

# BCG (Bacille Calmette-Guerin) Tuberculosis 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.

## High-risk children:

- Children younger than 5 years who will have prolonged (greater than 3 months) or frequent travel to countries with high TB incidence (defined as an annual incidence of >40 cases per 100 000 population)
- Newborn babies whose parents have leprosy, or who have an immediate family history of leprosy.
- Aboriginal children younger than 5 years in TB endemic communities under guidance from the TB unit

## 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 tuberculosis
- Children with a Mantoux test (tuberculin skin test) result  $\geq 5$  mm or a positive Interferon Gamma Release Assay (IGRA) blood test
- People who have a serious illness including malnutrition
- A person who has been given an injectable inactivated live-attenuated vaccine (e.g. for Chickenpox, Yellow Fever, Measles, Mumps and Rubella (MMR) in the preceding 6 weeks.
- 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 6 weeks. Likewise, any other live attenuated vaccine should not be given until 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

For more information refer to resources below.

## NT risk assessment for all children aged 0-5years pre BCG to determine whether a Tuberculin Skin Test (TST) is required

The need for a TST 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 TST. If a TST is positive a BCG is not required (should not be given). Consider performing a TST 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
- has had potential exposure to a close contact or family member with TB disease 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, it may crust and/or discharge pus. There is no pain, heat or tenderness around the site of injection and there are no 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 tuberculosis but should not be presumed to be 100% effective against tuberculosis. BCG should be given 3 months before travel to ensure there is time for immunity to develop.

## Request a BCG Vaccination

A BCG clinic is held at least once a month at Casuarina Community Care Centre.

Appointments are to be made by phoning the Darwin TB unit on 8922 8804

## 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 Government, Department of Health and Ageing. The Australian Immunisation Handbook. 2013. 10th Edition.
- 2 Northern Territory, Department of Health. Guidelines for the Control of Tuberculosis in the Northern Territory. 5th Edition May 2014.