

Tuberculosis (TB) Screening Tool for Nursing Students

Instructions: Complete the TB Screening Tool. Read the TB Evidence Based Care Sheet. Upload this form to Viewpoint Screening.

Last name, first name, middle initial
_____/_____/_____
Date of birth

_____/_____/_____
Date form completed
(_____)_____
Phone number

Symptoms of active TB disease (circle all that are present):

- | | | |
|---------------------|---------------------------|--------------|
| Coughing (>3 weeks) | Night sweats | Fever/chills |
| | Weight loss/poor appetite | Fatigue |
| | Chest pain | |
| | Coughing up blood | |

Student's history (circle response):

			Comments
Have you ever had an adverse reaction to at TB skin test?	Yes	No	
Were you born outside of the US?	Yes	No	
Have you traveled or lived outside of the US in the past 2 years?	Yes	No	
Have you ever had a positive reaction to a TB skin test?	Yes	No	
Have you ever had a TB blood test? (Test by drawing blood in the lab)	Yes	No	
Have you ever had the BCG vaccine? (Vaccine given in Europe, etc for prevention of Tuberculosis)	Yes	No	
Have you ever been treated for latent TB infection?	Yes	No	
Have you ever been treated for active TB disease?	Yes	No	
Have you had household exposure to TB?	Yes	No	
Do you currently have or plans for immunosuppression, including human immunodeficiency virus (HIV) infection, organ transplant recipient, treatment with a TNF-alpha antagonist (e.g., infliximab, etanercept, or other), chronic steroids (equivalent of prednisone ≥ 15 mg/day for ≥ 1 month) or other immunosuppressive medication?	Yes	No	

Any symptoms of active TB or Yes to any of the above questions requires a chest x-ray and health care provider clearance documented on organization letterhead. Your signature indicates that you have completed the screening and have reviewed the Tuberculosis Evidence Based Care Sheet.

Student Signature _____ Date _____

EVIDENCE-BASED CARE SHEET

Tuberculosis: Occupational Exposure and Prevention in Healthcare Settings

What We Know

- › Tuberculosis (TB) is an infectious disease, usually of the lungs, caused by the acid-fast aerobic bacterium *Mycobacterium tuberculosis*.^(1,6) For more information about tuberculosis, see *Quick Lesson About ... Tuberculosis in Adults*.
- TB infection of the lungs can be active or latent. It can reactivate from a latent state many years after initial exposure or infection.^(1,6)
 - Inhalation of airborne droplets from the sneeze or cough of a person with active TB is the primary mode of transmission. TB is usually acquired from close or prolonged contact with an infectious person
 - Fever, productive cough, nocturnal diaphoresis, malaise, fatigue, weight loss, loss of appetite, bloody or purulent sputum, chest pain, and dyspnea are signs and symptoms of active TB
 - About 2 billion infected individuals have latent TB, which is asymptomatic⁽⁶⁾
 - Without treatment, in approximately 5–10% of these people, latent TB will progress to active disease during their lifetime
 - About 9–14 million infected individuals living in the U.S. have latent TB U.S.
- › Signs and symptoms of TB can be nonspecific (e.g., cough) contributing to a delay in diagnosing the patient, a delay in activating environmental controls (e.g., airborne infection isolation (AII) room practices [negative pressure room]) and a delay in donning appropriate personal protective equipment (PPE [e.g., N95 respirator]); both environmental controls and donning PPE can prevent the spread of TB.^(1,3)
 - The potential for exposure to persons with undiagnosed or unsuspected TB is a major concern for healthcare workers (HCWs)⁽⁴⁾
 - The spread of TB can occur in a variety of healthcare settings (e.g., emergency rooms, intensive care units, outpatient clinics, inpatient medical units (e.g., settings that provide care for persons with HIV infection), laboratories, autopsy suites, and dental offices)
 - Environmental risk factors for TB transmission in healthcare settings include small, enclosed spaces; inadequate ventilation; recirculation of infectious droplets; and inadequate cleaning and disinfection of medical equipment⁽³⁾
 - TB remains suspended in the air for an extended period; therefore, infectious droplets can be inhaled even if the patient is not present⁽⁴⁾
 - Other occupational factors that increase the risk of TB transmission include
 - Unprotected face-to-face contact with patients with suspected or confirmed cases of TB or entering the room of a patient with TB without wearing appropriate PPE⁽¹⁾
 - A retrospective study assessing the risk of HCW contracting TB identified that spending extended periods (i.e., more than 7 days) near a patient with TB was a significant risk factor for contracting TB⁽⁴⁾
 - participating in specimen processing or in aerosol-generating or -producing procedures, including bronchoscopy, cough/sputum induction, administration of aerosolized medications (e.g., pentamidine), endotracheal intubation and suctioning, or irrigation of a wound that is infected with *M. tuberculosis*⁽¹⁾

ICD-9
018

ICD-10
A19

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September 7, 2018

- installing, maintaining, or replacing environmental controls (e.g., equipment disinfection)⁽¹⁾
- › Worldwide, TB infection rates among HCWs are higher than those among the general population⁽⁵⁾
 - Even HCWs with a low frequency of contact with patients infected with TB are at increased risk for TB infection⁽⁵⁾
- › Environmental factors found in healthcare settings can effectively decrease risk of TB transmission from undiagnosed TB-infected HCWs to patients. These factors include⁽³⁾
 - active ventilation and relatively large air volumes
 - brief exposure, in general, to a single infected HCW
- › Healthcare facilities are responsible for instituting measures that lower the risk of transmitting TB infection among HCWs and patients⁽³⁾
 - Early detection, isolation, and treatment of infected individuals should be at the core of any TB infection control protocol^(3,5)
 - HCWs can be required to undergo TB testing on an annual basis as an infection control measure. Screening methods for HCWs include the purified protein derivative (ppd) skin test, interferon gamma release assay (IGRA [QuantIFERON-TB Gold], T-Spot) of blood, and subsequent chest X-ray if ppd or IGRA tests are positive^(2,3,6)
 - HCWs who have been exposed to TB are tested for seroconversion (i.e., a change to positive ppd or IGRA results from a negative baseline result)⁽²⁾
 - The same type of test (e.g., ppd) should be used that was used for baseline (e.g., ppd)
 - If an HCW has latent TB, a prophylactic course of isoniazid (INH) or other antituberculosis medication can be prescribed, depending on individual risk factors (e.g., immunocompromised) of developing active TB infection (For more information on INH, see *Evidence-Based Care Sheet: Tuberculosis: Treatment with Isoniazid*)
 - Poor adherence to infection control strategies can result in an outbreak of TB in the healthcare setting. Prompt evaluation of signs and symptoms, prompt diagnostic testing, rapid initiation of airborne precautions, (e.g., AII room practices, N95 respirator); precautions for cough-inducing and aerosol-generating procedures; and provision of adequate respiratory protection are important steps in controlling the spread of TB in the healthcare setting⁽³⁾
 - Outbreaks of TB in healthcare settings can involve the transmission of multidrug-resistant TB (MDR TB) strains⁽¹⁾

What We Can Do

- › Learn about TB, including prevention and infection control strategies to accurately assess patients' personal characteristics and health education needs; share this information with colleagues
- › Be aware of community risk factors (e.g., homeless shelters, number of TB cases in community) for TB; enquire about epidemiological information provided by local or state health departments
- › Become familiar with current TB guidelines and information. Promote implementation of a rigorous infection control program in your facility/unit
 - Wear a N95 respirator when appropriate, cover mouth with tissue when coughing, properly dispose of tissue, wash hands thoroughly, and properly dispose of contaminated equipment and/or clothing
 - Become properly trained in medical procedures (e.g., bronchoscopy, cough/sputum induction) to reduce the risk of TB transmission, regardless of whether TB infection is known
 - Follow facility infection control protocols, including wearing appropriate personal protective equipment when caring for patients with known or suspected cases of TB
 - Confirm that the environmental controls (e.g., adequate ventilation and disinfection of medical equipment) are available and in good working order in the unit/facility
 - Follow facility protocols for mandated reporting to regulatory agencies
- › Attend in-service training on prevention, transmission, symptoms, and treatment of TB
- › Become familiar with the facilities written TB Exposure Care Plan that describes screening and prevention practices
- › Be aware that employees can be restricted from work until a clinician with experience treating TB determines that they are noninfectious
 - Get annual skin tests and, if applicable, chest X-rays. Notify facility if infected and follow appropriate protocol for treatment and return to work
 - Learn more information from the American Lung Association at <http://www.lungusa.org>

Note

- › Recent review of the literature has found no updated research evidence on this topic since previous publication on January 6, 2017

Coding Matrix

References are rated using the following codes, listed in order of strength:

M Published meta-analysis	RV Published review of the literature	PP Policies, procedures, protocols
SR Published systematic or integrative literature review	RU Published research utilization report	X Practice exemplars, stories, opinions
RCT Published research (randomized controlled trial)	GI Published quality improvement report	GI General or background information/texts/reports
R Published research (not randomized controlled trial)	L Legislation	U Unpublished research, reviews, poster presentations or other such materials
C Case histories, case studies	PGR Published government report	CP Conference proceedings, abstracts, presentation
G Published guidelines	PFR Published funded report	

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