

## Tuberculosis

**Mycobacterium tuberculosis is the most frequent cause of TB worldwide and affects only humans**

Tuberculosis (TB) is a *bacterial infection* most commonly spread from person to person through the air by coughing and sneezing. Globally the disease is extremely common with millions of new infections and many deaths occurring yearly. The rate of disease varies widely from country to country, with the highest rates and most deaths occurring in developing regions for example Sub-Saharan Africa and Southeast Asia.

Most travellers visiting countries with high rates of TB are at low risk of infection. Travellers at higher risk include those visiting friends and relatives, healthcare workers, long-term travellers, and those who have contact with a person who has active infection. Prolonged exposure to infected individuals is usually required for infection to occur.

Most healthy individuals who are infected will never develop active disease as their immune system is able to contain the disease. Those most likely to develop active infection include: young children and persons with underlying health problems (for example HIV, cancer, poorly controlled diabetes, long-term kidney disease and malnutrition).

Although TB may affect any organ it most commonly affects the lungs (pulmonary TB). The disease often occurs without symptoms and when symptoms do occur they depend on the organ affected. Symptoms of pulmonary TB commonly include: fever, night sweats, weight loss and a productive cough. Treatment can be complicated and involves prolonged courses of antibiotics. In recent decades TB has become increasingly resistant to many antibiotics.

### Prevention

Travellers should avoid close contact with individuals known to have infectious pulmonary TB. Those at risk during their work (such as healthcare workers) should take appropriate infection control precautions that may include isolation and barrier nursing procedures.

### Tuberculosis vaccine

In the United Kingdom, vaccination against TB (BCG vaccine) forms part of the national immunisation programme and is targeted to high-risk individuals, including some travellers. See UK Health Security Agency link in resources below for updates to the programme announced May 2022.

TB vaccine is recommended for the following two groups of people travelling for more than three months to a country where the annual incidence of TB is 40/100,000 or greater and/ or where the risk of Multi Drug Resistant -TB (MDR-TB) is high\*:

- Unvaccinated children under 16 years travelling to stay with friends/family or local people.
- Unvaccinated, tuberculin skin test negative individuals working in settings that are of high risk of exposure to patients diagnosed with TB, particularly MDR-TB.

TB vaccine should be offered to those in the following occupational groups, with direct patient contact or contact with infectious materials:

- Healthcare or laboratory workers, who have direct contact with TB patients or infectious clinical materials.
- Veterinary and staff such as abattoir worker who handle animals or animal materials which could be infected with TB.

TB vaccine should be considered for some staff working with persons at higher risk of acquiring TB such as prisoners, homeless persons, persons with drug and alcohol misuse and those working with refugees and asylum seekers.

Country-specific information on the risk of TB can be found in our [Country Information pages](#).

## Vaccination schedule

Vaccine	Schedule	Age range
Bacillus Calmette-Guerin (BCG Vaccine AJV)	Single dose*	Infants below 12 months: 0.05ml/intradermal  Children aged 12 months and over and adults: 0.1ml/intradermal

\*Countries with high rates of MDR-TB: [Global tuberculosis report](#).

\*\* A tuberculin skin test is required prior to vaccination for all children from six years of age and may be recommended for some younger children. Full details of tuberculin testing and interpretation can be found in UK Health Security Agency guidance.

Vaccination requires intradermal injection and should be carried out by healthcare professionals trained in this technique. Live vaccines, such as rotavirus, live attenuated influenza vaccine (LAIV), oral typhoid vaccine, yellow fever, varicella, zoster and MMR can be administered at any time before or after BCG vaccination.

## Length of protection

Although immunity may wane over time, reinforcing doses are not recommended. There is no evidence that they would confer additional protection and there is a risk of adverse reactions. There is little evidence of vaccine efficacy in those aged 16 years and older, so vaccination is only recommended for such individuals in special circumstances.

## Resources

- [UKHSA: Tuberculosis: Immunisation against infectious disease](#)
- [UKHSA: Tuberculosis \(TB\) and other mycobacterial diseases: diagnosis, screening, management and data](#)
- Further details on BCG vaccine can be found on the Summary of Product Characteristics from AJ vaccines.
- [UKHSA: Vaccine update May 2022 Changes to the NHS neonatal Bacillus Calmette-Guérin \(BCG\) immunisation programme](#)