

## Listeriosis

Caused by a bacteria that can affect all mammals including humans. In the goat industry is called the "Circling Disease" because affected animals commonly walk compulsively in a circle. The bacteria are found in the environment, especially in rotting vegetation such as poorly prepared silage. The infection is normally cause by the goat ingesting the organism through environmental or fecal contamination of their feed. The disease is most common during the cool weather. Though the bacteria is easily killed by common disinfectants, it can survive in feces, silage, and tissue for 5 or more years.

The disease is most common in adult goats. The source of infection in herds can be when mammals and birds feces spread the bacteria in the soil or on feed areas..

### Signs and Symptoms

Early signs are:

- Depression
- Decreased appetite
- Decreased milk production
- Fever

### There are two forms seen:

- **Encephalitic form** - In the brain. The bacteria enters through breaks in the oral mucosa and migrate to the brain. Signs are:
  - Incoordination
  - Circling in the same direction
  - Seizures
  - Hind lib paralysis
  - Facial nerve disorders
  - Excessive salivation
  - Slack jaw
  - Impaired swallowing
  - Cornea inflammation
- **Septicemic form** - Blood-borne. The bacteria enters through the intestines. Signs are:
  - Diarrhea

- Abortion

### **Treatment**

Required detection early in the course of the disease. Large doses of antibiotics such as penicillin and tetracycline are generally given along with fluids, electrolytes

Administer penicillin and tetracycline orally at 25 mg/kg for 1 week or 11.5 mg/lb per day for 3 consecutive days. In the encephalic forms, intravenous sodium penicillin at a dosage of 40,000 IU/kg or 18,000 IU mg/lb every 6 hours until signs are improved, followed by administration of procaine penicillin at a dosage of 20,000 IU/kg body weight twice a day for 3 days.

Administer intravenously 1-2 mg/kg or 0.05 mg/lb mg/kg or dexamethasone is recommended to treat inflammation in the brain. Intravenous fluid and electrolyte therapy and supplemental feeding are also recommended.

- Discard spoiled feed and hay.
- Improve sanitation of pens, water supply, pasture, and housing.
- Keep wild birds away from the herd as much as possible as these birds may serve as vectors for the disease.
- Identify the source of infection in order to help eliminate the causative agent.
- In the case of abortion, isolate aborting does and send aborted fetuses and placentas to a diagnosis center for isolation of the causative agent. (Wear latex gloves when handling placental membranes.)
- If a doe has listeriosis, feed kids pasteurized colostrums, milk, or a milk substitute.
- Human listeriosis is associated with the consumption of contaminated meat products, as well as milk and cheese obtained from nonpasteurized milk. Humans can also contract listeriosis by handling fetuses and specimens from aborted animals, and newborns of infected does. Always wear gloves when handling fetuses and specimens from aborted does.

This treatment comes from

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Listeriosis is caused by the bacterium *Listeria monocytogenes*. The organism is found in soil, water, plant litter, silage and digestive tracts. The disease is contracted by feeding contaminated silage, sudden changes in feed, stresses of parasitism, dramatic weather changes and/or advanced stages of pregnancy. The source of infection in goats is often not found. Goat milk and goat products may be source of infection for humans.

**Signs** of illness include depression, decreased appetite, fever, leaning or stumbling, moving in one direction only, head pulled to flank with rigid neck, facial paralysis on one side, slack jaw and drooling. Abortions may also occur.

**Treatment** includes administering high doses of penicillin under the direction of a veterinarian, anti-inflammatories, supportive therapy (fluids and electrolytes) and supplemental feeding.

**Control** measures include isolating aborting does from the herd and raising kids separately. Handling aborted fetuses, placentas and reproductive discharges calls for gloves and face masks as well as careful disposal. Floors and pens should be thoroughly cleaned and disinfected. Humans should avoid drinking unpasteurized goat milk to help prevent contracting listeriosis.

<http://www.extension.org/pages/23822/listeriosis-in-goats>

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## Listeriosis in Your Herd

What is listeriosis?

Listeriosis is an important infectious disease of goats most commonly causing encephalitis, but also capable of causing blood poisoning and abortion. The organism can be shed in the milk of normal carrier goats as well as sick goats and the zoonotic potential (transmission to humans) of listeriosis is a concern.

What are the symptoms of listeriosis?

The abortion form usually shows no other symptoms. It can only be diagnosed by growing the organism from the aborted fetus in a laboratory.

The nervous or encephalitic form has a rapid course and causes death in 24 to 48 hours after symptoms appear. Symptoms include circling in one direction, high fever, lack of appetite, red tissues around the eyes (maybe with blindness), and depression. Affected animals may have a paralysis of one side of the face, represented by a droopy ear, drooping eyelid, and saliva running from limp lips. Up to 20% of the goats in a herd may be involved. When near death, the animal will lie down and may have fits. Confirming diagnosis can only be made in a diagnostic laboratory but isolation of the organism from goat tissues and organic materials such as animal feeds can be problematic.

What are the causes of listeriosis? How is it transmitted?

Listeriosis is caused by the bacterium *Listeria monocytogenes* and is commonly seen in cooler climates. Listeriosis is spread when goats swallow, inhale, or get the bacteria in their eyes.

The bacteria are very hardy and are common in soil, **silage not fermented (not acidified) properly, put up too dry or not compacted tight enough to protect it from the air. The bacteria are also common in round bales of hay that have started to rot, feed bunks that are not cleaned regularly and in which some feces and wet feed leftover accumulate and ferment, rotting woody debris, manure, and milk, urine, and drainage of the eyes and nose of infected animals.** Environmental and fecal contamination are more common sources than silage in goats overall because most goats are never fed silage.

Though easily killed by common disinfectants, the listeriosis organism can survive in feces, soil, spoiled round bales of hay and silage, dirty feed bunks, rotting woody debris, etc., and animal tissue for five or more years. Listeriosis is a common clinical problem in intensively managed dairy goats in North America and Europe. The source of infection in herds is not always clear. Wild mammal and bird excreta may be the original sources of the bacteria, which then persist in soils, on plants, and in feed bunks and feed.

Factors predisposing to clinical listeriosis in goats are similar to those reported for other farm animals and include increased stress from poor nutrition, parasitism or other disease occurring at the same time, advanced pregnancy, and sudden changes in weather, feeds or general management procedures. A history of silage feeding is not a prerequisite in outbreaks of caprine listeriosis. An increase occurrence of listeriosis in fall and winter has also been observed in goats, though cases occur year around. The disease is most common in adult goats.

How can listeriosis be treated or prevented?

There are no effective treatments for small ruminants, and they usually die after infection. Large doses of penicillin may help in some cases. When an outbreak occurs, infected animals should be isolated. If silage or round bales of hay are used, their use should be discontinued. Recently introduced animals should be considered suspect as carriers. Floors, pens, sheds, feed bunks, mineral feeders, etc. should be thoroughly cleaned and disinfected.

Can listeriosis be a human health concern?

Listeriosis can cause **serious** diseases in humans. Be extremely careful when handling sick or dead animals. Do not eat any part of the sick or dead animal. Wash hands and disinfect clothes and shoes. Use all sanitary measures possible. If a herd is infected and milking animals have aborted, milk should be boiled or pasteurized before use. Pregnant animals should avoid infected animals. Symptoms may range from a mild irritation on the hands and arms from assisting in the delivery of a kid to a severe blood poisoning disease. Encephalitis and abortion of pregnant women may also be produced by listeriosis.

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