

# Tetanus

## What is tetanus?

Tetanus is a serious, sometimes fatal, illness of the nervous system. It is characterized by stiffening of the muscles, particularly in the face, neck and back, and locking of the jaw. For this reason, it is also called “lockjaw.”

Tetanus is caused by a toxin produced by the bacterium *Clostridium tetani* (*C. tetani*), which is found in soil, dust and manure.

## How is it transmitted?

Tetanus usually enters the body through a wound. Toxins from *C. tetani* bacteria attach to nerves in the wounded area and travel to the central nervous system where they interfere with nerves related to muscular movement.

Tetanus infection is often associated with deep puncture wounds and cuts, such as those caused by nails or knives. But burns, scratches and even small pinpricks can serve as entryways for infection. It is not spread from person to person.

## What are the symptoms?

Typical onset of tetanus begins with muscular spasms of the face and locking of the jaw. Throat and neck muscles may become rigid, causing swallowing and breathing difficulties with a danger of suffocation. Symptoms may progress to include stiffness in the shoulders, back and arms. Eventually the abdomen and legs may become stiff.

After exposure, it usually takes about seven days to become ill, but symptoms

may begin in as early as three days or as late as three weeks.

## Is there a treatment?

Treatment for tetanus infection requires hospitalization, usually under intensive care. Large doses of antibiotics are given as well as antitoxins (medicines that neutralize toxins). Sedatives may be required to control spasms, and maintenance of an airway or mechanical ventilation may be necessary for breathing.

Most patients will recover completely after a couple of months, but in spite of treatment, there is a risk of death. In rare cases, there may be lasting effects such as brain damage from oxygen deficiencies.

## Can tetanus be prevented?

Safe and effective vaccines exist to prevent tetanus. A series of five injections containing tetanus toxoid is usually given to children starting at 2 months of age in the DTaP (diphtheria, tetanus, acellular pertussis) vaccine.

A booster dose is required every 10 years after completion of the DTaP series, either with Td (tetanus/diphtheria) or Tdap (tetanus/diphtheria/acellular pertussis).

## How common is tetanus infection?

Because of widespread immunization, tetanus infection is rare in the United States. However, it is still common in other parts of the world. If you have not been vaccinated or have not received a booster shot within 10 years, you are at risk.

**What should I do if I step on a nail or receive a wound?**

For minor wounds, clean the wound thoroughly with soap and warm water; leave the wound uncovered if possible. Get a Td or Tdap booster shot if it has been longer than 10 years since your last one.

For severe injuries, see a health care provider immediately for evaluation and treatment (stitches, antibiotics and Td or Tdap booster shot).

If any signs of infection (redness or warmth of the wound, swelling, tenderness or fever) or tetanus develop, consult your health care provider immediately.