

Polioencephalomalacia (Polio) in Small Ruminants

Causes of Polioencephalomalacia (PEM)

Polioencephalomalacia (also called polio or PEM) is a **non-infectious nutritional disease** caused by a malfunction of the rumen, which causes thiamine deficiency. Thiamine, or vitamin B1, helps to keep the nervous system healthy. Animals with thiamine deficiency experience neurological symptoms.

PEM is common in **young ruminants** (kids and lambs) as they transition from milk to solid diets, especially those fed a high-grain diet.

Elevated dietary sources of sulfur can also cause polio, as can overdose of amprolium (Corid), a coccidiosis treatment.

Signs

- Partial or complete blindness
- Dilated pupils
- Loss of body control
- Inability to stand
- Seizures
- Head as far back as possible

Diagnosis

- Physical symptoms
- At necropsy, flattening of the gyri of the brain and coning of the cerebellum may be present.

Prevention and Control

- Provide adequate dietary fiber.
 - » A general rule of thumb is that sheep and goats should consume 2–4% of their body weight on a dry matter basis.
 - » Sheep and goats can be fed 0.5 pounds of roughage per 100 pounds of body weight.
- Use the proper dosage for amprolium treatments.
- Make dietary changes gradually.
- Avoid water high in sulfur and excess feeds high in sulfur, such as corn, molasses, and sugar beet byproducts.

Treatment Plan

- **Most importantly, work with your veterinarian on treatment plans!**
- Injectable thiamine. To correct a thiamine deficiency, thiamine must be administered multiple times a day over several days. One dose or one dose a day will not correct the problem.
- Intravenous products and anti-inflammatories as prescribed by your veterinarian.



Animals experiencing polioencephalomalacia often hold their heads as far back as possible, in a position known as “stargazing.”

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