

BCG (Bacillus Calmette-Guerin) VACCINATION

Information for Patients

Tuberculosis (TB) is a disease caused by bacteria (called *Mycobacterium tuberculosis*). TB of the lungs is the most common form although disease can occur anywhere in the body. Lung TB is spread from person to person when droplets are forced into the air while coughing, sneezing or singing. People in close contact can inhale (breathe in) these droplets and become infected. Most people who are infected have no symptoms, but a small number of people develop active TB disease, often many years after the original infection. The people who are at risk of being infected are:

- ◆ Travellers to countries where TB is common, eg most parts of Asia and Africa
- ◆ Health care workers and carers of TB high risk groups
- ◆ Close family members of people with TB.

What is BCG Vaccine? BCG vaccine is a live vaccine that gives some protection against TB. The BCG vaccine does not prevent you from becoming infected if you are exposed to TB bacteria (germs), but, it makes it much more likely that you will get a mild localised infection rather than an overwhelming life-threatening illness. It can take between 6-12 weeks for the BCG vaccine to produce its immune effect (protection). BCG vaccination may only give 50-60% immunity against tuberculosis and in some individuals the vaccine loses its effectiveness over time, sometimes within 5-15 years.

Children benefit most. In children BCG vaccine may prevent them from developing severe forms of TB disease, such as TB in the brain (TB meningitis). The benefit to adults is less clear.

You will need a Tuberculin Skin Test (Mantoux test) prior to vaccination to check you are not already tuberculin skin test positive from prior infection with TB, or following BCG vaccination. People with a positive Tuberculin skin test will not benefit from the vaccine and may develop a severe reaction at the vaccination site.

One of the disadvantages following BCG vaccination is that it often makes future Tuberculin skin tests positive. This means we may not be able to tell if the reaction is due to TB infection or as a result of the BCG vaccination.

There are some people for whom BCG vaccination should not be given. People with low immunity, current illness for example chickenpox, or recent live vaccinations eg measles may be advised not to have a BCG. Individual assessment is made prior to BCG and you will be required to sign a Consent Form before vaccination.

BCG and other live vaccines. People travelling overseas who need to have more than one live vaccine before they travel, **should either:** **a)** have all the live vaccines on the same day, or **b)** wait at least 4 weeks between the BCG and other live vaccines. This is to give the body's immune (defence) system the best opportunity to provide the necessary immunity (protection). Some other live vaccines are: oral Typhoid, Yellow Fever, and Mumps, Measles, Rubella (MMR). BCG and oral polio can be given within the 4-week period.

Are there any side effects with BCG vaccination? As with any vaccine, side effects can occur and vary from person to person. Sometimes the vaccination site can become painful, red and swollen. This usually gets better without treatment. Swelling of the glands in the armpit or neck can also occur, which occasionally needs treatment. Very rarely the vaccination can produce widespread BCG infection. This usually happens in people who have a low immunity

[DOH-7610]

Including those who are HIV positive, malnourished or have a serious medical condition. In rare cases, death has occurred.

As the BCG does not completely prevent the risk of tuberculosis it is important to be aware of the symptoms of active TB disease, such as: persistent cough (more than three weeks), coughing up blood stained sputum, fevers, night sweats, unexplained weight loss and tiredness. These symptoms may occur for many reasons, but if you experience them you should consult your local chest clinic or family doctor and have a chest x-ray.

What happens after the BCG vaccination? Following the vaccination, a small red papule (spot) appears within one to three weeks. The papule tends to soften and break down, resulting in a small ulcer in most people. The ulcer may take up to three months to heal, usually leaving a small scar.

Care for the vaccination site in the following manner.

- ◆ **Allow the vaccination site to heal naturally and keep it CLEAN AND DRY.** Do not use creams or ointments
- ◆ If necessary, apply a sterile gauze dressing loosely but do **NOT** put sticking plaster, lint or cloth directly over the vaccination site
- ◆ Avoid bumps and scratches to the site
- ◆ You may continue all normal activities such as showering, swimming and sports.

**If you have any concerns or experience any side effects,
Please telephone
TB Prevention & Control Service (Chest Clinic) on:**

References:

BCG Vaccine and Consumer Medicine Information: Connaught Laboratories: Canada.

Winks M, Levy M, Westly-Wise V. and The NSW Tuberculosis Advisory Committee. (1994). *Controlling Tuberculosis in New South Wales*. New South Wales Health Department. North Sydney.

Barclay L. A review of BCG complications since the introduction of a different BCG vaccine. 2000. CDC: Darwin.
(See <http://www.nt.gov.au/nths/public/cdc/vol5/bcg.htm>)

Colditz GA, Brewer TF, Berkley CS, Wilson ME, et al Efficacy of BCG vaccine in the prevention of tuberculosis - Meta-analysis of the published literature. *JAMA* 1994; 271 (9): 698-702.

Grange JM. Complications of bacille Calmette-Guerin (BCG) vaccination and immunotherapy and their management. *Comm Dis Pub Hlth* 1998; 1 (2): 84-8.

The Role of BCG Vaccine in the Prevention and Control of Tuberculosis in the United States. *MWR*: April 26, 1996 / Vol. 44 / No. RR-4. US Department of Health and Human Services.

The Australian Immunisation Handbook 7th Edition: National Health & Medical Research Council.