



# Fact Sheet: BCG

## What is BCG?

BCG (Bacille Calmette-Guérin) is a live vaccine to protect babies and young children against the most severe forms of tuberculosis (TB) such as TB meningitis and miliary TB. In countries where TB infection and TB disease are common, the World Health Organization strongly endorses the continued use of BCG in national immunization programs to minimize the harmful effect of TB infection in the first year of life.

## What is latent TB infection (LTBI)?

A person with TB infection has inhaled TB bacteria into his/her lungs. The immune system captures the TB bacteria preventing illness or disease. This person has LTBI. A person with latent tuberculosis infection does not feel sick and cannot spread TB to others. However, the latent tuberculosis infection may progress to TB disease in the future, especially if the person's immune system weakens.

## What is TB disease?

Tuberculosis is a serious disease that attacks the lungs and sometimes spreads to other parts of the body. TB in the lungs may cause a bad cough that lasts longer than 2 weeks, pain in the chest, coughing up blood or sputum (phlegm), weakness or feeling very tired, weight loss, decreased appetite, chills, fever, and night sweats. Occasionally, early disease of the lungs may have few or no symptoms.

## Does BCG work?

BCG's protective effect against TB varies from 0%-80% depending upon the strain of BCG used and the group vaccinated. In British school children, efficacy has been found to be almost 80%, whereas a study in school children in Georgia showed no protective effect. Protection is against the more serious forms of the disease. People can develop active TB even though they received BCG, even in multiple doses, in earlier years.

## Is BCG a lifelong protective vaccine?

No. Although the BCG has protective efficacy against some forms of tuberculosis, the vaccine's protection is lost over time. Therefore, BCG's efficacy is low to nonexistent in adults and the elderly.

## Will I always have a negative skin test if I got BCG vaccination?

No. People vaccinated with BCG can have a positive reaction to a TB skin test. This reaction may be due either to the BCG vaccine or to an actual TB infection. The reaction from BCG given in infancy consistently fades within five years. Therefore, adults who were vaccinated as children should consider a positive skin test to indicate a possible TB infection.

Adults who had many BCG vaccinations, or who were vaccinated after the age of 6 years, may have a positive TB skin test because of BCG. However, a positive skin test in an adult who was vaccinated with BCG only at birth almost certainly represents true latent TB infection. Therefore, further testing to rule out TB disease is essential.

## Why does latent TB infection progress to TB disease?

A person with latent TB infection may develop the disease if his or her immune system can't stop the bacteria from growing. If the immune system is weakened (by a serious illness, diabetes, poor eating habits, heavy drinking) the TB bacteria may become active and cause TB disease. The highest risk of TB disease is within the first 2 years of becoming infected.

After the first 2 years, there is about a 10% chance of developing TB disease in a person's lifetime. People with both LTBI and HIV infection have a much greater chance of developing TB disease.

**How do I know if I have LTBI or TB disease?**

People with latent TB infection do not feel sick and may not know they have been exposed to TB. Having a TB skin test is the best way to find out if you have been infected. If you feel sick, see your doctor. Your doctor will examine you and order tests like a chest x-ray and sputum (phlegm) exam. If you have TB disease, you need tuberculosis treatment to kill the TB bacteria in your body. Without treatment, a person with TB disease can die.

**What can I do to prevent progression of LTBI to TB disease?**

If you have latent TB infection, it is important to protect your immune system from becoming weak. Your doctor may recommend treatment to reduce the chance of later disease.

**Is the treatment safe?**

Most people complete the treatment without problems, but sometimes these drugs may irritate the liver. People who drink heavily or have hepatitis may already have weak livers. Your doctor can order a blood test to see if your liver is affected.

**What are recommendations for BCG vaccination in the United States?**

BCG is not recommended in immunization programs or TB control programs in the United States. TB control programs prefer to identify latent TB infection early by skin testing high-risk populations for TB, and by treating those with LTBI to prevent TB disease. Treatment of LTBI with drug(s) will help your immune system fight the TB bacteria and reduce the chance of active TB disease by more than 90%.

*This fact sheet is for information only and is not meant to be used for self -diagnosis or as a substitute for consultation with a health care provider. For more information call your health care provider or 257-3612.*

Visit our website at: [www.gchd.us](http://www.gchd.us) or the Centers for Disease Control & Prevention at: [www.cdc.gov](http://www.cdc.gov)

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