

Calving Tips and Tricks

Dr. Jacques Van Zyl

Calving season is upon us, with many producers already having enjoyed the brisk winter air at 2:00 a.m. while pulling a calf. Most producers are well versed in the procedure, but a brief refresher can be beneficial.

Calving is initiated when the stress hormone, cortisol, is released from the calf inside the uterus. One of the signals for cortisol production by the calf is the pressure it's feeling inside the cow's uterus. When the fetus reaches a size where the placenta can no longer supply enough nutrients, and the pressure exceeds a certain threshold, it secretes cortisol which initiates a long cascade of events, eventually leading to the expulsion of the calf (if all goes according to plan). The whole process of parturition (the action of giving birth) is broken into 3 different stages:

Stage 1: Dilation of the cervix which ends with the breaking of the water bag. When a cow or heifer is in stage 1, they typically appear restless, have a decreased appetite, separate from the rest of the group, and swish their tail. Stage 1 typically lasts between 2-6 hours.

Stage 2: This is what we typically think of as active labor. It involves forceful uterine contractions that end with the expulsion of the fetus. This stage is more easily detectable due to the forceful abdominal contractions. Typically, stage 2 lasts between 30-60 minutes if everything proceeds normally.

Stage 3: The last stage of parturition is the passage of the afterbirth (placenta). These uterine contractions are milder than those noted in stage 2. Failing to pass the afterbirth within 24 hours post calving is considered a retained placenta.

Unfortunately, Murphy's Law tells us that if something can go wrong, it will. The term dystocia is broadly defined as difficulty during labor. Unfortunately, problems can arise at any of the 3 stages of giving birth. Failure of the cervix to dilate can halt the progression of stage 1. Malpresentations, torsions, or calves that are too large to fit through the pelvic canal can cause issues in stage 2. Retained placentas or prolapses can plague stage 3.

If your farm is having problems this season, the first step in identifying what the problems are is accurate record keeping. This will allow you to identify where the problems are arising and compare to previous calving seasons. Having accurate data on your herd's dystocia rate, stillbirth rate, and problem cattle will help you, and your veterinarian, make management decisions for future years.

When last investigated, Ontario's median herd dystocia rate was 5.8%, with the median stillbirth rate around 2.8%. Stillbirths are classified as calves born dead or those that die during the first 24 hours of life. When looking at the factors that come into play, some are intuitive. The size of the calf is a very important determinant in whether dystocia will

occur. Even though larger breed cattle have larger pelvic canals, their pelvic size fails to compensate for the larger calf size. Other factors associated with dystocia include if they are primiparous (first calver's), if it's a bull calf (tend to be larger) and whether the cow has previously required calving assistance. Once calving assistance is required, it greatly increases the probability that it will be required for future calving's as well. Interestingly, maintaining heifers in separate groups from cows for longer periods prior to calving, lowers the rate of assistance that is required. This is thought to be due to better heifer nutrition and less competition with cows.

During your calving season, knowing when to intervene or call a veterinarian can influence the outcome. The longer the dystocia goes on, the greater the chance of mortality for the calf. An initial examination of the animal can help determine if assistance will be needed sooner. When performing an examination, ensure that you wear clean rectal sleeves with lots of lubrication. Consider the different stages of labor and potential problems that can arise at each stage. Check to see if the cervix has dilated. Has the bag ruptured? Does the calf feel like it's in an appropriate position? Can you see feet? How large is the calf? Is the calf alive? Can you feel twins?

If everything appears normal, we want to see progression every 30 minutes. If you identify a problem, early intervention will lead to the best outcome. If you are unsure of how to proceed, or you run into trouble, it is always best to call your veterinarian for assistance. Keep in mind that your veterinarian may be an hour or more away at another call, making it more important to detect as early as possible if assistance will be needed. It was previously thought that administering oxytocin could help with uterine contractions to push the calf out. However, oxytocin is not always beneficial because the most common cause of dystocia's are that the calf is too large to fit through the birth canal, or there is a malpresentation, in which case stronger contractions won't help the situation.

If you find that you need to manipulate the calf's limb, cupping the hoof with your hand can help prevent tearing of the uterus. Gentle manipulation is a must. If you believe the calf will fit through the pelvic canal, we want to use the rule of 3. This means we must have 3 things before we begin pulling: both front limbs and the head (if the calf is coming nose first); or, both hindlimbs and a tail (if the calf is backwards).

A cow can exert around 75kg of force when calving naturally. Two people can apply approximately 150kg of force and a calf jack can apply upwards of 400kgs of force. Care must be taken to identify whether the calf will fit through the pelvic canal, as larger calf size has been associated with increased risk of limb fractures with assisted delivery, and can also predispose to prolapses. Use gravity to your advantage by delivering the calf with the cow standing (if possible) and pulling in a downward arc. Walking the calf through the birth canal with one shoulder in front of the other is less bulky than if both shoulders pass through at the same time. Lastly, as the calf passes through the canal, rotating 45 to 90 degrees can help prevent the hips locking in the cow's pelvis. Speak to your veterinarian to come up with a protocol to determine if antibiotics and anti-inflammatories should be administered to the cow after calving as it can help with her recovery.

Calving is a very stressful, but rewarding, time for both producers and their animals. Work with your veterinarian to help develop a protocol that can guide you when problems arise. Be sure to clearly identify when it's best to call for assistance. With so many factors that are out of our control, being prepared can help your calving season run a little more smoothly.