



Disease Name: Leptospirosis

Disease definition: Leptospirosis is caused by *Leptospira* bacteria, which can infect horses and cause disease of the placenta, kidneys, and eyes.

Transmission: *Leptospira* infection occurs following direct contact with contaminated urine or reproductive fluids from abortive mares. Contaminated water and soil can also serve as sources of infection. Several wildlife species, including raccoons, skunks, opossums, and foxes, have been shown to shed *Leptospira* in their urine.

Incubation period: Horses can have *Leptospira* in their blood 2-20 days after exposure, during which fevers may be observed.

Shedding period: Aborting mares and other recently infected horses may shed *Leptospira* in urine for up to 3 months.

Syndromes and clinical signs: *Leptospira* infection causes three distinct syndromes in horses:

Kidney failure: infection of the kidneys leads to clinical illness characterized by fever, lethargy, decreased appetite, and elevated renal enzymes on bloodwork.

In-utero infection in pregnant mares: Infection in pregnant mares may result in placentitis, abortion, or sick newborn foals. Clinical signs include vaginal discharge, early mammary gland development, and spontaneous abortion.

Equine recurrent uveitis (ERU): This immune-mediated disorder occurs when antibodies against *Leptospira* bacteria attack the host lens, cornea and retina. Clinical signs include eye pain (squinting, tearing) and a cloudy appearance of the cornea and underlying structures.

Diagnoses: Confirmation of Leptospirosis includes detection of antibodies in blood using the microscopic agglutination test (MAT) as well as confirmation of *Leptospira* bacteria in fluids via PCR test, which may include urine in cases of kidney failure, fluids and tissues from an aborted fetus, or ocular fluid in cases of ERU.

Treatment: Antimicrobials may be used to clear infection in horses with kidney disease, and may also prevent abortion in exposed pregnant mares. Antimicrobial therapy has not been shown to be effective for cases of ERU.

Prognosis: Most horses with *Leptospira* renal injury will recover fully if treated promptly with appropriate antimicrobials and supportive care. The long-term prognosis for vision with

Leptospira ERU is guarded, as horses may repeatedly suffer from episodes of ocular pain and inflammation, ultimately leading to permanent loss of vision in affected eyes.



Prevention: A *Leptospira* vaccine is available and approved for use in horses. This is considered a risk-based vaccine, and is therefore only indicated for use in horses at risk of exposure to *Leptospira*.

Biosecurity: Leptospirosis is contagious between horses, and can also infect humans. Infected horses should be isolated and humans should wear PPE (gloves, gowns, masks) and take strict precautions to prevent contact with infected horses' urine or bodily fluids.