

## Background

Tetanus infection is caused by the toxin-producing, gram-positive, spore-forming bacterium *Clostridium tetani*. Tetanus bacteria are not transmitted from person to person. Tetanus infection primarily occurs when the bacteria enter the body through cuts or wounds. Tetanus bacteria are present worldwide and are commonly found in soil, dust, and manure. Although now rare in the United States, tetanus cases continue to occur among unimmunized persons and persons who are not up to date on their 10-year booster vaccines.

## Clinical symptoms

Symptoms of tetanus include sudden, involuntary muscle spasms (especially of the jaw, neck, and trunk) and “locking” of the jaw, painful muscle stiffness all over the body, trouble swallowing, seizure-like activity, headache, and fever.

## Incubation period

The incubation period for tetanus is typically 10 days (range, 3-21 days).

## Laboratory testing

There are no laboratory tests that can confirm tetanus. Healthcare providers diagnose tetanus based on clinical signs and symptoms.

## Case definition

*Confirmed:* Not applicable. There is no case definition for confirmed tetanus.

*Probable:* In the absence of a more likely diagnosis, an acute illness with

- muscle spasms or hypertonia **AND**
  - diagnosis of tetanus by a healthcare provider;
- OR**
- death, with tetanus listed on the death certificate as the cause of death or a significant condition contributing to death.

## Treatment of tetanus infection

CDC and the AAP Red Book recommends that patients with tetanus be **treated immediately** with **500 IU of TIG**. TIG should be administered intramuscularly, and most experts recommend administering a single dose. Part of the dose may be infiltrated around the wound if it can be identified, but efficacy of this strategy has not been proven.

## Infection Prevention and Control Measures in Health Care Settings

Standard precautions are recommended.

## Immunization

DTaP (diphtheria, tetanus, and acellular pertussis), Td (tetanus, diphtheria), and Tdap (tetanus, diphtheria, and acellular pertussis) vaccines all protect against tetanus. Children need five doses of DTaP between ages 2 months and 6 years, and a Tdap booster at age 11 or 12 years. Adults need a booster every 10 years after the primary series has been completed. The Tdap vaccine is

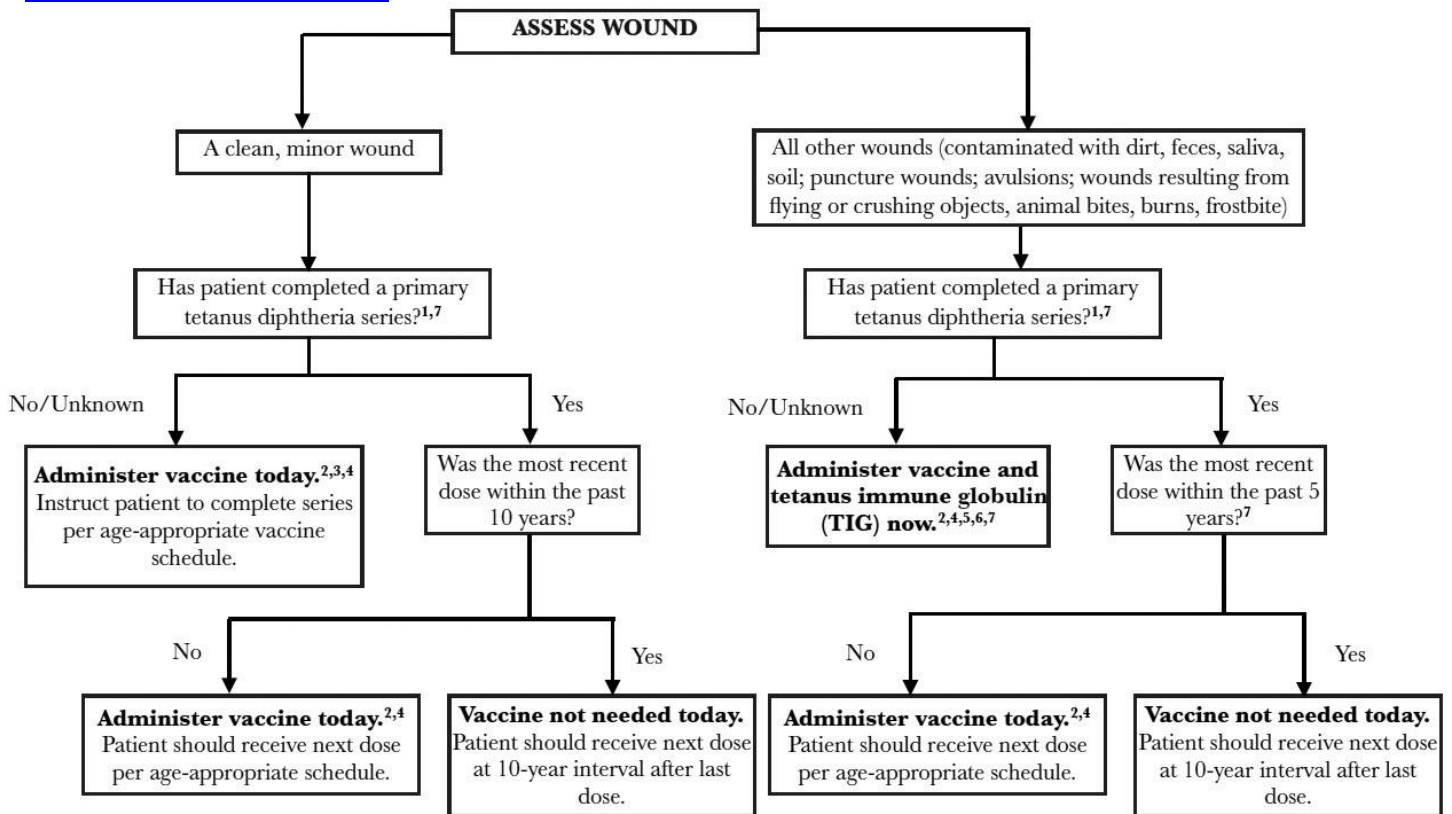
recommended for one of the booster doses in adults.

**Postexposure prophylaxis**

Even minor wounds or abrasions can result in tetanus. Healthcare providers should assess vaccination status in patients with wounds, particularly those considered at increased risk for tetanus: older adults, injection-drug users, patients with diabetes, and patients with chronic wounds. Tetanus prophylaxis is dependent on the patient’s history of vaccination with tetanus toxoid-containing vaccinations (TT) and the nature of the wound. When TIG is recommended for wound **prophylaxis**, the standard dose is **250 U IM**, regardless of age or weight.

**CDC’s Summary Guide to Tetanus Prophylaxis in Routine Wound Management**

[Redbook 2024-2027 \(Fig 3.19\)](#)



**Figure Legend**

Abbreviations: DTaP = Diphtheria and Tetanus toxoids and acellular pertussis vaccine; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis; Td = tetanus and diphtheria toxoids; TIG = Tetanus immune globulin

<sup>1</sup> A primary series consists of a minimum of 3 doses of tetanus- and diphtheria-containing vaccine (DTaP/DTP/Tdap/DT/Td).

<sup>2</sup> Age-appropriate vaccine:

- DTaP for infants and children 6 weeks up to 7 years of age.
- Tetanus-diphtheria (Td) toxoid for persons 7 through 9 years of age and 65 years of age and older.
- Tdap for persons 11 through 64 years of age if using Adacel\* or 10 years of age and older if using Boostrix\*, unless the person has received a prior dose of Tdap.\*

<sup>3</sup> No vaccine or TIG is recommended for infants younger than 6 weeks of age with clean, minor wounds. (And no vaccine is licensed for infants younger than 6 weeks of age.)

<sup>4</sup> Tdap\* is preferred for persons 11 through 64 years of age if using Adacel\* or 10 years of age and older if using Boostrix\* who have never received Tdap. Td is preferred to tetanus toxoid (TT) for

persons 7 through 9 years, 65 years and older, or who have received a Tdap previously. If TT is administered, and adsorbed TT product is preferred to fluid TT. (All DTaP/DTP/Tdap/Td products contain adsorbed tetanus toxoid.)

<sup>5</sup> Give TIG 250 U IM for all ages. It can and should be given simultaneously with the tetanus-containing vaccine.

<sup>6</sup> For infants younger than 6 weeks of age, TIG (without vaccine) is recommended for "dirty" wounds (wounds other than clean, minor).

<sup>7</sup> Persons who are HIV positive should receive TIG regardless of tetanus immunization history.

\*Brand names are used for the purpose of clarifying product characteristics and are not an endorsement of either product. Tdap vaccines: Boostrix (GSK) is licensed for persons 10 years of age and older; Adacel (sanofi) is licensed for persons 11 through 64 years of age.

### **Additional information**

[CDPH Tetanus web page](#)

[CDC Tetanus web page](#)