A Guide to Common Goat Ailments

Plus, 
Dangers of Feeding Moldy Hay!
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Katherine Drovdahl MH CR CA CEIT DipHIr QTP answers questions about natural goat health in Katherine’s Caprine Corner, within each issue of *Goat Journal*.

**Questions About Common Goat Ailments**

From Katherine’s Caprine Corner

**Q:** How can I tell if my goat has lice?

**A:** At least twice per week, check your goats for lice, especially during the later fall, winter, and early spring months. Goats that are scratching their skin or have thinning hair along the vertebral column need to be carefully inspected, as a moderate to heavy load can really compromise health. Part the hair at the neck and shoulders and along the spine, looking for scurrying small, roundish bugs. Also, carefully inspect the bases of hair shafts for any glued-on eggs known as nits.

**Q:** How do I get rid of lice on my goat?

**A:** In addition to chemical medications, there are various alternative methods. One is to dust the animal with diatomaceous earth (DE). This penetrates lice bodies and they die from fluids leaking out. However, any time you put DE into the air, you risk respiratory damage to anything that breathes it, including yourself. My preference is to mix equal parts pure lavender and eucalyptus oil, putting five drops of this blend into one tablespoon of olive oil and smoothing that on along the vertebral column and any areas where damage from lice is found. This can be applied two or three times per day for up to 10 days in a row.

**Q:** What can I do for a congested-sounding cough in my goat?

**A:** If my goat had a wet-sounding cough, I would use comfrey (not if he has a liver issue), mullein, thyme, coltsfoot, horehound orally, and/or use *Eucalyptus globulus* externally. I would also consider garlic, cayenne, or ginger in case of infection. You want to focus on helping the lungs to heal themselves as well as helping the goat to expectorate old junk so it doesn’t remain in there to feed the next bacterial or viral invasion. Monitor him for any signs of fever and get help if he has one.
Q: What is UC?

A: UC, or urinary calculi, is mineral particulate in the urinary tract, causing a blockage similar to kidney stones in humans. Various minerals can be a culprit, with calcium stones being quite common. How quickly these can be cleared depends on if one is working with one large stone or multiple little ones. Although alfalfa hay is often blamed on this problem, as a Master Herbalist I know that the hay has a carbon atom attached to its calcium, making it fully dissolvable and eliminable by the system. The real culprit is usually well water or store-bought feeds with added minerals. The added minerals will be rock-sourced, which are not fully eliminable but, in some animals, will collect in the urinary canal as the body tries to eliminate it.

Q: How do goats show pain?

A: Depending on the problem, goats can show pain in various ways. They may favor a limb by walking unusually, limping, or failing to put weight on it. In those cases, I carefully look at and feel the entire limb from the bottom of the hoof up through the shoulder or pelvic assembly INCLUDING the back. They may be hunched up, which usually indicates an overall not feeling well, possibly systemic, or possibly a lung issue. It may also indicate a back problem, kidney problem, or digestive tract problem.

They may be grinding their teeth, which almost always is an indication of a strong, moderate, to heavy amount of pain somewhere in their body. They may show a dull eye and they may not be very responsive or may be overly quiet. If they have long ears, those may droop. Even Nubian ears droop more than normal. Their tail may be droopy as well. Some animals will be overly excitable and vocal but this is usually in the face of a brand new injury.

The key is to get to know your animal and what is normal for them, so you easily recognize when something seems off. NOW is the time to gather a list of symptoms and consult with your goat mentor or veterinarian. Please note that when consulting with others, if you overlook a symptom, it may change the assessment. If in doubt, please hire a veterinarian for their expert eyes, hands, and ears so that you don’t lose time.

Q: What natural remedies can I use for my 100-pound Nubian-mix wether with chronic urinary calculi?

A: If he were my wether, I would add 1 ½ tablespoons of raw organic apple cider vinegar (ACV) to his grain (if he gets grain) twice per day or add three tablespoons of the raw ACV to just the amount of water he will drink for that day for the rest of his lifespan, which will help his body dissolve stones. Do NOT use white vinegar, which will add further damage to his renal area. Well water is often hard water complete with rock particulate in it, which will exacerbate the problem or set him up for future problems. Collect rainwater from clean air when possible.

Q: My doe has udder pox. How did she get it and what can I do?

A: I have that challenge with two does myself right now. One I expect had to have laid down in a moist area (water or urine). The other one had a bad kidding, followed by a uterine infection, and she got her pox from the drainage hitting her udder. After washing the problem areas with mild soap and warm water, then drying them, I use an herbal salve. There are also over the counter products and veterinarian products available.
Q: My two-month-old bucklings have diarrhea. What can I do?

A: It would be helpful to know if the diarrhea is caused by a bacterial or parasitic issue in the intestines or a toxicity in the liver. Single herbs to consider would be blackberry leaves or roots, raspberry leaves, strawberry leaves, cinnamon, ginger root powder, or even apple peels. Just three to four leaves at a time would be plenty for a standard-sized kid and one leaf for a mini-breed kid, every one or two hours. If positive change does not occur within two to four hours, then the cause might be from scar tissue in the intestines. If it’s parasitic in nature and could be coccidia, then a medication from a local veterinarian is recommended. Be careful not to give too many herbs at a time so as not to cause enterotoxemia problems.

If it is from toxicity such as mold hitting the liver, try using dandelion tops or flowers as well as milk thistle seed. If these do not change for the positive within four hours, have a veterinarian diagnose the problem until you’re more experienced working with goats and kids. Kids left with diarrhea can perish quickly without the appropriate support.

Q: What is coccidia?

A: Coccus (plural cocci) is a single-celled parasite that does ruthless damage to the intestines. Left unchecked in kids, stressed stock, or old stock, they can cause hemorrhaging and death. Coccidia has a distinctive smell in the diarrhea it causes and needs to be dealt with right away. Kids pick up cocci oocysts (eggs) by licking facilities or dirty bedding or by placing their feet in feeders and then eating the now-tainted feed. We use herb products for this problem. We keep it in their lambars or bottles while the kids are young and the weather is damp. Some breeders use drugs called coccistats. It’s much better to stay ahead of a potential cocci problem than to wait until damage occurs. Breeders in very arid non-irrigated areas may not have to deal with this problem as often.

Q: How do I keep my kids hydrated while facing a diarrhea challenge?

A: Often with diarrhea, a kid expels valuable water and electrolytes at a faster rate than it is taking them in, which can lead to a life-threatening situation. The first order of business is to take the pinch test. On goats, I like to use the neck.

With them standing relaxed, firmly pinch some skin between the two fingers. Then release. It should snap back into place. If it doesn’t, or it leaves a wrinkle on top that has to be manually smoothed back in, this is a prime indication of dehydration. Test this on a few healthy animals first, and even the human arm, to compare results. If dehydrated, or better yet, before they become dehydrated, give them some electrolytes. My favorite choice is coconut water. Add a tablespoon for a young kid (a teaspoon for a young Nigerian Dwarf) to some milk and bottle-feed, or very carefully drench each hour. For mature standard-sized goats, I use 60 cc per hour (1/3 of that is for a Nigerian Dwarf adult). Also keep coconut water and a feeding syringe on hand for shows and other stressful or hot weather times.
Q: I thought only horses can get mud scald. Is it true that goats can too?

A: Any creature can contract mud scald. Other names include scratches, rain rot (usually on the body rather than the legs), mud rash, etc. Severe cases can cause lameness if nerves become involved in the tissue damage. The cause is specific bacteria that are spread by spores and require wet weather to become active. White skin tends to be more susceptible than pigmented skin, but any goat can get it. During wetter weather, increased wetness makes animals’ skin more susceptible to a bacterial invasion. Mud covering the legs compounds this problem by blocking oxygen to the skin and keeping wetness against it. This, combined with body heat, sets up an environment that bacteria do well in.

Q: What can I do to prevent mud scald in my goats?

A: It is easier to avoid mud scald than to work with it. First, keep lounging, watering, and feeding areas dry and mud-free. Some people cover pallets with wood and straw to get them by until they can raise the level with gravel. I used to dump extra straw in paddocks to give them areas out of the mud during winter months. Also, diligently clean any mud off legs. Paying attention to their overall nutrition, including building their immune systems, is beneficial for many reasons besides avoiding mud scald.

Q: If I find mud scald what do I do?

A: There are medicine preparations available. Or I would clean the area with a simple, nondrying soap such as goat milk soap and warm water. Then pat dry the area with paper towels that go into a box or paper bag to be burned. You can use five drops of lavender essential oil mixed with a teaspoon of olive oil, or goldenseal, or myrrh to help the body fight the bacteria involved.
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LISTERIOSIS in Goats

Dangers of Feeding Moldy Hay

BY KAREN KOPE
Circling Disease and Silage Sickness are other names for listeriosis in goats, commonly associated with feeding moldy hay. Listeriosis is a life-threatening disease primarily caused by the bacteria *Listeria monocytogenes*; however, ruminants may also get listeriosis from *Listeria ivanovii*. Listeria is a zoonotic disease, meaning it can be transmitted from animals to humans.

Listeria can live almost anywhere — in soil, manure piles, grass, and the gastrointestinal tracts of healthy animals. It thrives in aerobic conditions, such as the top layer of silage and moldy hay or feed. It is commonly found in the feces of infected birds, animals, fish, and insects as well as sewage. It can contaminate water, milk, and food. It can withstand temperatures from 34-113 degrees F. While outbreaks can occur year-round, in livestock they are most prevalent in spring and fall.

People and animals in good health are usually not affected by listeria. In humans, the highest risk is for pregnant women and the immunocompromised. *L. monocytogenes* can be carried by a host without appearing sick and can shed in milk and feces. It is transmitted when an animal ingests contaminated feed or water, but bacteria can also be inhaled from fecal dust. Researchers have also suggested that it can be sexually transmitted in goats.

**WHAT ARE THE SYMPTOMS OF LISTERIOSIS IN GOATS?**

There are two forms of listeriosis in goats: encephalitic and septicemic. Clinical signs of listeriosis are seen more frequently in adult goats than kids.

The encephalitic form has the highest mortality rate and is most prevalent in small ruminants. It is characterized by inflammation of the brain resulting in neurological symptoms. The bacteria enter the body through damaged mucous membranes in the mouth or other openings, and migrates to the brain. Early symptoms are depression, loss of appetite, decreased milk production, and fever. As the brain swells, the animal develops weakness and uncoordination, and will circle in one direction. As the disease progresses, symptoms such as partial facial paralysis, the head pulled back with a rigid neck, ear drooping, salivation, slack jaw, and seizures may appear.

The septicemic form, while also present in ruminants, is most common in single-stomach animals. The bacteria also enter through damaged mucous membranes and then the bloodstream, where it spreads to other organs. It is characterized by diarrhea and abortion. Mastitis caused by *L. monocytogenes* is rare, but does occur, and results in prolonged shedding of the bacteria in milk. Newborn kids exposed to shedding of listeria in colostrum or milk may show signs of septicemia. It is recommended that aborted kids and placentas be handled with sterile precaution, as people have developed fatal meningitis, septicemia, and rashes on the arms after handling tissues contaminated with listeria.

Diagnosis of listeriosis in goats is done primarily by clinical signs, since fatalities occur within 24-48 hours of the onset of symptoms. With prompt aggressive treatment, the *Merck Veterinary Manual* suggests a 30 percent survival rate. Tests are available, but the results take longer than the progression of the disease. They are used to positively identify the presence of listeria in a postmortem examination or necropsy.

Diagnosing the encephalitic form of listeriosis in goats is challenging, as the symptoms can appear very similar to polioencephalomalacia (cerebrocortical necrosis) — or goat polio. Goat polio is a result of a vitamin deficiency, specifically thiamine, rather than bacteria, and as such is not contagious. It presents as uncoordinated staggering, excitability, stargazing, circling, diarrhea, tremors, head pressing, and apparent blindness. It progresses to convulsions and, untreated, results in death in 24-72 hours. Kid goats are more susceptible to polio than adults.

Because of the similarities of the two goat diseases, it is recommended to treat animals for both.

Neurological symptoms are not necessarily indicative of listeriosis or polio. They can also be caused by toxins. It is important to know poisonous plants for goats and rule out the possibility of poisoning, which requires an entirely different course of treatment.

Abortions and diarrhea can also be attributed to other causes.
There are two forms of listeriosis in goats: encephalitic and septicemic.

How is Listeriosis Treated?
Treatment for listeriosis in goats is high doses of procaine penicillin every six hours until symptoms have disappeared. Sufficient doses are needed to cross the blood/brain barrier and deliver the antibiotic to the central nervous system. While the antibiotic is readily available over the counter, its use in goats is considered extra-labeled, requiring consultation with a veterinarian for proper usage and dosage.

Dexamethasone or Banamine, both requiring prescriptions, are administered to reduce the swelling of the brain. Be aware that dexamethasone will cause abortion in pregnant does. Do not use dexamethasone with Banamine, as it could cause fatal hemorrhaging.

Producers also use herbal remedies in conjunction with pharmaceutical treatment. Usnea extract is made from a lichen that is believed to specifically target listeria bacteria. Thyme, oregano, rosemary, and garlic have also shown therapeutic effectiveness. Apple cider vinegar can help to acidify the rumen. While these may be effective as supportive treatments, they are not able to cross the blood/brain barrier and alone cannot reverse the disease progression.

Intravenous administration of fluids and nutrition may also be necessary for animals that are severely compromised.

How do You Prevent Listeriosis?
The best way to prevent listeriosis in goats is good hygiene and sanitation on the farm. Clean soiled feed bunks and water troughs often, to reduce the growth of mold. Keep wild birds away from where the herd feeds. Store feed properly.

Know what to feed goats. Do not feed goats silage unless you are very familiar with handling and storing it. Avoid wet, moldy hay and grain. Moist feeds formulated with molasses have a high incidence of mold, especially in hot weather. Do not feed grass clippings. Do not allow animals to graze boggy areas or close to the ground where the soil has a high pH. Do not feed rough, coarse feed that has a tendency to injure the mouth and predispose an animal to infection.

Protect the rumen balance of your goats. Stressors such as weaning, parasites, sudden weather changes, confinement, changes in herd structure, and abrupt changes in feed can alter the pH of the rumen, making it less acidic and giving the listeria bacteria an opportunity to grow. Polio is also triggered by changes in the rumen. Too much grain decreases the pH and leads to decreased thiamine production.

Isolate animals showing symptoms and use sterile precaution when treating. If a doe is shedding listeriosis, raise kids on a milk replacer or milk from a clean doe. In the event of death, submit the animal or aborted tissue to a lab for necropsy. A post-mortem is the only way to determine the true cause of death so if other animals in the herd are affected, the proper treatment can be administered. If a post-mortem cannot be done, dispose of the carcass by burning.

While you cannot eliminate the presence of listeria in the environment, you can limit the risk of introducing the bacteria and take precautions that will protect your goats from disease.
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