


WHO guidance on management of TB in children and adolescents

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Accelerating Progress Towards Ending TB in the African Region

Addis Ababa, 24 June 2026

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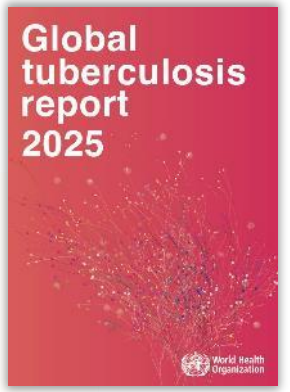
Question 1

Why is the treatment coverage gap highest in young children?

A. Young children typically have paucibacillary TB (with few bacilli)
B. There is no sensitive point of care test
C. There are challenges with collection of suitable respiratory samples
D. There is overlap of symptoms with other common childhood diseases
E. There is limited capacity to diagnose children with TB (sample collection, access to testing/CXR, confidence in making a clinical diagnosis)
F. All of the above

Correct answer: F

TB incidence and mortality in children and adolescents, 2024



10.7 million

TB among all ages in 2024

1.23 million

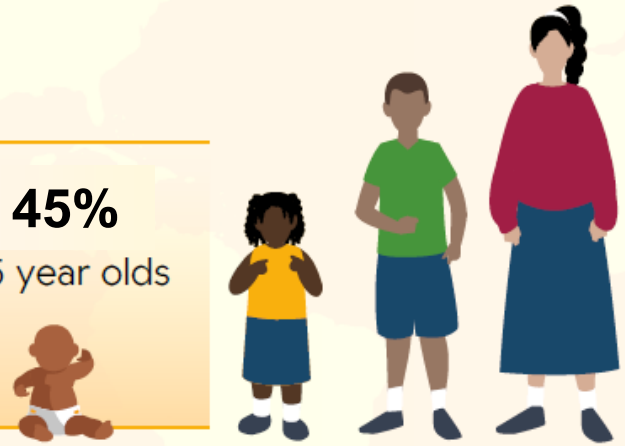
TB deaths in 2024

1.2 million

children (0–14 years) developed TB in 2024 (11% of all TB)

45%

<5 year olds



727 000 adolescents

(10–19 year-olds) developed TB in 2012 (Snow et al, 2018)

174 000

TB deaths in 2024 (14% of all TB deaths)

Among deaths in HIV-negative children and young adolescents 0–14

71% were in children <5 years

96%

of deaths occurred in children who did not access TB treatment

(Dodd et al, 2017)

2 000

(1.1%) TB deaths in the 0–14 year age group were among children living with HIV

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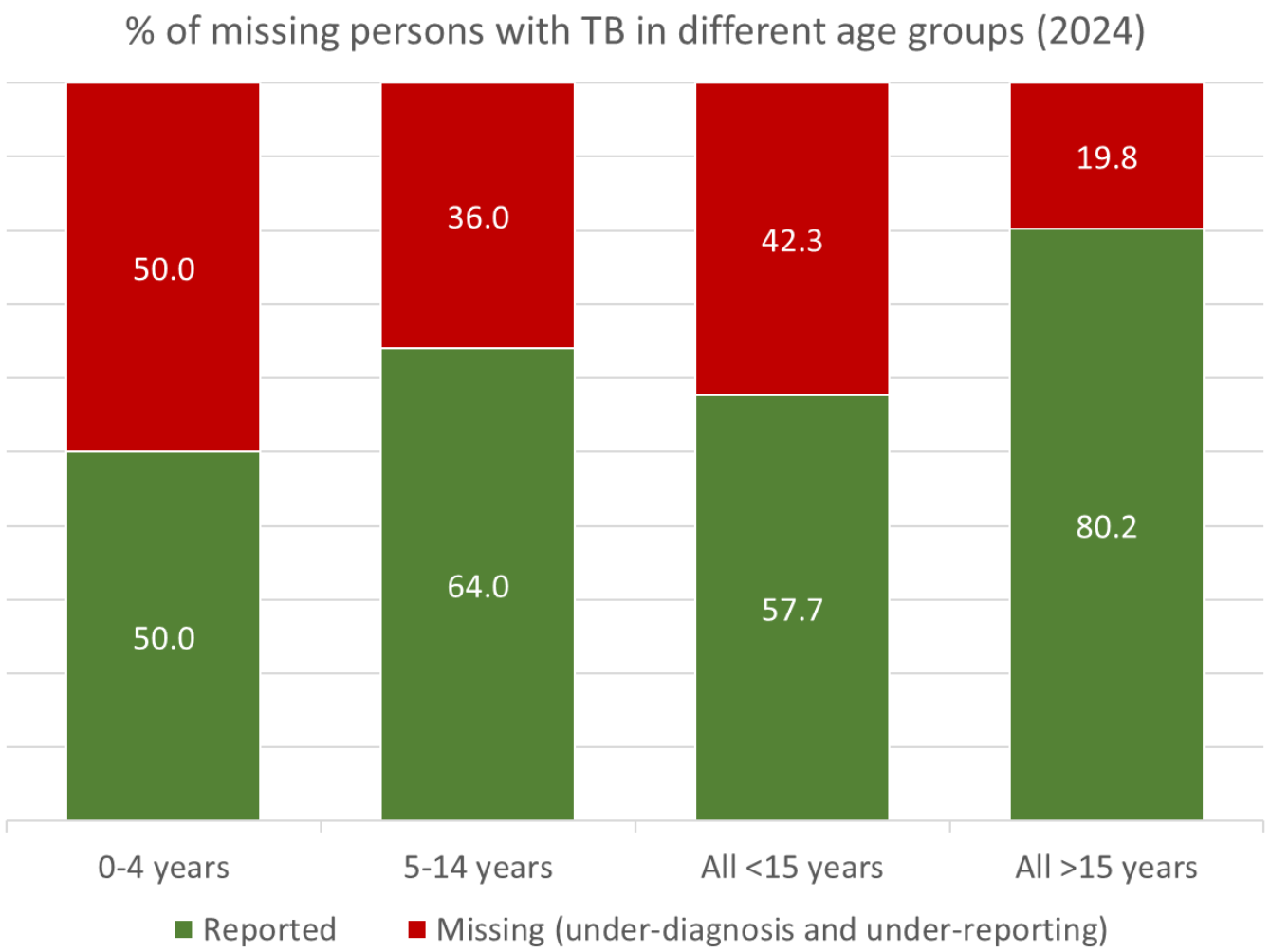
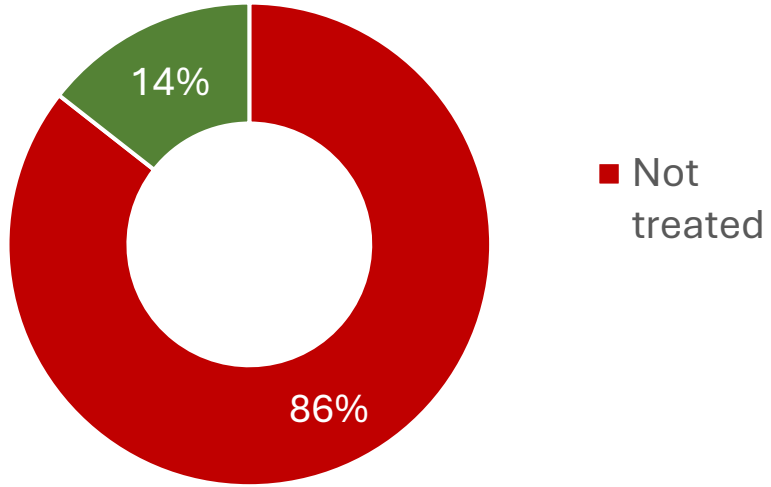
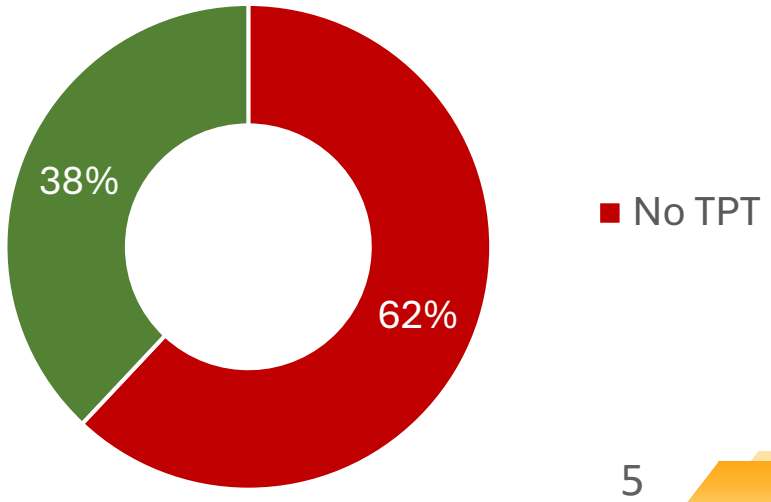
Main programmatic gaps in 2025



Treatment coverage: MDR/RR-TB in children and young adolescents, average for 2018-2024 (out of an estimated 30 000 per year)



Access to TPT in child contacts <5 years



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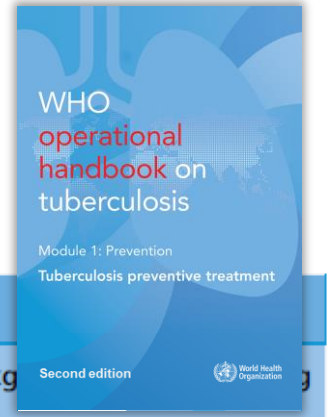
2024 WHO handbook – TB preventive treatment

3HP dosing now available for all ages!

Age-weight-based approach for weight bands <10kg (different dosing for < and ≥ 3 months (3-<6 kg) and < and ≥ 6 months (6-<10kg)



TPT regimens and drug formulations	No. of tablets or quantity of suspension												
	3–5.9 kg (< 3 months)	3–5.9 kg (≥ 3 months)	6–9.9 kg (< 6 months)	6–9.9 kg (≥ 6 months)	10–14.9 kg	15–19.9 kg	20–24.9 kg	25–29.9 kg	30–34.9 kg	35–39.9 kg	40–44.9 kg		
Three months of weekly rifapentine plus isoniazid (3HP)													
Isoniazid 100 mg dt	0.6 (6 mL[a])	0.7 (7 mL[a])	1	1.5	2.5	3	4.5	4.5	6	6	7.5	7.5	9
Isoniazid 300 mg tab	–	–	–	–	–	1	1.5	1.5	2	2	2.5	2.5	3
Rifapentine 150 mg dt	0.5 (5 mL[d])	0.7 (7 mL[d])	1.5	1.5	2	3	4	4	5	6	6	6	6
Rifapentine 300 mg tab	–	–	–	–	–	1.5	2	2	2.5	3	3	3	3
Rifapentine 300 mg and isoniazid 300 mg FDC tab[e]	–	–	–	–	–	1	1.5	2	2.5	3	3	3	3
One month of daily rifapentine plus isoniazid													
Isoniazid 300 mg tab	–	–						1	1	1	1		
Rifapentine 300 mg tab	–	–	–	–	–	–	–	2	2	2	2	2	2

Ratio between H and P differs for lower weight bands (single dispersible formulations preferred – FDC not ideal)

Adult FDC (300/300mg) used from 15 kg

https://link.springer.com/article/10.1007/s40262-025-01576-3

Rifapentine crush study: adult tablets achieve bioequivalent rifapentine exposures when swallowed whole or suspended in water

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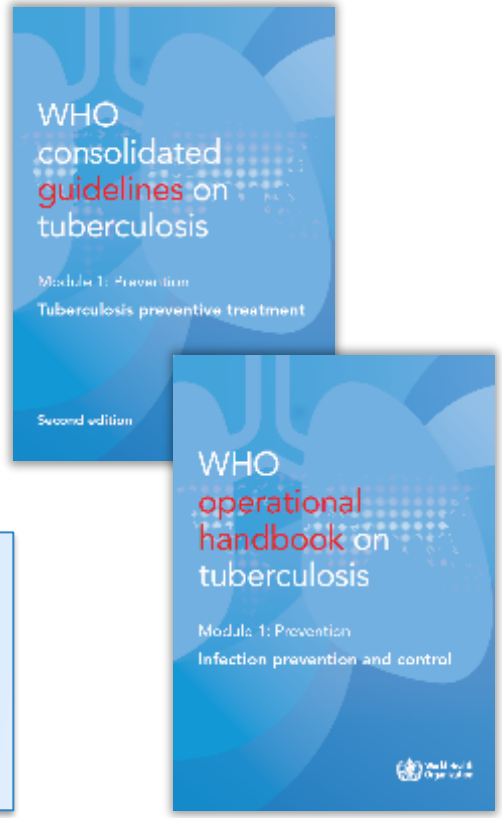
DR-TB Preventive Treatment

TB preventive treatment with levofloxacin

In contacts exposed to MDR/RR-TB, 6 months of daily levofloxacin should be used as TPT

(Strong recommendation, moderate certainty of the estimates of effect)

Recommendation based on evidence from TB CHAMP and V-QUIN, a systematic review of studies on use of TPT for MDR/RR-TB and studies on the programmatic feasibility and acceptability of 6Lfx



TPT regimens and drug formulations	No. of tablets or quantity of suspension by body weight band												
	3–5.9 kg (< 3 months)	3–5.9 kg (≥ 3 months)	6–9.9 kg (< 6 months)	6–9.9 kg (≥ 6 months)	10–14.9 kg	15–19.9 kg	20–24.9 kg	25–29.9 kg	30–34.9 kg	35–39.9 kg	40–44.9 kg	45–49.9 kg	≥ 50 kg
Six months of daily levofloxacin (6Lfx)													
Lfx 100 mg dt	0.5	1	1	1.5	2	2.5	3	3.5	–	–	–	–	–
Lfx 250 mg tab	0.25 (2.5 mL[d])	0.5 (5 mL[d])	0.5 (5 mL[d])	1 (10 mL[d])	1	1.5	1.5	2	2	2	2	2	3
Lfx 500 mg tab	–	–	–	–	–	–	–	1	1	1	1	1	1.5

Question 2

Which of the following statements regarding diagnosing TB in children are correct?

A. Near point of care tests are a game changer for diagnosing TB in young children

B. Tongue swaps can be used in people with presumptive TB of all ages

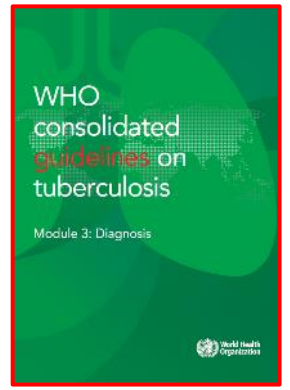
C. Concurrent testing using a stool and a respiratory sample (and LF-LAM for children with HIV) is the preferred testing strategy for children

D. Treatment decision algorithms can help build confidence in making a decision to start treatment in children with presumptive TB

E. Treatment decision algorithms should not be used to inform a decision to start a child with risk factors for drug-resistant TB on treatment

Correct answers: C and D

WHO guidance on diagnostic approaches

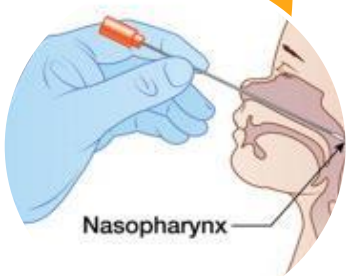


LC-aNAATs

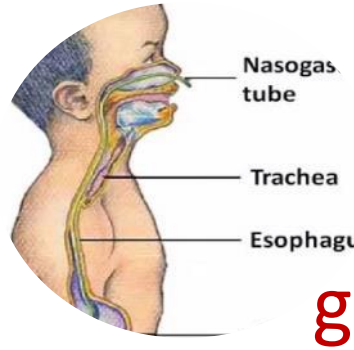
respiratory sample options

stool

(induced) sputum



NPA



gastric aspirate

2025 diagnostics guidance:

Concurrent testing:
Respiratory specimen + stool
(+ LF-LAM if HIV pos)

+ urine LF-LAM (child with HIV)

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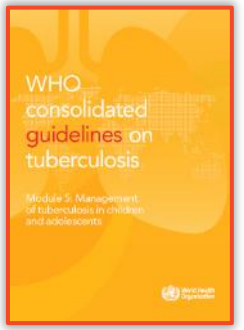
Use of treatment decision algorithms



In children with presumptive pulmonary TB attending health care facilities, integrated treatment decision algorithms may be used to diagnose pulmonary TB

*(**INTERIM RECOMMENDATION** - conditional recommendation, very low certainty of evidence)*

Remarks:

- *Bacteriological confirmation needs to be sought whenever possible, using available and recommended diagnostic tests and appropriate paediatric specimens – especially in children with a high likelihood of DR-TB*
- *Newly developed treatment decision algorithms for different settings with detailed practical guidance on there are included in the operational handbook. Use of these evidence-based algorithms is encouraged.*
- *Interim recommendation: valid for 24 months, after which new evidence will be reviewed*

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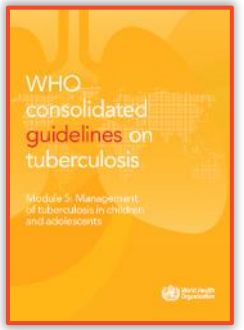
Background on treatment decision algorithms



- **Interim** recommendation on use of treatment decision in **general**
- **2 algorithms developed** after GDG meeting by evidence reviewers in consultation with a GDG sub-group, for inclusion in the handbook
  - **Algorithm A**: for settings with CXR; **Algorithm B**: for settings without CXR
  - Mainly aimed at **PHC level to build confidence and capacity** to make decisions on starting TB treatment
- **Methodology**: prediction modelling based on IPD (~ 5000 records from diagnostic studies)
  - Sensitivity cut-off: 85% for scoring section (yellow blocks only)
  - Corresponding specificity 37% (algorithm A) and 30% (algorithm B) for scoring sections
  - Additional steps in final algorithm (triage, risk assessment, treatment for alternative diagnosis if low risk, bacteriological testing) to improve diagnostic accuracy
- **Detailed guidance and examples** in the module 5 operational handbook, **printable job aid** in annex 5

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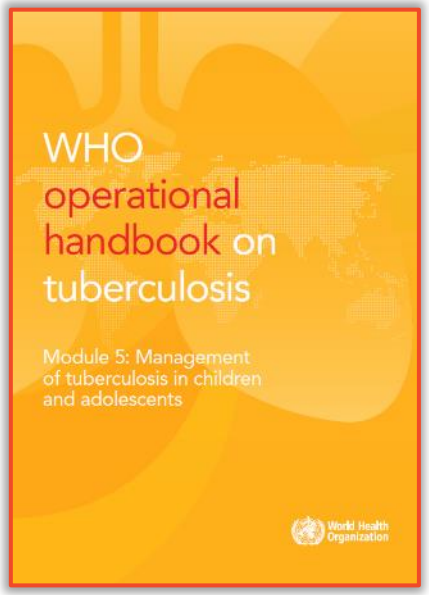
Treatment decision algorithms (TDAs) in the operational handbook



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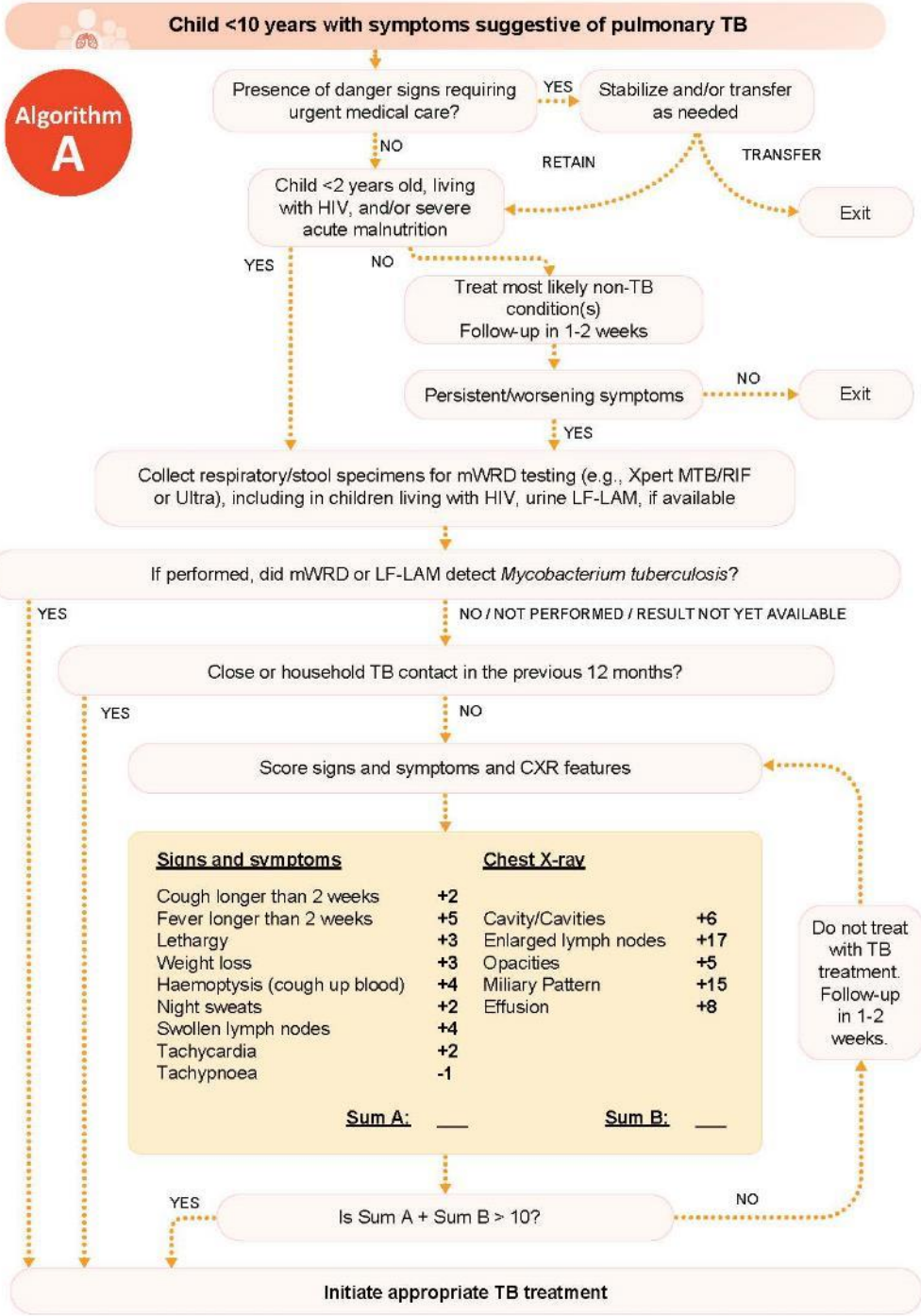

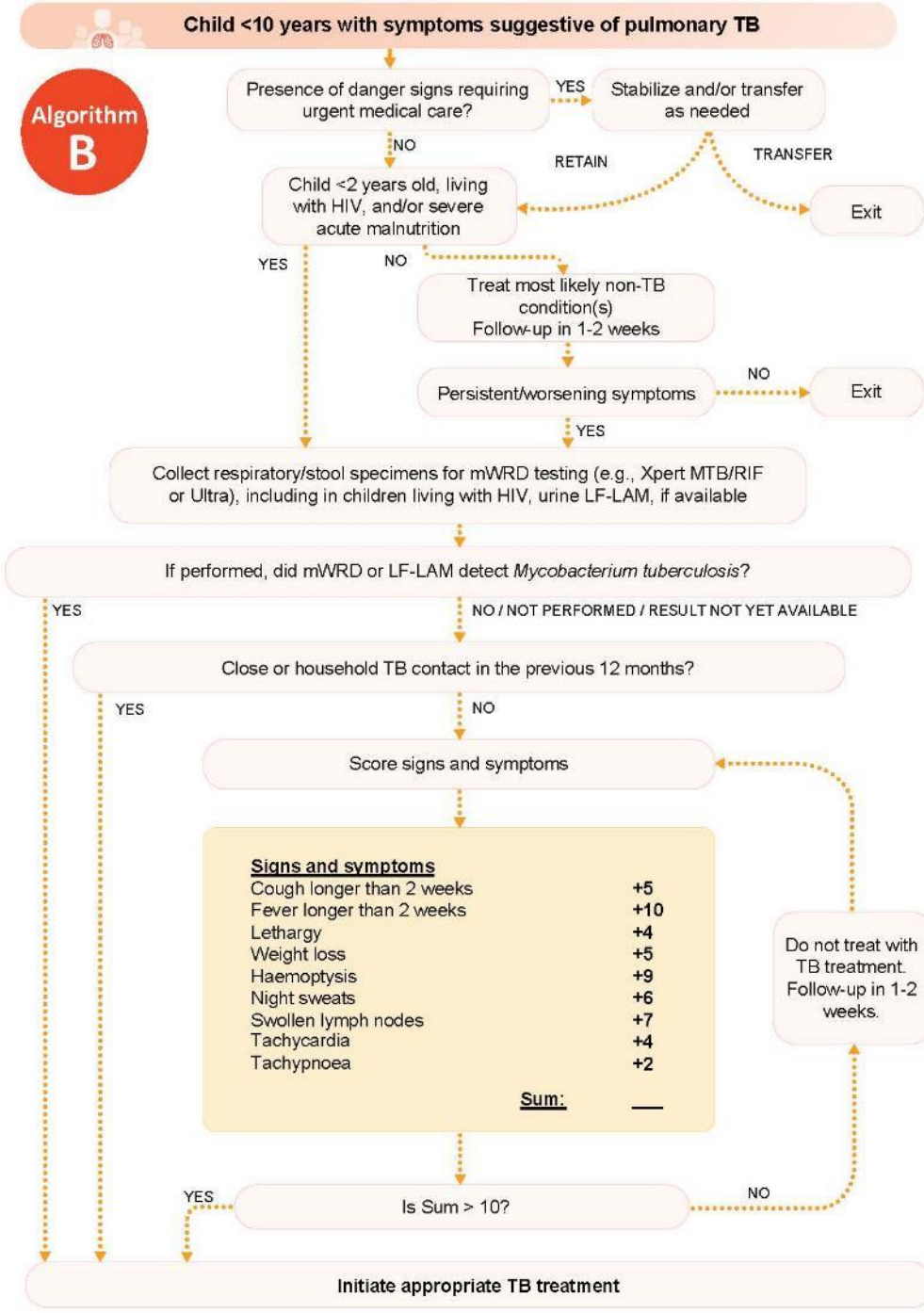

Updates to diagnostics guidance (2026)

New recommendation on NPOC NAATs

*Recommendation **extrapolated to children**:*

- *For use with **sputum ONLY** (expectorated or induced)*
- *Acknowledging the difficulties of collecting sputum specimen, does **not** apply to the use of paediatric samples **other than sputum** (i.e., gastric aspirates, NPA, tongue swabs, stool or broncho-alveolar lavage)*
- *Wherever available, **concurrent testing with LC-aNAATs on respiratory and stool samples** (with **LF-LAM** if HIV positive) = **preferred testing strategy** for children (excludes tongue swaps!)*

Pluslife Thermolyse

MiniDock Ultra (Model: PM001 Ultra)

MTB Nucleic Acid Test Card

Implications:

- Do **not** use tongue swaps for children!
- LC-aNAAT (Xpert Ultra) still needed for children to test on non-sputum samples, e.g. stool (improved detection with LC-aNAATs)
- Concurrent testing preferred – if not feasible: collect at least one sample (any type, depending on setting, stool good option)

NPOC: near point-of-care; (LC-a)NAAT: (low-complexity automated) nucleic acid amplification test; LF-LAM: lateral flow lipoarabinomannan assay

https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/diagnosis-treatment/npoc-tongue-swabs-and-sputum-pooling-for-tb/npoc-naats

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Updates to diagnostics guidance (2)

Adults/adolescents:

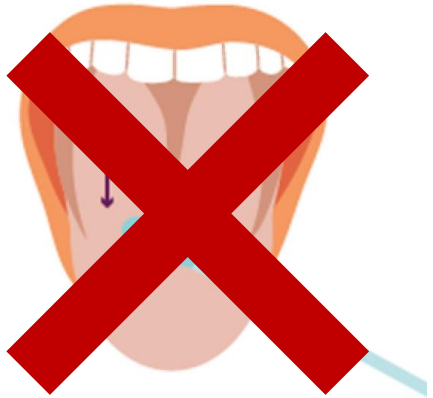
- LC-aNAATs on respiratory samples
- LC-aNAATs on tongue swabs may be used (if sputum cannot be obtained)
- LC-aNAATs on (up to 4) pooled sputa may be used

*Recommendations on tongue swaps and sputum pooling **DO NOT apply to children**:*

- *Wherever available, **concurrent testing with LC-aNAATs on a respiratory sample and a stool sample (with LF-LAM if HIV positive)** = preferred testing strategy for children*
- *Tongue swabs should **not** be used as part of the concurrent testing strategy for children (limited evidence)*
- *No evidence on sputum pooling using paediatric samples*

Implications:

- Do **not** use tongue swaps or sputum pooling in children!
- Use individual tests for children, using paediatric specimens
- Concurrent testing preferred – if not feasible: collect at least one sample any type, depending on setting, stool good option)



Tongue swaps and sputum pooling **NOT** recommended in children

https://www.who.int/teams/global-programme-on-tuberculosis-and-lung-health/diagnosis-treatment/npoc-tongue-swabs-and-sputum-pooling-for-tb

LC-aNAAT: low-complexity automated nucleic acid amplification test

Shortening treatment in children with non-severe TB

In children and adolescents between 3 months and 16 years of age with non-severe TB (without suspicion or evidence of MDR/RR-TB), a 4-month treatment regimen (2HRZ(E)/2HR) should be used.

*(**Strong** recommendation, moderate certainty of evidence)*

SHINE: Shorter Treatment for Minimal Tuberculosis in Children

Remarks:

- ***Non-severe TB*** *is defined as: Peripheral lymph node TB; intrathoracic lymph node TB without airway obstruction; uncomplicated TB pleural effusion or paucibacillary, non-cavitary disease, confined to one lobe of the lungs, and without a miliary pattern*
- *Children and adolescents who* ***do not meet the criteria for non-severe TB*** *should receive the standard 6-month treatment regimen (2HRZE/4HR), or recommended treatment regimens for severe forms of EPTB*
- *The use of* ***ethambutol*** *in the first 2 months of treatment is recommended in settings with a high prevalence of HIV, or of isoniazid resistance*

Standard first-line medicines; continuation phase reduced to 2 months

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Question 3

The 4-month regimen for non-severe TB can only be used in children who have had a chest X-ray before starting treatment

A. True

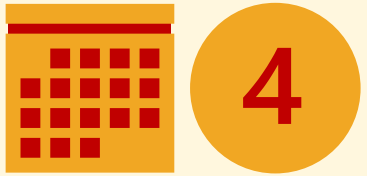
B. False

Correct answer: B

Image source: https://theunion.org/technical-publications/diagnostic-cxr-atlas-for-tuberculosis-in-children

Question 4

Which of the following children and adolescents are eligible for the 4-month regimen for non-severe TB?



A. A 6-week-old infant with isolated cervical TB lymphadenopathy

B. A 3-year-old child with isolated cervical TB lymphadenopathy

C. An 11-year-old adolescent with sputum Xpert Ultra MTB positive, medium

D. A 5-year-old child with mild symptoms with compression of the left main bronchus by enlarged hilar lymph nodes on CXR

E. An 8-year-old child with negative Xpert on stool and a small pleural effusion on the left side on CXR

F. A 6-year-old child with a clinical diagnosis based on a history of TB contact, loss of weight and cough for 3 weeks without danger signs

G. A 14-year-old adolescent living with HIV, diagnosed with miliary TB on CXR

H. A 7-year-old child with an opacity in part of the left lower lobe, hilar lymphadenopathy without airway compression and Xpert Ultra trace result on a stool sample

Correct answers: B, E, F and H

Assessing eligibility for the 4-month regimen

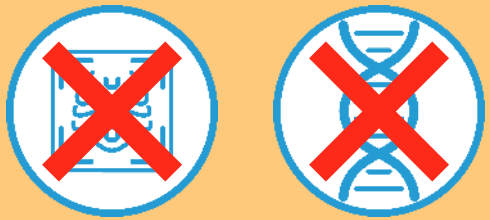
Main considerations:
Access to CXR and bacteriological testing, clinical assessment

3m-16y

- Based on CXR features
- Xpert MTB/RIF or Ultra neg, trace or (very) low
- Mild symptoms not requiring hospitalization

3m-16y

- Xpert MTB/RIF or Ultra neg, trace or (very) low (PTB) or isolated peripheral lymph node TB
- Mild symptoms not requiring hospitalization



<10y

- Isolated peripheral lymph node TB or
- Clinical diagnosis of PTB and
- Mild symptoms not requiring hospitalization

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Eligibility for the 4-month regimen for non-severe TB

Main considerations: Access to CXR and bacteriological testing, clinical assessment.

Mild symptoms:

- no danger signs, no asymmetrical and persistent wheezing, no signs of EPTB (other than lymph node TB)
- no severe acute malnutrition, respiratory distress, high fever, severe pallor, restlessness, irritability or lethargy

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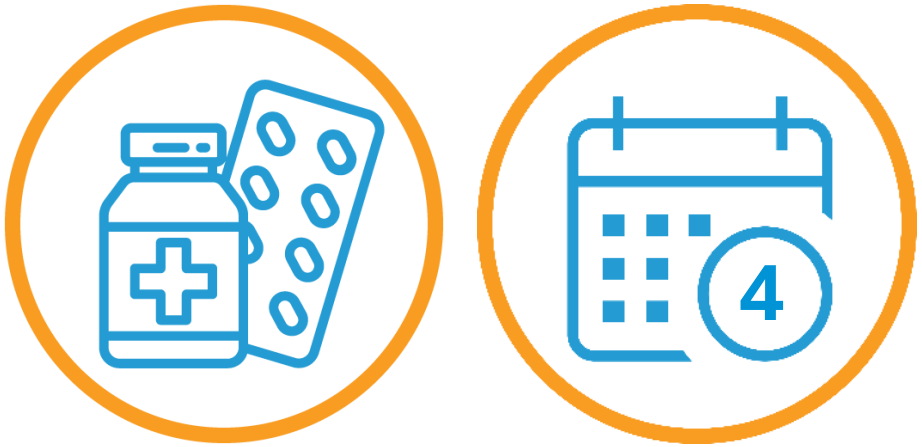
Follow up after starting the 4-month regimen without CXR



Children and adolescents started on 4-month regimen without CXR:

- follow up monthly
- symptoms expected to have resolved within 1 month
- expected to be well at 4 months (including nutritional status)
- continue treatment for 6 months if no response clinically after 4 months; evaluate for DR-TB, non-TB-related disease and poor treatment adherence

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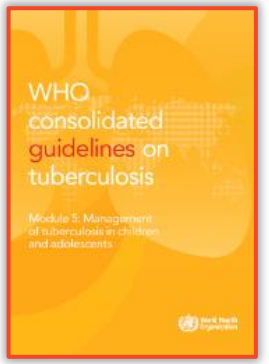
Treatment of DR-TB in children – use of bdq & dlm in children



- **In children with MDR/RR-TB aged below 6 years, an all-oral treatment regimen containing bedaquiline may be used**
- **In children with MDR/RR-TB aged below 3 years, delamanid may be used as part of longer regimens**

(both conditional recommendations, very low certainty of the evidence)

Remarks:

- *Applies to and complements current WHO recommendations on shorter and longer regimens that contain bedaquiline*
- *Complements the current WHO recommendation on longer regimens that contain delamanid*

These recommendations make it possible to build all oral regimens for children of all ages

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Question 5

Which of the following statements regarding treatment for drug-resistant TB in children are correct?

A. Treatment can be based on the drug susceptibility pattern of the most likely source case

B. Second-line treatment for drug-resistant TB in a child aged below 10 years should only be started if there is a positive bacteriological test with confirmation of at least rifampicin resistance

C. The 6-month BPaL/BPaLM/BPaLC regimen can be used in children <14 years by replacing pretomanid with delamanid

D. BDLLfx/C is the preferred regimen for children with drug-resistant TB, including non-severe pre-XDR-TB

E. The modified 9-month regimens (BLMZ, BLLfxCZ, BDLLfxZ) can be used in children of all ages, irrespective of fluoroquinolone susceptibility results

F. Child-friendly formulations are available for all second-line medicines

G. A 6-year-old child with positive Xpert Ultra on stool who has cavities on CXR and is living with his father who is on BPaL for pre-XDR-TB should be started on a longer, individualized treatment regimen

Correct answers: A, D, F and G

Treatment regimen options — Age ≥14 Years

Adults & older adolescents

FQ susceptibility	Severity of pulmonary disease	Preferred Regimen	Alternative Regimen
FQ Unknown	N/A	BPaLM*	BDLLfxC
FQ Susceptible	N/A	BPaLM	BDLLfx / 9-month regimens
FQ Resistant (pre-XDR-TB)	Non-Severe	BPaL	BDLC
	Severe	BPaLC	Longer regimen

* Initial regimen — adjust based on FQ susceptibility and severity once available

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Treatment regimen options — Age <14 Years

Children & young adolescents

FQ susceptibility (patient or source case)	Severity of pulmonary disease	Preferred Regimen	Alternative Regimen
FQ Unknown	N/A	BDLLfxC*	
FQ Susceptible	N/A	BDLLfx	9-month regimens (any)
FQ Resistant (pre-XDR-TB)	Non-Severe	BDLC	Longer regimen
	Severe	Longer regimen	

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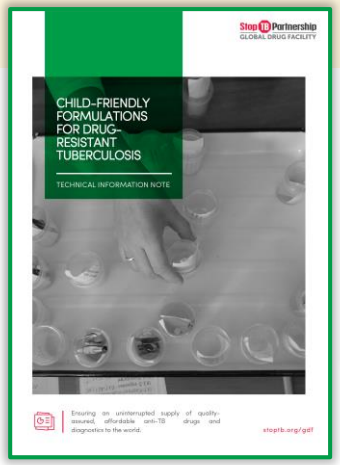
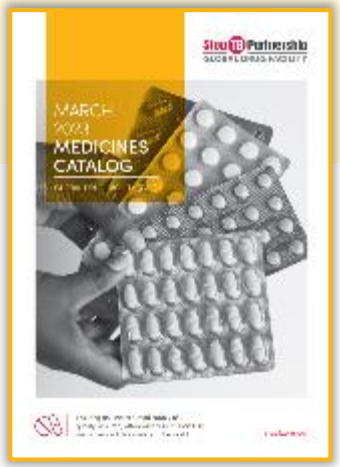
* Initial regimen — adjust based on FQ susceptibility and severity once available | Note: BPaL regimens NOT recommended in <14 years

Child-friendly formulations: second-line medicines

- Child-friendly formulations of second-line medicines should be used whenever possible and included in funding requests
- Formulations available through GDF to administer BDLLfx/C:
  - Bedaquiline 20 mg tab
  - Delamanid 25 mg disp tab
  - Linezolid 150 mg disp tab
  - Levofloxacine 100 mg disp tab
  - Clofazimine 50 mg tab





WHO-RECOMMENDED GROUPING	MEDICINE	FORMULATION	PACK SIZE	SHELF-LIFE	STORE BELOW
A	Levofloxacin 100mg	Dispersible tablet	100 in blister	36 months	30°C
	Moxifloxacin 100mg	Dispersible tablet	100 in blister	24 or 36 months	30°C
	Bedaquiline 20mg	Tablet	60 in jar	36 months	30°C
	Linezolid 150mg	Dispersible tablet	100 in blister	24 months	30°C
B	Clofazimine 50mg	Tablet	100 in blister	36 months	30°C
	Cycloserine 125mg	Mini-Capsule	100 in blister	24 months	25°C
C	Ethambutol 100mg	Dispersible tablet	100 in blister	24 months	30°C
	Delamanid 25mg	Dispersible tablet	48 in blister	36 months	25°C
	Pyrazinamide 150mg	Dispersible tablet	100 in blister	36 months	30°C
	Ethionamide 125mg	Dispersible tablet	100 in blister	36 or 48 months	30°C
None	Isoniazid 100mg	Dispersible tablet	100 in blister	36 months	30°C

https://www.stoptb.org/sites/default/files/gdfmedicinescatalog_1.pdf
https://www.stoptb.org/sites/default/files/gdf_tin_drtb_pediatric.pdf

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Priorities for GC8

1

Shorter regimens for TPT

- Focus on child contacts and PLHIV
- 3HP for all ages
- Procurement of dispersible INH and RPT

2

Access to diagnostic testing on paediatric specimens

- Concurrent testing (respiratory + stool sample + LF-LAM for CLHIV) where feasible
- Stool testing where feasible

3

Scaling up TDA implementation

- Capacity building
- Mentoring, supervision
- Monitoring of impact (case detection, outcomes, referrals)

4

Scaling up the 4-month regimen for non-severe TB

- Guidance on assessing eligibility
- Mentoring, supervision
- Follow-up, monitoring of outcomes

5

Scaling up short regimens for DR-TB in children

- Case finding
- Contact investigation
- Capacity building
- Procurement of paediatric formulations
- Monitoring of outcomes

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END TB



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Thank you for your attention!

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