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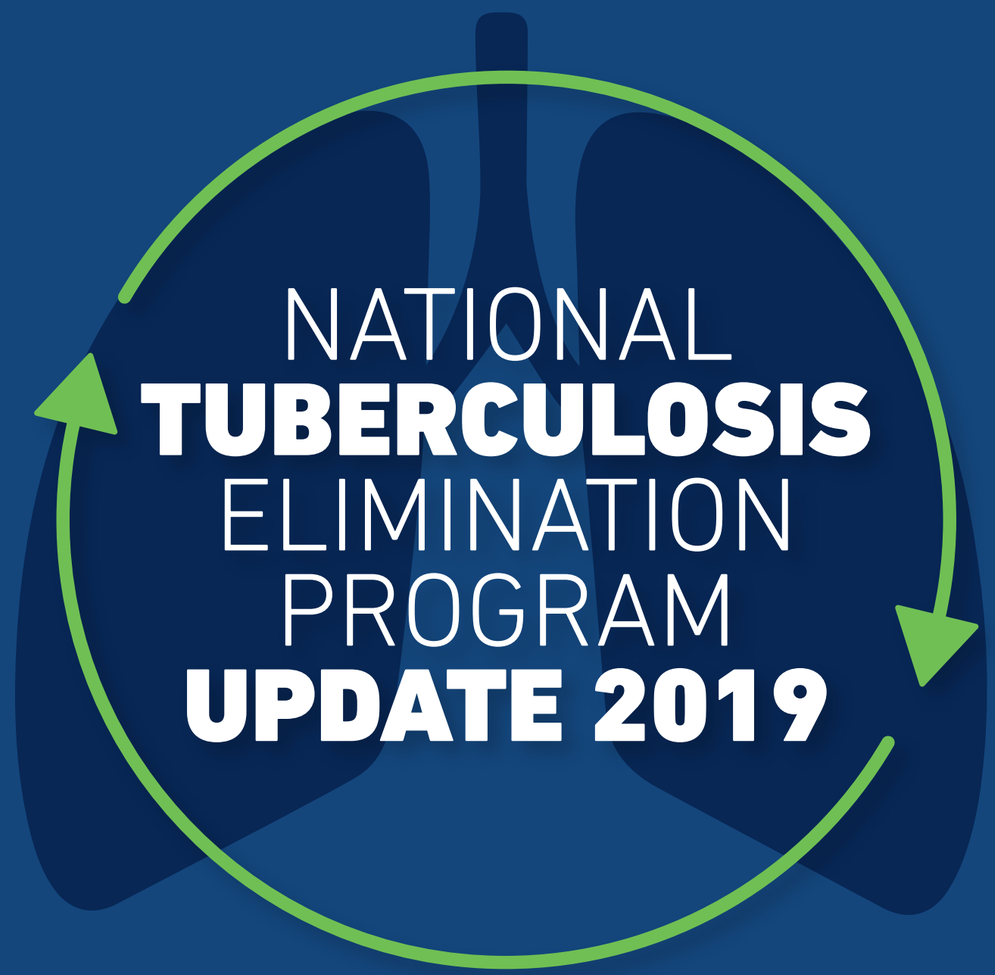
Joint
Effort for
Elimination of
Tuberculosis



NATIONAL **TUBERCULOSIS** ELIMINATION PROGRAM **UPDATE 2019**

Joint
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Tuberculosis

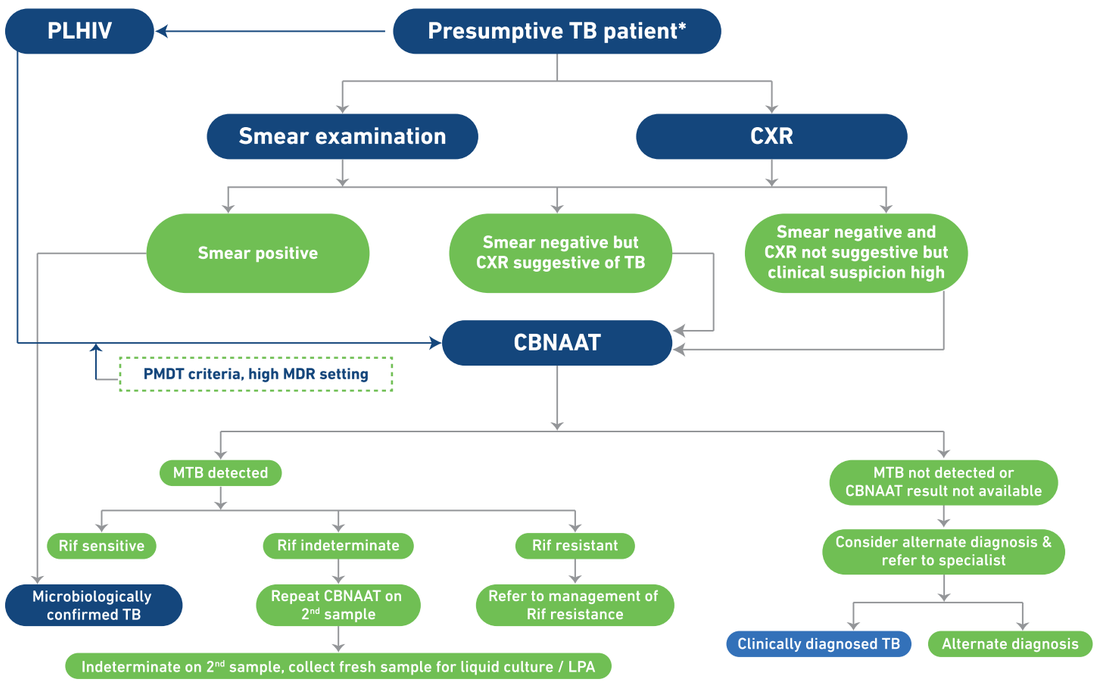
DIAGNOSIS

Presumptive pulmonary TB refers to a person with any of the symptoms and signs suggestive of TB, including:

- Cough & fever for >2 weeks
- Hemoptysis
- Any pulmonary abnormality in chest radiograph
- Significant weight loss

Note: In addition, contacts of microbiologically confirmed TB patients, PLHIV, diabetics, malnourished, cancer patients, patients on immunosuppressants or steroids should be regularly screened for signs and symptoms of TB.

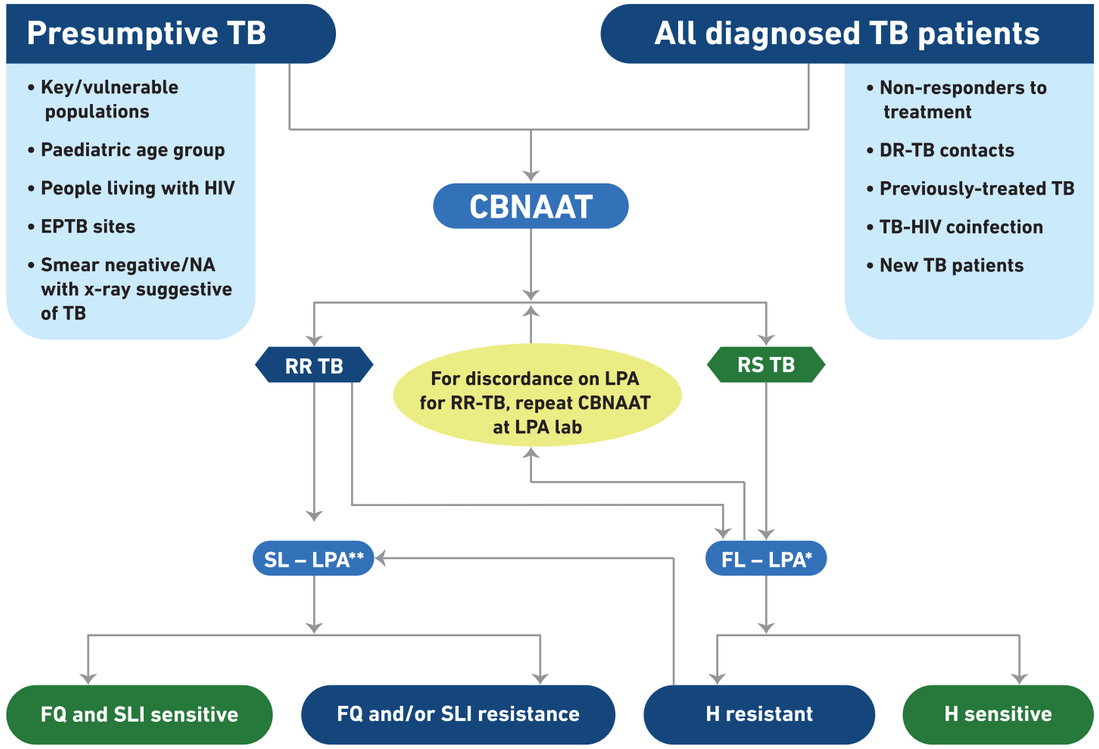
Diagnostic algorithm for pulmonary TB



*All presumptive TB cases should be offered HIV counseling and testing; however, diagnostic work up for TB must not be delayed.

As per the diagnostic algorithm, all patients diagnosed through microscopy, x-ray or high clinical suspicion should be subjected to CBNAAT.

DR TB diagnostic algorithm



*Offer molecular testing for H mono/poly resistance to TB patients prioritized by risk.
**LC DST (Mfx 2,0, Km, Cm, Lzt) will be done only for patients with any resistance on baseline SL-LPA.

Comorbidity screening: All TB patients should be tested for HIV and diabetes. Patients' history of tobacco and alcohol use should be taken.

TREATMENT

- As per new guidelines, drugs to be administered daily and ethambutol in continuation phase (2 months IP HRZE and 4 months of CP HRE).
- No need of extension of IP even if sputum is positive at the end of IP.
- Earlier, for EPTB patients, especially CNS and skeletal TB, only 3 months extension of treatment was permissible. In the revised guidelines, for extrapulmonary TB, treating physician can extend the duration for 3-6 months in patients of CNS, skeletal, disseminated TB.
- Fixed dose combination as per weight band.
- In FDC regimen, adult weight bands have been changed from 4 to 5. Refer to the FDC regimen schedule for new weight bands

NATIONAL TUBERCULOSIS ELIMINATION PROGRAM

Daily FDC Regimen Schedule for Adults

Type of case: New and previously-treated adults

Weight category	Intensive Phase Number of tablets to be consumed		Continuation Phase Number of tablets to be consumed	
	Dose in IP: 56 doses H R Z E (4 FDC) 75/150/400/275 mg per tab	No. of strips in IP	Dose in CP: 112 doses H R E (3 FDC) 75/150/275 mg per tab	No. of strips in CP
25-34 kg	2	4 x 28	2	8 x 28
35-49 kg	3	6 x 28	3	12 x 28
50-64 kg	4	8 x 28	4	16 x 28
65-75 kg	5	10 x 28	5	20 x 28
>75 kg*	6	12 x 28	6	24 x 28

*Patients >75 kg may receive 5 tablets/day if they do not tolerate this dose

Daily FDC Regimen Schedule for Pediatric Patients (<18 yrs)

Type of case: New and previously treated pediatric patients (<18 yrs)

Weight Category	Intensive Phase Number of tablets to be consumed			Continuation Phase Number of tablets to be consumed		
	Dose in IP: 56			Dose in CP: 112		
	H R Z (3 FDC-P) 50/75/150 mg	E* 100 mg	3 FDC No. of strips & tabs in IP	H R (2 FDC-P) 50/75 mg	E* 100 mg	3 FDC No. of strips & tabs in CP
4-7 kg	1	1	2 x 28s E - 56	1	1	4 X 28 E – 112
8-11 kg	2	2	4 x 28s E - 112	2	2	8 X 28 E – 224
12-15 kg	3	3	6 x 28s E - 168	3	3	12 X 28 E – 336
16-24 kg	4	4	8 x 28s E - 224	4	4	16 X 28 E – 448
25-29 kg	3+1 A*	3	6 x 28s E - 168 A - 56	3+1 A*	3	12 X 28 E – 336 A – 112
30-39 kg	2+2 A*	2	4 x 28s E - 112 A - 112	2+2 A*	2	8 X 28 E – 224 A – 224

E* - Ethambutol, A* - Adult FDC tab

Discontinuation of Cat II

- Category II (2HRZES 1HRZE 5 HRE) is discontinued.
- DST to be offered for rifampicin & isoniazid for all patients with history of anti-TB medicine exposure and appropriate regimen should be prescribed.
- No restriction on use of inj. streptomycin for serious forms of TB such as TB meningitis.

MDRTB treatment

- Shorter MDR regimen. Treatment duration 9 to 11 months.
- All MDR/RR-TB patients without resistantce to additional second line drugs like fluroquinolones (moxifloxacin, gatifloxacin and levofloxacin) and second line injectables (amikacine, kanamycin and capreomycine) are eligible.

Type of regimen	Treatment regimen in IP	Treatment regimen in CP
Shorter MDR-TB regimen*	(4-6) Mfx^{h} $Km^{\#}$ Eto Cfz Z H^{h} E	(5) Mfx^{h} Cfz Z E

*For other DRTB management, refer PMDT guideline 2019

All oral H mono drug resistance regimen

In patients with confirmed rifampicin-susceptible and isoniazid-resistant tuberculosis, treatment with rifampicin, ethambutol, pyrazinamide and levofloxacin is recommended for a duration of 6 months.

(3-6) Km Lfx R E Z ⟶ **(6)Lfx R E Z**

New drugs

- After almost five decades of discovery of rifampicin, the two new drugs named bedaquiline and delamanid with anti-TB effect were approved for treatment of multidrug-resistant TB by the Central Drugs Standard Control Organization (CDSCO)
- **Delamanid:** A nitro-imidazole derivative, it acts on mycobacterial cell wall (mycolic acid). It is approved by health ministry, Govt. of India. At present, it is in pilot phase implementation in 7 states. It is approved for children of age 6 to 17 years in all states.
- **Bedaquiline:** It is an ATP synthatase inhibitor used for drug-resistant TB. It was approved by Govt. of India in 2016. The new drug bedaquiline (Bdq) was made accessible to DR-TB patients through a conditional access programme (CAP) under NTEP. MDR/RR-TB patients with resistance to addl. SLD are eligible. It is not approved for children.
- **All oral longer MDR-TB regimen:** (18-20) Bdq(6) Lfx Lzd# Cfz Cs

INH prophylaxis

INH prophylaxis should be administered to the following after ruling out active form of TB:

- All children who are six years or less and, who come in contact with microbiologically confirmed TB patient.
- INH prophylaxis dose should be 10mg/kg for children and 300mg/day for adolescents and adults for 6 months.
- Any person who is HIV positive.
- Any child or adult who is on immunosuppressive drugs or has immunocompromising disease.

FOLLOW-UP

- At the end of treatment, sputum smear, culture, CBNAAT or chest x-ray should be done for each patient.

NOTIFICATION

- Government of India vide its Order No. Z-28015/2/2012 TB dated 6th May, 2012 declared tuberculosis as a notifiable disease. Punishable clause was added in March 2018 which specifies jail term or fine or both under section 269 of IPC.
- Post this notification, all health care providers (private practitioners, clinics, hospitals, nursing homes & labs) are required to notify every TB patient to local health authorities i.e. District TB Officer without fail.

Modalities of TB notification

- Using **Nikshay mobile app** (Download from Google Play Store)
- Using **Nikshay web portal**
- Soft copy via **email** to District TB Officer
- Hard copy via **post or in hand** to District TB Officer
- Toll-free number **1800 11 6666**