

Background and General Guidelines | [BCG and Interpreting TB Skin Tests](#)

Bacille Calmette-Gurin (BCG) is a vaccine for tuberculosis (TB) disease. BCG is used in many countries where the incidence and prevalence of TB is high. BCG is not generally recommended in the United States because of the low risk of infection with *M. tuberculosis*, the variable effectiveness of the BCG vaccine against pulmonary TB, and the vaccine's interference with tuberculin reactivity.

BCG vaccination does appear to lower the risk of serious complications of primary TB in children. In the United States, BCG vaccination is recommended only for children who have negative tuberculin skin test results and cannot be given treatment for latent TB infection, but who are at high risk for continuous exposure to infectious TB or TB resistant to Isoniazid and Rifampin.

BCG is no longer recommended for health care workers or other adults who are likely to be exposed to TB. BCG Vaccination of health care workers, however, should be considered on an individual basis in settings in which a high percentage of TB patients are infected with *M. tuberculosis* strains resistant to both Isoniazid and Rifampin, transmission of such drug-resistant *M. tuberculosis* strains to health care workers and subsequent infection are likely, and comprehensive TB infection-control precautions have been implemented and have not been successful.

Immunosuppressed persons, such as those infected with HIV, should not receive the BCG vaccine.

Pregnant women should not receive the BCG vaccine, although harmful effects of the BCG vaccination on the fetus have not been observed.

Interpreting Tuberculin Skin Test Results in BCG-Vaccinated Persons In persons vaccinated with BCG, sensitivity to tuberculin is highly variable, depending upon the strain of BCG used and the group vaccinated. The presence or size of a post vaccination tuberculin skin-test reaction does not predict whether BCG will provide any protection against TB disease.

Furthermore, the size of a tuberculin skin-test reaction in a BCG-vaccinated person is not a factor in determining whether the reaction is caused by *M. tuberculosis* infection or the prior BCG vaccination.

Tuberculin skin testing **is not contraindicated** for persons who have been vaccinated with BCG,

Background and General Guidelines | [BCG and Interpreting TB Skin Tests](#)

and the TB skin-test results of such persons are used to support or exclude the diagnosis of *M. tuberculosis* infection.

A diagnosis of *M. tuberculosis* infection and the treatment of latent TB infection (LTBI) should be considered for any BCG-vaccinated person who has a tuberculin skin-test reaction of ≥ 10 mm of induration, especially if any of the following circumstances are present.

- The BCG-vaccinated person is a contact of another person who has infectious TB, particularly if the infectious person has transmitted *M. tuberculosis* to others;
- The BCG-vaccinated person was born or has resided in a country in which the prevalence of TB is high; or
- The BCG-vaccinated person is exposed continually to populations in which the prevalence of TB is high. These persons might include some health care workers, employees and volunteers at homeless shelters, and workers at drug-treatment centers.

Treatment of LTBI should be considered for BCG-vaccinated persons with a TB skin test reaction of ≥ 5 mm induration if they are infected with HIV and at risk for *M. tuberculosis* infection.

BCG-vaccinated persons who have a positive reaction to the tuberculin skin test, but who do not have TB disease, should be evaluated for treatment of latent TB infection. The possibility of TB disease should be considered for BCG-vaccinated persons who have symptoms suggestive of TB.

For More Information

For more information about contact the VDH TB Control Program at 804-864-7906 or fax your query to 804-371-0248.

You may also want to order the publication, "The role of BCG vaccine in the prevention and control of tuberculosis in the United States" (MMWR 1996;45(No.RR-4)). To obtain a copy of this publication, click on <http://www.cdc.gov/mmwr/preview/mmwrhtml/00041047.htm> or call the CDCs Voice and Fax Information System (recording) toll free at (888) 232-3228.