

BCG tuberculosis (TB) vaccine

Tuberculosis (TB) is a serious infection which affects the lungs, but it can affect other parts of the body such as the bones, joints and kidneys. It can also cause meningitis.

Although TB can be a very serious disease, it is possible to make a full recovery from most forms of TB with treatment.

Who should have the BCG vaccine?

The BCG vaccine (which stands for Bacillus Calmette-Guérin vaccine) protects against TB. It's not given as part of the routine NHS childhood vaccination schedule unless a baby is thought to have an increased risk of coming into contact with TB.

This includes all babies born in some areas of inner-city London where TB rates are higher than in the rest of the country.

BCG vaccination may also be recommended for older children who have an increased risk of developing TB, such as:

children who have recently arrived from countries with high levels of TB

children who have come into close contact with somebody infected with respiratory TB

BCG vaccination is rarely given to anyone over the age of 16 - and never over the age of 35, because it doesn't work very well in adults. It is, however, given to adults aged between 16 and 35 who are at risk of TB through their work, such as some healthcare workers.

How is the vaccination given?

A baby can be vaccinated in hospital soon after they are born.

How effective is BCG vaccination?

The BCG vaccine is made from a weakened form of a bacterium closely related to human TB. Because the bacterium is weak, the vaccine does not cause any disease but it still triggers the immune system to protect against the disease, giving good immunity to people who receive it.

The vaccine is 70-80% effective against the most severe forms of TB, such as TB meningitis in children. It is less effective in preventing respiratory disease, which is the more common form in adults.

Who should have the BCG (TB) vaccine?

BCG vaccination is recommended for babies and adults at risk of catching tuberculosis (TB).

Babies at risk of TB

The BCG vaccination is recommended for all babies up to one year old who:

are born in areas where the rates of TB are high

have one or more parents or grandparents who were born in countries with a high incidence of TB

Older children and adults at risk of TB

The BCG vaccination is recommended for all older children and adults at risk of TB including:

older children with an increased risk of TB who were not vaccinated against TB when they were babies

anyone under 16 who has come from an area where TB is widespread

anyone under 16 who has been in close contact with someone who has pulmonary TB (TB infection of the lung)

People with occupations that put them at risk of TB

BCG vaccination is recommended for people under the age of 35 who are at risk of TB through their jobs including:

laboratory staff who are in contact with blood, urine and tissue samples
veterinary staff and other animal workers, such as abattoir workers, who work with animals, such as cattle or monkeys, that are susceptible to TB
prison staff who work directly with prisoners
staff of care homes for the elderly
staff of hostels for homeless people
staff who work in facilities for refugees and asylum seekers
healthcare workers with an increased risk of exposure to TB
Travellers to a TB zone

The BCG vaccine is also recommended for people under 16 years of age who are going to live and work with local people for more than three months in an area with high rates of TB.

Parts of the world that have high rates of TB include:

Africa – particularly sub-Saharan Africa (all the African countries south of the Sahara desert) and west Africa, including Nigeria and South Africa

southeast Asia – including India, Pakistan, Indonesia and Bangladesh

Russia

China

South America

the western Pacific region (to the west of the Pacific Ocean) – including Vietnam and Cambodia

How is the BCG jab given?

BCG vaccination is given as an injection into the upper arm. If it's advised that your baby has the BCG vaccine, the jab is usually offered soon after birth or while your baby is still in hospital.

How to tell if you're already immune to TB

Before you have the BCG vaccination, you should be tested to see if you are already immune to TB. This test, which is called the tuberculin skin test, or Mantoux test, should be carried out before the BCG vaccination if someone is:

six years or over

a baby or child under six with a history of residence or a prolonged stay (more than three months) in a country with an annual TB incidence of 40 per 100,000 or more

those who have had close contact with a person with known TB

those who have a family history of TB within the last five years

The Mantoux test checks whether you have a TB infection or disease. This is necessary as many people can become infected with the bacteria that cause TB but do not develop any symptoms.

The test involves injecting a substance called purified protein derivative (PPD) tuberculin into your skin. If you have immunity to TB, your skin will be sensitive to PPD tuberculin and a hard red bump will develop at the site of the injection, usually within 48 to 72 hours of having the test.

If you develop this reaction (a positive test result) you should not be vaccinated, as you already have some immunity to TB. In this case, the BCG vaccine would have no clinical benefit and may cause unpleasant side effects.

If the test is negative, you can go ahead and have the BCG vaccine.

Who should not have the BCG vaccination?

The BCG vaccine is not recommended for:

people who have already had a BCG vaccination

people with a past history of TB

people with a positive tuberculin skin test (Mantoux)

people who have had a previous anaphylactic reaction (severe allergic reaction) to any of the substances used in the vaccine

newborn babies in a household where a case of TB is suspected or confirmed

people who have a septic skin condition at the site where the injection will be given

people who have received another live vaccine less than three weeks earlier

people with a weakened immune system, either as a result of a health condition such as HIV, treatments such as chemotherapy or medicines that suppress the immune system such as steroid tablets

people who have cancer of the white blood cells, bone marrow or lymph nodes, such as leukaemia or lymphoma

people who are seriously unwell (vaccination should be delayed until they recover)

pregnant women

BCG vaccinations are not usually offered to people over the age of 16 because the vaccine doesn't work well in those over 16 and there's virtually no evidence showing that it is effective in those aged over 35.

However, some people over 16 and under 35 whose work puts them at occupational risk of TB may still be offered the vaccine.

BCG (TB) vaccine side effects

Virtually everyone who has a BCG vaccination will develop a raised blister at the site of the injection immediately afterwards. This is normal and is nothing to worry about.

BCG injection scar

Two to six weeks after the injection, a small spot may appear at the site of the injection. It can grow into a circle up to 7mm in diameter and may become crusty where fluid has dried on the surface. It can be painful and bruised for a few days, but will eventually heal. It usually leaves a small scar.

Rarely, some people may have a more severe skin reaction. This should heal within a few weeks.

If you are worried that you or your child's skin reaction is abnormal or that the spot may have become infected, contact your DOCTOR or telephone NHS Direct on 0845 4647.

Allergy to the BCG vaccine

Serious side effects, such as an anaphylactic reaction (a serious allergic reaction), are very rare. They occur in less than one in a million cases. All staff who give vaccinations are trained to treat allergic reactions. And those who have an allergic reaction to a vaccine recover with no lasting effects with treatment.