

## Tuberculosis

We have witnessed the shift in gear of Mycobacterium resistance to anti – tubercular drugs from being Multi drug resistant (MDR – TB) to extremely drug resistant (XDR - TB).

MDR – TB	XDR- TB
When Tb is resistant to two first line anti TB drugs namely Rifampicin & Isoniazid	TB that is resistant to any fluoroquinolone & at least one of three injectable second-line drugs (capreomycin, kanamycin, and amikacin) along with rifampicin & isoniazid
Due to misuse / mismanagement of first line drugs	Due to mismanagement of MDR – TB

**Reasons for developing resistance** (below factors lead to poor outcome and treatment failure which eventually leads to prolonged infectiousness and transmission of disease):

- a) Inconsistent or partial treatment;
- b) Patients do not take medicines regularly for the required period after they start feeling better;
- c) Because doctors and health workers prescribe the wrong treatment regimens; or
- d) Erratic drug supplies
- f) Patient factors affecting treatment (non adherence, social stigma, co-morbid condition, socio-economic status, side effects)

**Role of DOTS (Directly observed TB short course) – TB Pharmacist:**

1. Community Awareness about TB
2. Referral of Chest Symptomatic cases
3. Provision & monitoring of DOT treatment
4. Maintaining patient records
5. Attempt to convert private sector patient to DOTS

The above mentioned roles are defined however, each individual pharmacist working at any capacity should be aware about the basics of TB and its simple, standard four regimens for its treatment. Even if you are not a DOT provider you can be vigilant about any Anti-TB prescription that comes to you & can just check, if the regimen prescribed is a standard one & second line drugs are not being added erratically. Pharmacists are the first point of contact for people who self medicate & can play an important role in identifying TB patients. If all of us start doing this we would not reach a situation like XDR TB. This will also help us fortify the image of a Pharmacist as a healthcare professional.

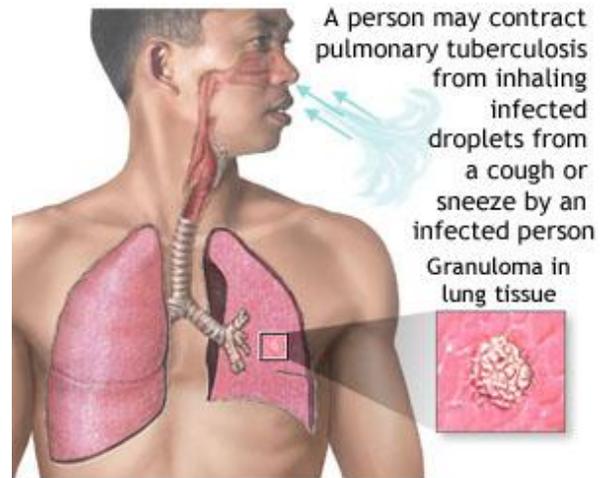
Tuberculosis (TB) is a severe lung infection caused by bacteria called Mycobacterium tuberculosis. TB spreads through the air.

### What increases my risk for TB?

- Close contact with someone who has TB
- Travel to an area where TB is common, such as Africa, Asia, or Latin America
- Living or working with large groups of people in small spaces
- Medical conditions, such as HIV, diabetes, cancer, or kidney disease

### What are the signs and symptoms of TB? TB

can be active or latent. Active means you have TB symptoms. Latent means you do not have symptoms, but you may develop them later. TB mostly affects the lungs, but almost any part of the body can be infected. You may have any of the following:



Towards Freedom from TB...

### FACTS ABOUT TUBERCULOSIS



TB is caused by germs/ bacilli.



TB spreads through cough or sneeze of a TB patient.



More than 5000 people develop TB every day.



TB is completely curable provided treatment is taken for full duration as advised.



TB patients need not be hospitalized.



If TB is not treated fully, it can develop resistance to drugs.



The best way to prevent the spread of TB is early diagnosis and prompt treatment, i.e., by adopting DOTS.

DOTS system: Beginning with sputum test, the complete treatment of TB under observation of health service provider, for *free*.

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- A fever or night sweats
- Weight loss without trying
- Tiredness
- A cough for at least 3 weeks
- Blood in your sputum
- Chest or upper back pain, especially when you breathe
- Shortness of breath

### How is TB treated?

Treatment regimens: Treatment of all patients with new, previously untreated TB should consist of a 2 – 3 months initial intensive phase and 4 to 5 months continuation phase

Initial intensive-phase therapy is with 4 first line antibiotics: Isoniazid (INH), Rifampicin (RIF), Pyrazinamide (PZA), and Ethambutol (EMB). After 2 months of intensive 4-drug treatment, PZA and usually EMB are stopped, depending on the drug susceptibility pattern of the original isolate. Continuation-phase treatment depends on results of drug susceptibility testing of initial isolates (where available), INH and RIF are continued for 4 - 5

more months.

**Remember to take your medicines:**

- **Get involved in the Directly Observed Therapy (DOT) program:** Caregivers help make sure you take your medicines correctly.
- **Take your medicine at the same time every day**
- **Create reminders:** Ask a family member or friend to remind you to take your pills.
- **Keep medicines where you will see them.** Keep the pills in a place where you cannot miss them. Be sure they are out of the reach of children.

**How can I help prevent the spread of TB?**

- **Take your medicine as directed:** If you forget to take your pills one time, skip that dose and take the next scheduled dose.
- **Wash your hands often:** Use soap and water. Wash your hands after you use the bathroom or sneeze. Wash your hands before you prepare or eat food.
- **Cover your mouth and nose:** You may need to wear a mask. Use tissues when you cough or sneeze. Throw the used tissue away. If possible, flush used tissues down a toilet.
- **Avoid close contact with others:** Babies and elderly people are at increased risk for TB.
- **Tell family, friends, and coworkers about your TB:** They may have latent TB and need to take medicine to prevent it from becoming active.

**When should you contact your caregiver?**

- You have a fever, rash, nausea, or vomiting.
- The whites of your eyes or your skin look yellow, urine looks like dark tea or coffee.
- Your symptoms do not go away or get worse, even after you take medicine.

- You have a cough that does not go away after 3 or 4 weeks.

**When should you seek immediate care?**

- You have chest pain or cough up blood.
- You have trouble breathing or fever, headache, and a stiff neck.

**Reference:** Micromedex's Care Notes Systems Online 2.0