**DIAGNOSTIC ALGORITHM**

**GROUP-I: TB PATIENT / Symptomatic at risk of DR-TB**

A. **ALL RETREATMENT TB CASES:**
   - All TB cases AFB sputum smear positive (SS+ve or negative) with history of previous ATT should be tested for Xpert at month zero of enrolment. This includes:
     - Treatment Failure Cat-I
     - Treatment Failure Cat-II
     - Relapse after Cat-I
     - Relapse after Cat-II
     - Treatment after loss to follow up Cat-I
     - Treatment after loss to follow up Cat-II
     - Other Retreatment

B. **SYMPTOMATIC CONTACTS OF DR-TB PATIENT:**
   - All household and workplace symptomatic contacts of DR-TB patients should be screened for RRTB. Specimen from these individuals should be processed for AFB smear and then the specimen is referred for Xpert MTB/RIF assay irrespective of smear results.

C. **TB PATIENTS UNDER TREATMENT WHO FAIL TO CONVERT AT THE END OF INTENSIVE PHASE AND DURING SUBSEQUENT FOLLOW UP:**
   - AFB smear +ve patient on Cat-I who fail to convert at the end of 2nd month of treatment.
   - AFB smear +ve patient on Cat-II who fail to convert at the end of 3 months.
   - AFB smear negative Patient who is reported AFB smear positive at the end of intensive phase

**GROUP-II: TB Symptomatic Among Vulnerable Population**

Screening of RRTB, for early diagnosis and management, is important for all individuals who might not be at risk of DR-TB but belong to vulnerable population. The specimen from these individuals should be processed for AFB smear and then is referred for Xpert MTB/RIF assay irrespective of smear results. This group includes:

- Children under 15 years of age
- HIV positive
- Other immune-compromised (Diabetic, on immunosuppressive or chemotherapy)
- Injecting drug users (IDUS)
- Contact of TB
- Health Care workers including laboratory workers
- Hospitalized Patients
- Prisoners

**GROUP-III: Individual suffering from a Life threatening disease or having difficulty in clinical diagnosis**

- Specimen from individuals suffering from life threatening illness, and at risk of TB, should be tested with Xpert/MTB Rif assay (eg.CSF).

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**PRESumptive TB CASE**

( COUGH > 2 WKS )

Risk Assessment

- No risk of DR-TB

AFB Microscopy

- AFB+ve
  - Register and enroll on First line TB treatment
  - Send same specimen for RR Screening to Xpert site

- AFB -ve
  - X-Ray / clinical evaluation/ GeneXpert

MTB Not Detected

- IF AFB +ve
  - Repeat AFB SSM and Genexpert
  - If AFB+ve & MTB-ve on GeneXpert Submit specimen for culture

MTB+ve RR+ve

- Refer to PMDT enroll on DR-TB treatment
- Monitor DR-TB Treatment

MTB+ve RR-ve

- Register on First line TB treatment

Transport and use same specimen for Xpert testing. Start treatment based on AFB microscopy results and adjust based on Xpert result.

AFB Microscopy (Local lab)