessment: Study Question 5.17**

- Depending on risk classification, how often should health care settings test workers for TB?
  - Low Risk Settings
    - Conduct TB baseline test when HCW is hired
    - No further testing needed unless exposure occurs
  - Medium Risk Settings
    - Conduct TB baseline test when HCW is hired
    - Repeat test annually
  - Potential Ongoing Transmission
    - Conduct baseline test when HCW is hired
    - Repeat test 8-10 weeks until there is no longer evidence of *M. tuberculosis* transmission in the setting

**Slide 81: TB Infection Control in the Home, Study Question 5.18**

- What precautions should a health care worker take when visiting the home of a TB patient who may be infectious?
  - Instruct patients to cover mouth and nose with a tissue when coughing or sneezing
  - Wear a personal respirator
  - Collect sputum specimen in a well-ventilated area
  - Participate in a TB testing and prevention program

**Slide 82: (Title Slide.) Case Studies**

**Slide 83: Module 5: Case Study 5.1**

- For each of the following situations, decide whether the patient should be considered infectious or non-infectious, and explain why.

**Slide 84: Module 5: Case Study 5.1 Question 5A**

- Two weeks ago, Mr. Lopez had a sputum smear that was positive; since then no sputum specimens have been tested. Mr. Lopez started self-administered TB treatment 7 days ago. He still has a cough.

**Slide 85: Module 5: Case Study 5.1 Question 5A: Answer**

- Mr. Lopez should be considered infectious
- Should be given his treatment by DOT to ensure he receives adequate treatment
- Does not meet the criteria for noninfectiousness because:
  - He has been receiving treatment for only 7 days, not 2 weeks
  - His symptoms have not improved
  - He does not have 3 consecutive negative sputum smears

**Slide 86: Module 5: Case Study 5.1 Question 5B**

- Ms. Nguyen, a patient with pulmonary TB, has been receiving DOT treatment for 6 weeks and no longer has symptoms of TB. She has had three sputum smears. The first one was positive, but the last two were negative.

**Slide 87: Module 5: Case Study 5.1 Question 5B: Answer**

- Ms. Nguyen should be considered infectious until she has 3 consecutive negative sputum smears
- She meets the first 2 criteria for noninfectiousness:
  - Has been receiving treatment for at least 2 weeks
  - Her symptoms have improved

**Slide 88: Module 5: Case Study 5.1 Question 5C**

- Mr. Martin started DOT treatment for pulmonary TB in April. His symptoms went away and his sputum smears were negative in May. However, the outreach worker was unable to locate him on June 5<sup>th</sup> and has not been able to contact him since that time. Mr. Martin returned to the TB clinic on August 2nd, and was still coughing.

**Slide 89: Module 5: Case Study 5.1 Question 5C: Answer**

- Mr. Martin, at this point, should be considered infectious
- He might have been noninfectious in May, but it appears that he may be infectious again
  - Has been coughing and has not received adequate treatment since June 4<sup>th</sup>
  - Should be evaluated for infectiousness and nonadherence to treatment

**Slide 90: Module 5: Case Study 5.2 (1)**

- You are checking patients into the TB clinic. An elderly man comes to the desk and says he was told to come and get checked because one of his friends has TB. You notice that he looks sick and is coughing frequently. The waiting room is full of patients, and you know it will probably be more than an hour before the physician can see him.

**Slide 91: Module 5: Case Study 5.2 (2)**

- What should you do?
  - Suspect that this man has infectious TB and work with clinical staff to ensure he is evaluated for TB quickly
  - Give him a surgical mask, instruct him to keep it on, and ask him to cover his mouth and nose when coughing or sneezing.
  - Move the man to an area away from other patients right away

**Slide 92: Module 5: Case Study 5.3 (1)**

- You are sent to deliver directly observed therapy (DOT) to a woman who started treatment last week for suspected pulmonary TB. Her sputum smear results are not back yet. You are asked to collect another sputum specimen while you are at the woman's home.

**Slide 93: Module 5: Case Study 5.3 (2)**

- What precautions should you take?
  - Instruct patient to cover her mouth and nose when she coughs or sneezes.
  - Wear a personal respirator when visiting her home.
  - Collect sputum in well-ventilated area, away from other household members.
  - Participate in a TB testing and prevention program