

## TUBERCULOSIS

Tuberculosis (TB) is an infectious disease caused by the Mycobacterium tuberculosis bacteria. It is spread from person to person through airborne droplets. TB is strongly associated with poverty, overcrowding and malnutrition and it is estimated that a third of the world's population is affected.

### SYMPTOMS

Usually there are no symptoms with TB infection initially. It may take years for infected individuals to develop symptoms. TB affects the lungs but other parts of the body may also be involved. People usually cannot spread the disease until these symptoms are present. Treatment with medication can prevent the asymptomatic infection from developing into active disease.

Symptoms include:



fever  
weight loss  
cough  
blood in sputum

night sweats  
fatigue  
chest pain

Travellers at highest risk of contracting TB are:

- Health care and aid workers in countries with a high incidence of TB
- Expatriate workers and their families living in countries with a high incidence of TB
- Those spending three months or more in countries with a high incidence of TB, particularly if living in close contact with the local population
- Anyone with a compromised immune system

TB is more likely to be contracted in overcrowded living conditions, poor ventilation and close personal contact with an infected person. For someone who has a normal immune system it usually takes repeated exposure over a long period before TB infection occurs. High risk countries include Africa, Latin America, Southern Asia, South east Asia, the Middle East and the former states of the Soviet Union.



### There are 2 main methods of preventing symptomatic TB disease.

The first is BCG vaccination. In WA this can only be done at the Perth Chest Clinic. Its effectiveness is very variable but it generally only gives 30-50% protection for adults against developing active lung disease. It is more effective in children and may prevent TB from spreading to other parts of the body, which is much more common and serious in children. A negative TB skin test called a Mantoux test is required prior to a BCG. This can be done at the travel clinic. BCG is usually only recommended for

- Children under the age of 15 travelling for more than 3 months to countries with higher incidence of TB.
- Health care and aid workers in areas with high incidence of TB.



BCG vaccinations may cause an abscess at the site of injection which can lead to an unsightly scar if not looked after properly. BCG is usually only given once as boosters do not appreciably increase the amount of protection.

The second method of preventing TB disease is by doing a pre-travel and post-travel Mantoux skin test. The Mantoux test when done pre-travel gives a baseline reading of your body's current reactivity to TB. This is repeated on return if the traveller has symptoms of TB or has had high risk exposure while away. If the reaction has significantly increased in size, treatment can be begun early to prevent the further development of active TB disease.

Health authorities in Australia and in the USA prefer to use Mantoux testing and early treatment, whereas in Europe some authorities recommend travellers have a BCG. Certainly in developing countries where TB is a significant health problem, BCG vaccination is recommended for all children as treatment may not be available.

## THE MANTOUX TEST

The Mantoux or tuberculin test is a skin test used to detect whether or not a person has been exposed to or infected by the tuberculosis bacteria.

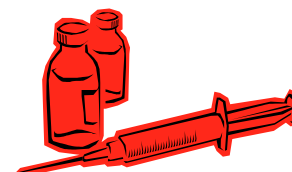
### ***Why is it done?***

A Mantoux is generally carried out as

- An investigation for suspected TB
- A prerequisite for BCG vaccination
- A baseline for employment in a health care facility or prior to prolonged travel to a high risk TB area

### ***How is it done?***

A Mantoux test is done by injecting a small amount of a sterile protein solution (prepared from killed TB bacteria) into the skin of the forearm. A small wheal may form at the injection site. The result is read 72 hours after the injection and the area should not be scratched or rubbed during this time. The test may need to be repeated at this stage as a second reading is sometimes more accurate.



### ***What does the result mean?***

#### **Positive result**

A positive reaction in someone without previous BCG vaccination means the person has had contact with TB. The test does not indicate when or how this happened and whether the TB is active or healed. A chest x-ray is recommended with a positive result.

#### **Negative result**

A negative result indicates that the person has not been affected by TB up to about six weeks before the test was done. If a person has had recent contact with TB a second test will be needed in 6-12 weeks time. A false negative may occur if:

- Had an MMR vaccine within the last month or a BCG a long time ago
- Is undernourished or recovering from a recent acute illness
- Is HIV positive or having treatment that suppresses the immune system

### ***Are there any side effects from the test?***

The side effects are mainly related to the size of the reaction and include local swelling, itchiness and discolouration which may take a few weeks to clear. Very strong reactions are uncommon and may be associated with a painful swelling of several centimetres in size, blistering, or ulceration and red streaks in the arm. They heal eventually with negligible scarring.