Recently I had a call from a concerned producer about a goat they had purchased. This goat had developed a cyst in a lymph node as she neared her due date and now they had raised concerns of a possible Caseous lymphadenitis (CL) infection. As producers CL can be a dirty word. We know the disease is out there but we try not to discuss it. So what is CL and why should we care about it?

Caseous lymphadenitis, often known as (CL) is a chronic and highly contagious disease primarily of goats and sheep caused by the bacterium Corynebacterium Pseudotuberculosis. CL is a serious zoonotic infection that will lead to economic losses for the producer through condemnation or trim of infected carcasses or their hides, loss of sales for breeding animals, and increased death loss and cull rates. It is found worldwide and is characterized by the formation of abscesses in or near lymph nodes or even inside the body on organs and internal lymph nodes. (As we discuss CL it is worth noting the external form is considerably more common than the internal form in goats.) Corynebacterium Pseudotuberculosis is a bacterium that is very hardy and can survive harsh environmental conditions making eradication following introduction difficult. Once the bacterium is introduced to a farm it remains on the property primarily through contamination of the environment from active draining lesions. The presence of moisture, organic material or shade can assist in the bacteria’s survival in an area. This unfortunately makes exposure of other goats much easier. Any goat exposed to the bacteria can develop infection but the incubation period is variable (1-3 months) making it hard to identify where the exposure may have occurred. Following exposure and the incubation period, affected animals will start to develop encapsulated abscesses. These abscesses left untreated will ultimately burst sending the bacteria contained within into the environment and exposing additional livestock. So how can producers manage or prevent such a disease? There are three different effective approaches; prevention, treatment, and culling.

* Prevention: Preventative measures are always valuable even if a herd has a known issue.
	+ Blood Testing: Each producer should start with blood testing all new animals prior to purchase. Doing so can help prevent the purchase of CL positive animals and substantially reduce the risks to the purchaser.
	+ Vaccination: There are multiple approved CL vaccines available to producers. Vaccination will not cure a CL positive animal though. It can help reduce future positives in currently negative stock though. Vaccination coupled with keen observation of known positive stock can in time eradicate the disease from herds and flocks. Vaccination can lead to false positive blood tests. If you plan to test and purchase livestock be sure to ask if a producer vaccinates for the disease.
	+ Disinfect shared equipment and housing. While the risks of transmission may be low in some cases, disinfecting drench guns, syringes, and other shared equipment should always be a priority. Although external abscesses are more common, internal abscesses in goats are not impossible. When an internal abscess is involved, the bacteria can be spread through nasal secretions if the abscess is in the lungs. Additionally, disinfect any locations where purulent material from abscesses may have gotten into the environment
* Treatment: When prevalence of disease or value of animal makes prevention alone insufficient, producers must take a treatment approach.
	+ Quarantine: All animals with abscesses should be quarantined away from the herd immediately.
	+ Monitoring and handling: Once the animal is in quarantine all abscesses should be closely monitored. Abscesses will increase in size, lose hair, and ultimately burst. No abscess should be left to burst on its own!
	+ Lancing and treatment: When an abscess starts to lose hair immediate treatment is necessary by a vet or a well versed producer. This disease is zoonotic and therefore can be spread to persons if handled incorrectly. Personal Protective Equipment is a necessity. Using a scalpel, the abscess must be opened and all puss carefully drained and collected. Once the puss is drained the abscess should be thoroughly flushed with iodine and the area surrounding it carefully cleaned. The collected puss should always be tested to confirm CL infection and then destroyed to prevent accidental exposure to other livestock or persons. The now opened and thoroughly cleaned wound should remain open and allowed to drain naturally.
	+ Reintroduction to the general population: Only after the wound has completely healed should positive goats be reintroduced into the herd. Introduction sooner can lead to other animals becoming exposed to the disease and further infections.
* Culling: Used as a guaranteed method of eliminating the disease. Culling may be a very effective management approach in the following examples.
	+ When a singular animal is affected in a herd previously considered free of the disease; culling the affected animal is often the simplest approach.
	+ When a known positive animal repeatedly throws new abscesses reducing their productive ability.
	+ When the animal has minimal economic worth and the costs of treatment or the risks of further exposure are high.
	+ When other management approaches have failed and additional new cases are continuing to rise.

Keeping a clean herd can be difficult, especially if you are purchasing animals from other farms. It is important however that each producer work diligently to eradicate and control diseases like Caseous Lymphadenitis not only for their bottom lines but also for the safety of the industry as a whole. It may be difficult at times to manage but the disease is one worth fighting against. If your herd has a problem or you want to prepare preventatively, take time to set up a management plan with your veterinarian today. If we all work together in this industry, we can cohesively improve our herds and the value of our end products.