

TETANUS FACT SHEET

(Lockjaw)

Agent: Caused by the bacterium, *Clostridium tetani*.

Brief Description: Tetanus is an acute, often fatal disease caused by an exotoxin produced by the anaerobic organism *C. tetani* in a contaminated wound. Increased muscle rigidity and severe muscle spasms characterize tetanus. The muscle stiffness usually first involves the jaw (lockjaw) and neck, and later becomes generalized. Muscle spasms may continue for 3-4 weeks or more. Other symptoms include fever, sweating, elevated blood pressure, and rapid heart rate.

Reservoir: Intestines of humans, as well as the intestines of horses and other animals, in which the organism is a normal inhabitant. Tetanus spores are ubiquitous in the environment and can contaminate wounds of all types. Soil or fomites contaminated with animal and human feces can also be important reservoirs.

Mode of Transmission: Tetanus spores are introduced into the body through: (1) puncture wounds; (2) lacerations, burns, trivial or unnoticed wounds in which fecally-contaminated soil containing *C. tetani* spores penetrates body tissues; or (3) by injected contaminated street drugs.

Incubation Period: Usually 3-21 days, although it may range from 1 day to several months, depending on the wound. The average is 10 days, and most cases occur within 14 days. Shorter incubation periods have been associated with more heavily contaminated wounds, more severe disease, and a worse prognosis.

Clinical Case Definition: Acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause.

Laboratory Criteria for Diagnosis: Attempts at laboratory confirmation are of little help. The organ-

ism is rarely recovered from the site of infection, and there is usually no detectable antibody response. The diagnosis is entirely clinical and does not depend upon bacteriologic confirmation.

Diagnostic Testing: Not indicated.

Case Classification:

Confirmed: A clinically compatible case, as reported by a health-care professional.

Period of Communicability: Not directly transmitted from person-to-person.

Vaccination: Primary tetanus immunization with diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) is recommended for all persons at least 6 weeks old, but < 7 years of age, for whom the vaccine is not contraindicated. For those with allergies to pertussis vaccine, a diphtheria and tetanus toxoid vaccine is available (DT). The primary vaccination consists of a three-dose series, administered at ages 2, 4, and 6 months. The fourth dose (first booster) is recommended at 15-18 months of age to maintain adequate immunity during preschool years. The fifth dose (second booster) is recommended for children aged 4-6 years to confer continued protection against disease during the early years of schooling. Routine tetanus booster immunization, with tetanus toxoid usually combined with adult-diphtheria toxoid (Td), is recommended for all persons \geq 7 years of age every 10 years.

Treatment: Tetanus Immune Globulin (TIG) IM, in doses of 3,000-6,000 IU. The wound should be properly cleaned, debrided, and excised if necessary. Metronidazole (30 mg/kg per day, given at 6-hour intervals) is the antibiotic of choice and should be given for 7-14 days. Active immunization should be initiated

concurrently with therapy. Tetanus clinical disease does not confer immunity because of the small amount of toxin required to produce illness.

Post-exposure Prophylaxis: For routine wound management, wounds that are “dirty” should be treated with TIG IM unless the patient has had three or more doses of the tetanus vaccine. “Dirty” wounds include those contaminated with dirt, feces, soil, or saliva, puncture wounds, avulsions, and wounds resulting from missiles, crushing, burns, or frostbite. For all wounds, clean or dirty, a dose of Td should be given if the patient has had less than three doses of the vaccine. If patients have had three or more doses, the decision to give Td should be based on the amount of time since the last vaccine was given. If the wound is clean, the patient should receive Td unless he or she has had the vaccine within the last ten years. If the wound is dirty, give Td unless he or she has had the vaccine within the last five years. The wound should be cleaned and debrided as described under “Treatment.”

Investigation: The Tetanus Surveillance Worksheet and the Tetanus Surveillance Case Report Form may be used as guidelines. The investigation should include identification of age at onset, the circumstances of any previous injury, tetanus toxoid vaccination history, and determination of the patient’s status (alive, dead) at one-month after onset of disease.

Reporting: Report all cases **WITHIN 7 DAYS** electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, or complete and mail a GA Notifiable Disease Report Form (#3095). Districts should also complete the Tetanus Surveillance Worksheet and the CDC Tetanus Surveillance Case Report Form (Form 71.15) and forward to the Epidemiology Branch as soon as possible.

Reported Cases of Tetanus in Georgia, 1995-1999

Year	Number of Cases
1995	1
1996	0
1997	0
1998	0
1999	0

References:

1. American Academy of Pediatrics. Tetanus (Lockjaw). In: Peter G and Pickering L, ed. *2000 Red Book: Report of the Committee on Infectious Diseases*. 25th Ed. Elk Grove Village, IL: American Academy of Pediatrics; 2000:563-568.
2. CDC. Case Definitions for Infectious Conditions under Public Health Surveillance. *MMWR* 1997; 46(No. RR-10): 39-40.
3. CDC. Tetanus among injecting drug users – California, 1997. *MMWR* 1998; 47(08): 149-151.
4. Centers for Disease Control and Prevention. Manual for the surveillance of vaccine-preventable disease. Centers for Disease Control and Prevention: Atlanta, GA, 1999.
5. Chin J, ed. Tetanus. In: *Control of Communicable Diseases Manual*. 17th ed. Washington, DC: American Public Health Association, 2000: 491-496.

Links:

- **CDC Tetanus Fact Sheet** - <http://www.cdc.gov/nip/publications/pink/tetanus.pdf>
- CDC National Immunization Program – <http://www.cdc.gov/nip/>