Tetanus

(Also Known as Lockjaw)

DISEASE REPORTABLE WITHIN 24 HOURS OF DIAGNOSIS

Per NJAC 8:57, healthcare providers and administrators shall report by mail or by electronic reporting within 24 hours of diagnosis, confirmed cases of tetanus to the health officer of the jurisdiction where the ill or infected person lives, or if unknown, wherein the diagnosis is made. A directory of local health departments in New Jersey is available at http://www.state.nj.us/health/lh/directory/lhdselectcounty.shtml.

If the health officer is unavailable, the healthcare provider or administrator shall make the report to the Department by telephone to 609.826.5964, between 8:00 A.M. and 5:00 P.M. on non-holiday weekdays or to 609.392.2020 during all other days and hours.

June 2008

1 THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Tetanus is caused by a potent plasmid-encoded exotoxin (tetanoplasmin) produced by *Clostridium tetani,* a spore-forming, anaerobic, gram-positive bacillus. The organism is a noninvasive wound contaminant that causes neither tissue destruction nor an inflammatory response.

B. Clinical Description

Generalized tetanus (lockjaw) is an acute, often fatal neurological disease characterized by painful muscular contractions primarily of the masseter and neck muscles, secondarily of the trunk muscles. The toxin blocks signals through nerves that signal muscles not to contract in response to voluntary contractions of opposing muscles. Onset is gradual, occurring over one to seven days. The muscle stiffness usually first involves the jaw (lockjaw) and neck and progresses to severe generalized muscle spasms, which frequently are aggravated by any external stimulus. Severe spasms persist for one week or more and subside over a period of weeks in those who recover.

Localized tetanus is manifested by local muscle spasms in areas contiguous to a wound. Cephalic tetanus is a dysfunction of cranial nerves associated with infected wounds on the head and neck. Both localized and cephalic tetanus may precede generalized tetanus.

Complications of the disease include laryngospasm (spasm of the vocal cords) or spasm of the muscles of respiration, leading to interference with breathing; fractures of the spine or long bones, which may result from sustained contractions and convulsions; and hyperactivity of the autonomic nervous system, which may lead to hypertension or an abnormal heart rhythm. Other complications may include increased susceptibility to nosocomial infections, pulmonary embolism (particularly in drug addicts and elderly patients), and aspiration pneumonia. The case-fatality rate ranges from 10% to 90%; it is highest in infants and the elderly and varies inversely with the length of the incubation period and the availability of experienced intensive care unit personnel and resources. Tetanus disease does not confer immunity. Patients who survive the disease should be given a complete series of vaccine.

There are no laboratory findings characteristic of tetanus, and the diagnosis does not depend on bacteriologic confirmation. The diagnosis is based entirely on clinical findings and by excluding other possibilities, including hypocalcemic tetany, phenothiazine reaction, strychnine poisoning, and hysteria. *C. tetani* is recovered from the wound in only 30% of cases, and not infrequently, it is isolated from patients who do not have tetanus. Sera collected before tetanus immune globulin (TIG) is administered can demonstrate susceptibility of a patient to the disease. If tetanus and diphtheria antitoxin levels are each ≥ 0.1 IU/mL, previous vaccination with tetanus and diphtheria toxoid vaccine is presumed.

C. Reservoirs

C. tetani is a normal inhabitant of soil and animal and human intestines. Tetanus spores are ubiquitous in the environment and can contaminate wounds of all types.

D. Modes of Transmission

There is **no** person-to-person transmission of tetanus. The organism, a normal inhabitant of soil and animal and human intestines, is ubiquitous in the environment. Wounds, especially wounds with devitalized tissue and deep puncture trauma, serve as portals of spore entry into the host. The organism multiplies and elaborates toxin at the site of injury. Cases of tetanus have followed injuries considered too minor for medical consultation.

E. Incubation Period

The incubation period ranges from two days to months, with most cases occurring within 14 days. In neonates, the incubation period is usually five to 14 days. In general, shorter incubation periods are associated with more heavily contaminated wounds, more severe disease, and a worse prognosis.

F. Period of Communicability or Infectious Period

Tetanus in not transmitted from person to person.

G. Epidemiology

Tetanus occurs worldwide and is more frequent in warmer climates and months, partly because of the frequency of contaminated wounds. Despite the availability of tetanus toxoid, tetanus continues to cause a substantial health impact in the world. Neonatal tetanus is a serious health problem in developing countries where women are not immunized appropriately against tetanus and there are nonsterile practices involving the umbilical cord. Inability to nurse is the most common presenting sign. The World Health Organization estimates that tetanus neonatorium causes 200,000 deaths per year in developing countries. In 2001, an estimated 282,000 people worldwide died of tetanus, most of them in Asia, Africa, and South America. Tetanus is sporadic and relatively uncommon in the United States and most industrial countries, mostly because of widespread use of tetanus toxoid as part of

routine immunizations and improved wound management. Since the mid-1970s, 50 to 100 cases of tetanus have been reported annually in the United States. Almost all reported cases have occurred in individuals who had never been vaccinated or who completed a primary series but had not had a booster dose in the preceding ten years. Ninety percent of patients who were seen acutely did **not** receive appropriate treatment. From 1982 through 1992, two thirds of US tetanus cases occurred in persons 50 years of age or older. Serosurveys show that 20% to 70% of US adults are susceptible to tetanus (and susceptibility increases with age). Neonatal tetanus is rare in the United States, with only two cases reported between 1989 and 1998. Neither of the infants' mothers had ever received tetanus toxoid.

Heroin users, particularly those who inject themselves subcutaneously with quinine-cut heroin, appear to be at high risk for tetanus. Quinine is used to dilute heroin and may actually favor growth of *C. tetani*.

During 1998–2000, acute injuries such as punctures, lacerations, and abrasions accounted for 73% of reported cases of tetanus in the United States. In the United States, tetanus affects primarily older adults. In New Jersey, one case was reported in 2005 and another in 2006. Both cases involved adults; of these, one had practiced self-tattooing. The last reported case of neonatal tetanus in the United States occurred in 1998 in Montana in a newborn whose umbilical stump had been treated with nonsterile clay.

2 CASE DEFINITION

A. New Jersey Department of Health and Senior Services (NJDHSS) Case Definitions

1. Case Definition for Tetanus (as defined by Centers for Disease Control and Prevention [CDC], 1999)

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 healthcare professional.

3 LABORATORY TESTING AVAILABLE

There are generally no laboratory findings characteristic of tetanus. Therefore, there are no laboratory testing services for tetanus that are available through NJDHSS Public Health Environmental Laboratories (PHEL). Attempts to culture *C. tetani* are associated with poor yield, and a negative culture does not rule out disease. A protective serum antitoxin concentration should not be used to exclude the diagnosis of tetanus if clinical suspicion is high.

4 PURPOSE OF SURVEILLANCE AND REPORTING AND REPORTING REQUIREMENTS

A. Purpose of Surveillance and Reporting

- To ensure early evaluation and, where appropriate, administration of tetanus toxoid and/or tetanus immune globulin (TIG) and hospitalization.
- To identify groups and areas in which risk of disease is highest (due to under immunization, occupation, other practices, etc.) so that prevention efforts can be focused.

B. Laboratory Reporting Requirements

As specified at New Jersey Administrative Code (NJAC 8:57-1) any clinical laboratory director shall report any positive tests within 72 hours of result. Telephone reports to the local health department where the patient resides shall be followed by a report (in writing, via confidential fax, or using the Communicable Disease Reporting and Surveillance System [CDRSS]) to the health officer of the jurisdiction in which the patient lives, or if unknown, wherein the diagnosis is made. If the health officer is unavailable, the report shall be made to the NJDHSS VPDP 609.588.7512 (weekdays) or 609.392.2020 (nights/weekends).

Please refer to the list of reportable diseases (http://www.state.nj.us/health/cd/njac8:57.pdf) for information.

C. Healthcare Provider Reporting Requirements

As specified by New Jersey Administrative Code (NJAC 8:57-1), any healthcare provider shall report a confirmed or suspect case within 24 hours of diagnosis. Telephone reports to the local health department where the patient resides shall be followed by a report (in writing, via confidential fax, or using the Communicable Disease Reporting and Surveillance System [CDRSS]) to the health officer of the jurisdiction in which the patient lives, or if unknown, wherein the diagnosis is made. If the health officer is unavailable, the report shall be made to NJDHSS Vaccine Preventable Disease Program (VPDP): 609.588.7512 (weekdays) or 609. 392.2020 (nights/weekends).

D. Health Officer Reporting Requirements and Follow-up Responsibilities

As specified by New Jersey Administrative Code (NJAC 8:57-1), each health officer pursuant to the provisions of NJAC 8:57-1 shall within 24 hours of receipt of a report initiate or update case information in CDRSS. If the initial report is incomplete, the health officer shall seek complete information and provide all available information to NJDHSS VPDP within five days of receiving the initial report. Refer to the health officer's Reporting Timeline http://www.state.nj.us/health/cd/njac857.pdf for information on prioritization and timeline requirements of reporting and case investigation.

E. Entry into CDRSS

The mandatory fields in CDRSS include: disease, last name, county, municipality, gender, race, ethnicity, case status, report status.

The following table can be used as a quick reference guide to determine which CDRSS fields need to be completed for accurate and complete reporting of tetanus cases. The "Tab" column includes the tabs which appear along the top of the CDRSS screen. The "Required Information" column provides detailed explanations of what data should be entered.

CDRSS Screen	Required Information
Patient Info	Enter the disease name ("TETANUS") patient demographic information, illness onset date, and the date the case was reported to the local health department (LHD). There are no subgroups for tetanus.
Addresses	Enter any alternate address (e.g., occupational or institutional address). Use the Comments section in this screen to record any pertinent information about the alternate address. Entering an alternate address will allow other disease investigators access to the case if the alternate address falls within their jurisdiction.
Clinical Status	Enter any treatment that the patient received and record the names of the medical facilities and physician(s) involved in the patient's care. Indicate pregnancy status under Clinical Status section. If immunization status or date of last booster dose is known, it should be entered under Immunizations section. If the patient died, date of death should be recorded under the Mortality section.

CDRSS Screen	Required Information
Signs/Symptoms	Check appropriate boxes for signs and symptoms and indicate their onset date. Make every effort to get complete information by interviewing the physician, family members, ICP, or others who might have knowledge of the patient's illness. Also, information regarding the resolution of signs and symptoms should be entered.
Risk Factors	Enter complete information about risk factors to facilitate study of *Clostridium tetani* disease in New Jersey. If patient has not received immunizations due to a medical or religious exemption, please check risk factor in Risk factor(s) section. Document any occupational (e.g., agricultural) or recreational (e.g., tattooing, injection-drug use) exposures in the Comments section.
Laboratory Eval	There are no laboratory findings characteristic of tetanus. The diagnosis is entirely clinical. **NOTE:** *C. tetani* can be isolated from wounds of patients who do not have tetanus.
Contact Tracing	Information regarding contacts is not required for this disease.
Case Comments	Enter general comments (i.e., information that is not discretely captured by a specific topic screen or drop-down menu) in the Comments section. **NOTE:** Select pieces of information entered in the Comments section CANNOT be automatically exported when generating reports. Therefore, whenever possible, record information about the case in the fields that have been designated to capture this information; information included in these fields CAN be automatically exported when generating reports.
Epidemiology	Under the Other Control Measures section, indicate if the patient falls into any of the categories listed under Patient Role(s)/Function(s). Record name of and contact information for case investigators from other agencies (e.g., CDC, out-of-state health departments). Document communication between investigators in the Comments section.
Case Classification Report Status	Case status options are: "REPORT UNDER INVESTIGATION (RUI)," "CONFIRMED," "PROBABLE," "POSSIBLE," and "NOT A CASE." • All cases entered by laboratories (including LabCorp electronic submissions) should be assigned a case status of "REPORT UNDER INVESTIGATION (RUI)." **NOTE**:

CDRSS Screen	Required Information
	There are no laboratory findings characteristic of tetanus and diagnosis is based entirely on clinical findings, therefore bacteriologic confirmation is not necessary to confirm a case. • Cases still under investigation by the LHD should be assigned a case status of "REPORT UNDER INVESTIGATION (RUI)." • Upon completion of the investigation, the LHD should assign a case status on the basis of the case definition. "CONFIRMED" and "NOT A CASE" are the only appropriate options for classifying a case of tetanus (see section 2A). Report status options are: "PENDING," "LHD OPEN," "LHD REVIEW," "LHD CLOSED," "DELETE," "REOPENED," "DHSS OPEN," "DHSS REVIEW," and "DHSS APPROVED." • Cases reported by laboratories (including LabCorp electronic submissions) should be assigned a report status of "PENDING." • Once the LHD begins investigating a case, the report status should be changed to "LHD OPEN." • The "LHD REVIEW" option can be used if the LHD has a person who reviews the case before it is closed (e.g., health officer or director of nursing). • Once the LHD investigation is complete and all the data are entered into CDRSS, the LHD should change the report status to "LHD CLOSED." • "LHD CLOSED" cases will be reviewed by DHSS and be assigned one of the DHSS-specific report status categories. If additional information is needed on a particular case, the report status will be changed to "REOPENED" and the LHD will be notified by e-mail. Cases that are "DHSS APPROVED" cannot be edited by LHD staff (see Section C below). If a case is inappropriately entered (e.g., a case of *Clostridium botulism* was erroneously entered as a case of tetanus) the case should be assigned a report status of "DELETE." A report status of "DELETE" should NOT be used if a reported case of tetanus simply does not meet case definition. Rather, it should be assigned the appropriate case status, as described above.

5 CASE INVESTIGATION

1. It is the health officer's responsibility to investigate the case by interviewing the patient and others who may be able to provide pertinent information.

2. NJDHSS VPDP will provide a Tetanus Surveillance Worksheet (IMM-22) to the local health department to document the investigation; this will usually require contact with the health provider or hospital to complete the worksheet. (See Attachments A)

3. Investigation should provide information about: (1) clinical presentation; (2) tetanus immunization history; (3) risk factors for disease, i.e., history of wound or injury, chronic wounds, recent injection drug use, tattooing, or body piercing; (4) occupations or hobbies involving contact with soil or manure; (5) country of origin and length of residency in United States; and (6) military dates of service (if any).

4. On completion, the IMM-22 is to be returned by mail to NJDHSS VPDP, PO Box 369, Trenton, NJ 08265-0369. (See Attachment A)

Local health departments should familiarize themselves with the wound care information. However, in most circumstances, patients will be seen by their private physicians or a hospital emergency department, thus negating the need for intensive public health intervention in these matters.

6 CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

None.

B. Protection of Contacts

There is no immunization or prophylaxis necessary for contacts of a case. If the patient is hospitalized, standard precautions should be used.

C. Case Management and Treatment

1. Regardless of immunization status, all dirty wounds should be properly cleaned and debrided if dirt or necrotic tissue is present. Wounds should receive prompt surgical treatment to remove all devitalized tissue and foreign material as an essential part of tetanus prophylaxis. It is **not** necessary or appropriate to extensively debride puncture wounds. In neonatal tetanus, wide excision of the umbilical cord is not indicated.

2. Human TIG is recommended for **treatment**. A single dose of 3,000 to 6,000 U is recommended for children and adults. (*Note:* The optimum therapeutic dose has not been established.) The preparation available in the United States must be given intramuscularly. Some authorities believe that part of the dose should be infiltrated locally around the wound, although the efficacy of this approach has not been proven.

NOTE: For routine prophylaxis, the recommended dosage of TIG is considerably lower than the recommended dosage for treatment. Consult package insert for appropriate dosage schedule.

3. Intravenous immune globulin (IGIV) contains antibodies to tetanus and may be considered for treatment if TIG is not available. However, approval by the Food and Drug Administration has not been given for this use, and the proper dosage has not been determined.

4. Antimicrobial therapy: Oral (or intravenous) metronidazole (30 mg/kg per day, given at six-hour intervals, maximum 4 g/day) is the drug of choice and is effective in reducing the number of vegetative forms of *C. tetani*. Parenteral penicillin G (100,000 U/kg per day, given at four- to six-hour intervals, maximum 12 million U/day) is an alternative treatment. Therapy for ten to 14 days is recommended.

5. Vaccination: Active immunization against tetanus always should be undertaken during convalescence from tetanus, because this exotoxin-mediated disease usually dose not confer immunity. ACIP guidelines should be followed.

6. Supportive care and pharmacotherapy to control spasms are of major importance.

7 OUTBREAK SITUATIONS

If the number of reported cases of tetanus in a jurisdiction is higher than usual for the time of year, an outbreak might be occurring. In accordance with NJAC 8:57, NJDHSS should be contacted immediately at 609.588.7512. This situation may warrant an investigation of clustered cases to determine a course of action to prevent further cases. In contrast to what routinely occurs at the local level, NJDHSS staff can perform surveillance for clusters of illness that may cross several jurisdictions and thereby be better able to assess the extent of an outbreak during its infancy.

8 PREVENTIVE MEASURES

A. Tetanus Prophylaxis in Routine Wound Management

Appropriate immunization is central to tetanus prophylaxis. The need for active immunization (with tetanus-toxoid) and/or passive immunization (with TIG) depends on the condition of the wound and the patient's immunization history:

	Clean, Minor Wounds		All Other Wounds[1]	
History of Absorbed Tetanus Toxoid (Doses)	**Td/Tdap/DTaP DT or TT[2]**	**TIG[3]**	**Td/Tdap/DTaP DT or TT[2]**	**TIG[3]**
Unknown or < 3 doses	Yes	No	Yes	Yes
> 3 doses	No[4]	No	No[5]	No

1. Such as, but not limited to, wounds contaminated with dirt, feces, soil, and saliva; puncture wounds; avulsions; and wounds resulting from missiles, crushing, burns, and frostbite.

2. Tetanus toxoid (TT) is available as a single-antigen preparation, combined with diphtheria toxoid as pediatric DT or adult Td, and with both diphtheria toxoid and acellular pertussis vaccine as DTap or Tdap. Pediatric formulations (DT and DTap) contain a similar amount of tetanus toxoid as adult Td, but contain 3–4 times as much diphtheria toxoid. Children younger than seven years of age should receive either DTaP or pediatric DT. Persons seven years of age or older should receive the adult formulation (adult Td) even if they have not completed a series of DTaP or pediatric DT. The use of single-antigen tetanus toxoid is not recommended. Tetanus toxoid should be given in combination with diphtheria toxoid, since periodic booster is needed for both antigens. Two brands of Tdap are available: Boostrix (approved for children 10–18 years of age) and Adacel (approved for persons 11–64 years of age).

3. Intravenous Immune Globulin should be used when Tetanus Immune Globulin (TIG) is not available.

4. Yes, if >10 years since last tetanus-containing vaccine dose.

5. Yes, if >5 years since last tetanus-containing vaccine dose. More frequent boosters are not needed and can accentuate adverse side effects.

B. Personal Preventive Measures and Education

Vaccination, including routine childhood vaccination, catch-up vaccination of adolescents, and targeted vaccination of high-risk adult groups, is the best preventive measure against tetanus. Please refer to the most current versions of the ACIP statement on diphtheria, pertussis, and tetanus (listed under References, below). These as well as other relevant resources are available through the NJDHSS VPDP at 609.588.7512.

Health care providers and the public must be educated on the necessity of primary immunization with tetanus toxoids and ten-year booster doses, the hazards of puncture wounds and closed injuries, and the potential need after injury for active and/or passive prophylaxis.

Given that tetanus is preventable, each case should be considered a failure to vaccinate and should be used as a means of determining how to prevent further failures from occurring. Surveillance information should be used to raise awareness of the importance of immunization and to characterize persons or places in which additional efforts are required to raise immunization levels and decrease disease incidence.

For the prevention of neonatal tetanus, preventive measures (in addition to maternal immunization) include community immunization programs for adolescent girls and women of childbearing age and appropriate training of midwives in recommendations for immunization and sterile technique.

1. Environmental Measures

Sterilization of hospital supplies will prevent the infrequent instances of tetanus that may occur in a hospital from contaminated sutures, instruments, or plaster casts.

Additional Information

A Tetanus Fact Sheet can be obtained at the NJDHSS Web Site at http://www.state.nj.us/health/. Click on the "Topics A to Z" link and scroll down to subject "Tetanus."

References

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Heymann, David L., ed. *Control of Communicable Diseases in Man.* 18th ed. Washington, DC: American Public Health Association; 2004.

Massachusetts Department of Public Health, Division of Epidemiology and Immunization. *Guide to Surveillance and Reporting*. Jamaica Plain: Massachusetts Department of Public Health, Division of Epidemiology and Immunization; January 2001.

Tetanus Surveillance Worksheet

ATTACHMENT A

NAME (Last, First)				Hospital Record No.
Address (Street and No.)	City	County	Zip	Phone
Reporting Physician/Nurse/Hospital/Clinic/Lab	Address			Phone

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Tetanus Surveillance Worksheet

CDC NETSS ID | County | State | Zip

Birth Date (Month Day Year) | **Age** (Unk = 999) | **Age Type**: 0 = 0-120 years, 1 = 0-11 months, 2 = 0-52 weeks, 3 = 0-28 days, 9 = Unknown | **Ethnicity**: H = Hispanic, N = Not Hispanic, U = Unknown | **Race**: N = Native Amer./Alaskan Native, A = Asian/Pacific Islander, B = African American, W = White, O = Other, U = Unknown | **Sex**: M = Male, F = Female, U = Unknown

Event Date (Month Day Year) | **Event Type**: 1 = Onset Date, 2 = Diagnosis Date, 3 = Lab Test Date, 4 = Reported to County, 5 = Reported to State or MMWR Report Date, 9 = Unknown | **Reported** (Month Day Year) | **Imported**: 1 = Indigenous, 2 = International, 3 = Out of State, 9 = Unknown | **Report Status**: 1 = Confirmed, 2 = Probable, 3 = Suspect, 9 = Unknown

HISTORY

Date Year of Onset (Month Day Year)

Occupation

History of Military Service (Active or Reserve)? (Y = Yes, N = No, U = Unknown)

Year of Entry Into Military Service

Tetanus Toxoid (TT) History Prior to Tetanus Disease (Exclude Doses Received Since Acute Injury): 0 = Never, 1 = 1 dose, 2 = 2 doses, 3 = 3 doses, 4 = 4 + doses, 9 = Unknown

Years Since Last Dose: 0 - 98, 99 = Unknown

CLINICAL DATA

Acute Wound Identified? (Y = Yes, N = No, U = Unknown)

Date Wound Occurred (Month Day Year)

Principal Anatomic Site: 1 = Head, 2 = Trunk, 3 = Upper Extremity, 4 = Lower extremity, 9 = Unspecified

Work Related? (Y = Yes, N = No, U = Unknown)

Environment: 1 = Home, 2 = Other Indoors, 3 = Farm/Yard, 4 = Automobile, 5 = Other Outdoors, 9 = Unknown

Circumstances:

Principal Wound Type: 1 = Puncture, 2 = Stellate Laceration, 3 = Linear Laceration, 4 = Crush, 5 = Abrasion, 6 = Avulsion, 7 = Burn, 8 = Frost bite, 9 = Compound Fracture, 10 = Other (e.g. with cancer) Specify:_____, 11 = Surgery, 12 = Animal bite, 13 = Insect bite/sting, 14 = Dental, 15 = Tissue necrosis, 99 = Unknown

Wound Contaminated? (Y = Yes, N = No, U = Unknown)

Depth of Wound: 1 = 1cm. or less, 2 = More than 1 cm., 9 = Unknown

Signs of Infection? (Y = Yes, N = No, U = Unknown)

Devitalized, Ischemic, or Denervated Tissue Present? (Y = Yes, N = No, U = Unknown)

MEDICAL CARE PRIOR TO ONSET

Was Medical Care Obtained For This Acute Injury? (Y = Yes, N = No, U = Unknown)

Tetanus Toxoid (TT) or Td Administered Before Tetanus Onset? (Y = Yes, N = No, U = Unknown)

If Yes, TT or Td Given How Soon After Injury? 1 = < 6 Hours, 2 = 7-23 Hours, 3 = 1-4 Days, 4 = 5-9 Days, 5 = 10-14 Days, 6 = 15+ Days, 9 = Unknown

Wound Debrided Before Tetanus Onset? (Y = Yes, N = No, U = Unknown)

If Yes, Debrided How Soon After Injury? 1 = < 6 Hours, 2 = 7-23 Hours, 3 = 1-4 Days, 4 = 5-9 Days, 5 = 10-14 Days, 6 = 15+ Days, 9 = Unknown

Tetanus Immune Globulin (TIG) Prophylaxis Received Before Tetanus Onset? (Y = Yes, N = No, U = Unknown)

If Yes, TIG Given How Soon After Injury? 1 = < 6 Hours, 2 = 7-23 Hours, 3 = 1-4 Days, 4 = 5-9 Days, 5 = 10-14 Days, 6 = 15+ Days, 9 = Unknown

Dosage (Units): 0-998, 999 = Unknown

Associated Condition (If no Acute Injury): 1 = Abscess, 2 = Ulcer, 3 = Blister, 4 = Gangrene, 5 = Cellulitis, 6 = Other Infection, 7 = Cancer, 8 = Gingivitis, 88 = None, 99 = Unknown

Describe Condition:

Diabetes? (Y = Yes, N = No, U = Unknown)

If Yes, Insulin-Dependent? (Y = Yes, N = No, U = Unknown)

Parenteral Drug Abuse? (Y = Yes, N = No, U = Unknown)

Describe Condition:

CLINICAL COURSE

Type of Tetanus Disease: 1 = Generalized, 2 = Localized, 3 = Cephalic, 4 = Unknown

TIG Therapy Given? (Y = Yes, N = No, U = Unknown)

If Yes, How Soon After Illness Onset? 1 = < 6 Hours, 2 = 7-23 Hours, 3 = 1-4 Days, 4 = 5-9 Days, 5 = 10-14 Days, 6 = 15+ Days, 9 = Unknown

Dosage (Units): 0-998, 999 = Unknown

Days Hospitalized: 0-998, 999 = Unknown

Days in ICU: 0-998, 999 = Unknown

Days Received Mechanical Ventilation: 0-998, 999 = Unknown

Outcome One Month After Onset? R = Recovered, C = Convalescing, D = Died

If Died, Date Expired (Month Day Year)

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Tetanus Surveillance Worksheet

NAME (Last, First)			Hospital Record No.
Address (Street and No.)	City	County	Zip	Phone
Reporting Physician/Nurse/Hospital/Clinic/Lab	Address		Phone

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Tetanus Surveillance Worksheet

NEONATAL (< 28 DAYS OLD)

Mother's Age in Years	Mother's Birthdate	Date Mother's Arrival in U.S.	Mother's Tetanus Toxoid (TT) History PRIOR to Child's Disease (Known Doses Only)	Years Since Mother's Last Dose
☐☐ 99 = Unknown	☐☐☐☐☐☐ Month Day Year	☐☐☐☐☐☐ Month Day Year	☐ 0 = Never 1 = 1 dose 2 = 2 doses 3 = 3 doses 4 = 4 + doses 9 = Unknown	☐☐ 0 - 98 99 = Unknown

Child's Birthplace	Birth Attendant(s)	Other Birth Attendant(s) (If Not Previously Listed)
☐ 1 = Hospital 2 = Home 3 = Other 9 = Unknown	☐ 1 = Physician 2 = Nurse 3 = Licensed Midwife 4 = Unlicensed Midwife 5 = Other 9 = Unknown	

Other Comments?	Reporter's Name	Title
☐ Y = Yes N = No U = Unknown		

Institution Name	Phone Number	Date Reported
	☐☐☐-☐☐☐-☐☐☐☐	☐☐☐☐☐☐ Month Day Year

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.

Notes/Other Information:

*CDC. Case Definitions for Infectious Conditions Under Public He alth Surveillance. MMWR1997;46(No. RR-10):39.

Attachment B

Instructions for Completing the Tetanus Surveillance Worksheet

General

- If the month and year for any date is known but the exact day is unknown, enter a 15 for the day (i.e. the middle of the month).
- While "unknown" is an option for many questions, please make every effort to obtain the appropriate information.
- ***If*** copies of the paper form are sent to CDC, either fold back the information above the dotted line or cut it off ***after*** photocopying and ***before*** sending the rest of the information to the CDC to preserve confidentiality.

CDC NETSS ID: Please enter the ID assigned by New Jersey's Communicable Disease Reporting and Surveillance System (CDRSS).

Zip Code: Requested (but not required) by National Immunization Program for vaccine preventable diseases. Enter a 5-digit zip code.

Birth Date: If known, enter the birth date. If unknown or before the year 1900, leave blank and enter the age and age type.

Age and Age Type: If birth date is unknown and age is known, enter the age of patient at onset of symptoms in number of years, months, weeks, or days as indicated by the age type codes.

Event Date and Event Type: Enter the earliest known date associated with the incidence (onset) of tetanus. The event type describes the date entered in event date. The event types are listed in order of preference.

Reported: This field is used in various ways, such as to enter the date reported to the state, a local or other health department. Check with the State Epidemiologist to determine what guidelines apply in your state.

History

Date and Year of Onset: Month and day important.

Tetanus Toxoid (TT) History Prior to Tetanus Disease: This is very important information. Make every attempt to determine whether the case had received tetanus vaccination in the past, the total number of doses, and how many years since the last dose.

Clinical Data

Acute Wound Identified: Injecting drug users with no acute wound other than injection should be coded as N for no.

Circumstances: For example: "stepped on nail in basement." Describe in detail.

Wound Contaminated: Contaminated with dirt, feces, soil, saliva, etc.

Medical Care Prior to Onset

This section refers to medical care (wound care) for the presumptive wound or lesion that led to tetanus **before** tetanus symptoms began (do not put information about TIG received after tetanus started in this section).

Also note information about non-acute wounds & associated medical history here.

Clinical Course

Type of Tetanus Disease: Record the type of tetanus. **Note:** trismus (lockjaw) is often the earliest sign of **generalized** tetanus – if trismus is present, the type is generalized (not cephalic).

TIG Therapy Given: Note here if the case received TIG to treat symptomatic tetanus (not TIG given as part of wound care). If TIG was given for wound care, note this in the section "*Medical Care Prior to Onset".*

If tetanus serology was ordered and the results are known, please note the result and type of test (ELISA, Hemagglutination) in the space at the bottom of page 2, "Notes/Other Information".

Neonatal

Date Mother's Arrival in U.S.: For non-U.S. born mothers, enter date arrived in the U.S. Please note the mother's country of origin, if known, in the space at the bottom of page 2, "Notes/Other Information".

Please mail completed Tetanus Surveillance Worksheet to:

NJDHSS VPDP
PO Box 369
Trenton, NJ 08625-0369