

BCG (Bacille Calmette-Guerin) Tuberculosis (TB) Vaccination

What is BCG?

BCG (Bacille Calmette–Guérin) vaccine is a vaccine made from a live but attenuated (weakened) strain of the tuberculosis (TB) bacteria. BCG vaccination does not prevent TB infection in an individual. However, it provides protection against progression to disease. Its protection is reported to be over 70% against severe disease e.g. TB meningitis and disseminated disease in young children. BCG is only useful if it is given before the child is infected with the TB bacteria.

BCG is also protective against leprosy.

It is therefore recommended for young children at high risk of contact with active TB or leprosy. Protection is thought to last up to 10 years or possibly 15 years.

Vaccination eligibility:

- Children younger than 5 years with a high probability of traveling to countries with high TB incidence (defined as an annual incidence of >40 cases per 100 000 population) based on an individual risk assessment
- Newborn babies whose parents have leprosy, or who have an immediate family history of leprosy.
- Children under 5 years of age considered by the TB Unit to be at ongoing high risk of TB exposure in Australia.

Who should NOT be given a BCG?

- Immune compromised people including those with cancer of the bone marrow or lymphatic system
- People on medications which suppress the immune system e.g. corticosteroids, chemotherapy
- People who are known or suspected to have HIV infection
- People with a past history of BCG vaccination
- People with a current or past history of TB
- Children with a Mantoux test (also called a Tuberculin Skin Test (TST)) that gives a measured result of ≥ 5 mm or a positive Interferon Gamma Release Assay (IGRA) blood test
- People who have a serious illness including malnutrition
- People who have been given an injectable inactivated live-attenuated vaccine (e.g. for Chickenpox, Yellow Fever, Measles, Mumps and Rubella (MMR)) in the preceding 4 weeks
 - Note: An inactivated live-attenuated vaccine can be given at the same time as a BCG vaccine, but if BCG is not given at the same time, it must be postponed for 4 weeks.

Likewise, any other live attenuated vaccine should not be given until 4 weeks after the BCG.

- Infants weighing less than < 2.5kg
- Persons with generalised skin infections, skin conditions such as eczema, dermatitis and psoriasis, and/or with significant febrile illness (fever more than 38.5°C). People with these conditions need to be discussed with a doctor, as precautions are required.
- Pregnant women

NT risk assessment for all children aged 0-5years pre BCG to determine whether a Mantoux test is required

The need for a Mantoux test is determined by an individual risk assessment. If any of the below apply to a 0-5 year old, consideration should be given to first performing a Mantoux test. If a Mantoux test is positive a BCG is not required (should not be given). Consider performing a mantoux test if the child:

- was born in a TB endemic country (>40 cases per 100,000 population per year)
- has travelled to a TB endemic country or region (>40 cases per 100,000 population per year)
- has a traveller/family member who has come from a TB endemic country or region (>40 cases per 100,000 population per year) and has stayed with them for an extended period of time.
- has had potential exposure to a close contact or family member with TB or who is under investigation for TB
- has lived in TB endemic communities in Australia, under guidance from the TB unit

How is a BCG given?

The vaccine is given by injection into the skin of the upper arm (usually left).

Children under 12 months of age should receive 0.05mL.

Children 12 months and over should receive 0.1mL.

The person holding the child during the injection and the vaccine provider should wear eye protection.

Response and care of the BCG injection site?

A small red papule develops and over 2 to 3 weeks forms an ulcer, which may crust and/or discharge pus. There should be no pain, heat or tenderness around the site of injection or signs of general ill health. The ulcer may persist for 2 to 3 months. Keloid (raised and overgrown scar) formation can occasionally occur.

The ulcer may be covered with dry sterile gauze if discharging pus and should be kept as dry as possible. Antiseptics and sticking plasters should be avoided. The healing, as noted, can take up to 3 months.

Adverse reactions are rare but need to be reported to the TB unit and the local immunisation coordinator.

Those receiving a BCG are advised to get medical advice if they develop:

- Fever greater than 38.5° C
- Soreness, redness and swelling around the ulcer (larger than a 50 cent coin)

- Swollen glands under the arms, around the neck or in the groin

Please note:

BCG immunisation provides some immunity to TB but should not be presumed to be 100% effective against TB. BCG should be given 3 months before travel to ensure there is time for immunity to develop.

No other vaccine should be given in the same arm for 3 months after the BCG.

Request a BCG vaccination

A BCG clinic is held at least once a month at Casuarina Community Care Centre, Casuarina (Darwin) and every 4 to 6 weeks at Flynn Drive Child and Family Health Service (Alice Springs).

Appointments are to be made by phoning the Darwin TB unit on 08 8922 8804 or Flynn Drive Child and Family Health Service, Alice Springs on 08 89516711

Contact

For more information contact the [TB Clinic](#) in your region.

Location	Phone
Darwin (Top End Region)	(08) 8922 8044 or 1800 008 002
Katherine (Big Rivers Region)	(08) 8973 9049
Tennant Creek (Central Australia Region)	(08) 8962 4259
Alice Springs (Central Australia Region)	(08) 8951 7540
Nhulunbuy (East Arnhem Region)	(08) 8987 0357

References

1. Australian Technical Advisory Group on Immunisation (ATAGI). Australian Immunisation Handbook. Australian Government Department of Health and Aged Care, Canberra. 2024.
2. Northern Territory, Department of Health. Guidelines for the Control of Tuberculosis in the Northern Territory. 5th Edition. 2016.

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