

# TETANUS

(lockjaw)

## REPORTING INFORMATION

- Class A(2)
- Report by the end of the next working day
- [Confidential Case Report Card](#) (3812.11, rev. 12/81) or Telephone
- [Tetanus Surveillance Worksheet](#) to be completed by the local health department and sent to the ODH Immunization Program

## AGENT

*Clostridium tetani*, an anaerobic, spore-forming bacillus.

## CASE DEFINITION

### 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

### Case classification

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

## SIGNS AND SYMPTOMS

The clinical symptoms are not due to infection but result from the production of a specific neurotoxin, tetanospasmin, that is produced at the site of injury and acts primarily on the spinal cord. It also acts on the brain, motor end plates, and autonomic nerves.

## DIAGNOSIS

Suspicious wound or debrided tissue may be cultured anaerobically for *C. tetani*, but false negatives occur in up to two-thirds of patients. Diagnosis is frequently made on clinical symptoms alone.

The ODHL provides isolation for *Clostridium tetani*. In addition, ODHL will confirm isolates by either biochemical or gas chromatographic analysis.

## EPIDEMIOLOGY

### Source

Tetanus spores are found in soil, dust, and animal or human feces. Infection occurs when a puncture wound is contaminated with tetanus spores.

### Occurrence

Worldwide. Tetanus is seen in all ages and occurs more frequently in agricultural regions and under-developed areas where tetanus immunization is inadequate. In Ohio, 0-2 cases are reported annually.

### Mode of Transmission

Transmission occurs when tetanus spores are introduced into the body during an injury, usually a puncture wound contaminated with soil, feces, etc. Tetanus neonatorum usually results from infection of the unhealed umbilicus, particularly when the umbilical cord is treated with contaminated substances (a practice in some underdeveloped countries).

### Incubation Period

Four to 21 days, depending upon the severity, location, and the extent of contamination of the wound. The farther the injury site is from the central nervous system, the longer the incubation period. The

shorter the incubation period, the greater the chance of death. In tetanus neonatorum the symptoms occur about seven days after birth (range 5-12 days).

## **PUBLIC HEALTH MANAGEMENT**

### **Case**

#### Treatment

Tetanus Immune Globulin (TIG-Human) is preferred to Equine Tetanus Antitoxin for treatment. A single dose of 500 to 3,000 units given intramuscularly is recommended, although the optimum therapeutic dose has not yet been established. Tetanus Antitoxin (Equine) should be used only if TIG is not available. Parenteral penicillin G or a tetracycline (tetracycline should not be given to children less than eight years of age) is effective in reducing the number of vegetative forms of the organism. Therapy for 10 to 14 days is recommended.

#### Isolation

No isolation procedures are required.

### **Contact**

No management is necessary

### **Prevention and Control**

All individuals should receive a primary series of DTaP or DT (if less than seven years of age) or Td (seven years of age or older) with boosters of Td every 10 years. In a small percentage of individuals, antitoxin levels fall below the minimum protective level before 10 years have elapsed.

For details of immunization and tetanus prophylaxis in wound management, refer to the ACIP recommendations in the ODH Immunization Manual.