

What is tetanus?

Tetanus is a disease that affects the nervous system and is caused by the bacterium *Clostridium tetani*. *C. tetani* releases a toxin that affects the nerves which causes painful muscles spasms.

Who is at risk for tetanus?

Anyone who is inadequately vaccinated against tetanus is at risk. The bacteria that causes tetanus enters the body through a dirty wound. Although a deep puncture wound such as stepping on a dirty nail was thought to be high risk, any wound contaminated with soil, feces, dirt or manure can become contaminated with tetanus. Tetanus occurs throughout the world.

What are the symptoms of tetanus?

Symptoms of tetanus are stiffening of the jaw (lockjaw) and muscle spasms occurring over one to seven days.

How soon do symptoms appear?

Symptoms can appear from three to 21 days after exposure, with most cases occurring within eight days after exposure.

How is tetanus spread?

The bacterium that causes tetanus is normally found in dirt and the intestinal tracts of animals and humans. When the wound is caused by a dirty object, the bacteria can enter the body through the wound site.

When and for how long is a person able to spread the disease?

Tetanus is not spread from person to person.

How is a person diagnosed?

There are no reliable laboratory tests to diagnose tetanus. A health-care provider will evaluate the symptoms and check for a history of breaks or tears in the skin that may have been caused by a dirty object.

What is the treatment?

A dose of tetanus immune globulin (TIG) is recommended. TIG is used to remove the toxin released by *C. tetani*, but it can only remove toxin that isn't already affecting nerves. Special wound care may be needed and medications may be used to reduce the severity of muscle spasms. An antibiotic (oral metronidazole) is the antibiotic of choice.

Does past infection make a person immune?

No. Past infection does not make a person immune. Tetanus disease does not cause immunity because so little of the toxin is required to cause the disease. People recovering from tetanus should begin or complete the vaccination series.

Should children or others be excluded from child care, school, work or other activities if they have tetanus?

No. Tetanus is not spread from person to so person, so infants, toddlers and school-aged children should not be excluded unless the staff determines the child is unwilling or unable to participate in activities.

They also should be excluded if the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group. All others can attend work and other functions as long as they are well enough to do so.

What can be done to prevent tetanus disease?

There are vaccines that protect against tetanus. The childhood vaccine is called DTaP. Generally a child will receive five doses of DTaP, given in a series starting at 2 months of age with a final dose prior to starting elementary school. The childhood DTaP vaccine is not given to people age 7 or older. North Dakota state law requires all children attending early childhood facilities or schools to be vaccinated against tetanus. A vaccine containing tetanus, diphtheria and pertussis (called Tdap) is also available for older children, adolescents and adults. It is recommended that adolescents receive one dose of Tdap at age 11 or 12. Tdap is required for entry into middle school. Adults should also receive one dose of Tdap. A tetanus vaccine given along with diphtheria (called Td) is also available for those who cannot receive Tdap or who have already received one dose of Tdap. Pregnant women should receive a dose of Tdap during each pregnancy, preferably at 27 – 36 weeks. A vaccine containing protection against tetanus should be given to all adults every 10 years. This is to ensure that immunity to tetanus is maintained.

If there is a break or tear to the skin, a dose of vaccine containing tetanus may be given if it has been five or more years since the last tetanus shot. In some cases, TIG may also be given.

Do I need tetanus vaccine during flooding?

Exposure to flood waters does not increase the risk of tetanus, and tetanus immunization campaigns are not needed. While documentation of vaccination is preferred, it should not be a pre-requisite for cleanup work. During flood cleanup, the risk of wounds may be increased. For this reason, cleanup workers should be sure that they are up-to-date with tetanus vaccination, ideally before starting cleanup activities. Adults need a tetanus booster shot every 10 years. Td or Tdap can be used; getting the Tdap instead of Td for one tetanus booster during adulthood is recommended to maintain protection against pertussis. Being up-to-date for tetanus vaccine can greatly simplify the treatment for any wound that might occur.

Additional Information:

Additional information is available at www.ndhealth.gov/disease or by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resources:

American Academy of Pediatrics. [Tetanus]. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. *Red Book: 2018 Report of the Committee on Infectious Diseases*. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018:[pages 793 - 798].

Centers for Disease Control and Prevention. *Worker Safety After a Flood*. Retrieved from: <https://www.cdc.gov/disasters/floods/workersafety.html>.