

Tetanus

Definition and causal agent

Tetanus is caused by *Clostridium tetani*, an anaerobic, gram-positive, spore-forming bacillus. The resistance of the spores to drying and heating ensures its widespread distribution in soil and animals. Its anaerobic characteristics and the toxin produced within the bacterium during its early stages of growth have meant that tetanus remains a particularly serious sequelum of penetrating wounds, particularly where ignorance and poorly developed health services prevail.

1. Transmission of infection

1.1 Exposure

A world-wide hazard. Soil and faeces are the main source of exposure, with infection occurring through deep and uncleaned wounds.

2.2 Occupational groups at risk

Military forces and agricultural workers are probably at greatest risk due to their increased chances of acquiring penetrating wounds contaminated with soil.

2. Clinical disease

2.1 Presenting features

The (incubation) period from injury to onset of symptoms varies from one day to several months, though rarely exceeds two weeks. The severity of symptoms is related to the initial tissue damage and its contamination; the shorter the incubation period, the more serious the resulting disease. Muscle rigidity precedes muscle spasms and in most cases starts with stiffness of the facial muscles. Involvement of the pharynx or respiratory muscles causes respiratory deficiency. Later the limbs may be involved and full-blown generalized spasms will then follow. In survivors, full recovery takes 4 to 6 weeks.

2.2 Laboratory diagnosis

This is less important than the severe and life-threatening clinical picture, which usually provides the diagnosis.

2.3 Prognosis

The complications of the disease play a dominant role in tetanus. Respiratory paralysis or pneumonia is the most common and most dangerous, though autonomic nervous system damage can cause cardiovascular problems, and fractures of the spine can result from the muscular spasms. In untreated cases, mortality can be as high as 70%, depending on age, severity of the disease and availability of appropriate hospital care facilities.

Exposure criteria:

Minimum intensity and duration of exposure: not applicable

Maximum latent period: one month