

Tuberculosis Diagnosis

LTBI testing (TST/IGRA), pulmonary TB microbiologic diagnostics, bronchoscopic sampling, extrapulmonary TB, and genotyping for TB control.

2017 ATS/IDSA/CDC Clinical Practice Guideline
Diagnosis of Tuberculosis in Adults and Children
Lewinsohn, Leonard, LoBue et al. · Clin Infect Dis
2017;64(2):e1–33

FORMAT 23 GRADE recommendations across 20 PICO questions — grouped by diagnostic context.

1 LTBI Testing — TST vs. IGRA

STATEMENT	STRENGTH
R1a — Age ≥5 y, likely Mtb infection, low/intermediate progression risk, LTBI testing warranted, AND (BCG-vaccinated OR unlikely to return for TST read): IGRA over TST	Strong Moderate
R1b — Same population without the BCG/return-visit factors: IGRA suggested over TST (TST acceptable alternative if IGRA unavailable/costly/burdensome)	Conditional Moderate
R2 — High risk of progression to disease: insufficient data to prefer TST or IGRA as first-line test	— —
R3a — Testing for TB infection when risk of progression not yet assessed: IGRA over TST	Conditional Low
R3b — If initial test positive: perform a second diagnostic test (either IGRA or TST) — consider infected only if both positive	Conditional Very low

2 Pulmonary TB — Sputum-Based Diagnostics

STATEMENT	STRENGTH
R5 — Perform AFB smear microscopy in all patients suspected of pulmonary TB — negative smear does NOT exclude disease	Strong Moderate
R6 — Perform both liquid and solid mycobacterial culture (not either alone) on every specimen — culture is the diagnostic gold standard	Conditional Low
R7 — Perform diagnostic NAAT on the initial respiratory specimen — positive NAAT + smear-negative supports presumptive TB; negative NAAT cannot exclude disease	Conditional Low
R8 — Perform rapid molecular DST for rifampin ± isoniazid if AFB-smear or MTD positive AND prior TB treatment, ≥1 y in a moderate/high-incidence country, MDR-TB contact, or HIV-infected	Strong Moderate

3 Pediatric Pulmonary TB

STATEMENT	STRENGTH
R9 — Obtain mycobacterial culture of respiratory specimens in all children with suspected pulmonary TB. Microbiologic confirmation may be unnecessary in uncomplicated cases identified via contact investigation of a drug-susceptible source case	Conditional Moderate

4 Bronchoscopic Sampling in Adults

STATEMENT	STRENGTH
R10 — Sputum induction preferred over bronchoscopy as initial sampling if unable to expectorate or expectorated smear-negative	Conditional Low
R11 — Flexible bronchoscopic sampling if a respiratory sample cannot be obtained via induced sputum	Conditional Very low
R12 — Collect postbronchoscopy sputum in all adults who undergo bronchoscopy, for AFB smear + culture	Conditional Low
R13 — Suspected miliary TB, no accessible alternative lesion, induced sputum smear-negative/unobtainable: flexible bronchoscopy (brushings/TBB; BAL washings yield less)	Conditional Very low

5 Extrapulmonary TB Diagnostics

STATEMENT	STRENGTH
R14 — Perform cell counts/chemistries on amenable fluid (pleural, CSF, ascitic, joint) from suspected extrapulmonary sites	Conditional Very low
R15a — Measure ADA levels on fluid from suspected pleural, TB meningitis, peritoneal, or pericardial TB	Conditional Low
R15b — Measure free IFN-γ levels on fluid from suspected pleural or peritoneal TB	Conditional Low
R16 — Perform AFB smear microscopy on extrapulmonary specimens — positive is useful, negative does not exclude	Conditional Very low
R17 — Perform mycobacterial culture on all extrapulmonary specimens — specificity >97%; positive guides management, negative cannot exclude	Strong Low
R18 — Perform NAAT on extrapulmonary specimens — cannot replace culture; positive is useful, negative cannot exclude	Conditional Very low
R19 — Perform histological examination on extrapulmonary specimens — interpret with clinical context (both false-pos/neg occur)	Conditional Very low

6 Genotyping for TB Control

STATEMENT	STRENGTH
R20 — Submit one culture isolate from each culture-positive patient to a regional genotyping lab — aids in identifying unsuspected transmission and distinguishing reactivation from new infection	Strong Very low