



CHAPTER 13: INFECTION CONTROL

INTRODUCTION

Tuberculosis (TB) is an airborne disease that can be transmitted from person to person. Transmission of TB may occur if a person with respiratory TB disease (i.e., TB of the larynx, trachea, bronchi, or lung) coughs, sneezes, or otherwise generates aerosols that contain viable TB in droplet nuclei. If someone nearby inhales the bacteria, they may become infected. It is estimated that approximately 10% of those who are infected will subsequently develop active TB disease. Good infection control practices limit the opportunity for the spread of tuberculosis.

GENERAL PRINCIPLES OF INFECTION CONTROL

Not all patients with TB are infectious; transmission can only occur when infectious aerosols are generated. The following clinical characteristics of a

patient with active respiratory TB disease correlate with an increased risk of infectiousness:

- Presence of cough
- Positive acid-fast bacilli (AFB) sputum smear
- Positive TB sputum culture
- Presence of a cavity on chest radiograph (CXR)

Infection control measures can reduce the risk of transmission of TB. The Bureau of TB Control's (BTBC) infection control policies are consistent with the Centers for Disease Control and Prevention (CDC)'s 2005 guidelines for preventing TB transmission in healthcare settings. The New York State (NYS) Department of Health provides regulatory oversight of infection control measures in healthcare facilities within the state. The New York City (NYC) Health Code provides additional regulatory authority in certain situations, such as oversight of the discharge of a potentially infectious person from a NYC hospital, or detention of a potentially infectious person in a hospital. (See *Chapter 17: Laws Governing Tuberculosis Care in New York City.*)

HIERARCHY OF INFECTION CONTROL MEASURES

Infection control programs use a hierarchy of measures to reduce the risk of TB transmission. At the highest level, administrative controls reduce risk across an entire clinical setting by decreasing the risk for exposure to persons with active, infectious TB disease. At the next level, environmental controls reduce risk in specific areas by decreasing the concentration of infectious droplet nuclei (aerosols) in an airspace. Finally, personal respiratory protection reduces risk at the individual level by providing additional protection to staff working in high-risk settings.

ADMINISTRATIVE CONTROLS

Administrative controls reduce exposure by enabling prompt identification, isolation, and appropriate treatment of persons with possible infectious TB disease. They include the following activities:

- Assign responsibility to specific person(s) for designing, implementing, evaluating, and maintaining a TB infection control program.
- Conduct a facility risk assessment. Management at the hospital or other healthcare facility review work duties that involve patient care or other interactions that potentially place staff at increased risk for TB transmission. On an annual basis, the experience of the previous year is reviewed to determine if additional transmission scenarios occurred and should be incorporated into an updated risk assessment.
- Develop, implement, and train staff on policies and procedures to ensure early identification, evaluation, and treatment of persons with possible infectious TB.
- Provide prompt triage and management of patients who may have infectious TB in the hospital or other facility.

- Promptly initiate and maintain administrative measures (e.g., placement of patient in isolation waiting room) for persons cared for in outpatient settings who may have infectious TB, and promptly recommend airborne infection isolation (AII) for such patients when they are admitted to an inpatient setting or home isolation when being discharged while infectious.
- Plan effectively for the discharge of the patient by coordinating the discharge with the patient’s healthcare provider and promptly performing a home assessment and contact investigation.
- Implement environmental controls. Develop, install, maintain, and evaluate the effectiveness of engineering controls.
- Implement a respiratory protection program. Develop, initiate, install, maintain, and evaluate the effectiveness of the respiratory protection program.
- Implement precautions for cough-inducing procedures. Develop, implement, and enforce policies and procedures to ensure adequate precautions when performing cough-inducing procedures.
- Educate and train staff about infection control-related policies and procedures in place to minimize TB transmission risk.
- Screen healthcare workers for TB infection and disease. Develop and implement an annual TB screening program for staff at risk for TB transmission that also includes details about TB disease and latent TB infection (LTBI).
- 2019 recommendations from the National TB Controllers Association and CDC for screening and testing healthcare personnel include: individual baseline (preplacement) risk assessment, symptom evaluation and testing of persons without prior TB or LTBI, no routine serial testing in absence of exposure or ongoing transmission, treatment for healthcare personnel diagnosed with LTBI, annual symptom screening for persons with untreated LTBI, and annual TB education of all healthcare personnel.
- Promptly evaluate TB exposures or possible episodes of TB transmission. Modify existing procedures or policies when gaps are identified and re-train staff.
- Coordinate activities with NYS or other local health departments when appropriate.

ENVIRONMENTAL CONTROLS

Environmental controls prevent the spread and reduce the concentration of infectious airborne droplet nuclei. Environmental controls in NYC Health Department TB clinic patient care areas include: maintenance of negative pressure relative to the hallways, high-efficiency particulate air (HEPA) filtration, and ultraviolet germicidal irradiation (UVGI).

Airborne infection isolation rooms are the primary environmental control method used in an acute care facility where emergency or inpatient clinical services are provided to persons with possible or confirmed infectious TB. Airborne infection isolation rooms are typically present in inpatient settings, but not in most outpatient or long-term care facilities. In an airborne infection isolation room, the ventilation system

maintains the room at negative pressure relative to adjacent areas. When the door to an airborne infection isolation room is opened, air flows into the room, thus reducing the escape of contaminated air. Additional environmental controls in an airborne infection isolation room may include a HEPA filter and/or UVGI. (See *Table 13.1: Types of Environmental Controls to Prevent the Spread of Tuberculosis.*)

TABLE 13.1: Types of environmental controls to prevent the spread of tuberculosis

Most effective control	<p>Ventilation</p> <ul style="list-style-type: none"> • Controls direction of air flow (usually by negative pressure) to prevent contamination of air in areas surrounding a person with infectious TB disease • Dilutes and removes contaminated air • Exhausts contaminated air to the outside
Supplemental control	<p>HEPA filtration: Cleans the air of infectious droplet nuclei</p> <p>UVGI: Kills or inactivates TB bacilli in the air</p>

Abbreviations Used: HEPA=high-efficiency particulate air; TB=tuberculosis; UVGI=ultraviolet germicidal irradiation

PERSONAL RESPIRATORY PROTECTION

Administrative controls and environmental controls can substantially reduce TB transmission risk, but not eliminate the risk entirely. To further decrease the risk of TB transmission, a respirator should be worn in the following situations:

- Upon entering an airborne infection isolation room or any other closed air space used for the evaluation of a potentially infectious person who is not wearing a mask
- While performing sputum induction
- When in the home of a potentially infectious person who is not wearing a mask

Only the respirator for which an individual has been fit-tested should be used.

BTBC coordinates and implements the TB Respiratory Protection Program, which is a supplement to the Health Department’s Respiratory Protection Program. Although a number of senior management staff are responsible for ensuring compliance with the program, the Respirator Protection Administrator is responsible for implementing the program. Key components of the program include: respirator selection, identification of covered employees, respirator fitting, respirator training, and program evaluation. BTBC staff included in the personal respiratory protection program are required to complete an initial and, thereafter, annual respirator medical clearance, respirator fit testing, and training.

Respirators reduce exposure by filtering out TB bacilli before the person breathes potentially contaminated air. Maintaining optimum fit of the respirator is critical to providing the expected respiratory protection. Facial hair must be minimized because this negatively impacts the respirator fit and results in sub-optimal respiratory protection. Specific respirators (e.g., N95) for TB control (and certain other airborne infectious

diseases) have been approved for such use by the National Institute for Occupational Safety and Health (NIOSH). The “N95” is a government efficiency rating that means that the respirator blocks about 95% of particles that are 0.3 microns in size or larger. Although N95 respirators may resemble surgical masks, they are much more effective at removing TB and other contaminants from inhaled air than are surgical masks. Individuals who cannot achieve an adequate fit with a N95 respirator are fitted and provided with another respirator. During training, respirator users are provided opportunities to handle and wear a respirator until they become proficient. See *Table 13.2: Using Masks and Respirators* to determine when potentially infectious patients use masks and staff use respirators.

TABLE 13.2: Using masks and respirators

SPECIFIC QUESTION	MASK (PATIENT) (A REGULAR “SURGICAL” MASK*)	RESPIRATOR (STAFF) (NIOSH-APPROVED, N95 OR HIGHER*)
Purpose of the ...	Is to reduce transmission from an infectious patient by capturing infectious droplet nuclei before they get into the air	Is to reduce exposure by filtering infectious droplet nuclei out of the air, before wearers breathe the air into their lungs
Who should wear a ...	Persons with potentially infectious TB	Staff who care for or interact with potentially infectious persons
When to wear a ...	<p>In a hospital setting:</p> <ul style="list-style-type: none"> • Patient is suspected of having infectious TB, but not yet placed in airborne infection isolation, and • Whenever patient leaves an airborne infection isolation room for any reason <p>In an outpatient setting:</p> <ul style="list-style-type: none"> • Outside airborne infection isolation room • When obtaining care <p>At home:</p> <ul style="list-style-type: none"> • Spending time with others in a common use area (no need to wear a mask if alone in an unshared room) <p>In a transportation setting:</p> <ul style="list-style-type: none"> • Traveling in bus, or car when accompanied by others 	<p>In a hospital or outpatient setting:</p> <ul style="list-style-type: none"> • In an airborne infection isolation room • Performing cough-inducing or aerosol-generating procedures • When administrative or environmental controls are unlikely to be adequately protective <p>In a patient’s home:</p> <ul style="list-style-type: none"> • Visiting a patient who is potentially infectious and the patient is not wearing a mask <p>In a transportation setting:</p> <ul style="list-style-type: none"> • Riding in a vehicle with a patient who is potentially infectious and is not wearing a mask

Adapted from: Centers for Disease Control and Prevention. (2005). *Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care settings, 2005. Morbidity and Mortality Weekly Report, 54(17), 38-40.*

*Some devices, such as the 3M 1860, are both N95 respirators and surgical masks

Abbreviations Used: NIOSH=National Institute for Occupational Safety and Health; TB=tuberculosis

TUBERCULOSIS INFECTION CONTROL IN HEALTHCARE FACILITIES

Each hospital in NYC has its own detailed infection control plan and protocol for patient isolation. BTBC works directly with healthcare facilities' infection prevention staff or epidemiologists to investigate TB exposures occurring in healthcare settings, and communicates with relevant NYS authorities on a case-by-case basis.

HOSPITAL ADMISSION

Hospitalization is recommended for certain persons who may have active TB disease. These include:

- TB disease in sites with a high likelihood of complications:
 - Central nervous system (CNS)
 - Pericardium
 - Disseminated (more than two sites of disease)
- Presence of:
 - Severe hemoptysis
 - Hemodynamic instability
 - Advanced acquired immunodeficiency syndrome (AIDS)
 - Severe debilitation/inability to care for self
 - Comorbid medical conditions that require treatment in hospital
 - Severe anti-TB drug reactions (e.g., hepatic or dermatologic)
- Persons who reside:
 - In a congregate setting (e.g., long-term care facility, assisted living, or shelter)
 - With immunocompromised individuals
 - In unstable housing

For other patients, even those who may have infectious TB disease, outpatient diagnostic evaluation and treatment initiation is generally preferred.

AIRBORNE INFECTION ISOLATION

When hospitalized, a potentially infectious patient should be placed in an airborne infection isolation room promptly. Isolation is not required for persons with TB that does not involve the respiratory system. Each facility has its own procedures for initiating and discontinuing isolation.

Should an infectious patient require surgery, additional administrative or environmental control measures may be warranted (e.g., scheduling surgery for last case of the day, changing the direction of air flow such that operating room is at negative pressure to surrounding rooms).

USE OF A RESPIRATOR OR MASK

Facilities post notices on the door of the airborne infection isolation room to ensure that all individuals entering the room are aware of the appropriate procedures for entering or leaving the room. These measures require the use of a mask (visitors) or respirators (staff).

RESTRICTION OF ACTIVITIES

While in airborne infection isolation, the patient is restricted to the room unless the patient needs to leave the room for a diagnostic evaluation that cannot be obtained otherwise. In this case, the patient is required to wear a mask.

HOSPITAL DISCHARGE

As mandated by NYC Health Code, providers must submit a discharge plan to BTBC at least 72 hours before the expected hospital discharge of any patient with AFB smear-positive sputum. (See *Chapter 17: Laws Governing Tuberculosis Care in New York City*.) When discharge is anticipated, providers use the necessary forms found at <https://www1.nyc.gov/site/doh/providers/health-topics/tuberculosis.page>. BTBC responds within 24 business hours of receipt of the discharge plan. Before a hospital discharge is approved by BTBC, a number of factors are considered, including: whether the patient remains infectious, adequacy of the treatment regimen, plan for follow-up with a provider, whether the patient has a verified home address, and whether the home is appropriate for discharge. (See *Figure 13.1: Criteria for Discharging Patients with Tuberculosis from the Hospital*.)

If the patient is considered infectious:

- » The patient may not be discharged to a congregate residence or may require home care services
- » The patient must agree to home isolation and home directly observed therapy (DOT) (refer to the infection control measures [noted below] for infectious persons discharged on home isolation)
- » The treatment regimen must be considered adequate and tolerated (especially in the presence of drug resistance)

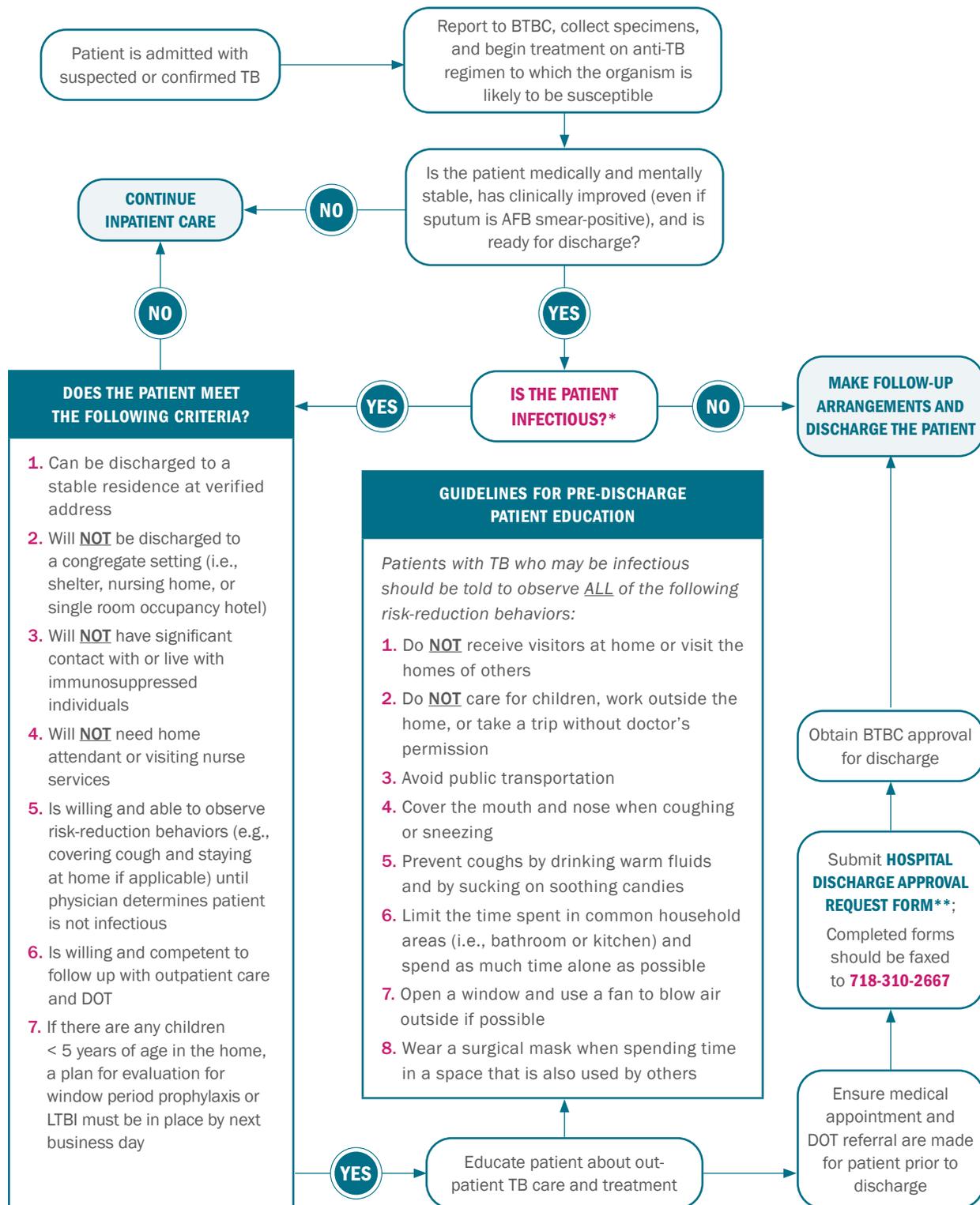
If the patient is considered non-infectious:

- » There is no need for home isolation; however, additional considerations may exist before removing restrictions for return to work or school (see sections below)

If a diagnosis other than TB has been established and the patient is not being treated for TB disease, BTBC concurrence is not required before hospital discharge, regardless of AFB sputum smear result.

For patients being discharged to a location outside of NYC, the relevant local public health authorities must agree to the discharge of the patient to their jurisdiction, even if BTBC considers the patient to be non-infectious.

FIGURE 13.1: Criteria for discharging patients with tuberculosis from the hospital



*Determined by the hospital physician in consultation with the BTBC medical consultant based on the entirety of clinical findings.

**Discharge forms can be found at <https://www1.nyc.gov/site/doh/providers/health-topics/tuberculosis.page>

Abbreviations Used: AFB=acid-fast bacilli; BTBC=Bureau of Tuberculosis Control; DOT=directly observed therapy; LTBI=latent tuberculosis infection; MDR-TB=multidrug-resistant tuberculosis; TB=tuberculosis

INFECTION CONTROL MEASURES IN THE COMMUNITY

Patients diagnosed with infectious TB disease may not require hospitalization for the duration of their infectiousness. In these instances, specific administrative, environmental, and personal protective measures should be employed to protect the health of the patient and the community.

HOME ISOLATION

BTBC encourages and supports home isolation for potentially infectious persons who are medically stable and do not live in congregate settings or have immunocompromised household members. TB patients who are on home isolation and members of their household are required to take measures to prevent the spread of TB in the residence until the patient becomes non-infectious. The patient's permission is requested, but the BTBC has an obligation to reveal the diagnosis and infectiousness to individuals who share the residence, and typically requires household members to assist the patient with activities of daily living so the patient may remain in the living space while infectious. During home isolation, the patient and others residing in the home are not able to receive visitors or have home health services. Home isolation is maintained until the patient is no longer considered infectious. Patients are permitted to spend time in outdoor open air space if safe access is available.

ADMINISTRATIVE CONTROLS IN THE PATIENT'S HOME

Key concepts for administrative control include:

- **Treatment of cases at home is encouraged whenever possible:** Patients are treated at home if their condition does not otherwise require hospitalization.
- **Window period treatment policy:** Exposed household members who are candidates for window period treatment should complete their evaluation and be on medication before the patient is discharged home (or as soon as possible if the patient was not hospitalized).
- **Extension of window period for household contacts:** When there is evidence of non-adherence to therapy in the source patient such that household contacts may have had additional meaningful exposure, the case management team may need to extend the window period of the household contacts.
- **Education:** The infectious patients, family, care providers, and close contacts are educated regarding the purpose of isolation, the patient's responsibility to adhere to the isolation requirements, the activities of daily living support needed, and the potential consequences to the patient of not voluntarily complying with isolation requirements.
- **Home isolation agreements:** The home isolation agreement is made available for review and signature by the patient (prior to discharge). (See *Appendix N: Home Isolation Agreement*.)
- **Directly observed therapy:** Patients on home isolation must accept treatment by DOT.

ENVIRONMENTAL CONTROLS IN THE PATIENT'S HOME OR DURING TRANSPORT

Efforts to increase ventilation and air exchange are generally recommended. In certain situations, such as in a patient with infectious multidrug-resistant TB (MDR-TB) or extensively drug-resistant TB (XDR-TB), a HEPA filter may be placed in the person's residence. Patients and their families are advised to do the following:

- When possible, the person with potentially infectious TB disease sleeps alone in a room
- Train the patient in optimal cough etiquette (e.g., cover their mouth and nose when coughing or sneezing)
- Keep windows and doors open (weather permitting) to increase the ventilation and dilution of infectious droplet nuclei in the house
- If a sputum sample needs to be collected at home, instruct the patient to do so in a well-ventilated area away from other residents (e.g., bathroom with an exhaust fan)
- When in a car, open the windows (weather permitting) and turn off recirculating air controls

RESPIRATORY PROTECTION IN THE PATIENT'S HOME OR DURING TRANSPORT

PATIENT: MASK

- The patient does not need to wear mask at home when alone
- The patient wears the mask when attending medical appointments, when using public transportation, or in a car with others

OTHER HOUSEHOLD RESIDENTS: MASK

- The patient is expected to wear a mask when in common spaces of the residence; however, when the patient does not do so, other household residents may wear a mask

HEALTHCARE WORKER: RESPIRATOR

- The respirator to which they have been fit-tested is worn when entering the home or other confined area when interacting with an infectious patient
- A respirator is worn when traveling with the infectious patient in a car

RESTRICTION OF ACTIVITIES

Until a person with potentially infectious TB disease is considered to be non-infectious, they are not permitted to return to work, school, or other congregate settings where the patient could expose individuals to airborne bacteria. While on home isolation, the patient is permitted to leave the home only if there is safe access to outdoor open air space. No visitors are permitted in the home.

DISCONTINUATION OF INFECTION CONTROL MEASURES

PERSONS STARTED ON TUBERCULOSIS TREATMENT AND NO LONGER INFECTIOUS

Several studies published in the last decade have found that once effective TB treatment is initiated, infectiousness decreases much more quickly than previously thought. Meanwhile, laboratory tests can now detect mutations associated with specific drug resistance in respiratory specimens within several days. If these test results confirm both the diagnosis of TB and the lack of mutations associated with drug resistance, physicians can be reasonably certain that the infection is susceptible to the standard TB regimen.

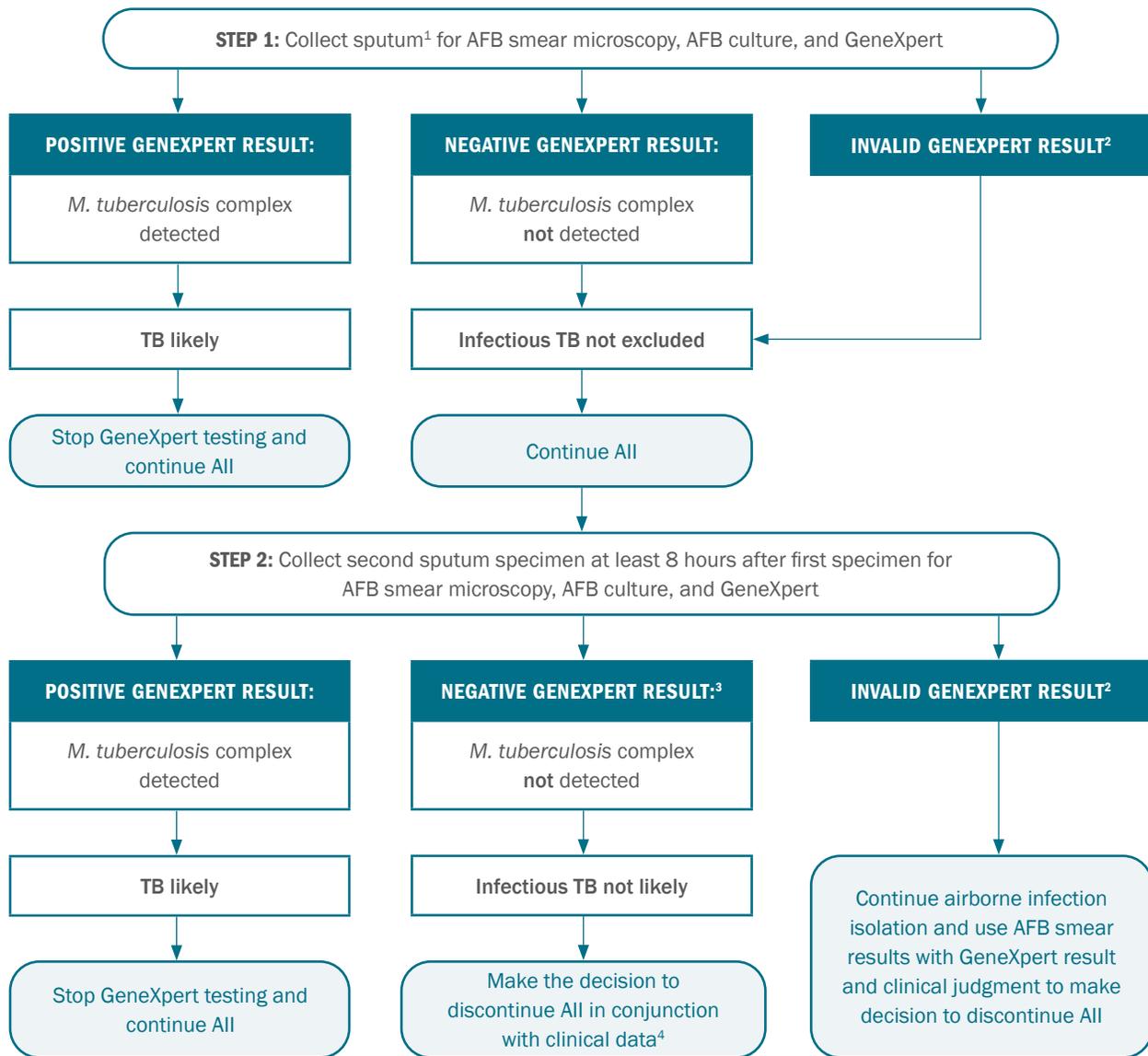
Given this new perspective on infectiousness and the more timely availability of drug susceptibility, it may not be necessary to wait for conversion of an AFB sputum smear from positive to negative before discontinuing airborne infection isolation for a patient with drug-susceptible TB. Although the decision to release a patient from airborne isolation is made by the healthcare facility staff according to facility protocols, BTBC medical consultants are available to assist in determining patient infectiousness.

Infection control measures are continued until an alternative diagnosis is established and any initiated TB treatment has been discontinued. Or alternatively, infection control measures are continued until the patient is taking effective therapy and is no longer infectious.

Once a person is determined to be non-infectious, airborne infection isolation (or home isolation) can be discontinued. The following guidelines may be used to inform whether a person with drug-susceptible TB disease of the lung and airways is determined to be non-infectious; however, a detailed discussion of all available information between an expert clinician and the treating provider is required.

- The patient has drug-susceptible TB (per nucleic acid amplification [NAA] or drug-susceptibility test [DST], conventional and molecular, results)
- The patient is receiving standard multidrug anti-TB therapy and demonstrating acceptable adherence; although the exact length of treatment required to consider the patient non-infectious varies, two weeks is commonly used as a reasonable benchmark
- The patient has a demonstrated clinical response to treatment:
 - Reduction/resolution of cough or fever
 - Reduction in AFB sputum smear grade
- The patient has agreed to continue antituberculosis treatment administered by DOT and to adhere to other treatment recommendations after discharge

FIGURE 13.2: Use of GeneXpert in discontinuing airborne infection isolation for acid-fast bacilli smear-positive patients



Source: National Tuberculosis Controllers Association, Association of Public Health Laboratories. Consensus Statement on the Use of Cepheid Xpert MTB/RIF® Assay in Making Decisions to Discontinue Airborne Infection Isolation in Healthcare Settings. Silver Spring, MD: Association of Public Health Laboratories; 2016. http://www.tbcontrollers.org/docs/resources/NTCA_APHL_GeneXpert_Consensus_Statement_Final.pdf.

1. First morning specimen preferred to maximize diagnostic yield of AFB sputum smear, culture, and GeneXpert.
2. Most laboratories/protocols will automatically retest leftover sample if an initial invalid (failed) result is obtained; in such cases, a reported invalid result reflects repeat testing of a single specimen.
3. If this result is negative following an initial invalid result in Step 1 and infectious TB still is clinically suspected, a repeat test (repeat Step 2) using a new specimen, if available, is recommended in order to improve sensitivity. Alternatively, the clinician may use the single negative GeneXpert result from Step 2 with smear results and clinical information to make the decision to discontinue or maintain airborne infection isolation.
4. Note: This process does not rule out tuberculosis with 100% certainty.

Abbreviations Used: All=airborne infection isolation; AFB=acid-fast bacilli; *M. tuberculosis*=*Mycobacterium tuberculosis*; TB=tuberculosis

PERSONS NO LONGER CONSIDERED TO HAVE INFECTIOUS TUBERCULOSIS

Certain patients initially thought to have infectious TB (e.g., those with positive AFB sputum smears) may have an alternative diagnosis established. For example, a patient with AFB smear-positive sputum and a negative TB test (NAA) result (on two specimens) from Cepheid's Xpert® MTB/RIF, combined with other patient data that suggest an alternate diagnosis, may result in the clinician stopping TB treatment (if begun). In this scenario, BTBC endorses the discontinuation of airborne infection isolation. Any restricted activities related to the possible TB diagnosis are suspended. (See Figure 13.2: *Use of GeneXpert in Discontinuing Airborne Infection Isolation for Acid-Fast Bacilli Smear-Positive Patients.*)

DRUG-RESISTANT TUBERCULOSIS

Criteria for considering a patient with certain types of drug-resistant TB (DR-TB) non-infectious are more stringent than those for drug-susceptible TB. Because NAA tests only provide information on a limited number of anti-TB drugs, the final results of DST or other molecular tests are required before the clinician can ensure that the patient with DR-TB is on effective treatment. Considering a patient with MDR-TB or XDR-TB non-infectious is a case-by-case decision that may require smear and/or culture conversion (to negative).

RETURN TO WORK, SCHOOL, OR CONGREGATE RESIDENCE

In most situations, if a person is considered non-infectious, home isolation and other infection control measures can be discontinued. However, providers may reasonably take a conservative approach and include additional requirements, such as culture conversion, in situations including the following:

- The person with TB may interact with immunocompromised individuals or young children
- The TB is MDR or XDR

REGULATORY CONTROLS FOR INFECTIOUS NON-ADHERENT PATIENTS

Through an order issued by the Commissioner of Health, BTBC has the authority to involuntarily isolate and detain an infectious person in a healthcare facility until the person is no longer infectious or until treatment completion. Before such action can be taken, BTBC staff must document that the person has failed to adhere to treatment after being informed about their disease, their infectiousness, and the rationale for treatment. (See *Chapter 17: Laws Governing Tuberculosis Care in New York City* and *Chapter 10: Case Management for Patients with Tuberculosis.*)

SPECIAL CONSIDERATIONS FOR PREGNANCY AND PERIPARTUM INFECTION CONTROL

Separation of a newborn baby from a mother with infectious TB should be avoided whenever possible. The mother should consistently use a mask when with or near the infant. Delivery should be conducted in an airborne infection isolation room. However, in some rare situations, separation of the infant from the mother may be warranted to prevent transmission of TB to the infant. These include:

- Mother refuses to wear the mask consistently around the child
- Mother is highly suspected to have TB disease and has not yet started treatment
- Mother has MDR-TB

In all these instances, BTBC works closely with the mother and treating provider to develop an infection control plan that meets the needs of the patient while also protecting the health of the infant.

If an asymptomatic individual is found to have a positive test for TB infection early in pregnancy as part of a routine evaluation, but refuses a follow-up CXR, providers should encourage a CXR after the second trimester to rule out active TB disease before delivery.

BUREAU OF TUBERCULOSIS CONTROL INFECTION CONTROL PLAN

BTBC's TB infection control plans contain measures for reducing the spread of TB to staff in a specific setting (e.g., NYC Health Department TB clinics, non-clinical setting, and patient residences) and is part of an overall NYC Health Department infection control program that includes blood-borne pathogens and other airborne illnesses. The TB infection control plan details the policies and procedures used to ensure the prompt detection, isolation, and treatment of persons who have suspected or confirmed TB disease. An annual review and modification of the TB infection control plan is performed.

BTBC's infection control program includes the following elements:

1. Assignment of staff responsible for the implementation, coordination, and compliance with the program
2. Risk assessment of work duties and/or work venues where transmission of TB may occur
3. Infection control measures including administrative controls, environmental controls, and personal respiratory protection
4. Identification of work duties that require staff to have baseline and periodic TB screening, testing, medical evaluation, and counseling, as well as work duties that require staff to undergo the medical clearance for and fit testing of respirators, and respirator training
5. Education and training of all BTBC staff
 - a. Annual training of staff regarding transmission risks of TB, respirator use, and the measures staff should take to reduce transmission risk in any patient care setting is mandated by BTBC
 - b. Whenever possible, this training is conducted in conjunction with other related infectious disease training (e.g., blood-borne pathogen training)

SUMMARY

Infection control practices can effectively reduce the risk of TB transmission. Appropriate treatment of active TB disease rapidly reduces the infectiousness of patients. Coupled with the availability of rapid diagnostic studies to assess drug resistance, an evolved understanding of infectiousness has enabled BTBC to revise infection control guidelines so that most patients with active TB may return to the community more quickly than in the past, without posing a significant risk to the larger community.

KEY SOURCES

Centers for Disease Control and Prevention. Interactive Core Curriculum on Tuberculosis. [cdc.gov. Interactive Core Curriculum on Tuberculosis. https://www.cdc.gov/tb/webcourses/course/main_menu/index.html](https://www.cdc.gov/tb/webcourses/course/main_menu/index.html).

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