Tetanus
Frequently Asked Questions

1. What is tetanus?

Tetanus, commonly known as "lockjaw", is a potentially fatal infection caused by the toxin produced by the bacterium *Clostridium tetani* which is often found in soil, street dust or animal or human excrement. Tetanus occurs in all parts of the world but is most frequent in hot and wet climates where the soil contains a lot of organic matter.

2. Who can get tetanus?

Humans may become infected through exposure to soil, street dust, animal bites or animal or excrement. People handling animal tissue during slaughtering, butchering or skinning of animals, assisting with animal births, conducting veterinary procedures, and/or disposal of carcasses or aborted foetuses are most at risk. The disease mainly affects occupational groups such as herders, farmers and farm workers, abattoir workers and veterinarians/animal health workers. People of all ages can get tetanus. However, the disease is particularly common and serious in new-born babies as poor umbilical hygiene is a risk factor for tetanus.

3. Where does tetanus occur in South Africa?

Approximately 300 cases of neonatal tetanus (NNT) are reported each year in South Africa. The highest rates are in resource-poor areas with non-universal immunisation practices. It occurs equally in male and female infants. Tetanus is most common in warm climates, highly cultivated rural areas, and economically deprived areas owing to poor immunisation and unhygienic practices. A review of all hospital admissions in the Mpumalanga province, between 1996-2000, on the case definition for NNT found that most cases occurred as a result of the cultural practice of applying cow dung or rat faeces to the umbilical stump in the neonatal period.

4. How is tetanus transmitted?

Humans are more commonly infected after exposure to blood, body fluids or tissues/organs of infected animals. The bacteria generally enter the body through a break in the skin such as a cut, burn, small or unnoticed wound, or via unsanitary injection (e.g. intravenous drug use). NNT infection results from contamination of the umbilical cord during unsanitary delivery conditions, as well as a lack of maternal vaccination.

5. How does tetanus affect animals?

The bacteria enter animals either through deep traumatic wounds, during parturition, or as a consequence of management procedures. Horses are more susceptible to tetanus than other animals and soil contaminated with horse manure commonly contains tetanus spores. The disease produces an increasing stiffness of the muscles due to spasms. The animal will not be able to swallow and have an unsteady gait. Eventually, the animal falls in a tetanic spasm with the limbs stretched out rigidly and is unable to breathe.

When infection has occurred at castration or tail docking, a large number of animals can be affected and mortality rates can be high. Animals may be vaccinated against tetanus.

6. What are the signs and symptoms of tetanus in humans?

Typically, illness is asymptomatic or mild in the vast majority of infected persons, with a small proportion experiencing severe disease. The incubation period (interval from infection to onset of symptoms) ranges from 7-10 days. Typical signs and symptoms often begin with mild spasms in the jaw muscles and facial muscles as a result of the bacterial toxin. Chest, neck, back, abdominal muscles, and buttocks may be affected. Back muscle spasms often cause arching. Sometimes the spasms affect muscles that help with breathing, which can lead to breathing problems. Some people may also experience fever, sweating, elevated blood pressure and/or a rapid heart rate.

7. How is tetanus diagnosed?

The diagnosis of tetanus is clinical. Laboratory bacteriological confirmation is usually not possible as the disease is toxin-mediated.

8. How is tetanus treated?

Tetanus immune globulin is recommended for persons with tetanus. It can only help remove remaining tetanus toxin, possibly shortening the course of disease and reducing its severity. All wounds should be cleaned and foreign or necrotic tissue removed. Supportive therapy may include ventilatory support and drugs that treat rigidity, reflex muscle spasms and tetanic seizures. Antibiotics such as metronidazole and penicillin G may prevent multiplication of the bacteria, stopping the production of toxin. Any person diagnosed with tetanus disease will not be immune to the disease. Persons recovering from tetanus should complete or commence active immunisation against tetanus.

9. How can tetanus be prevented?

Prevention of tetanus is only by vaccination. Primary vaccination against tetanus is given at 6 weeks, 10 weeks and 14 weeks, and at 18 months of age, as part of the National Expanded Program on Immunisation (EPI) in the South African childhood immunisation schedule. A booster is given at 6 years and at 12 years of age. A tetanus vaccine may given to pregnant women which will protect the neonate by the transfer of immunoglobulin via the placenta. This is especially valuable in areas where cultural practices place the neonate at high risk of tetanus. However, this immunity may be impaired by the presence of human immunodeficiency virus infection. Vaccination does not result in lifelong immunity. Boosters should be given at 10-year intervals.

10. Where can I find out more information

Medical/clinical related queries: Contact the NICD Hotline +27 82 883 9920 (for use by healthcare professionals only). Guidelines and other useful resources are available on the NICD website: www.nicd.ac.za