Medical Standard: Tetanus Diphtheria Vaccine

Background

Tetanus is an infection caused by a bacterium called *Clostridium tetani*. Spores of tetanus bacteria are everywhere in the environment, including soil, dust, and manure. The spores develop into bacteria when they enter the body. Vaccines are available that can help prevent tetanus, an infection caused by *Clostridium tetani* bacteria. Four kinds of vaccines used today protect against tetanus, all of which also protect against other diseases. Tetanus is different from other vaccine-preventable diseases because it does not spread from person to person. The bacteria are usually found in soil, dust, and manure and enter the body through breaks in the skin, usually cuts or puncture wounds caused by contaminated objects.

In accordance with CDC (Centers for Disease Control), National Advisory Committee on Immunization (NACI) and UK immunology experts, individuals who may be exposed to tetanus in the course of their work including work in laboratories and performing field research are at risk and must be up to date for tetanus vaccination. A booster may be required in the event of recognized exposure.

Guidance and scope

This Standard is a component of the Occupational Health Management System and Post exposure management as outlined in the Occupational Health Policy. Persons handling animals may be at risk for tetanus from bite and other puncture wounds and should have up-to-date routine tetanus immunization. All laboratory workers should have received a primary series of tetanus toxoid-diphtheria toxoid-containing vaccine. Tetanus toxoid-reduced diphtheria toxoid vaccine (Td) booster doses are indicated every 10 years.

The incubation period time from exposure to illness is usually between 3 and 21 days (average 10 days). However, it may range from one day to several months, depending on the kind of wound. Most cases occur within 14 days.

There are 4 vaccines that include protection against tetanus:

- The **DTaP vaccine** protects young children from diphtheria, tetanus, and whooping cough
- The **DT vaccine** protects young children from diphtheria and tetanus
- The **Tdap vaccine** protects preteens, teens, and adults from tetanus, diphtheria, and whooping cough
- The **Td vaccine** protects preteens, teens, and adults from tetanus and diphtheria

1 dose 0.5 mL IM Tdap, then Td or Tdap booster every 10 years

For travelers to areas where medical attention may not be accessible including remote field work and whose last dose of a tetanus-containing vaccine was more than ten years previously, a booster dose should be given prior to travelling, even if the individual has received five doses of vaccine previously. This is a precautionary measure in case immunoglobulin is not available to the individual in the event of a tetanus-prone injury. Where tetanus, diphtheria or polio protection is required and the final dose of the relevant antigen was received more than ten years ago, Td/IPV should be given.

Post exposure follow-up

Tetanus Post-exposure Prophylaxis in Injury/Wound Management

History of tetanus immunization	**Clean minor wounds:**	**Clean minor wounds:** TIG	**All other wounds:** Tetanus containing vaccine[1]	**All other wounds:** TIG

	Tetanus containing vaccine[1]			
Unknown or less than 3 doses in vaccine series	YES	NO	YES[2]	YES[2]
3 or more doses in a vaccine series and less than 5 years since last booster dose	NO	NO	NO[3]	NO[3]
3 or more doses in a vaccine series and more than 5 years but less than 10 years since last booster dose.	NO	NO	YES	NO[3]
3 or more doses in a vaccine series and 10 years or more since last booster dose	YES	NO	YES	NO[3]
1 See Recommended Immunization for Infants, Children and Adults: Schedules for specific tetanus containing vaccine recommendations based on age. 2 Administer at different injection sites using separate needles/syringes. 3 Yes, if known to have a humoral immune deficiency. Vaccine should be administered as well regardless of the time elapsed since the last dose of tetanus-containing vaccine.				

DEFINITIONS:

Intramuscular: Situated or taking place within, or administered into, a muscle. An intramuscular (IM) medication is given by needle into the muscle.

Intradermal: Situated, occurring, or done within or between the layers of the skin. An intradermal injection involves the injection of an amount of fluid into the dermis.

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