

TETANUS

Based on the MoH Communicable Diseases Control Manual 2012¹

Associated Documents	
	<p>Case Report Form: Y:\CFS\ProtectionTeam\FinalDocs\NotifiableConditions\Tetanus\FormsStdLettersQuest\Tetanus_CaseReportForm_Dec2013.pdf</p> <p>Fact Sheet: https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/tetanus/</p>
The Illness^{1,2}	
	<p>Tetanus is a disease caused by a neuromuscular toxin produced by the bacteria <i>Clostridium tetani</i>. It is a clinical diagnosis, and is characterised by muscular rigidity and very painful contraction spasms. When severe, it is associated with a characteristic facial grimace (risus sardonius) and arching of the back (opisthotonus). The patient suffering from tetanus remains alert unless they become severely hypoxic.</p> <p>The <i>C. tetani</i> toxin reaches the central nervous system via the axons and irreversibly binds to nerve terminals at the neuromuscular junction, blocking the release of inhibitory neurotransmitters and leading to the tetanic muscle spasms.</p> <p>The incubation period is commonly about 10 days, but it has been reported to vary from one day to several months. Initial symptoms include weakness, stiffness or cramps, and difficulty chewing or swallowing food. Reflex muscle spasms usually occur within one to four days of the initial symptoms. The shorter the incubation and onset periods, the more severe the disease. Even with modern intensive care, tetanus mortality is about 10 percent overall, and much higher in older people.</p> <p>The most common source of environmental exposure to <i>C. tetani</i> spores and bacilli is soil. Animals, both herbivores and omnivores, can carry <i>C. tetani</i> bacilli and spores in their intestines, and the organism is readily disseminated in their faeces. Once introduced into a wound, they germinate and produce toxin. Contaminated wounds, especially wounds with devitalised tissue and deep-puncture trauma, are at greatest risk.</p> <p>Neonatal tetanus, from infection of the umbilical stump, is the commonest form of the disease in low income countries</p> <p>A person with tetanus is not infectious to others, and vaccination provides individual protection only, with no herd immunity. Suffering tetanus does not confer immunity.²</p> <p>Epidemiology in New Zealand</p> <p>There has been a median of two cases of tetanus per year since routine infant vaccination against tetanus was begun in New Zealand in 1960. The last death attributed to tetanus occurred in 2007. Most reported cases follow traumatic wounds in elderly people who have either never received tetanus vaccination or have waning immunity from tetanus vaccination.¹</p> <p>Between 1997 and 2015, a total of 32 tetanus cases were reported. Of these, four cases were children under 10 years of age. None were vaccinated. Of the 32 cases, two females aged over 70 years died from tetanus (one was not vaccinated and the vaccination status of the other was unknown).³</p> <p>CASE DEFINITION</p> <p>Clinical description</p> <p>Most commonly presents with gradual onset of muscular rigidity and painful spasms, starting in the jaw (lockjaw, trismus) then spreading to the neck, trunk and extremities. Tetanus may cause laryngeal spasms, respiratory failure and autonomic dysfunction (fluctuations in pulse and blood pressure), leading to death, even with modern intensive care. In less than 20% of cases, muscle rigidity and spasms are limited to a confined area close to the site of injury.</p>

	<p>Incubation: Usually 3–21 days, although may range from 1 day to several months, depending on the character, extent and location of the wound.</p> <p>Transmission: The disease is not directly transmitted from person to person. Tetanus spores are usually introduced into the body through a wound contaminated with soil, street dust or animal or human faeces. Implicated wounds are often necrotic and most often a result of puncture injury but may include lacerations, splinters, grazes, burns, chronic ulcers and even surgical wounds. Some cases do not recall a wound. Neonatal tetanus usually follows infection of the umbilical stump. Intravenous drug users may be infected from contaminated drugs.</p> <p>Communicability: Tetanus spores remain viable for many years in the environment.</p> <p>Prevention: Tetanus immunisation is provided free as part of the national immunisation schedule for children (five doses between 6 weeks – 11 years) and adults (two booster doses at 45 and 65 years of age.)</p>
<p>Notification Procedure</p>	
	<p>Attending medical practitioners or laboratories must immediately notify the local medical officer of health of suspected cases. Notification should not await confirmation.</p> <p>CASE CLASSIFICATION</p> <p>Under investigation: A case that has been notified, but information is not yet available to classify it as confirmed.</p> <p>Probable: Not applicable.</p> <p>Confirmed: A clinically compatible illness, as diagnosed by a medical practitioner.</p> <p>Not a case: A case that has been investigated and subsequently found not to meet the case definition.</p>
<p>Laboratory Testing</p>	
	<p>Isolation of <i>Clostridium tetani</i> from culture of the wound site supports the diagnosis but yield is poor, and a negative culture does not rule out tetanus. In general, laboratories have a reduced role in the diagnosis of tetanus.</p>
<p>Management of Case</p>	
	<p>Investigation Ascertain whether there is a history of vaccination, recent injury or intravenous drug use. Culture of swab or tissue sample from the wound may be attempted but <i>C. tetani</i> is not often recovered.</p> <p>Restriction Nil.</p> <p>Treatment All cases should be under the care of a physician or paediatrician in a centre with intensive care facilities. Advice should be sought from an infectious diseases physician.</p> <p>Counselling Advise the case and their caregivers of the nature of the infection, its mode of transmission and the role of immunisation. A fact sheet is available: https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/tetanus/</p>

Management of Contacts	
	Not applicable
Other Control Measures	
	<p>Identification of source Nil</p> <p>Restriction Nil</p> <p>Disinfection Nil</p> <p>Health education Medical officers of health are responsible for health education. A fact sheet is available: https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/tetanus/</p>
Reporting	
	<ul style="list-style-type: none"> • Ensure complete case information is entered into EpiSurv. • File.
References and further information	
	<ol style="list-style-type: none"> 1. Ministry of Health, Communicable Disease Control Manual 2012. URL: https://www.tewhatauora.govt.nz/for-the-health-sector/health-sector-guidance/communicable-disease-control-manual/tetanus/ 2. Ministry of Health, Immunisation handbook 2014 https://www.health.govt.nz/our-work/immunisation-handbook-2020#:~:text=The%20Immunisation%20Handbook%202020%20provides%2cfrom%20published%20and%20unpublished%20literature. 3. Institute of Environmental Science and Research Ltd. Notifiable and Other Diseases in New Zealand: Annual Report 2015, Porirua, New Zealand https://surv.esr.cri.nz/PDF_surveillance/AnnualRpt/AnnualSurv/2015/2015AnnualReportFinal.pdf