

# TB & ME: HISTORY

TODAY TB IS ONE OF THE BIGGEST KILLERS GLOBALLY...

## WHAT IS TB?

TUBERCULOSIS (TB) IS AN INFECTIOUS DISEASE CAUSED BY THE BACILLUS MYCOBACTERIUM TUBERCULOSIS.

IT TYPICALLY AFFECTS THE LUNGS (PULMONARY TB) BUT CAN AFFECT OTHER SITES AS WELL (EXTRAPULMONARY TB). THE DISEASE IS SPREAD IN THE AIR WHEN PEOPLE WHO ARE SICK WITH PULMONARY TB COUGH OR SNEEZE.

## PHUMEZA'S STORY:

All seems good so far, I just have to keep my faith – hope and trust that ALL will be well soon. This TB thing can change your life for the better, or lead to the worst – it just depends on how YOU as a person with it will have to deal with each and everyday struggle over a long time.

FIND OUT MORE AND LEAVE A MESSAGE FOR PHUMEZA AT [BLOGS.MSF.ORG/TB](http://BLOGS.MSF.ORG/TB)

## TIMELINE

TB present in Ancient Egypt from early Dynastic times.

Circa 3,700 BC

TB is well known in the ancient world. Hippocrates of Kos, founder of the Hippocratic School of Medicine, gives an excellent clinical description of the disease.

Circa 400 BC

Circa 1500

During the European Renaissance, the Italian physician Girolamo Fracastoro recognizes the contagious nature of TB.

19TH CENTURY SURVEILLANCE OF TB IS GENERALLY POOR.

1882

Robert Koch's report of the isolation of *M. Tuberculosis* published. Convinces the medical community of the communicable nature of TB and brings about concerted efforts to combat the disease. Triggers the beginning of the Sanatorium movement in Europe and the United States.

1860s

Louis Pasteur, the celebrated French chemist and microbiologist, performs experiments which imply that TB is transmitted via airborne route. Theory remains controversial.

1904

The National Association for the Study and Prevention of Tuberculosis is established in the US. This provokes a number of voluntary movements across the United States and Europe.

1921

BCG, or *Bacillus Calmette-Guérin*, a vaccine against TB, is introduced, and spreads quickly across Europe. This vaccine is still used today.

1930s

William Wells, of Harvard Medical School, conclusively proves airborne transmission of TB.

1944 TO 1960s

In 1944 Streptomycin – an antibiotic – is discovered by Selman Waksman, biochemist and microbiologist. However, drug resistance is an issue.

By 1952 Isoniazid, still a first-line anti tuberculosis drug today, has become an important part of treatment.

It wasn't until the 1960s that a trial concluded optimal treatment was 2 years, and could be effectively given on an outpatient basis.

1970s

Drug-resistance has existed for almost as long as TB drugs themselves unsurprisingly widespread introduction of Rifampicin alongside Isoniazid in the 1970s also saw the emergence of Multidrug-resistant TB (MDR-TB).

## What is MDR-TB?

MULTIDRUG-RESISTANT TB (MDR-TB) IS A FORM OF TB THAT DOES NOT RESPOND TO STANDARD TREATMENTS USING FIRST-LINE DRUGS.

It is much more difficult, and takes much longer to treat. In the vast majority of cases, drug-resistant tuberculosis (DR-TB) develops when TB patients fail to complete their full course of treatment; when healthcare workers provide the wrong treatment; when the supply of drugs is interrupted; or when the drugs have expired or are of poor quality.

However newly emerging data indicates that MDR-TB is also transmitting from person to person.

## What are the common physical effects? of TB?

TB ATTACKS THE BODY, OFTEN THE LUNG.

If TB is active and untreated, most deaths occur from pulmonary disease – destruction of the lung. The classic symptoms of active TB are cough, sputum production, fever and weight loss. The risk of death depends on when the patient is infected, how quickly treatment is administered, and their immune status.

## ATHONG'S STORY:

There are many side effects, but I cannot name them all.

I forget. My hands and feet become very warm. It feels like it is burning. It hurts. Sometimes one portion of my feet is cold and the other is warm. It burns and I cannot even sit comfortably. I have fever. When I cough, blood comes out. Sometimes I don't feel like living. I feel very much like dying.

FIND OUT MORE AND LEAVE A MESSAGE FOR ATHONG AT [BLOGS.MSF.ORG/TB](http://BLOGS.MSF.ORG/TB)

I don't know how my day passes. I don't remember.

With MDR TB, one feels very lazy. Sometimes I get up early, sometimes late. I wake up, and then sleep again. I can't even sleep well. I eat food at 9 o'clock as they come to give me medicines. After having medicines, I sleep again. After moving about in the bed when I get tired, then I get some sleep. Then I wake and sleep again. And then again at 3 or 4 in the afternoon they come to give medicines. After taking the medicines, I just sit quietly. I cannot go out. I cannot do anything.

WORLD HEALTH ORGANISATION (WHO) DECLARES TB A GLOBAL HEALTH EMERGENCY, AT A TIME WHEN AN ESTIMATED 7-8 MILLION CASES & 1.3-1.6 MILLION DEATHS OCCURRED EACH YEAR.

First case of XDR-TB identified. Extensively drug resistant TB is defined as TB that is resistant to the first and second line drugs including at least one from the class of antibiotics known as fluoroquinolones, and at least one of three second line injectable drugs.

## EARLY treatment

TREATMENT OF TB IN THE EARLY 20TH CENTURY GENERALLY INCLUDED BED REST; SANATORIUM ATTENDANCE; FRESH AIR; SUNLIGHT; MENTAL TRANQUILITY AND... OPTIMISM.

## MODERN treatment

TB IS STILL PRIMARILY TREATED WITH DRUGS DEVELOPED MID-LAST CENTURY. A SIX MONTH COURSE COSTS JUST US\$21 PER PATIENT. A STANDARD MDR-TB TREATMENT TAKES BETWEEN 18 AND 24 MONTHS AND CAN COST ANYWHERE BETWEEN US\$4,400 AND US\$9,000 PER PATIENT.

## WHERE ARE WE NOW...

MORE AND MORE CASES OF MDR-TB ARE BEING REPORTED.

Less than 10% of those have access to world health organisation standard diagnosis and treatment, and far less in low resource settings where prevalence is highest.

The tools that doctors use to diagnose and treat the disease still predominantly date back to the last century, despite the fact that new diagnostic tools are available. These must be rolled out if lives are to be saved.

We also need new treatments to help reduce the incidence of MDR-TB and improve outcomes for sufferers. We need treatments that are less toxic, can be taken over a shorter timeframe, and are suitable for children.

## WE URGENTLY NEED:

► NEW DIAGNOSTIC TOOLS

► NEW TREATMENTS

## MARIAM DAVTYAN'S STORY:

This is when I started to make the first, though difficult, steps on a path of light.

I contacted MSF staff and arranged a meeting to explain my fears related to the treatment procedure, the side effects of the drugs and explained why I discontinued the treatment before.

I asked them to be with me, to support me to overcome the disease. But as soon as I began to remember the two years of treatment I had with those drugs I could not imagine that I could really do it again.

I was supposed to start everything from the beginning, and the beginning was hospitalization. Irrespective of my fears and concerns I agreed, especially because there was a wonderful doctor next to me, who was dedicated to my complete recovery.

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