

"A Sheep That Goes Down Is as Good as Dead"

Hypocalcemia Versus Pregnancy Toxemia in Sheep

—Ulf Kintzel

Towards the end of pregnancy, a ewe may go down and will be unable to get back up. How many times have you heard when a sheep is down, it will die? If I were to say I heard it countless times, I may exaggerate only a bit. If you are in the sheep business for more than two days, I am sure you have heard it, too. However, it doesn't have to be that way.

A pregnant ewe just weeks or less from giving birth going down and being unable to get back up is often down for one of two reasons: it is either hypocalcemia (also known as milk fever) or pregnancy toxemia (also known as twin lamb disease or ketosis). Hypocalcemia/milk fever is an inability to mobilize calcium from the bones fast enough or a lack of calcium in the feed and thus the muscles don't function properly. The ewe is likely to go down, often showing occasional muscle tremors and trembling. A stiff and uncoordinated gait may also be observed before the ewe goes down. On the other hand, pregnancy toxemia occurs when a lack of nutrition leads to rapidly dropping blood glucose (sugar) levels. Such a ewe may appear "off" in her behavior, stop eating, separate herself from the flock, and eventually go down. She may also just have tremors like a sheep with hypocalcemia before she goes down.



Calcium Gluconate (right) is the treatment for milk fever, propylene glycol (left) is a drench against twin lamb disease.

That said, since not all affected ewes show all possible symptoms of either condition and may only show some of them, the symptoms that are actually shown are often strikingly similar. How can you distinguish between the two at that stage? It is likely you cannot. I certainly can't, at least not prior to treatment. So, call a vet and let him or her tell you what it is! Oh wait, I forgot. Vets, who know a thing or two about sheep, are in short supply in many parts of the country. Some will tell you that their educational focus in college was on cats and dogs and perhaps other pets but not on large animals. Besides, time is of the essence. The longer you wait, the less likely it becomes that the ewe will get back up. If she won't get back up, she is indeed going to die. For treatment to be successful, it is necessary to be given the same day the ewe goes down, ideally within hours or even minutes. Tests can possibly give a conclusive answer, but then again there is the time issue and now in addition a cost issue as well.

The answer to the dilemma of not knowing which of the two conditions it might be is a simple one: you treat for both. Treatments for these conditions are rather simple and fairly inexpensive. Treatments for both don't interfere with each other and are in fact complementary to each other. Both conditions can even happen simultaneously.

Hypocalcemia is treated with calcium (calcium gluconate or calcium borogluconate). Calcium gluconate

Photos by Author



can be purchased from many sources that sell large animal supplies, quite possibly including from your local farm store. It comes in a 500 ml bottle and is very inexpensive. It is supposed to be given IV (intravenously) but in my view that needs tremendous expertise. I give it sq (subcutaneously, meaning under the skin). Giving meds sq is for dummies (like me). It is easy. Meds that are labeled to be given IV or IM (intramuscular, meaning in the muscle) can always be given sq but not necessarily the other way around!

I give about 50 to 60 ml (or cc, same thing) of calcium gluconate under the skin along the rib cage. I have a 60 ml syringe on hand just for that purpose. I often divide the injection in two because 60 cc is a lot for a sheep to receive in one spot.

Pregnancy toxemia is treated with propylene glycol, also available at farm stores and sold without prescription. This medication will be given orally as a drench, twice daily until a few days after the ewe has lambed.

How do you know in the end if it was hypocalcemia or pregnancy toxemia? Sheep with hypocalcemia that are treated with calcium gluconate very often (but not always) show rapid recovery after just one or perhaps two treatments. Treatment for pregnancy toxemia usually does not show such rapid success. However, in the end you would not know with absolute certainty which one it was. Turn on two light switches at the same time and tell me which one turned on the light. You cannot. But time is of crucial essence when either condition occurs. Saving the animal seems to me a greater priority than knowing with absolute certainty what condition it was.

How do I know this? Some of it is my experience. However, I want to give credit where credit is due: I have a friend in Germany who is a vet and is specialized in infectious diseases in small ruminants (sheep and goats). He is old enough to be experienced and yet young enough to be very ambitious. Today's technology makes it possible that I can take pictures or a video with my cell phone and send it to him via WhatsApp. Yes, I am that lucky!

This article was triggered by a number of sheep having these symptoms at my farm shortly before lambing. In hindsight, it was more likely to be hypocalcemia than pregnancy toxemia. The rapid improvement in most sheep after giving calcium gluconate just once or twice

suggests that. Which leads me to the article I wrote a while ago for *Farming Magazine* about the mineral mix I use. I would like to amend it: I have added some feed grade calcium to my mineral mix. Likewise, just before lambing, I use some general-purpose minerals or sheep minerals and mix it in with my trace mineral salt and salt. These minerals contain a small amount of dried distillers' grains and molasses to increase consumption. While this is one of the reasons I discontinued using these minerals in the first place, this luxury consumption, consuming far more of their mineral mix than usual, is for a brief period of time, exactly what is needed during the last trimester of pregnancy. These minerals also contain Vitamin D, which is essential for calcium metabolism. In summary, I find it prudent to have some source of calcium in the mineral mix, at least during the last few weeks of pregnancy when the need for calcium is greatly enhanced due to the rapidly growing lambs in the womb.

Lastly, as a frequent receiver of these calls of a sheep being down or sick for these or many other reasons, I want to stress the importance of establishing a business relationship with a vet *prior* to something happening. When I get these calls or e-mails, asking for advice, my answer is always the same: "Call a vet immediately! I am not a vet, and I won't give advice, especially not with the animal unseen and having to trust your likely incomplete description of the situation."

My advice to contact a vet is often met with resistance for one of two reasons: the person calling either doesn't want to pay for a vet or doesn't know one. I can't help you with the former reason, but the latter reason is easily remedied. Just look for a vet in your area and see if he or she has some expertise with sheep. Veterinarians are likely going to tell you when sheep are not their expertise because they would not want you to call with a sheep emergency. And if that is the case, keep looking for a vet *before* your next sheep emergency occurs. 🐑

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This ewe went down but got back up a day later after three rounds of treatments with calcium gluconate and propylene glycol.