

BCG vaccination fact sheet

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BCG vaccine

The vaccine for tuberculosis (TB) is known as BCG (bacille Calmette-Guérin) vaccine. BCG vaccine contains a weakened form of the bacteria (germ) that causes TB. Because it is weakened it doesn't cause TB in healthy people but it helps develop some protection (immunity) against TB.

BCG works best in babies and young children and is particularly effective at preventing severe forms of TB including TB meningitis with greater than 70% protection.

Only a single vaccination is required - extra doses are not recommended.

Who needs the vaccination?

Most Australian children do not require BCG vaccination as the rates of TB in Australia are very low.

In Queensland, BCG vaccination is recommended for the following groups:

- Aboriginal and Torres Strait Islander newborn babies
- children aged less than 5 years who will live in Aboriginal or Torres Strait Islander communities for a period of 3 months or more
- children aged less than 5 years who will be travelling to TB high risk countries* for a period of 3 months or more. If the intended length of stay is less than 3 months but the risk of exposure to TB may be high, the need for BCG vaccination should be discussed with the local TB service. The BCG vaccination should ideally occur at least 3 months before departure.

BCG can also help prevent leprosy (Hansen's Disease). BCG vaccination is recommended for newborn babies of parents with leprosy or with a family history of leprosy. Leprosy is very rare in Australia.

*Information about TB high risk countries can be found at: www.health.qld.gov.au/clinical-practice/guidelines-procedures/diseases-infection/diseases/tuberculosis/about/high-risk-countries

Is BCG given to older children and adults?

Depending on the risk of acquiring TB, there may be benefits in vaccinating older children. A doctor experienced in the use of BCG can help decide if the vaccination will be useful.

In general, BCG is NOT given to adults but can be considered for healthcare workers who are likely to deal with large numbers of multi-drug resistant TB cases.

Who should not be given BCG?

BCG should not be given to anyone who:

- has previously had TB (or is currently being treated for TB)
- who is pregnant or could be pregnant

- is having treatment for cancer or other serious conditions that weaken the immune system
- is HIV positive
- has had a positive tuberculin skin test.

When should BCG be given at a later date?

BCG vaccination should be delayed until another time when:

- a newborn child is unwell or weighs less than 2.5 kg
- a newborn child is born to an HIV positive mother and the child's HIV result is not yet known
- the person (child or adult) has received a live vaccine within the previous 4 weeks
- the person is unwell with fever or severe illness.

What to expect

Before vaccination, anyone older than 6 months will be given a tuberculin skin test (sometimes known as the Mantoux test). If the test is positive, this means that the person already has some immunity to TB and BCG vaccination is not recommended as it provides no benefit and there is a higher chance of side effects.

BCG vaccination is given by injecting a small amount of vaccine into the first layer of skin on the left upper arm.

Following BCG vaccination it is normal to develop redness and/or a small lump at the injection site, followed by a small ulcer (an open sore) a few weeks later. The ulcer is usually less than one centimetre in diameter and may last from a few weeks to a few months before healing to a small flat scar.

After care instructions

- The vaccination site should be kept clean and dry.
- Use clean, warm water only to clean the site when necessary.
- Do not use antiseptics, creams or ointments.
- Do not use sticking plaster directly over the vaccination site. If a dressing is needed, it should be a dry dressing with a strip of sticking plaster along two sides, allowing air to circulate.

Side effects

Side effects from BCG vaccination are uncommon. Temporary fever and swollen glands in the armpit or neck usually resolve without any special treatment.

The most common reactions (when they do occur) are enlarged lymph glands (about 1 in 100 vaccinations given), and abscess at the injection site (about 2 to 3 in 100)¹.

Disseminated (widespread) infection is very rare (up to 4 in 1,000,000)² and is more likely to occur in people with weak immune systems such as people receiving treatment for cancer or other conditions or those with HIV infection.

Other rare side effects include osteitis (bone inflammation), keloid scarring and severe immediate allergic reactions.

If you are worried about a reaction after the vaccine, contact the service where you received the vaccination or your after-hours health care provider.

Vaccination services

In Queensland, the BCG vaccine is generally administered by TB services.

If your newborn baby needs BCG vaccination, the hospital will usually inform the local TB service and you will be contacted with an appointment. If you have not heard from a clinic within one month after your baby's birth, or if you have any questions about BCG vaccination, please contact your nearest TB service.

BCG vaccination is free of charge.

Pre-vaccination questions

If you answer 'Yes' to any of the following questions, or have any concerns, please discuss with the nurse before giving consent for you or your child to have the vaccination.

Has / is the person who is receiving the vaccine:

- Ever had tuberculosis or currently being treated for tuberculosis?
- Had contact with anyone diagnosed with tuberculosis?
- Ever had a positive tuberculin skin test (Mantoux) result?
- Ever had a previous BCG vaccination?
- Been diagnosed with HIV, is awaiting testing for HIV or in a high risk group but have not been tested?
- Been diagnosed with cancer including any kind of lymphoma or leukaemia?
- Receiving any oral or injectable steroid medications or other immune-suppressing treatment or medication e.g. prednisone, TNF inhibitor medication, radium or anti-cancer chemotherapy?
- Suffering from major skin conditions e.g. eczema or dermatitis or keloid (severe) scars?
- Currently suffering from a viral illness or have a fever?
- Currently taking antibiotics?
- Is, or could be, pregnant?
- Received another live vaccine within the last four (4) weeks i.e. measles, mumps and rubella, yellow fever, chicken pox or Japanese encephalitis vaccine?

Further Information

Australian Immunisation Handbook 10th edition 2013:

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home>

References

1. Turnbull F, McIntyre P, Achat H, et al. National study on adverse reactions after vaccination with bacilli Calmette-Guerin. *Clinical Infectious Diseases*. 2002; 34:447-53.
2. World Health Organization. Information Sheet. Observed rate of vaccine reactions. Bacille Calmette-Guerin (BCG) vaccine. April 2012.