

Tetanus in Elephants Fact Sheet

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Etiology

- Clostridium tetani, a large, rod-shaped bacteria
- saprophyte, found world-wide, opportunistic pathogen
- found in soil, manure, feces of cows, horses, humans
- anaerobic, spore-forming (spores survive in air for long periods)
- potent toxin producer (also C. botulinum)

Epizootiology

- all mammals susceptible but varies between species
 - horses and human most susceptible
 - dogs, cats, birds, relatively resistant
 - humans may be carriers (up to 25%)
- occurs in elephants but infrequent; susceptibility unknown

Transmission and Pathogenesis

- incubation period ~ 10-14 days
- spores gain entry via puncture wounds or lacerations
- bacterial cell lysis→toxin release→ enters CNS
- potent neuro toxin(tetanospasmin)
- recovery does not confer immunity

Clinical Signs in Elephants

- hypersensitivity to noise and touch
- prolapsed 3rd eyelid
- painful spasms, rigidity
- unable to eat or drink → “lockjaw”
- recumbency
- +/- fever

Diagnosis

- clinical signs
- history of wound (may not be obvious or may be healed before signs appear)

Differential diagnosis

- other toxicities
- rabies

Management

- prevention
 - vaccination with equine tetanus toxoid → measurable titers
 - preliminary data suggests 1 cc dose with a booster at 4 weeks
 - duration of protection not determined; some facilities booster annually
- treatment
 - tetanus anti-toxin
 - supportive care crucial
 - debride, clean wound, antibiotics,
 - sedatives, muscle relaxants, quiet environment
 - fluids, force feeding, slinging

Zoonotic potential

- none