

FACT SHEET

Tetanus: Up-to-Date Booster Best Prevention

Tetanus is a potentially fatal infection caused by the bacterium *Clostridium tetani*. It is commonly referred to as lockjaw because of its effect on neck and jaw muscles.



Exposure Risk

Tetanus is not contagious, a feature that distinguishes it from all other vaccine-preventable diseases. *C. tetani* spores are usually found in soil, dust, manure and feces. Most exposures occur in densely populated regions with hot, damp climates and soil rich in organic material. In agricultural areas, animals and humans may harbor the organism in their intestines.

Tetanus bacteria typically enter the body through cuts, puncture wounds and other breaks in the skin. Tetanus has also been linked to elective surgery, burns, deep-puncture and crush wounds, otitis media (ear infections), dental infection, bites, abortion and pregnancy. Elimination of neonatal tetanus and related infant deaths is a World Health Organization goal.

In the U.S. from 2001 to 2008, the most recent years from which data have been compiled, 233 tetanus cases were reported – an average of 29

cases per year. In almost all cases, the person had either never been vaccinated or had not had a booster within the past 10 years, according to a [Centers for Disease Control and Prevention report](#). Among 197 cases with known outcomes, the fatality rate was 13 percent.

Symptoms, Diagnosis and Treatment

Tetanus bacteria produce a toxin that affects the nervous system and causes painful muscle contractions. After an incubation period averaging 10 days, the first sign is lockjaw, when neck and jaw muscles become rigid, followed by neck stiffness, difficulty swallowing and rigidity of abdominal muscles. Other symptoms include fever, sweating, elevated blood pressure and rapid heart rate. Spasms may occur for three to four weeks. Complete recovery may take months.

Diagnosis of tetanus is through clinical observation; there are no specific lab tests for it. A medical evaluation is recommended for the following:

- non-superficial burns
- wounds that won't stop bleeding
- cuts or puncture wounds that are deep and/or dirty
- wounds caused by a metal object
- bite wounds (human, animal, venomous spider or arachnid – Refer to [WorkCare's Fact Sheet on stings and bites](#))
- avulsions (detachments), crush injuries and frostbite
- signs of infection such as spreading redness, warmth or swelling

In such cases, vaccination is recommended if the person has never been immunized against

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tetanus or has not received a booster within the past five years. Tetanus immune globulin (TIG) is typically prescribed to help reduce toxins and fight infection. Hospitalization is required to manage complications. Case-fatality ratios are high, even when modern intensive care is available.

Prevention



Immunization with tetanus-toxoid containing vaccines prevents tetanus in children and adults. DTaP vaccine (diphtheria, tetanus and pertussis) is recommended for healthy babies at ages 2, 4 and 6 months, and again at 15 through 18 months of age. A DTaP booster is recommended for children ages 4 through 6 years.

The Tdap vaccine is recommended for all 11-18 year olds, preferably at 11 or 12 years. This booster shot contains a full concentration of tetanus and lower concentrations of diphtheria and pertussis (whooping cough). Td is a tetanus and diphtheria vaccine given to preteens, teens and adults as a booster shot every 10 years, or after an exposure to tetanus under some circumstances. Tdap can be given no matter when Td was last received.

In addition to immunization, other preventive measures include wearing protective clothing and gear and immediately cleaning wounds as

thoroughly as possible. To self-treat a minor wound:

- Wash your hands and apply gentle pressure with a bandage or clean cloth to stop bleeding.
- Rinse the wound with water and, if possible, remove remaining dirt or particles with tweezers cleaned with alcohol.
- Apply a thin layer of non-prescription antibiotic cream or ointment; if a rash develops, discontinue use.
- Cover with a clean bandage to help keep the wound clean and prevent infection.

If you are planning a trip outside of the U.S., check with a WorkCare travel health specialist on the need for a booster.

Did You Know?

Upper-case letters in vaccine abbreviations denote full-strength doses, for example, diphtheria (D) and tetanus (T) toxoids and pertussis (P) vaccine. Lower-case "d" and "p" denote reduced doses of diphtheria and pertussis used in the adolescent/adult-formulations. The "a" in DTaP and Tdap stands for "acellular," meaning that the pertussis component contains only a part of the pertussis organism.

