



## Livestock Q and A

### Answers to questions about pneumonia, bladders stones, and a few others

By Heather Smith Thomas

#### Pneumonia in Calves

**Q:** One of our calves got pneumonia after being weaned. Why did it get pneumonia and what's the best way to treat it?

**A:** Pneumonia usually strikes when animals are stressed (during weaning time or bad weather, when they have dry or dusty creep rations or supplemental feeds, when they have inadequate or unclean water for consumption, on a long transport to market, etc.) because stress hinders the immune system. The most severe cases are usually caused by bacteria, so antibiotics should be given to halt the infection and prevent permanent lung damage or death of the calf. Often, however, a virus occurs first, suppressing the calf's immune system. So, if you can prevent viral respiratory disease in calves, you can often prevent pneumonia.

To prevent pneumonia, you should be vaccinating with a modified live virus at 4 to 6 months of age and administering a booster shot 4 to 6 weeks after the first injection.

Your vet can recommend a good vaccine. Most stockmen use a vaccine that includes BVD (bovine virus diarrhea) and IBR (infectious bovine rhinotracheitis). Some include PI3 (parainfluenza type 3) and BRSV (bovine respiratory syncytial virus). The important thing is to make sure calves are vaccinated twice with a modified live-virus vaccine between 4 and 7 months of age, with at least one shot given before weaning. There is controversy over using modified live virus vaccines in calves that are still suckling their bred dams, since cows with no immunity may pick up shedding virus from the calves and abort. Some vets recommend killed-virus vaccines that are less effective for calves for this reason. If the cows are on an annual vaccination program and have good immunity, you can safely use a modified live-virus vaccine on their calves.

If calves are vaccinated before weaning and stress is low, they rarely get pneumonia. If one gets sick, early recognition of symptoms and treatment is crucial. Otherwise you may lose the calf or it may have permanent lung damage.

Your vet can recommend a good antibiotic if the calf is diagnosed with pneumonia. There are several products that work, but your vet may have a preference and his recommendation may be based on your situation. Micotil (tilmicosin) has some safety precautions for humans and should be given by your vet unless you are experienced at administering this shot. Baytril (enrofloxacin) and A180 (danofloxacin) are similar drugs, but the latter is cheaper, concentrates in the lung better and has a shorter withdrawal time before slaughter. Other antibiotics used for pneumonia include Nuflor (florfenicol) and Excenel (ceftiofur).

There is no one drug that works "best" for all cases; some work better on certain farms than others because of the different pathogens involved. The tetracyclines (such as LA-200) are cheaper than many other drugs, and if they work, there's no reason not to use them. If a certain drug is not effective in your situation, your vet will try something else. Proper dosage is critical.

Besides giving an antibiotic, your vet may also recommend the use of Banamine (a non-steroidal anti-inflammatory drug). It not only acts as a pain reliever (making cows more likely to eat and to drink), but helps prevent some scarring of the lungs. If a calf has a fever higher than 103 degrees F, it should be given Banamine.

#### Heaves in Horses

**Q:** My horse coughs a lot. Our winter is wet and cold, so I brought him into the barn, but his coughing became worse and he could hardly breathe. Why is he coughing and how can I protect him from bad weather?

**A:** Your horse may be suffering from COPD (chronic obstructive pulmonary disease), also known as "heaves." This condition is similar to asthma in humans; breathing becomes difficult because of swelling and narrowing of the airways,



triggered by allergies. The allergic reaction is caused by breathing dusty air. The dust particles floating around in the confined space of a barn (from hay, bedding and certain grain rations) bring on the coughing attacks.

Heaves is a very common problem in horses that are kept indoors or horses that are fed dusty hay and grain. Signs of heaves are chronic cough, lack of stamina, labored breathing and sometimes a watery nasal discharge.

The most characteristic symptom (from which the term "heaves" is derived) is forced effort to exhale. The horse must use his abdominal muscles, giving an exaggerated lift of the flanks. When a normal, healthy horse inhales, the expanding chest wall causes the lung tissue to stretch, enlarging the flexible air passages.

Inhaling is the active process and exhaling is the passive process; the chest wall collapses and effortlessly pushes the air back out as the lung tissue goes back to its unstretched shape. But in a horse with heaves, the lungs lose their elasticity, small air passages are swollen and air flow is reduced. He makes a wheezing sound as he forces air through these narrowed passages, and if he breathes deeply (as when exerting) or breathes in dust, he coughs. Overall tidal volume of air is also reduced, forcing increased labored breathing.

The problem is worse in winter if the horse is confined to an enclosed barn. A horse with respiratory problems should not be kept indoors in winter. Even if he is turned out in a non-dusty environment (pasture), it may take weeks for the inflammation to resolve. If he's put back in a barn, even for a very short time, he'll most likely relapse. Every time he has an episode of difficult breathing he becomes a little worse. If you need to protect him from nasty weather, put him in an open-sided shed. Dirty bedding with high ammonia gases in a confined area also irritates his pulmonary system.

If he has a roof over him and a windbreak, he can stay dry and comfortable. Don't use straw for bedding. Wood shavings, wood chips, peat moss or shredded paper are less dusty and won't be as irritating to his respiratory system as straw or sawdust. Whatever bedding is used must be cleaned regularly in order to reduce both dust and ammonia.

Author Spotlight Heather Smith Thomas is a freelance writer, author and rancher based in Salmon, Idaho. What you feed him will also make a difference. Pasture grass is the best situation. If he can't be on pasture, feed him dust-free hay or pellets. Alfalfa hay is often dustier than good grass hay and may also have more microscopic mold particles (which may trigger allergic reactions). The hay may need to be dampened or soaked in water to make sure there are no dust particles. You may need to soak each flake of hay in a tub of water to completely moisten it, then drain it before feeding. If grain is fed, it can be given as a mash or with molasses to moisten it and to reduce dust. Some horses do better if fed a complete pelleted ration designed for horses with heaves. None of these efforts will help if the horse is kept indoors and other animals in the barn have dusty straw bedding or are being fed dusty hay; there will always be floating dust particles in the air.

## Bladder Stones

Q: I raise goats and sheep on my small 5-acre hobby farm. I have heard that it's fairly common for both of these animals to get bladder stones. Can you tell me why they occur and how can I treat them?

A. Treating animals suffering a urinary tract blockage resulting from bladder stones is both expensive and often unrewarding. The long-term prognosis for complete resolution is poor and leaves the owner frustrated and uncertain that the animal will survive. Preventing stones is the best management approach.

Helpful Sites: The American Miniature Horse Association 5601 S. Interstate 35W Alvarado, TX 76009 (817) 783-5600 [www.amha.org](http://www.amha.org) The American Miniature Horse Registry 81-B East Queenwood Morton, IL 61550 (309) 263-4044 [www.shetlandminiature.com](http://www.shetlandminiature.com) Guide Horse Foundation P.O. Box 511, Kittrell IN 47544 (252) 433-4755 [www.guidehorse.org](http://www.guidehorse.org) USA Miniature Horse [www.mini-horse.org/index.html](http://www.mini-horse.org/index.html)

Often valuable livestock operations or a family's favorite pet Pygmy goat become victims of this dreaded disease. Primarily affecting castrated male ruminants between 5 and 18 months old, any Pygmy goat that was castrated at an early age may be at risk his entire life. While un-castrated males are occasionally affected, those castrated when younger than six months are at highest risk for stone formation. Mineral deposits that form stones in the urinary tract are noted in two main classes of animals: feedlot and housed animals fed grain as a large percentage of their diet, and those animals grazing on grasses high in silicates, such as clover.

Stones form for several reasons. Changes in the pH (the acid or base nature) of urine cause minerals to crystallize, leading



to stone formation, and might result from urinary tract infections or decreased water intake—resulting in more highly concentrated urine—such as seen during droughts or in the winter months when cold temperatures dampen an animal's thirst or water sources freeze. Nutrition also plays a vital role. High grain rations raise urinary pH, and diets high in phosphorus increase the risk of stone formation.

Once formed, stones sit in the bladder until urine eventually flushes them out through the urethra unless a stone blocks urinary outflow. Males have a smaller diameter urethra than females, making them more prone to developing urinary tract blockages by stones. Also, younger castrated males grow up without testosterone—the hormone which enhances testicular and urethral development.

Visible signs of an animal with a urinary obstruction include: standing alone, not eating, straining to urinate, having slow or dribbling urination, having bloody urine, stomping their feet and kicking at their belly, along with crying out and grinding their teeth. Owners may think their animals are constipated due to the straining.

The owner should contact a veterinarian immediately once these signs are seen as bladder or urethral rupture can occur within 48 hours. The veterinarian's exam may find an animal with an elevated heart rate, painful, swollen belly or abdomen, and either an increased or decreased temperature depending on the stage of the disease. Sand, grit or small stones may be caught in the hair around the pubic area. Further testing and work-up, including blood work, ultrasound or abdominal X-rays, may be done to confirm the diagnosis and develop a treatment plan.

#### First Line of Defense: Water and Minerals

Administering urinary acidifiers such as ammonium chloride will help lower urine pH and decrease crystal formation. To increase urine acidity, add one capful (about one teaspoon) of apple cider vinegar per gallon of drinking water, and provide free-choice goat mineral containing ammonium chloride. Always have clean, fresh water available to animals; heated water during cold times of the year will keep them drinking normally.

Standard salt and trace-mineral blocks are not recommended for goats and sheep since they do not lick adequately to consume minerals needed in that form. It is strongly recommended that a coarse-ground trace mineral mix be available free choice year-round. Treatment depends on the type of animal affected, stone type, stage of disease, economics and personal attachment to the animal. Valuable and breeding animals are typically more aggressively treated. Feedlot animals should be slaughtered before the bladder ruptures. If attempted, initial treatment focuses on (the process) located at the tip of the penis and narrowest in diameter can be amputated with scissors, which may restore urine flow. If urinary flow is not reestablished, a urinary catheter can be inserted while the animal is under anesthesia, and an attempt made to dislodge the stones by irrigating them out; however, the presence of a urethral diverticulum (blind sac) near the pelvis may prevent passing the catheter into the bladder. If these remedies are unsuccessful, surgical options might be considered. An ischial urethrostomy surgically alters the male so he will urinate similarly to a female.

You should know that development of urethral structures limits long-term success rates. An alternative is a peg tube cystotomy, in which rubber tubing is inserted into the bladder to drain urine out through the abdominal wall. Both procedures risk incision site and recurrent urinary tract infections, as well as incur extra cost to the owner. The decision to either treat or put the animal down becomes an important component.

If rupture of the urethra or urinary bladder occurs (water belly), restoring urinary flow and draining urine from the abdomen will delay complete healing for two to three weeks. Correcting electrolyte imbalances, alleviating dehydration and administering antibiotic and pain medication regimens require diligent medical management and tender loving care for there to be any hope of long-term success. Subsequently, prevention strategies are needed following the occurrence of stones.

Recommended dietary changes include keeping phosphorus consumption at minimal levels and maintaining a calcium to phosphorus ratio of >2:1. Feed smaller amounts of grain while increasing forage. Grass hay is recommended over alfalfa. Increasing salt and mineral intake encourages drinking, thereby increasing urine production. Place water and salt/mineral at opposite ends of the pasture or paddock to encourage exercise, which also assists in proper urination and muscular health.



## Node Nuisance

Q: I noticed that some of my sheep had soft, swollen areas on their necks and shoulders. When I called the vet, he told me they were swollen nodes. What can you tell me about swollen nodes and how sheep get them?

A: The presence of chronic infections is one of the most frustrating and costly problems for goat and sheep producers regardless of the farm operation size. Caseous lymphadenitis (CLA) is an infection, caused by *Corynebacterium pseudotuberculosis* bacteria that can cause the lymph nodes and the internal organs to form abscesses that have a soft, cheese-like appearance. The disease is also referred to as “cheesy gland.”

CLA can be found in any size flock of sheep or goats around the world; it impacts livestock owners through economic losses resulting from an animal’s inability to gain weight, poor breeding efficiency, lost wool and milk production, and possibly death of the animal. Invariably, it seems that many times your best and most valuable or favorite animal becomes infected.

The culprit bacteria can be transferred by using equipment—such as for shearing and grooming on multiple animals, through feed, and by handlers who may not frequently wash their hands and who carry traces of the abscess from sick to well animals. It is also spread by poorly maintained working corrals, chutes, handling devices, protruding nails and other metallic objects that can cause superficial injury to a sheep or goat. It can also be found in soil and manure contaminated with the purulent (pus) drainage. The cheesy pus carries large amounts of bacteria that can survive for months in hay, shavings and soil.

Infection is typically through contact by *c. pseudotuberculosis* on mucous membranes such as those that line the nose or mouth, by oral ingestion, or via penetrating superficial skin wounds of ruptured abscesses from which infected carriers then expose the entire flock. The infection can be introduced into a healthy flock by purchasing an apparently healthy animal that is a carrier—one who does not show outward signs of infection. The cycle of infection then perpetuates by animals sharing contaminated pastures or shearing equipment.

Monitoring for signs of sickness and disease is very important. You should be aware that the animal may not display any signs of illness at all. The early clinical signs of caseous lymphadenitis can be vague but may include following: high fevers (temperatures greater than 103.5 degrees F), anorexia (demonstrating poor appetite) or weight loss, and cellulitis, which is noted by swelling and edema at the site of infection. Some CLA infections occur internally (in the trachea or lungs, for example) and cannot be visually diagnosed.

Once the animal has been infected, a slowly enlarging localized abscess may form at the site of infection. The bacteria may spread via the bloodstream or lymphatic system to regional lymph nodes or internal organs such as the lungs, liver and kidneys, and form abscesses. External lymph node swelling on range sheep occurs primarily at the prescapular (shoulder) area and the prefemoral region (where the groin area adjoins the back leg), and often results from using the same shearing equipment from animal to animal. Housed sheep and goats frequently develop abscesses around the head and neck from contaminated feed and feeders. Once the lymph node enlarges and breaks open, a thick, greenish-yellow or white purulent drainage is seen, often setting up the conditions for a chronic, recurring infection not only in that animal but possibly spreading to the entire flock. The diagnosis of CLA by your veterinarian is usually based on clinical signs and by taking a thorough flock history. In a flock with no past history of infection, your vet may insert a needle into the animal’s enlarged lymph node, withdraw a tissue sample and culture the drainage for the presence of bacteria. Isolating the infected animal and quarantining it from the herd, pending results, is recommended. Testing the blood of other animals that do not presently show clinical signs of disease should be discussed with your veterinarian.

Treatment of this disease is seldom rewarding and often not attempted. The offending organism is susceptible to penicillin; however, due to the thick nature of abscess formation, penetration by antibiotics is difficult and will not completely eliminate the disease from the infected animal. Managing CLA is best achieved by isolating infected animals, by lancing abscesses before they rupture, or by making the decision to cull those animals suffering from recurrent disease and weight loss. Animals considered too valuable to sell need specialized veterinary attention. Young and non-infected animals should be isolated from carriers. Finally, you should know that several vaccines developed to help control the incidence and prevalence of CLA might assist in promoting flock health and viability. Consult your veterinarian for further treatment options.

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The best prevention of this disease begins by keeping it off of your farm. Purchase animals only from reliable sources that you know have disease-free flocks, or test animals over six months old to evaluate serum levels for the presence of disease. Quarantine new livestock before allowing them to intermingle with the main flock. Keep feed troughs and equipment free of sharp edges. Remain alert for other objects around the farm that may cause penetrating wound injuries to skin surfaces. When shearing animals, make sure you or your contract shearer disinfect the combs and clippers upon arrival to your farm, and if you're flock is not free of CLA, disinfect them between animals—especially if a ruptured abscess is found.

Should you show and exhibit your sheep or goats at fairs and fiber festivals, be sure your animals are not penned next to other flocks with CLA. Solid-wall pens between flocks is highly recommended while off the farm and participating in these types of events. Further disease prevention strategies and management should be discussed with your local veterinarian.