24 March is World Tuberculosis Day. In this graphic, we take a look at the basics of the disease, and how it can be treated.

**WHAT IS TUBERCULOSIS?**

Tuberculosis (TB) is a bacterial disease which usually affects the lungs. In many cases it is symptomless (latent TB), but can progress to active disease which kills around half of those affected if left untreated.

1.8 MILLION DEATHS IN 2015

95% OF DEATHS IN DEVELOPING COUNTRIES

**FIRST LINE TB DRUGS**

- ISONIAZID (INH)
- ETHAMBUTOL (EMB)
- PYRAZINAMIDE (PZA)
- RIFAMPICIN (RIF)

Active TB is treated by taking several antibiotics for six to nine months. The four drugs shown are commonly used first line drugs in treatment regimes.

**TREATING DRUG RESISTANT TB**

- **DRUG-RESISTANT TUBERCULOSIS**
  - TB bacteria that are resistant to at least one first line TB drug.

- **MULTIDRUG-RESISTANT TUBERCULOSIS**
  - Resistant to more than one anti-TB drug and at least INH and RIF.

Tuberculosis that is resistant to first line drugs must be treated with second line drugs. These can include drugs that are usually less effective, which have toxic side effects, or which are unavailable in developing countries. Streptomycin was formerly considered a first line drug, but is now used less due to increased cases of resistance to its effects.

**WHAT ARE THE SYMPTOMS?**

- COUGHING
- WEIGHT LOSS
- CHEST PAINS
- FATIGUE
- FEVER
- LOSS OF APPETITE

- **DIVIDES EVERY 15-20 HOURS**
- **ANTIBIOTIC RESISTANCE**

Myobacterium tuberculosis divides more slowly than most bacteria, making development of antibiotic resistance more likely. In addition, the mycolic acids in its cell wall limit the effectiveness of some antibiotics.

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