



Tetanus (Lockjaw) Investigation Guideline

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Attachments can be accessed through the Adobe Reader’s navigation panel for attachments. Throughout this document attachment links are indicated by this symbol ; when the link is activated in Adobe Reader it will open the attachments navigation panel. The link may not work when using PDF readers other than Adobe Reader.

Revision History:

Date	Replaced	Comments
01/2019	11/2015	Updated laboratory analysis section, epidemiology section and disease description's incubation period to agree with CDC sources (average incubation varied among sources). Updated the notification section to a "four-hour reportable". Update contact management for adverse events and revised table on wound management based on CDC guidance.
11/2015	07/2012	Added table of contents and included notes on attachments. Updated Contact Management on vaccine recommendations and use of Tdap. Reformatted Standard Case Investigation section to assist with EpiTrax system data entry. Updated Notification, Investigator Responsibilities, and Data Management sections with disease surveillance indicator targets.
07/2012	07/2009	Changed format. Added notification section. Updated fact sheet. Removed references to KS-EDSS (02/2012).

Tetanus (Lockjaw)

Disease Management and Investigative Guidelines

CASE DEFINITION (CDC 2010)

Clinical Description for Public Health Surveillance:

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 Case Classification: None.

Case Classification:

Probable:

- In the absence of a more likely diagnosis, an acute illness with
 - Muscle spasms or hypertonia, AND
 - Diagnosis of tetanus by a health care provider; OR
- Death, with tetanus listed on the death certificate as the cause of death or a significant condition contributing to death.

Comment: There is no definition for “confirmed” tetanus.

LABORATORY ANALYSIS

There are no diagnostic laboratory tests for tetanus; therefore, the diagnosis is entirely clinical. It should be noted:

- *C. tetani* is recovered from wounds in only about 30% of cases, and *C. tetani* can also be isolated from patients who do not have tetanus.
- Serologic results can support susceptibility if they demonstrate very low or undetectable anti-tetanus antibody levels. However, tetanus can occur in the presence of “protective” levels of antitoxin (>0.1 IU by standard ELISA); therefore, serology cannot exclude the diagnosis of tetanus.
- Vaccination can be presumed in persons with serologic results of >0.1 IU by standard ELISA as tetanus disease does not result in tetanus immunity.

The State Public Health Laboratory does not perform culture or serological testing.

EPIDEMIOLOGY

Tetanus occurs worldwide. Cases are uncommon in the United States because of the prevalent use of tetanus toxoid and improved methods of wound management. Sporadic cases of tetanus continue to occur, especially in people who were not vaccinated in childhood or didn't stay up to date on their 10-year booster shots. From 2009 through 2015, a total of 197 cases and 16 deaths from tetanus were reported in the United States. Forty-nine (25%) cases were in persons 65 years of age or older, 124 (63%) were in persons 20 through 64 years of age, and 24 (12%) were in persons younger than 20 years, including 2 cases of neonatal tetanus. All tetanus-related deaths occurred among patients >55 years of age. Diabetes, a history of immunosuppression, and intravenous drug use may be risk factors for tetanus.

DISEASE OVERVIEW

A. Agent:

Tetanus is caused by an exotoxin produced by the gram-positive bacillus, *Clostridium tetani*.

B. Clinical Description:

Tetanus is an acute paralytic disease caused by tetanus toxin produced by *C. tetani*. It is characterized by painful muscular contractions primarily of the masseter, neck muscles, and muscles of the trunk. A common first sign is abdominal rigidity, though rigidity is sometimes confined to the region of injury. Generalized spasms may occur and are frequently induced by sensory stimuli. The case-fatality rate ranges from 10-90%; highest in infants and the elderly.

C. Reservoirs:

C. tetani is a normal member of intestinal flora of animals and man. It is ubiquitous in the environment, especially in areas contaminated with animal and human feces.

D. Mode(s) of Transmission:

There is no person-to-person transmission. Tetanus spores usually enter the body through a wound and/or occasionally from parenteral injections. Neonatal tetanus occurs through an infection of the umbilical stump.

E. Incubation Period:

Ranges from 3 to 21 days, averaging about 7-10 days. In general, the further the injury site is from the central nervous system, the longer the incubation period. Shorter incubation periods are generally associated with severe disease and a poor prognosis. In neonates the incubation period ranges between 4 to 14 days after birth, averaging about 7 days.

F. Period of Communicability:

There is no infectious period as tetanus is not transmitted person-to-person.

G. Susceptibility and Resistance:

Susceptibility is universal; infection does not result in immunity. Tetanus toxoid immunization induces active immunity that lasts for at least 10 years; tetanus immune globulin (TIG) or tetanus antitoxin injection induces temporary passive immunity. Infants of immunized mothers acquire passive immunity that protects them from neonatal tetanus.

H. Treatment:

For tetanus, a single dose of human TIG given is recommended. All wounds should be cleaned and debrided properly, especially if extensive necrosis is present. Supportive care and pharmacotherapy to control spasms and antibiotics (e.g., metronidazole and/or penicillin G) to decrease the vegetative forms of *C. tetani* is recommended. In neonatal tetanus, wide excision of the umbilical stump is not indicated. See [Contact Management](#) for treatment to prevent tetanus.

NOTIFICATION TO PUBLIC HEALTH AUTHORITIES

Tetanus cases shall be reported by phone within four hours of knowledge of a suspected case.

1. Health care providers and hospitals: report to the local public health jurisdiction.
2. Local public health jurisdiction: report to KDHE-BEPHI (see below).
3. Laboratories: report to KDHE-BEPHI (see below).

**Kansas Department of Health and Environment (KDHE)
Bureau of Epidemiology and Public Health Informatics (BEPHI)
Phone: 1-877-427-7317**

Further responsibilities of state and local health departments to the CDC:

As a nationally notifiable condition, probable tetanus cases require a ROUTINELY NOTIFIABLE report to the Center of Disease Control and Prevention (CDC).

1. ROUTINE reporting requires KDHE-BEPHI to file an electronic report for within the next reporting cycle.
 - KDHE-BEPHI will file electronic reports weekly with CDC.
2. **Local public health jurisdiction** will report information requested as soon as possible, ensuring that the electronic form is completed within 3 days of receiving a notification of a tetanus report.

INVESTIGATOR RESPONSIBILITIES

- 1) [Report](#) all cases to the KDHE-BEPHI.
- 2) Begin the public health investigation within 1 day of receiving a report.
- 3) Contact medical provider to collect additional information and confirm diagnosis using the current [case definition](#).
 - Collect all information requested in [Step 1](#)) of case investigation.
 - Ensure that patient is aware of his/her diagnosis.
- 4) Conduct a [case investigation](#) using the [Tetanus Surveillance Worksheet](#) completing the initial investigation (as described in [Step 1](#)) within 3 days of receiving a report.
- 5) Initiate control and prevention measures.
 - Each case should be considered as a failure to vaccinate and must be used to determine how to prevent further failures from occurring.
- 6) [Follow-up](#) with the case, one month after onset.
- 7) [Record](#) data, collected during the investigation, in the KS EpiTrax system under the data's associated [\[tab\]](#) in the case morbidity report (CMR).
- 8) As appropriate, use the disease [fact sheet](#) to notify individuals or groups

STANDARD CASE INVESTIGATION AND CONTROL METHODS

Case Investigation

- 1) Contact the medical provider treating the patient or the infection control nurse of the treating hospital and obtain the following information.
 - Onset date of symptoms. [Clinical]
 - Presumptive (initial) Diagnosis Date and final Diagnosis date [Clinical]
 - Tetanus toxoid-containing vaccine: dates of vaccination, type, manufacturer, number of doses or why not vaccinated. [Investigation-Vaccination]
 - For neonatal cases: Collect maternal vaccination information.
 - Clinical data about possible wounds. [Investigation- - Complications and Treatment]
 - Clinical data about non-wound associations. [Investigation- - Complications]
 - Diabetes or parenteral drug use. [Investigation- - Complications]
 - Medical care (including wound care) prior to onset. [Investigation-Treatment]
 - Clinical course of tetanus disease, including type and therapy
 - Td or TIG prophylaxis, dosage and date started. [Investigation-Treatment]
 - Collect case's demographics and contacting information (address, birth date, gender, race/ethnicity, primary language, and phone number(s)) [Demographic]
 - Start to collect data on outcomes: hospitalizations (location, duration), days in ICU, and days on mechanical ventilation, recovered or date of death [Clinical] to be completed in [Case Management](#).
- 2) With no history of acute injury, note any associated conditions. Determine risk factors within possible period of incubation. [Notes]
 - History of injury may be absent, particularly in diabetics.
 - Examine any recent surgical procedures and/or childbirth.
 - Note injection drug use, tattooing or body piercing
 - In neonatal tetanus (<28 days old), inquire about:
 - Maternal country or origin and number of years of residence in U.S.
 - Inquire into delivery technique and methods of umbilical cord care.
 - Occupation and hobbies.
 - Travel history prior to onset
 - History of military service.
- 3) Examining the epidemiological information, record where the infection was most likely imported from. (Indigenous or out-of-county, out-of-state, or out-of-U.S.) [Epidemiologic]
- 4) Investigate epi-links among cases (clusters, household, co-workers, etc).
 - For suspected [outbreaks](#) to Managing Special Situations section.
- 5) Collect information from case for the [Contact Investigation](#). (See below).

Contact Investigation

Tetanus cannot be transmitted person-to-person, but individuals among the case's social group may not be adequately immunized against tetanus and are potentially at risk from a common exposure. Evaluate the situation for risks.

Tetanus exposure is defined as contact to a potential source of *C. tetani* in the environment in a manner that increases the risk for infection. (i.e., wounds including animal bites, parental injections).

Refer to [Contact Management](#) for further instructions on post-exposure wound management and tetanus vaccination recommendations.

Isolation, Work and Daycare Restrictions

None required.

Case Management

- 1) Follow-up weekly with the attending medical provider and report on any changes in patient status (i.e., discharge, death). [Clinical]
- 2) Complete the follow-up one month after onset to report on the:
 - Number of days hospitalized [Clinical]
 - Number of days in ICU [Clinical]
 - Number of days on mechanical ventilation [Clinical]
 - Outcome of illness (recovered, convalescing, or death) [Clinical]

Contact Management

Post-exposure wound management includes the appropriate use of tetanus toxoid and TIG ([Table 1](#)). The medical provider should also be aware standard vaccine recommendations and arthus-like reactions noted below.

Table 1. Guide to tetanus prophylaxis in routine wound management

History of adsorbed tetanus toxoid (doses)	Clean minor wounds		All other wounds*	
	Tdap or Td†	TIG§	Tdap or Td†	TIG§
<3 or unknown	Yes	No §	Yes	Yes
≥ 3 doses	No**	No §	No††	No §

* 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.

† DTaP is recommended for children <7 years of age. Tdap is preferred to Td for persons 11 years of age and older who have not previously received Tdap. Persons 7 years of age and older who are not fully immunized against pertussis, tetanus, or diphtheria should receive 1 dose of Tdap for wound management and as part of the catch-up series.

§ Individuals with HIV infection or severe immunodeficiency who have contaminated wounds should also receive TIG, regardless of their history of tetanus immunizations.

** Yes, if ≥10 years since the last toxoid-containing vaccine dose.

†† Yes, if ≥5 years since the last toxoid-containing vaccine dose - unless previous Arthus reaction.

Vaccination Precaution and Recommendations:

1) **Adverse reactions:**

- Local reactions (e.g., erythema, induration, pain at the injection site) are common but are usually self-limited and require no therapy. A nodule may be palpable at the injection site of adsorbed products for several weeks. Abscess at the site of injection has been reported. Fever and other systemic symptoms are not common.
- Exaggerated local (Arthus-like) reactions are not common but may occur following receipt of a diphtheria- or tetanus- containing vaccine. These reactions present as extensive painful swelling, often from shoulder to elbow. They generally begin from 2 to 8 hours after injections and are reported most often in adults, particularly those who have received frequent doses of diphtheria or tetanus toxoid.
- Clinically significant and serious adverse events after vaccination should be reported to VAERS at <https://vaers.hhs.gov/reportevent.html>.

2) **Previous Arthus reaction following a dose of a toxoid-containing vaccine:** Adults who experienced an Arthus reaction following a dose of tetanus toxoid or diphtheria toxoid-containing vaccine should not receive a tetanus toxoid-containing vaccine until >10 years after the most recent dose, even if they have a wound that is neither clean nor minor.

3) **Adults with no dose of pediatric DTP/DTaP/DT or Td:** Persons with unknown or uncertain history of receiving previous prior doses tetanus toxoid-containing vaccines should be considered to have had no previous tetanus toxoid-containing vaccine and should receive a series of three vaccinations containing tetanus and diphtheria toxoids.

- Preferred schedule is a single dose of Tdap, followed by a dose of Td >4 weeks later and another dose of Td 6--12 months later; but Tdap can substitute for any one of the doses of Td.
- Note: If previous serology is available, and tetanus and diphtheria antitoxin levels are each >0.1 IU/mL previous vaccination with tetanus and diphtheria toxoid vaccine is presumed.

4) **Routine vaccination**

- **Primary series** of diphtheria, tetanus, acellular pertussis (DTaP) in infancy and childhood. Recommended schedule is 2, 4, 6 months, 15 through 18 months, and 4 through 6 years.
- **Booster shot** of tetanus, diphtheria, acellular pertussis (Tdap) – single dose – in adolescents aged 11 through 18 years who have completed the recommended childhood DTaP vaccination series and adults aged 19 and older. Adolescents should preferably receive Tdap at 11 or 12 years old. After receipt of Tdap, then a booster shot of tetanus, diphtheria (Td) is recommended every 10 years*.

* Pregnant Women: If a Td booster is recommended for a pregnant woman, health-care providers should administer Tdap, even if previously received.

For complete Advisory Committee on Immunization Practices (ACIP) recommendations, see <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>.

Environmental Measures

None.

Education

- 1) Educate mothers, relatives, and attendants in the practice of strict asepsis of the umbilical stump of newborn infants.
- 2) Recommend immunization with pediatric diphtheria-tetanus-pertussis or diphtheria-tetanus (DTaP or DT) vaccine for children under 7 and tetanus-diphtheria or tetanus-diphtheria-pertussis (Td or Tdap) vaccine for those 7 years and older.

MANAGING SPECIAL SITUATIONS

A. Outbreak Investigation:

- 1) There are no formal outbreak definitions as outbreaks are rare; however, outbreaks have occurred among injecting drug users.
- 2) Notify KDHE immediately, 1-877-427-7317.
- 3) Active case finding will be an important part of any investigation.

B. Natural Disasters and tetanus risks

In most settings, a disaster does not increase risk for tetanus, but the risk should still be minimized among patients who are survivors and emergency responders:

- 1) Follow [routine vaccination recommendations](#).
- 2) Provider [proper wound care](#)
 - Assess the type of wound and provide appropriate care.
 - Evaluate the immunization status
 - Assess need for administering TIG for prophylaxis
 - Do not use antibodies for prophylaxis against tetanus.

DATA MANAGEMENT AND REPORTING TO THE KDHE

- A. Accept the case assigned to the LHD and record the date the LHD investigation was started on the [\[Administrative\]](#) tab.
- B. Organize and collect data, using appropriate data collection tools including:
- [Tetanus Surveillance Worksheet](#) (A paper-based form that allows the collection of all required information without being logged into EpiTrax.)
 - Alternatively, investigators can collect and enter all required information directly into EpiTrax [\[Investigation\]](#), [\[Clinical\]](#), [\[Demographics\]](#), [\[Epidemiological\]](#) and [\[Notes\]](#) tabs.
 - During outbreak investigations, refer to guidance from a KDHE epidemiologist for appropriate collection tools.
- C. Report data collected during the investigation via EpiTrax.
- Verify that all data requested has been recorded on an appropriate EpiTrax [\[tab\]](#), or that actions are completed for a case lost to follow-up as outlined below.
 - Some data that cannot be reported on an EpiTrax [\[tab\]](#) may need to be recorded in [\[Notes\]](#) or scanned and attached to the record.
 - Paper report forms do not need to be sent to KDHE after the information is recorded and/or attached in EpiTrax. The forms should be handled as directed by local administrative practices.
- D. If a case is lost to follow-up, after the appropriate attempts to contact the case have been made:
- Indicate 'lost to follow-up' on the [\[Investigation\]](#) tab with the number of attempts to contact the case recorded.
 - Record at least the information that was collected from the initial reporter.
 - Record a reason for 'lost to follow-up' in [\[Notes\]](#).
- E. After the requirements listed under [Case Investigation](#) have been completed, record the "Date LHD investigation completed" field located on the bottom of the [\[Administrative\]](#) tab.
- Record this date even if the local investigator's [Case Management](#) and follow-up is not "Complete".
- F. Once the case and follow-up investigations are completed, the LHD investigator click the "Complete" button. This will trigger an alert to the LHD Administrator, so they can review the case before sending to the state.
- The LHD Administrator will then "Approve" or "Reject" the CMR.
 - Once a case is "Approved" by the LHD Administrator, BEPHI staff will review and close the case after ensuring it is complete and that the case is assigned to the correct event, based on the reported symptoms reported.
- (Review the [EpiTrax User Guide, Case Routing](#) for further guidance.)

ADDITIONAL INFORMATION / REFERENCES

- A. Treatment / Differential Diagnosis:** Red Book: 2015 Report of the Committee on Infectious Diseases. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015:773-778.
- B. Epidemiology, Investigation and Control:** Heymann. D., ed., Control of Communicable Diseases Manual (CCDM), 20th Edition. Washington, DC, American Public Health Association, 2015.
- C. Case Definitions:** CDC Division of Public Health Surveillance and Informatics, Available at: wwwn.cdc.gov/nndss/
- D. Pink Book:** Epidemiology and Prevention of Vaccine-Preventable Diseases. Available at: www.cdc.gov/vaccines/pubs/pinkbook/default.htm
- E. Manual for the Surveillance of Vaccine-Preventable Diseases:** Available at: www.cdc.gov/vaccines/pubs/surv-manual/default.htm .
- F. Preventing Tetanus, Diphtheria, and Pertussis Among ADULTS: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines.** *MMWR*, December 15, 2006, Vol 55, #RR-17
- G. Additional Information (CDC):**
- www.cdc.gov/health/default.htm

ATTACHMENTS

To view attachments in the electronic version:

1. Go to <View>; <Navigation Pane>; <Attachments> – OR – Click on the “Paper Clip”  icon in the Navigation Pane..
2. Double click on the document to open.

Tetanus Surveillance Worksheet

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

.....DETACH HERE and transmit only lower portion if sent to CDC.....

CDC NETSS ID		County		State		Zip									
Birth Date		Age		Age Type		Race		Ethnicity		Sex					
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year		<input type="text"/> <input type="text"/> <input type="text"/> Unknown= 999		<input type="checkbox"/> 0 = 0-120 years <input type="checkbox"/> 1 = 0-11 months <input type="checkbox"/> 2 = 0-52 weeks		<input type="checkbox"/> 3 = 0-28 days <input type="checkbox"/> 9 = Unknown		<input type="checkbox"/> N = Native Amer./Alaska Native <input type="checkbox"/> A = Asian/Pacific Islander <input type="checkbox"/> B = African American		<input type="checkbox"/> W = White <input type="checkbox"/> O = Other <input type="checkbox"/> U = Unknown		<input type="checkbox"/> H = Hispanic <input type="checkbox"/> N = Not Hispanic <input type="checkbox"/> U = Unknown		<input type="checkbox"/> M = Male <input type="checkbox"/> F = Female <input type="checkbox"/> U = Unknown	
Event Date			Event Type			Reported			Imported		Report Status				
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year			<input type="checkbox"/> 1 = Onset Date <input type="checkbox"/> 2 = Diagnosis Date <input type="checkbox"/> 3 = Lab Test Done <input type="checkbox"/> 4 = Reported to County			<input type="checkbox"/> 5 = Reported to State or MMWR Report Date <input type="checkbox"/> 6 = Unknown			<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year			<input type="checkbox"/> 1 = Indigenous <input type="checkbox"/> 2 = International <input type="checkbox"/> 3 = Out of State <input type="checkbox"/> 9 = Unknown		<input type="checkbox"/> 1 = Confirmed <input type="checkbox"/> 2 = Probable <input type="checkbox"/> 3 = Suspect <input type="checkbox"/> 9 = Unknown	

HISTORY	Date Year of Onset		Acute Wound Identified?		Date Wound Occurred		Principal Anatomic Site			
	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year		<input type="checkbox"/> 1 = Head <input type="checkbox"/> 2 = Trunk <input type="checkbox"/> 3 = Upper Extremity <input type="checkbox"/> 4 = Lower Extremity <input type="checkbox"/> 9 = Unspecified			
	Occupation		Work Related?		Environment		Circumstances			
	History of Military Service (Active or Reserve)? <input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		Year of Entry into Military Service <input type="text"/> <input type="text"/> <input type="text"/>		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> 0 = Home <input type="checkbox"/> 1 = Other Indoors <input type="checkbox"/> 2 = Farm / Yard		<input type="checkbox"/> 3 = Automobile <input type="checkbox"/> 4 = Other Outdoors <input type="checkbox"/> 9 = Unknown	
CLINICAL DATA	Tetanus Toxoid Vaccination History Prior to Tetanus Disease (Exclude Doses Received Since Acute Injury)		Principal Wound Type		Wound Contaminated?					
	<input type="checkbox"/> 0 = Never <input type="checkbox"/> 1 = 1 dose <input type="checkbox"/> 2 = 2 doses <input type="checkbox"/> 3 = 3 doses <input type="checkbox"/> 4 = 4+ doses <input type="checkbox"/> 9 = Unknown		<input type="checkbox"/> 1 = Puncture <input type="checkbox"/> 2 = Stellate Laceration <input type="checkbox"/> 3 = Linear Laceration <input type="checkbox"/> 4 = Crush <input type="checkbox"/> 5 = Abrasion <input type="checkbox"/> 6 = Avulsion		<input type="checkbox"/> 7 = Burn <input type="checkbox"/> 8 = Frostbite <input type="checkbox"/> 9 = Compound Fracture <input type="checkbox"/> 10 = Other (e.g. with cancer) Specify: _____ <input type="checkbox"/> 11 = Surgery		<input type="checkbox"/> 12 = Animal Bite <input type="checkbox"/> 13 = Insect Bite/Sting <input type="checkbox"/> 14 = Dental <input type="checkbox"/> 15 = Tissue Necrosis <input type="checkbox"/> 99 = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown	
	Years Since Last Dose		Depth of Wound		Signs of Infection?		Devitalized, Ischemic, or Denervated Tissue Present?			
<input type="text"/> <input type="text"/> 0 - 98 99 = Unknown		<input type="checkbox"/> 1 = 1 cm. or less <input type="checkbox"/> 2 = more than 1 cm. <input type="checkbox"/> 9 = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown				

MEDICAL CARE PRIOR TO ONSET	Was Medical Care Obtained For This Acute Injury		Tetanus Toxoid (TT/Td/Tdap) Administered Before Tetanus Onset		If Yes, How Soon After Injury?			
	<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> 1 = < 6 Hours <input type="checkbox"/> 2 = 7 - 23 Hours <input type="checkbox"/> 3 = 1 - 4 Days <input type="checkbox"/> 4 = 5 - 9 Days			
	<input type="checkbox"/> 5 = 10 - 14 Days <input type="checkbox"/> 6 = 15+ Days <input type="checkbox"/> 9 = Unknown		Wound Debrided Before Tetanus Onset		If Yes, Debrided How Soon After Injury			
<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> 1 = < 6 Hours <input type="checkbox"/> 2 = 7 - 23 Hours <input type="checkbox"/> 3 = 1 - 4 Days <input type="checkbox"/> 4 = 5 - 9 Days		<input type="checkbox"/> 5 = 10 - 14 Days <input type="checkbox"/> 6 = 15+ Days <input type="checkbox"/> 9 = Unknown		
MEDICAL CARE PRIOR TO ONSET	Associated Condition (if no Acute Injury)		Diabetes?		If Yes, Insulin-Dependent?		Parenteral Drug Abuse?	
	<input type="checkbox"/> 1 = Abscess <input type="checkbox"/> 2 = Ulcer <input type="checkbox"/> 3 = Blister <input type="checkbox"/> 4 = Gangrene <input type="checkbox"/> 5 = Cellulitis		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown	
Describe Condition:		Tetanus Immune Globulin (TIG) Prophylaxis Received Before Tetanus Onset		If Yes, TIG Given How Soon After Injury?		Dosage (Units)		
<input type="checkbox"/> 6 = Other Infection <input type="checkbox"/> 7 = Cancer <input type="checkbox"/> 8 = Gingivitis <input type="checkbox"/> 88 = None <input type="checkbox"/> 99 = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> 1 = < 6 Hours <input type="checkbox"/> 2 = 7 - 23 Hours <input type="checkbox"/> 3 = 1 - 4 Days <input type="checkbox"/> 4 = 5 - 9 Days		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown		

CLINICAL COURSE	Type of Tetanus Disease		TIG Therapy Given After Tetanus Onset		If Yes, How Soon After Illness Onset?		Dosage (Units)	
	<input type="checkbox"/> 1 = Generalized <input type="checkbox"/> 2 = Localized <input type="checkbox"/> 3 = Cephalic <input type="checkbox"/> 4 = Unknown		<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown		<input type="checkbox"/> 1 = < 6 Hours <input type="checkbox"/> 2 = 7 - 23 Hours <input type="checkbox"/> 3 = 1 - 4 Days <input type="checkbox"/> 4 = 5 - 9 Days		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown	
	<input type="checkbox"/> 5 = 10 - 14 Days <input type="checkbox"/> 6 = 15+ Days <input type="checkbox"/> 9 = Unknown		Days Hospitalized		Days In ICU		Days Received Mechanical Ventilation	
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> 0 - 998 999 = Unknown		
Outcome One Month After Onset?				If Died, Date of Death				
<input type="checkbox"/> R = Recovered <input type="checkbox"/> C = Convalescing <input type="checkbox"/> D = Died				<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Month Day Year				

CS106190 02/09

Tetanus Surveillance Worksheet

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

-----DETACH HERE and transmit only lower portion if sent to CDC-----

NEONATAL (<28 DAYS OLD)	Mother's Age in Years	Mother's Birth Date	Date Mother's Arrival in U.S.	Mother's Tetanus Toxoid Vaccination History PRIOR to Child's Disease (Known Doses Only)	Years Since Mother's Last Dose
	<input type="text"/> 99 = Unknown	<input type="text"/> <input type="text"/> <input type="text"/> Month Day Year	<input type="text"/> <input type="text"/> <input type="text"/> Month Day Year	<input type="checkbox"/> 0 = Never <input type="checkbox"/> 1 = 1 dose <input type="checkbox"/> 2 = 2 doses <input type="checkbox"/> 3 = 3 doses <input type="checkbox"/> 4 = 4+ doses <input type="checkbox"/> 9 = Unknown	<input type="text"/> 0 - 98 99 = Unknown
	Child's Birthplace	Birth Attendant(s)		Other Birth Attendant(s) (If Not Previously Listed)	
	<input type="checkbox"/> 1 = Hospital <input type="checkbox"/> 2 = Home <input type="checkbox"/> 3 = Other <input type="checkbox"/> 9 = Unknown	<input type="checkbox"/> 1 = Physician <input type="checkbox"/> 2 = Nurse <input type="checkbox"/> 3 = Licensed Midwife <input type="checkbox"/> 4 = Unlicensed Midwife <input type="checkbox"/> 5 = Other <input type="checkbox"/> 9 = Unknown			
	Other Comments?	Reporter's Name		Title	
	<input type="checkbox"/> Y = Yes <input type="checkbox"/> N = No <input type="checkbox"/> U = Unknown				
	Institution Name		Phone Number		Date Reported
			<input type="text"/> <input type="text"/> <input type="text"/>		<input type="text"/> <input type="text"/> <input type="text"/> 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

Case Classification*:

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

Notes/Other Information: