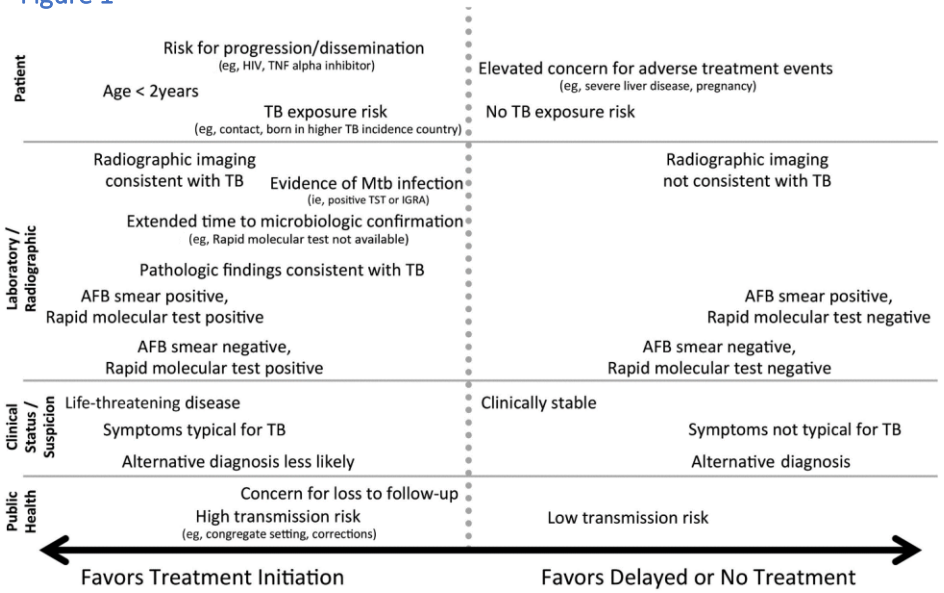
Summary of the ATS/CDC/IDSA Clinical Practice Guidelines: Treatment of Drug-Susceptible Tuberculosis in Adults & Children

ATS, CDC, and IDSA recently published guidelines[1] to provide current recommendations on the clinical and public health management of tuberculosis for children and adults where mycobacterial cultures, drug susceptibility tests, and radiographic studies are available for diagnosis. Programs should reference the guidelines in their decision-making, but ultimately should choose the regimen they can best deliver and implement. This summary sheet includes main topics from the guidelines and should be used as a guidance and reference tool. **Bolded** numbers in parenthesis refer to page numbers in the guidelines document.

What's Inside the Guidelines - The guidelines include recommendations for regimens and dosing for treating TB in adults and children (**4-6**, **17-20**, **29-30** [children]), those with HIV infection (**9-12**, **25-29**), and those with extrapulmonary TB (**31-34**). In addition, the guidelines include recommendations for baseline and follow-up evaluations (**7**, **20-21**), therapeutic drug monitoring (**24-25**, **34-36**), management of immune reconstitution inflammatory syndrome (**29**) and adverse effects (**22-23**), and known drug-drug interactions (**10-11** [Rifamycins], **23-25**). Case management strategies are described, including organization and supervision of treatment (**2-4**, **15-17**), drug administration and preparation (**22**).

The Decision to Treat - Given the public health implications of prompt diagnosis and effective management of TB, empiric treatment with a 4-drug regimen should be started in situations where active TB is suspected. The decision to initiate TB treatment is based on multiple factors including clinical, radiographic, laboratory, patient, and public health (Figure 1) (**2-4**, **17-18**).

Figure 1



Creating A Treatment Regimen – Programs should not attempt to use one treatment regimen for all patients. When creating an individualized treatment regimen, always use the most-preferred regimen that your program can realistically perform, while keeping in mind the following recommendations:

- 7 days/week and 5 days/week are equivalent for daily dosing
- DOT is preferred for treating all forms of TB
- Treatment completion is determined by the number of doses, not the number of weeks on treatment

Patient and programmatic factors should be considered when creating treatment regimens:

Patient Factors	Severity of disease, immune status & comorbidities, general health & nutrition, substance use, living arrangements, desired frequency & location for DOT, tolerance of meds/adverse effects, ability to drive and/or meet staff for DOT, work schedule, ability & willingness to use video DOT, diligence and investment in treatment.
Programmatic Factors	Staff ability & time, number of other patients currently receiving DOT, feasibility frequency & location for DOT, Other parties who could assist with DOT (private doc, dialysis center, parole officer, social worker)

Recommended Treatment Regimens - Table 2 reviews the recommended drug regimens for microbiologically confirmed, drug-susceptible TB (**17-20**).

Initiation Phase		Continuation Phase				
Drug	**Minimum Interval & Dose**	**Drug**	**Minimum Interval & Dose**	**Range of Total Doses**	**Comments**	**Regimen Effectiveness**
INH RIF PZA EMB	7 d/wk for 8 wks, or 5 d/w for 8 wks	INH RIF	7 d/wk for 18 wks, or 5 d/w for 18 wks	182-130	Preferred regimen for patients with newly diagnosed pulmonary TB.	Greater
	7 d/wk for 8 wks, or 5 d/wk for 8 wks		3x weekly for 18 wks	110-94	Preferred alternative regimen where more frequent DOT during continuation phase is difficult to achieve.	
	3x weekly for 8 wks		3x weekly for 18 wks	78	Use regimen with caution in patients with HIV and/or cavitary disease. Missed doses can lead to treatment failure, relapse and acquired drug resistance.	
	7 d/wk for 2 wks then 2x weekly for 12 doses		2x weekly for 18 wks	62	Do not use 2x weekly regimens in HIV-infected patients or patients with smear-positive and/or cavitary disease. If doses are missed, then therapy is equivalent to 1x weekly, which is inferior.	Lesser

Management of Treatment Interruptions - Interruptions in therapy are common when treating TB. Patients who are lost to follow-up (on treatment) and brought back to therapy should have sputum resent for AFB smear, culture, and drug susceptibility testing (Table 6) (**7-8**, **21-22**).

Time of Interruption	Details	Approach
During intensive phase	Lapse is <14 days in duration	Continue treatment to complete planned total number of doses (as long as all doses are completed within 3 months)
	Lapse is ≥ 14 days in duration	Restart treatment from beginning
During continuation phase	Received ≥80% of doses and sputum was AFB smear negative on initial testing	Further therapy may not be necessary
	Received ≥80% of doses and sputum was AFB smear positive on initial testing	Continue therapy until all doses are complete
	Received <80% of doses and accumulative lapse is <3 months in duration	Continue therapy until all doses are complete (full course), unless consecutive lapse is >2 months. If treatment cannot be completed within recommended timeframe, restart therapy from intensive phase.
	Received <80% of doses and lapse is ≥3 months in duration	Restart therapy from intensive phase.

Questions – Call MDHHS TB Control Program, 517-284-4922

[1]ATS/CDC/IDSA Clinical Practice Guidelines for Drug-Susceptible TB. Clinical Infectious Diseases, 2016;63(7):e147-95.

Abbreviations: AFB, acid-fast bacilli; ATS, American Thoracic Society; CDC, Centers for Disease Control and Prevention; DOT, directly observed therapy; EMB, ethambutol; HIV, human immunodeficiency virus; IDSA, Infectious Diseases Society of America; IGRA, interferon-gamma release assay; INH, isoniazid; Mtb, *Mycobacterium tuberculosis*; PZA, pyrazinamide; RIF, rifampin; TB, tuberculosis; TNF, tumor necrosis factor; TST, tuberculin skin test.