An abstract geometric design on the left side of the slide. It features a dark blue background with various shapes and patterns: a white circle at the top left, a grey semi-circle, concentric blue circles, a pink square with a white grid pattern, and several triangles in shades of purple and pink.

New Guidelines for Isolation in the Home and Community Setting

Biennial TB & Refugee
Nurse Meeting
November 2024



Outline

- What would you do?
- Review of New NTCA Guidelines
- Virginia Development and Progress
- Preview of Draft Virginia Guidance and Tools
- Downstream Implications

Scenario 1

- 29 year old male
- Born in Honduras
- Productive cough x3 weeks, 15 lb weight loss
- IGRA positive
- Initial sputa 3+, PCR positive for TB
- No history of prior TB/LTBI treatment
- Works alone outside
- Lives with one roommate
- Has received 7 DOT doses of RIPE



1. Release from isolation now
2. Release from isolation after 14 doses received
3. Release from isolation after 14 doses and smears decrease
4. Release from isolation when smears convert

Scenario 2

- 80 year old male from Vietnam
- IGRA positive
- 3 month history of cough, fevers, weight loss
- Abnormal xray, no cavities
- Does not work
- Diabetic
- Lives alone
- Initial smears negative, PCR negative
- Clinical TB diagnosis
- Starting TB treatment today



1. Release from isolation now
2. Release from isolation after 5-7 doses received
3. Isolate at home until 5-7 DOT doses received **AND** seeing clinical improvement
4. Release from isolation after 14 doses received

Scenario 3

- 25 year old woman
- Born in Peru
- Recent weight loss, hemoptysis, night sweats
- Hx of partial treatment for TB disease as a child
- Initial sputa smears 3+, PCR positive, rpoB mutation detected, culture growing
 - MDDR results pending
- Works in a daycare
- Has not started regimen yet



1. Release from isolation now
2. Release from isolation after 14 doses received
3. Release from isolation after 14 doses and smears decrease
4. Release from isolation when smears convert
5. Release from isolation after 14 DOT doses received **AND** seeing clinical improvement
6. Release from isolation after cultures convert
7. Need more information

Clinical Infectious Diseases

GUIDELINES



OXFORD

National Tuberculosis Coalition of America (NTCA) Guidelines for Respiratory Isolation and Restrictions to Reduce Transmission of Pulmonary Tuberculosis in Community Settings

Maunank Shah,^{1,6} Zoe Dansky,¹ Ruvandhi Nathavitharana,² Heidi Behm,³ Shaka Brown,⁴ Lana Dov,⁵ Diana Fortune,⁶ Nicole Linda Gadon,⁴ Katelynn Gardner Toren,⁷ Susannah Graves,⁸ Connie A. Haley,⁹ Olivia Kates,^{1,10} Nadya Sabuwala,¹¹ Donna Wegener,¹² Kathryn Yoo,¹³ and Joseph Burzynski¹⁴; on Behalf of the National TB Coalition of America

¹Division of Infectious Diseases, Department of Medicine, Johns Hopkins University, School of Medicine, Baltimore, Maryland, USA; ²Division of Infectious Diseases, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, Massachusetts, USA; ³TB Program, Oregon Health Authority, Portland, Oregon, USA; ⁴We Are TB, Stop TB USA, Atlanta, Georgia, USA; ⁵Washington State Department of Health, Shoreline, Washington, USA; ⁶National Tuberculosis Coalition of America, National TB Nurse Coalition, Atlanta, Georgia, USA; ⁷Public Health Seattle and King County Tuberculosis Control Program, Seattle, Washington, USA; ⁸San Francisco Department of Public Health, San Francisco, California, USA; ⁹Division of Infectious Diseases, Department of Medicine, Vanderbilt University Medical Center, Nashville, Tennessee, USA; ¹⁰Berman Institute of Bioethics, Johns Hopkins University, Baltimore, Maryland, USA; ¹¹Minnesota Department of Health, St. Paul, Minnesota, USA; ¹²National TB Coalition of America, Atlanta, Georgia, USA; ¹³Texas Department of State Health Services, Tuberculosis and Hansen's Disease Unit (TXDSHS), Society of Epidemiologists in Tuberculosis Control (SETC), Texas, USA; and ¹⁴New York City Department of Health and Mental Hygiene, New York, New York, USA

Background

- NTCA created a Guideline Development Group (GDG) with broad representation and TB expertise and experience
- Evidence Synthesis Group evaluated scientific literature to inform the GDG
- GDG reviewed ethical principles of public health decision-making

Literature review focused on the impact of isolation for persons with TB on:

- **Public health outcomes:** TB incidence and mortality
- **Patient outcomes:** mental health, stigma, and costs

Additional scoping review focused on:

- Association of sputum smear microscopy results, cough, cavitory disease on chest radiograph, and tx initiation with potential infectiousness

Respiratory Isolation and Restrictions (RIR) in Community Settings

- **Community Settings** = Home/residence, workplace, school, etc.
- Consider the potential benefits and harm for the community **and** the person with TB
- Final decisions should be individually tailored, considering relevant patient-specific, setting-specific, and contextual information.



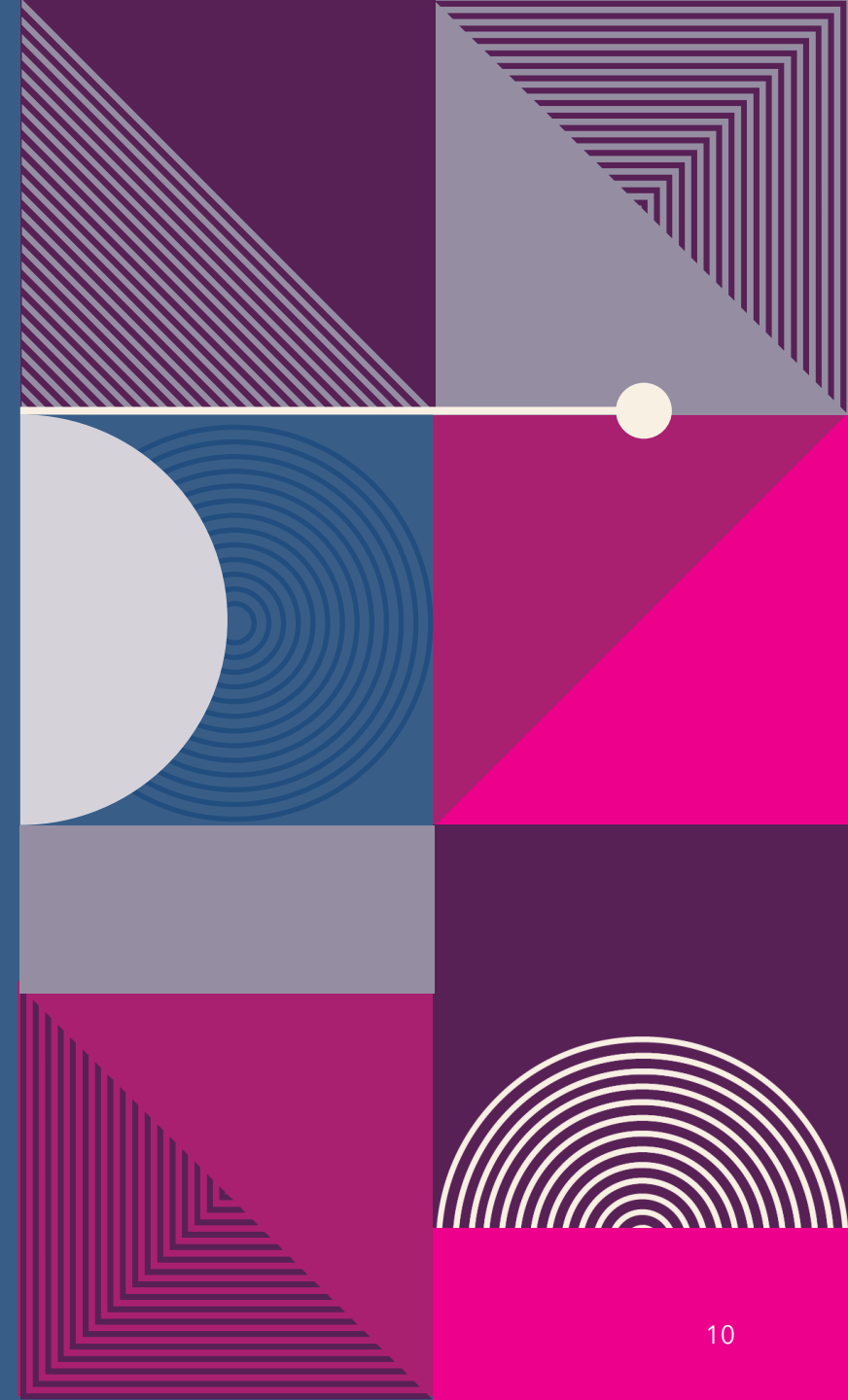
Workgroup Mission and Scope

In response to these updated guidelines, the Virginia TB Program convened a representative workgroup to develop an updated guidance document for TB isolation for use by Virginia's local health departments.

Workgroup Objectives and Goals

This workgroup is focused on the following two goals:

1. Critically review and discuss the updated guidelines considering the implications to local health departments, and
2. Develop an updated guidance document for use by local health department staff.



Workgroup Members

- **Central Region:** Cindy Debusk, Rosalie Bieda, Abi Nimitz, Dr. Saritha Gomadam
- **Eastern Region:** Marli Laudun, Robie Aubuchon, Michelle Lathrop, Sena Amegbletor
- **Northern Region:** Dr. Barbara Andrino, Raheleh Farmand, Evelyn Poppell, Emily Astorga, Nancy Lara, Sergio Suarez-Ruesta
- **Northwest Region:** Katrin Wince, Bindi Pathak, Dr. Allison Baroco, Lauren Padlo
- **Southwest:** Steve Bailey, Megan Carter, Autumn Logsdon, Kathy Waller, Odessa Dunaway
- **DCLS:** Kathleen Milloy, Rana Mehr
- **VDH TB Program staff**



Workgroup Stakeholders

- Jill Grumbine, Newcomer Health Program Manager, VDH
- Jasie Hearn, Division Director, Division of Clinical Epidemiology, VDH
- Dr. Maria Almond, Piedmont Health District Director
- Tania Shah, TB Survivor, We Are TB
- Dr. Eric Houpt, TB Program Clinical Consultant, UVA
- Dr. Tania Thomas, TB Program Clinical Consultant, UVA
- VDH Community Health Services Leadership
- Dr. Laurie Forlano, Office Director, Office of Epidemiology, VDH

Workgroup Timeline & Next Steps

- Expedited workgroup timeline - kicked off August 20th and we hope to have the new guidance and associated documents released in early 2025.



Existing TB Program Isolation Guidelines

Existing Guidelines

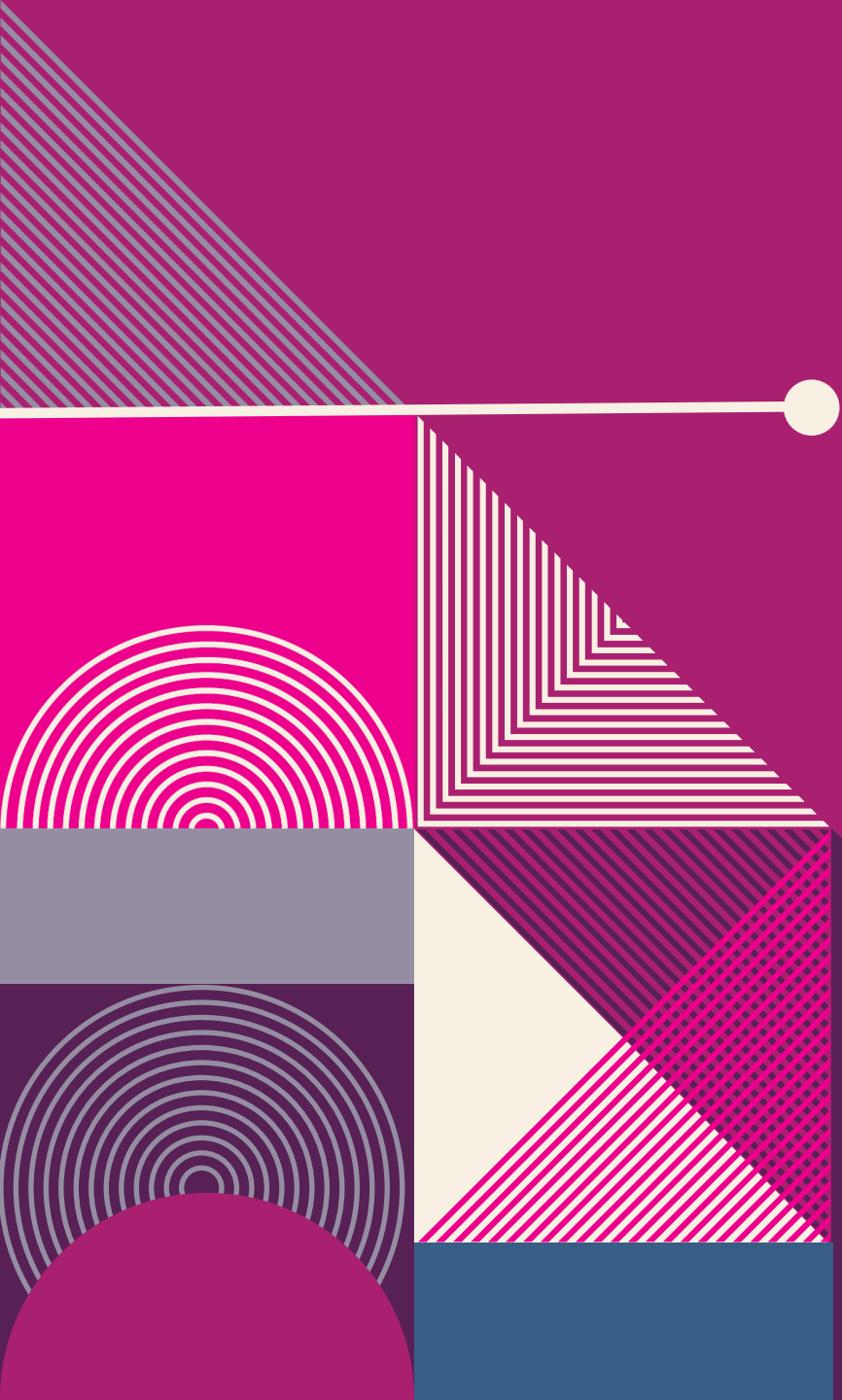
BOX 3. Criteria for determining when during therapy a patient with pulmonary tuberculosis (TB) has become noninfectious*

- Patient has negligible likelihood of multidrug-resistant TB (no known exposure to multidrug-resistant tuberculosis and no history of prior episodes of TB with poor compliance during treatment).
- Patient has received standard multidrug anti-TB therapy for 2–3 weeks. (For patients with sputum acid-fast bacilli [AFB] smear results that are negative or rarely positive, threshold for treatment is 5–7 days.)
- Patient has demonstrated complete adherence to treatment (e.g., is receiving directly observed therapy).
- Patient has demonstrated evidence of clinical improvement (e.g., reduction in the frequency of cough or reduction of the grade of the sputum AFB smear result).
- All close contacts of patients have been identified, evaluated, advised, and, if indicated, started on treatment for latent TB infection. This criterion is critical, especially for children aged <4 years and persons of any age with immunocompromising health conditions (e.g., HIV infection).
- While in hospital for any reason, patients with pulmonary TB should remain in airborne infection isolation until they 1) are receiving standard multidrug anti-TB therapy; 2) have demonstrated clinical improvement; and 3) have had three consecutive AFB-negative smear results of sputum specimens collected 8–24 hours apart, with at least one being an early morning specimen. Hospitalized patients returning to a congregate setting (e.g., a homeless shelter or detention facility) should have three consecutive AFB-negative smear results of sputum specimens collected >8 hours apart before being considered noninfectious.

* These criteria for absence of infectivity with treatment should be considered general guidelines. Decisions about infectivity of a person on treatment for TB should depend on the extent of illness and the specific nature and circumstances of the contact between the patient and exposed persons.

TABLE 4. Criteria for release from isolation to high and lower risk settings*

Patient category	Setting	Criteria
Patient with known MDR-TB	High risk	<ul style="list-style-type: none"> • Three consecutive respiratory specimens, including at least one early AM or induced sputum, or bronchoalveolar lavage (BAL), collected at least 8 hours apart, are AFB smear negative, and no subsequent sputum specimen is AFB smear positive; and • At least 2 consecutive negative sputum cultures without a subsequent positive culture; OR if subsequent AFB smear positive after 3 negative AFB smears, a clinical assessment has been performed and determined to most likely NOT represent viable <i>M. tuberculosis</i>; and • At least 14 daily doses of appropriate[†] treatment for MDR-TB taken and tolerated, preferably by DOT; and • Clinical improvement
	Lower risk**	<ul style="list-style-type: none"> • Three consecutive sputum specimens, including at least one early AM or induced sputum, or BAL, collected at least 8 hours apart are AFB smear negative; and • At least 14 daily doses of appropriate[†] treatment for MDR-TB taken and tolerated, preferably by DOT; and • Clinical improvement



New NTCA Isolation Guidelines

NTCA Guidelines

Two levels of restriction: Extensive restriction and Midlevel/moderate restriction

Restriction Duration

- Most persons with TB (PWTB) on appropriate TB treatment for at **least five days** (five DOT doses) have low infectious potential or are non-infectious, irrespective of sputum-based laboratory tests that are collected while on appropriate TB treatment.
- Prolonged duration may be appropriate
- Additional review or expert consultation should be considered when duration extends **beyond 14 days**.

Duration may be **extended** based on comprehensive assessment of the PWTB's infectiousness, community risks and consequences of TB transmission, and individual harms.

- Anticipated exposures to vulnerable populations including children <5, and immunosuppressed individuals
- Anticipated return to congregate living facility or densely populated environments with poor ventilation
- Known or suspected TB drug resistance where consequences of transmission should be weighted with harms of prolonged restriction

Table 1. Recommendations for Community-Based Respiratory Isolation and Restriction for Persons With Tuberculosis

Recommendation 1: Goals of RIR	1.1. The decision to recommend TB RIR should consider the potential benefit to the community and the PWTB.
Recommendation 2: Defining RIR (Table 2)	2.1. RIR in community settings should be conceptualized as a spectrum of individualized for specific circumstances (Table 2).
Recommendation 3: Determining infectiousness and transmission risk (Figure 1)	<p>3.1. Prior to effective^a ATT initiation, PWTB with higher respiratory bacterial NAAT positivity, cavitation on chest imaging) may be considered as likely with lower bacterial burden, with individual variability.</p> <p>3.2. PWTB on less than 5 days of effective ATT should be considered relative longer durations of effective^a therapy.</p> <p>3.3. PWTB on effective^a ATT for at least 5 days should be considered non-likely of infectiousness, regardless of sputum bacteriologic status (microscopy or culture status), with certain exceptions.^b</p> <p>3.4. Overall risk of transmission to others should consider both a PWTB's factors including the environment of potential exposures, durations of exposure, and the susceptibility of contacts.</p>
Recommendation 4: Determining RIR (Table 2)	

Table 2. Spectrum of Respiratory Isolation and Restriction for Persons With Tuberculosis

Extensive restriction	<ol style="list-style-type: none"> Individuals should strictly limit their movement to an agreed-upon location. Any exceptions to extensive RIR should be discussed and agreed upon. When an individual leaves the primary site of RIR (such as for a health care visit), personal protective equipment (PPE) for the PWTB, and efforts for improving ventilation (e.g., HEPA filters) should be used. Visitors not living in the residence should be avoided unless approved by the local health department (e.g., N95).
Midlevel/moderate restrictions	<ol style="list-style-type: none"> Individual spends majority of time at an agreed-upon location, such as home. Individual may leave the location for most outdoor activities and social activities with public health department officials: <ol style="list-style-type: none"> Individual may engage in most activities in outdoor or well-ventilated settings. Strategies to minimize aerosols including wearing a mask (ie, surgical or KN95) particularly if there is contact with previously unexposed individuals. Indoor activities should avoid prolonged (eg, multiple hours), crowded settings, especially in previously exposed or vulnerable populations (eg, children, immunosuppressed, children), additional measures to improve ventilation, to, personal protective equipment (eg, N95 masks) for the PWTB, and efforts for improving ventilation (eg, negative-pressure room). Indoor activities in settings of poor ventilation or dense populations should be avoided^c. In settings at higher risk of transmission (eg, health care visit) or potential risk of transmission to vulnerable populations (eg, immunosuppressed, children), additional measures to improve ventilation, to, personal protective equipment (eg, N95 masks) for the PWTB, and efforts for improving ventilation (eg, negative-pressure room). Visitors should be avoided unless approved by the local health department (e.g., N95).
No restriction	1. Individuals have no restrictions and may engage in daily activities.

Abbreviations: ATT, anti-tuberculosis therapy; RIR, respiratory isolation and restriction.

^aEffective ATT is defined as the start of effective therapy.

^bNo single test or ATT duration is sufficient to determine infectiousness; however, after the first few weeks of effective therapy, community-based transmission risk is lower. Other factors that influence the likelihood of transmission from a PWTB to an exposed contact include frequency, or proximity of exposure that defines likelihood of transmission. While short durations of exposure are not infectious after longer durations (weeks to months) of intensive exposure. Overall, the risk of transmission for shorter durations (eg, >8 h), in indoor settings at close proximity.

^cStudies suggest that transmission risk is lower in outdoor settings and locations with natural ventilation and high air flow. Other factors that influence the likelihood of transmission from a PWTB to an exposed contact include frequency, or proximity of exposure that defines likelihood of transmission. While short durations of exposure are not infectious after longer durations (weeks to months) of intensive exposure. Overall, the risk of transmission for shorter durations (eg, >8 h), in indoor settings at close proximity.

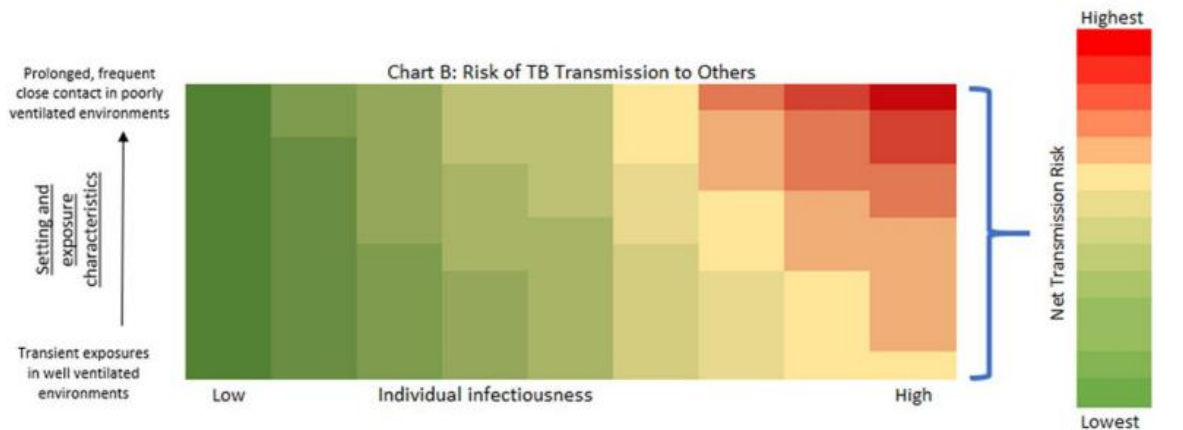
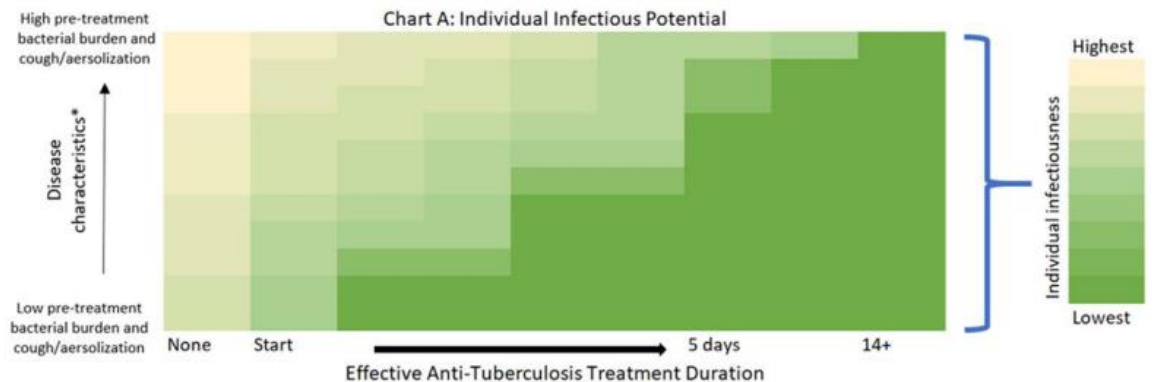


Table 3. Integrated Schematic and Decision Aid to Support Community-Based Respiratory Isolation and Restriction Recommendations for Individuals With Pulmonary Tuberculosis

Recommendation 3: Determining Infectiousness			Recommendation 4: Determining RIR	Recommendation 5: Level of RIR	Notes
ATT status	Pretreatment respiratory bacterial burden ^a	Assessment of individual infectiousness ^{a,b}	Is RIR indicated? ^c	What level of RIR to choose? (Rec 2; Table 2)	Specific recommendations should balance community and patient risks and benefits (Rec 1)
Pretreatment	High	Highest (Rec 3.1)	Yes (Rec 4.3)	Extensive	Support should be provided to mitigate harm to PWTB (Rec 5.3)
	Low	Moderate (Rec 3.1)	Yes (Rec 4.3)	Extensive or moderate (Rec 5.1)	
Treatment ≤5 d	High	Moderate (Rec 3.2)	Yes (Rec 4.3)	Moderate (Rec 5.1)	Moderate (Rec 5.1)
	Low	Moderate/low (Rec 3.2)	Yes (Rec 4.3)	Moderate (Rec 5.1)	
Treatment >5 d	High	Low (Rec 3.3) ^b	Not indicated in most situations (Rec 4.2) ^d	None	Individual exceptions to continue RIR may be considered (Rec 5.2) ^d
	Low	Lowest (Rec 3.3)		None	

VDH Draft Documents



Isolation and Respiratory Restrictions for Persons with Infectious Active Tuberculosis in Household and Community Settings: Virginia Department of Health Guidance for Local Health Departments

November 1, 2024

Summary/Purpose

In light of [updated national guidelines](#) released in 2024, this document is designed to assist Virginia Department of Health (VDH) TB clinical teams when making decisions about the use of respiratory isolation and restrictions (RIR) for a person with potentially infectious active TB. Care and management of anyone with active tuberculosis (pulmonary or extrapulmonary) should be in coordination with [VDH](#) and [local health departments](#).

In this document, the term RIR is used to delineate both physical isolation of a person with TB (PWTB) and restrictions on movement or activities that would place the PWTB in contact with other susceptible individuals. RIR is only necessary for patients with infectious (or potentially infectious) active TB disease, to reduce risk of infection of others, and it is not recommended for persons with noninfectious forms of TB (i.e., localized extrapulmonary TB without pulmonary or laryngeal involvement, as confirmed by sputum bacteriologic studies and/or chest imaging). RIR is not used for individuals diagnosed with latent TB infection (LTBI), which is not infectious. These guidelines reflect changes to recommendations for implementation of RIR in a household or general community setting (e.g., workplace, school). Recommendations for [healthcare](#) (e.g., hospitals, nursing homes) and congregate settings (e.g., [correctional facilities](#), homeless shelters, assisted living facilities) are unchanged and not addressed in this document. Resources for these settings are available from the [Centers for Disease Control and Prevention](#) (CDC).

Introduction/Background

Isolation of patients with infectious active tuberculosis (TB) disease is a fundamental element of public health patient management to prevent further transmission of TB. RIR is not recommended for persons with noninfectious forms of TB (i.e., localized extrapulmonary TB without pulmonary or laryngeal involvement, as confirmed by sputum bacteriologic studies and/or chest imaging). RIR is not used for individuals with LTBI, which is not infectious. Isolation is also rarely recommended for young children (under the age of ten), as they are not typically infectious. Isolation involves physical separation of a PWTB from others, including the use of separate airspace, but also involves placement of restrictions on the patient's contact with others and many daily activities such as travel, work, shopping, attending religious services, etc.

Table 3
TB Transmission - Effect of Index Patient Characteristics and Behaviors and Release from Respiratory Isolation and Restrictions

Characteristics That Increase Infectiousness	Behaviors That Increase Infectious Potential
Pulmonary, laryngeal, or pleural TB	Coughing
AFB+ sputum smear	Sneezing
Cavitation on chest radiograph	Singing
Adolescents or adult patient	Laughing
No or ineffective treatment of TB disease	Close social network

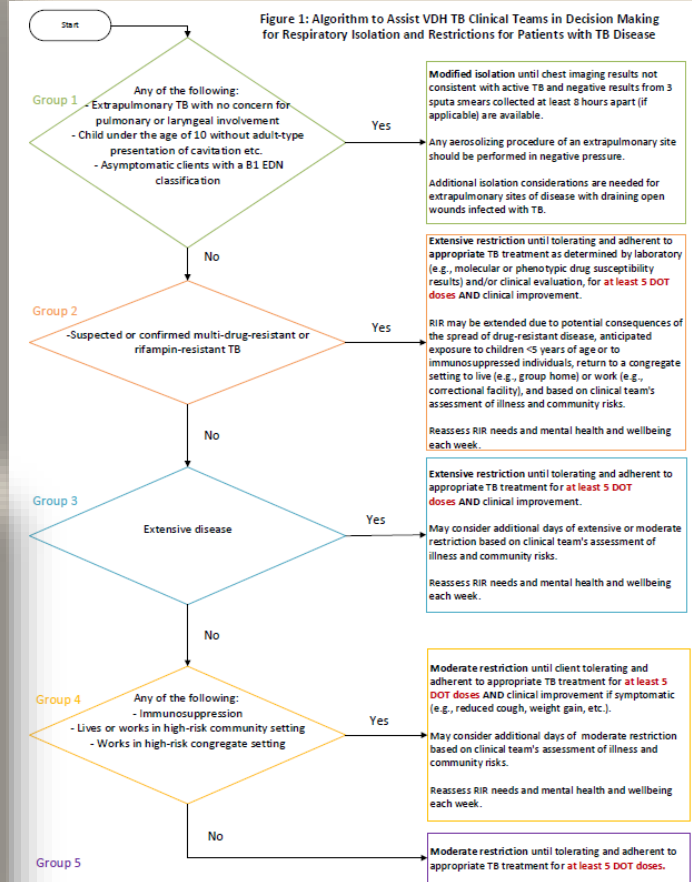
Additional Points

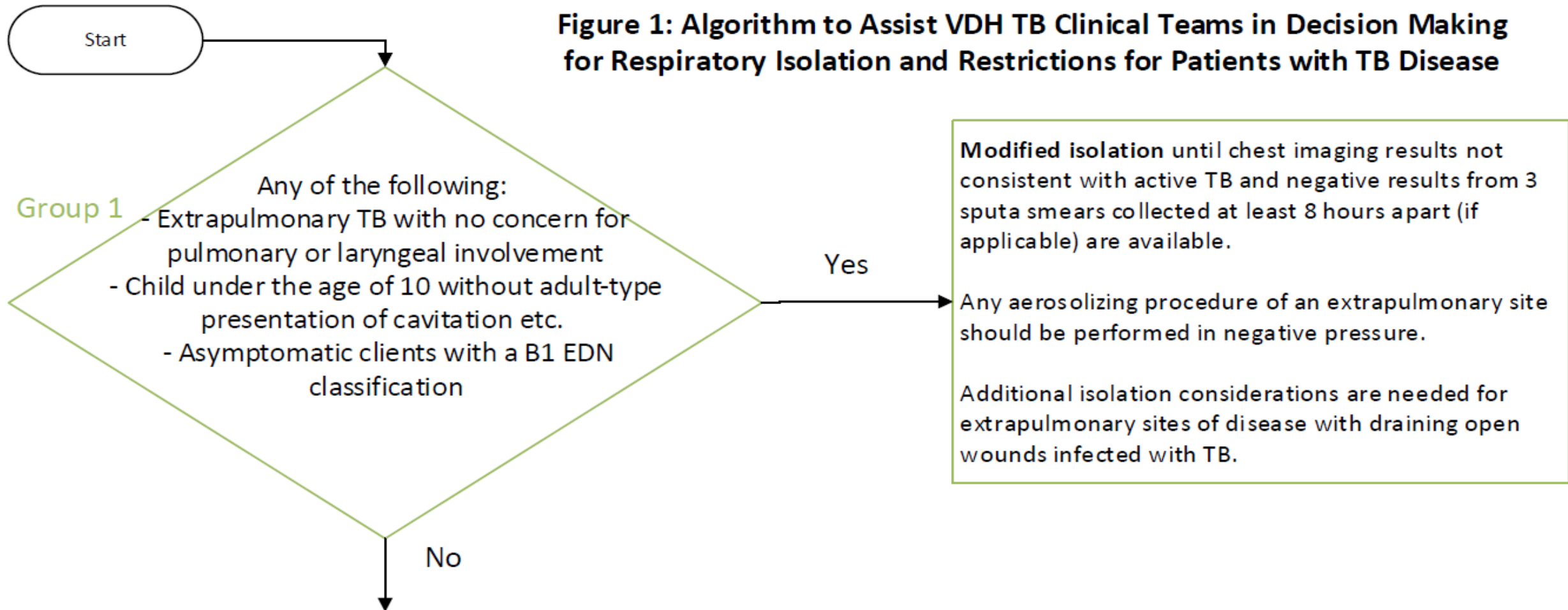
- Pleural & laryngeal disease sites are grouped with respiratory disease.
- Sputum cultures can yield M. tb even when no lung abnormalities are apparent on a radiograph.
- The significance for infectiousness of results from respiratory specimens other than expectorated sputum is undetermined. Experts recommend that these specimens be regarded as equivalent to sputum for determining infectiousness only if sputa cannot be obtained.
- Patients with lung cavities typically are more infectious than patients with non-cavitary pulmonary disease.
- Cough frequency and severity is associated with increased transmission risk.
- Transmission from children aged <10 years is unusual. When transmission occurs, it is generally associated with the presence of pulmonary forms of disease typically seen in adults.
- HIV infection has no effect on potential infectiousness. Each patient must be evaluated individually.
- When drug resistance is NOT present, TB patients rapidly become less contagious after starting effective treatment. However, the exact rate of decrease cannot be predicted.
- Environmental conditions such as the size of the space and ventilation as well as the length of exposure must be considered when determining potential transmission.

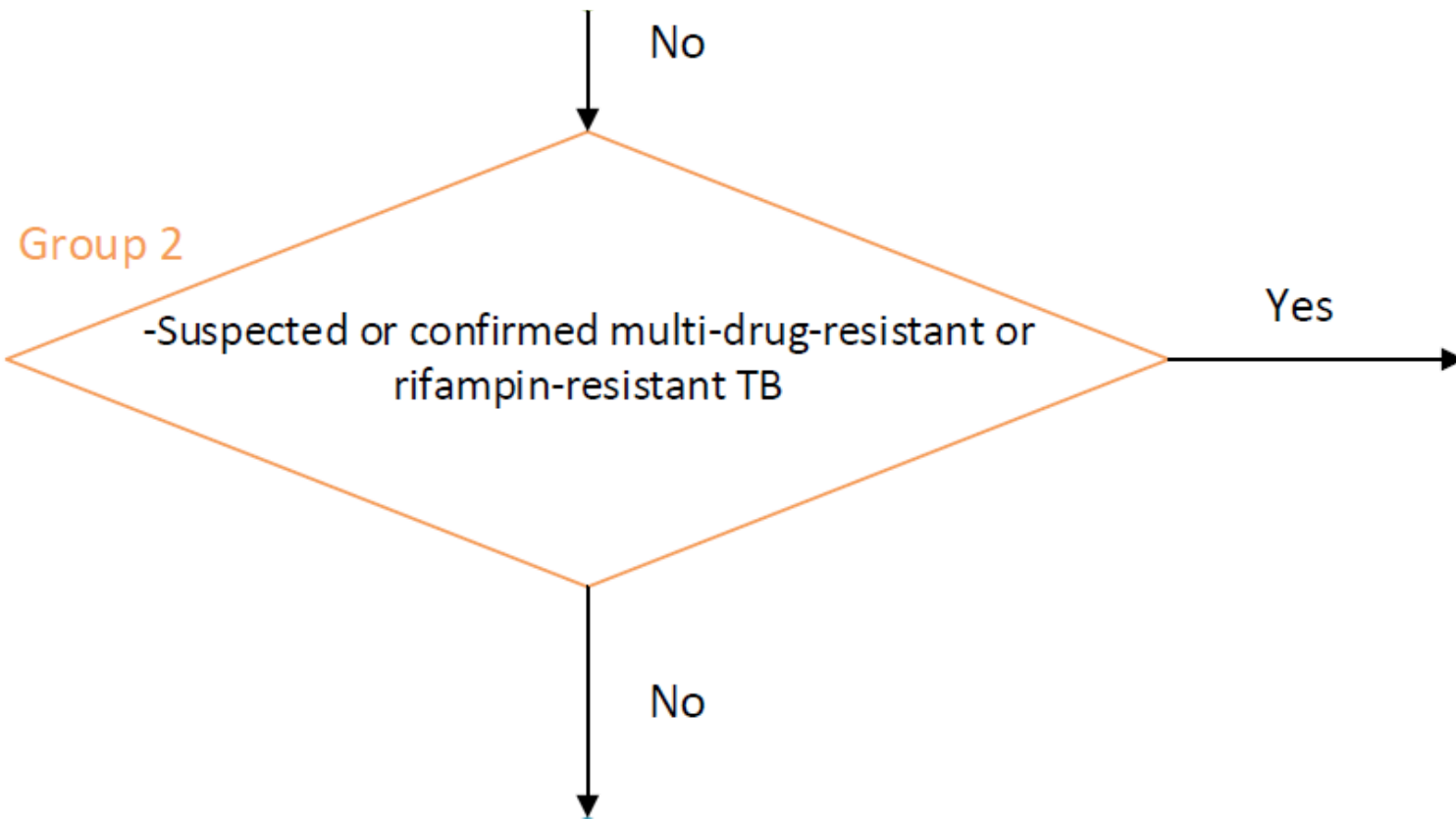
Sources:
[Respiratory Tuberculosis in the United States: MMWR 2005; 54\(RR-12\)](#)
Munirani Shah, et al. National Tuberculosis Coalition of America (NTCA) Guidelines for Respiratory Isolation and Restrictions to Reduce Transmission of Pulmonary Tuberculosis in Community Settings. *Clinical Infectious Diseases*. 2024. [https://doi.org/10.1093/cid/ciaq129](#)

Table 2: Spectrum of Respiratory Isolation and Restriction for Persons with Tuberculosis

Extensive restriction	<ol style="list-style-type: none"> PWTB should strictly limit their movement to an agreed-upon location, such as a home or other residence. PWTB may leave the agreed-upon location to spend time outside (e.g., go for a walk) without interacting closely with others. When a PWTB leaves the primary site of RIR (such as for a healthcare visit), additional measures to reduce TB transmission risk may be warranted, including but not limited to, personal protective equipment (e.g., surgical masks) for close contacts, surgical mask for the PWTB, and efforts for improved ventilation (e.g., open windows during transportation in cars, negative-pressure rooms or HEPA filters). Avoid visitors until the PWTB is no longer under RIR. If visitors are unavoidable, encourage visiting outside or while masked (as resources permit). Consider providing TB education resources in appropriate languages. PWTB should avoid close or prolonged (e.g., multiple hours) contact with and wear a surgical mask (as resources permit) around those in the home/residence who are vulnerable to TB infection/progression (e.g., children, immunosuppressed individuals)
Midlevel/moderate restriction	<ol style="list-style-type: none"> PWTB spends majority of time at an agreed-upon location, such as a home or residence. PWTB may leave the location for most outdoor activities and some time-sensitive medical appointments, as determined through discussion with the local health department. <ol style="list-style-type: none"> Indoor activities in the home or residence should avoid or minimize close contact with others, particularly individuals not previously exposed or vulnerable populations (e.g., children, immunosuppressed individuals); Strategies to minimize aerosols including wearing a surgical mask by the PWTB and close contacts, should be utilized for indoor activities, including in the home or residence, when vulnerable or previously unexposed individuals are present. Avoid visitors until the PWTB is no longer under RIR. If visitors are unavoidable, encourage visiting outside or while masked (as resources permit). Consider providing TB education resources in appropriate languages.
Modified isolation	<ol style="list-style-type: none"> Individual spends majority of time at an agreed-upon location, such as a home or residence. Individual may leave the location for outdoor activities without wearing a surgical mask. Individual may leave the location for indoor activities while wearing a surgical mask, to include time sensitive medical appointments. Avoid visitors during the modified isolation period. If visitors are unavoidable, encourage visiting outside or while masked (as resources permit). Consider providing TB education resources in appropriate languages.



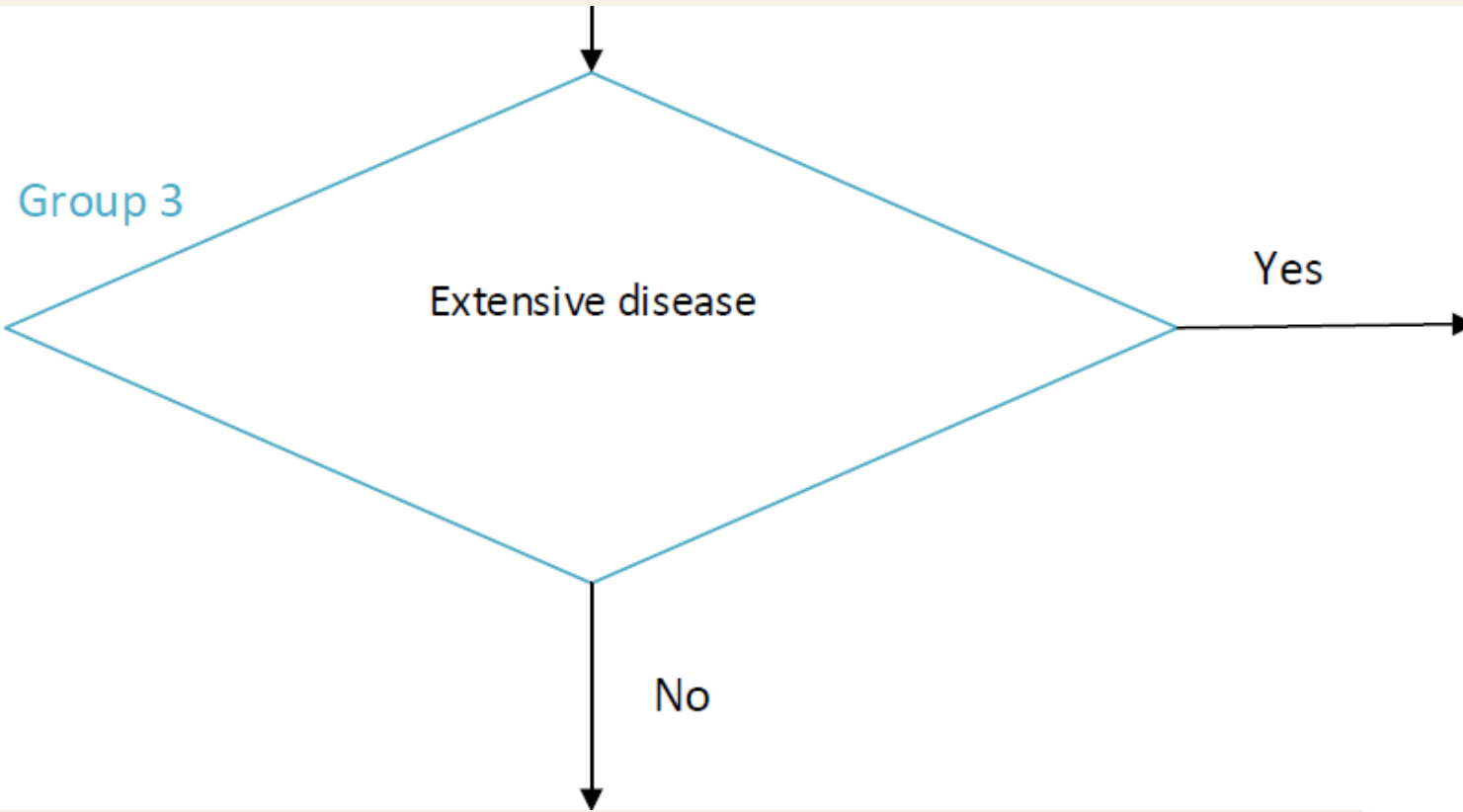




Extensive restriction until tolerating and adherent to appropriate TB treatment as determined by laboratory (e.g., molecular or phenotypic drug susceptibility results) and/or clinical evaluation, for **at least 5 DOT doses** AND clinical improvement.

RIR may be extended due to potential consequences of the spread of drug-resistant disease, anticipated exposure to children <5 years of age or to immunosuppressed individuals, return to a congregate setting to live (e.g., group home) or work (e.g., correctional facility), and based on clinical team's assessment of illness and community risks.

Reassess RIR needs and mental health and wellbeing each week.



Group 3

Extensive disease

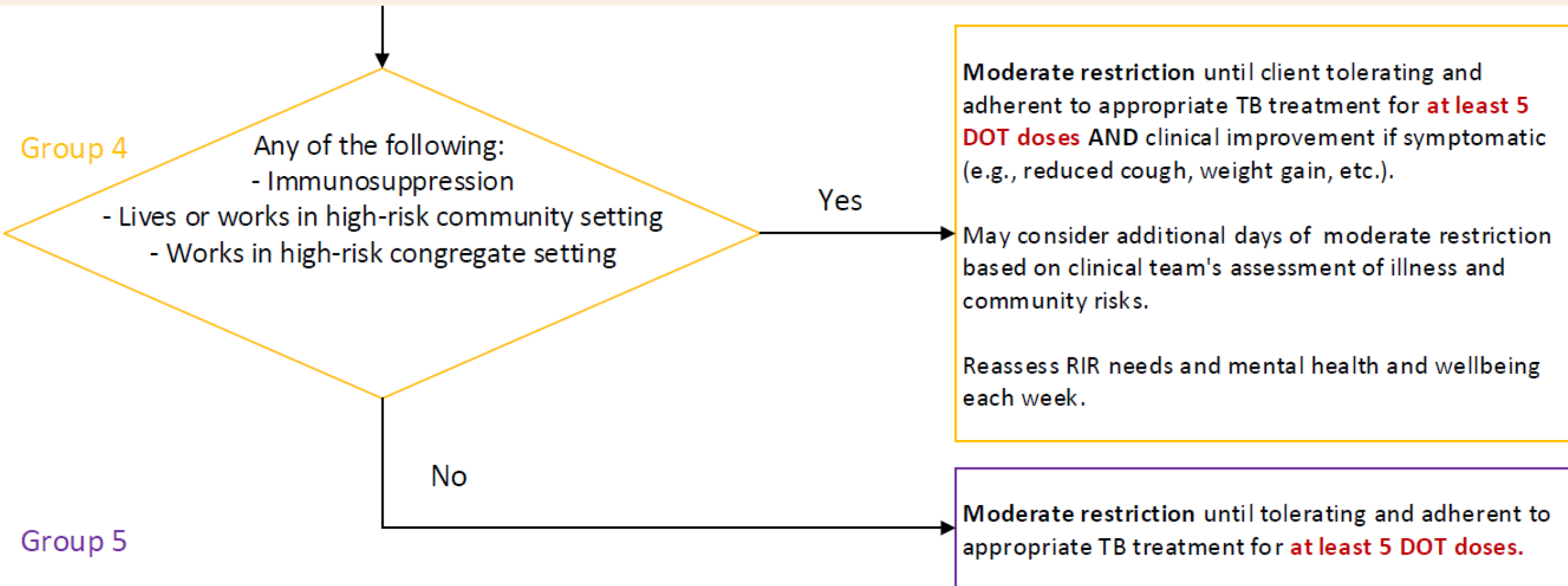
Yes

Extensive restriction until tolerating and adherent to appropriate TB treatment for **at least 5 DOT doses** AND clinical improvement.

May consider additional days of extensive or moderate restriction based on clinical team's assessment of illness and community risks.

Reassess RIR needs and mental health and wellbeing each week.

No



Major Shifts



Reduced emphasis on smear status after initiation of appropriate TB treatment



Increased emphasis on effectiveness of appropriate TB treatment



Potential for more clients to be released sooner (after 5 DOT doses of appropriate TB treatment)

Downstream Impacts

Guidance/Documents:

- [Recommended Sputum Sample Collection Schedule](#)
 - **Will continue to monitor for sputum culture conversion**
- [TB Transmission - Effect of Index Patient Characteristics and Behaviors](#)
- [Virginia TB Law Guidebook](#)
 - No legal language is changing

Patient

- Reduced time away from work/family
- Potential for reduced sputa collection
- Potential for improved mental health/well-being during treatment

Programs

- Potential for reduced housing expenses and disruption when placing patient or family in a motel
- More clinical team decision making about level and extent of restrictions (e.g., determine if extensive disease, evaluating location of isolation, etc.)

Discussion



Based on these changes, have you had a client in the past who you could have released earlier from isolation, if using the new guidelines?

1. Yes
2. No
3. Unsure

Discussion



How do you feel about implementing these changes?

1. Ready to go!
2. My team would implement, but in a very limited way
3. Nervous
4. Not sure

Open discussion