

# Appendix A: Disease-Specific Chapters

Chapter: Tetanus

## Tetanus

- Communicable  
 Virulent

### Health Protection and Promotion Act: Ontario Regulation 559/91 – Specification of Reportable Diseases

<b>1) Aetiologic Agent:</b>	Tetanus is caused by an extremely potent neurotoxin produced by <i>Clostridium tetani</i> (1, 2).
<b>2) Case Definition:</b>	
Surveillance Case Definition	<a href="#">See Appendix B</a>
Outbreak Case Definition	Not applicable
<b>3) Identification:</b>	
Clinical Presentation	Tetanus is an acute and often fatal disease caused by an extremely potent neurotoxin produced by <i>Clostridium tetani</i> (2). The disease presents with characteristic painful and convulsive spasms of skeletal muscles. Muscle stiffness usually begins in the jaw (lockjaw) and moves to the neck muscles, and then becomes generalized (3). Spasms last for 3-4 weeks, but complete recovery takes much longer. Rigidity is sometimes confined to the region of injury (2).
Diagnosis	<a href="#">See Appendix B</a>
<b>4) Epidemiology:</b>	
Occurrence	World wide; the disease is more common in agricultural regions and in areas where contact with animal excreta is more likely and immunization inadequate (1).  Tetanus occurs rarely in Ontario, with a range of zero to three reported cases per year from 1998-2007. Despite its rarity, a single case does not constitute an outbreak, as tetanus cannot be transferred directly from person to person.
Reservoir	The organism is a normal member of intestinal flora in animals and humans; the source of infection is soil or fomites contaminated with animal or human feces containing the spores which can contaminate wounds of all types; tetanus spores are ubiquitous in the environment (1, 2).

Modes of Transmission	Spores are introduced into the body through puncture wounds or lacerations that have been contaminated with soil, street dust, or the feces of animals or humans. Spores are also transmitted into the body by contaminated street drug paraphernalia and contaminated skin (1, 2).
Incubation Period	Usually 3-21 days, with a range from 1 day to several months, depending on the character, extent and location of the wound. The average incubation period is 10 days; most cases occur 14 days after exposure. In general, shorter incubation periods are associated with more heavily contaminated wounds, more severe disease and a worse prognosis (1).
Period of Communicability	No direct person to person transmission (1).
Susceptibility and Resistance	Vaccine preventable disease; susceptibility is general in unimmunized or inadequately immunized persons. Active immunity is induced by the tetanus toxoid and persists for at least 10 years after full immunization (1). To maintain high levels of immunity, booster doses are required every 10 years.  Recovery from tetanus may not result in immunity; second attacks can occur and primary immunization is indicated after recovery (1).

#### **5) Reporting Requirements:**

To local Board of Health	Confirmed and suspected cases shall be reported <b>immediately</b> to the medical officer of health by persons required to do so under the <i>Health Protection and Promotion Act</i> , R.S.O. 1990.
To Public Health Division (PHD)	The board of health shall notify the PHD of the MOHLTC <b>immediately</b> by phone upon receiving report.  Report only case classifications specified in the case definition to PHD.  Cases shall be reported using the integrated Public Health Information System (iPHIS), or any other method specified by the Ministry <b>within five business days of receipt of initial notification</b> as per <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (6).  The minimum data elements to be reported for each case is specified in the following: <ul style="list-style-type: none"> <li>• <i>Ontario Regulation 569</i> (Reports) under the Health Protection and Promotion Act (HPPA);</li> <li>• The disease-specific User Guides published by the Ministry, and</li> <li>• Bulletins and directives issued by the Ministry.</li> </ul>

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**6) Prevention and Control Measures:**

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Personal Prevention Measures	Prevention Measures: <ul style="list-style-type: none"><li>• All persons should receive primary immunization with tetanus vaccine as per the Canadian Immunization Guide and the current Publicly Funded Immunization Schedules for Ontario.</li><li>• Adults should receive a booster dose of tetanus containing vaccine every 10 years (4).</li></ul>
Infection Prevention and Control Strategies	Strategies: Routine practices are recommended for hospitalized cases <ul style="list-style-type: none"><li>• Regardless of immunization status, wounds should be cleaned and debrided properly if dirt or necrotic tissue is present. As an essential part of tetanus prophylaxis, wounds should receive prompt surgical attention and / or treatment to remove all devitalized tissue and foreign material. It is not necessary or appropriate to debride puncture wounds as extensively (5).</li></ul>
Management of Cases	Investigate the case to determine source of infection. Refer to Ontario Regulation 569 under the HPPA for relevant data to collect and ensure to include the following: <ul style="list-style-type: none"><li>• Immunization history.</li><li>• Identification of recent injury i.e., puncture wound or laceration.</li><li>• Assessing for recent history of intravenous drug use.</li></ul> Treatment as per attending health care provider.  For post-exposure treatment of tetanus, refer to Table 13, Guide to Tetanus Prophylaxis in Wound Management in the Canadian Immunization Guide (4).
Management of Contacts	No follow up is required; tetanus is not transmitted person to person.
Management of Outbreaks	Not applicable
<b>7) References</b>	(1) Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.  (2) Public Health Agency of Canada. Vaccine-Preventable Diseases [Internet]. Ottawa: Public Health Agency of Canada; 2008. Tetanus; 2007 Mar 16 [cited 2008 Jul 22]. Available from <a href="http://www.phac-aspc.gc.ca/im/vpd-mev/tetanus-eng.php">http://www.phac-aspc.gc.ca/im/vpd-mev/tetanus-eng.php</a> .  (3) Atkinson W, Hamborsky J, McIntyre L, Wolfe S, editors. Epidemiology and prevention of vaccine-preventable diseases. The pink book. 7th ed. Washington: Public Health Foundation; 2008. Available from <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/pink-chapters.htm">http://www.cdc.gov/vaccines/pubs/pinkbook/pink-chapters.htm</a> .  (4) National Advisory Committee on Immunization. Canadian

	<p>Immunization Guide. 7<sup>th</sup> ed. Ottawa: Public Health Agency of Canada; 2006. [cited 2008 June 24] Available from <a href="http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php">http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php</a>.</p> <p>(5) Pickering LK, Baker CJ, Long SS, McMillan JA, editors. Red book: 2006 report of the Committee on Infectious Diseases. 27<sup>th</sup> ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006. Section 3, Summaries of infectious diseases; p. 648-53.</p> <p>(6) Ministry of Health and Long-Term Care. Timely entry of cases. <i>iPHIS Bulletin</i>. 2007 May 11;17.</p>
<p><b>8) Additional Resources</b></p>	<p><i>Health Protection and Promotion Act</i>, R.S.O. 1990, c. H.7. Available from <a href="http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm">http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm</a>.</p> <p>Steering Committee on Infection Control Guidelines. Prevention and control of occupational infections in health care. An infection control guideline. <i>Can Commun Dis Rep</i>. 2002 Mar;28 Suppl 1:1-264. Available from <a href="http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/28s1e.pdf">http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/28s1e.pdf</a>.</p>

