



# A Careful Eye

Knowing when and how to check a cow during labor is crucial.

by Heather Smith Thomas

Most cows and heifers progress normally through the three stages of labor — early labor, active labor with abdominal straining, and then expulsion of the placenta after delivery of the calf. Uterine contractions in early labor get the calf aimed toward the birth canal, the cervix dilates and the calf starts through. The water sac and the calf entering the birth canal stimulates abdominal straining — which is the hallmark of second stage labor — to push the calf out.

Sometimes, however, the calf does not start into the birth canal, and the cow does not begin hard straining. This may be confused with the first stage labor. If she is not checked and no intervention is made, the cow and calf's lives are at risk. Knowing when to check a cow and watching her to determine how long she has been in labor is crucial.

## Stages of labor

Bethany Funnell, clinical assistant professor at Purdue University, says it's important to make sure the cow or heifer is actually in labor. She's had clients who thought a cow was in labor because the cow was uncomfortable, had her tail up and was kicking at her belly. Abdominal discomfort can be due to several other things, or simply the fetus shifting position.

"The producer thinks the cow is in labor, gets her in and checks her, and she's not dilated," Funnell explains. "Then the producer panics. Thus it's important to make sure the cow is in labor and the signs you are seeing are not from some other cause of discomfort."

Funnell says she is a big proponent of early intervention, within reason. If a cow is acting like she's in labor, Funnell says she should make progress every 15 minutes. A heifer should make progress every 30 minutes. Progress means she is actually starting to dilate, or she is actually starting to move the fetus into the birth canal. Funnell says these things are difficult to assess externally.

"You have to clean the cow's hind end, put on a sleeve and reach into the birth canal to assess the situation," she advises. "You may have to repeat the same procedure 30 minutes later. Then you have a better handle on whether progress is being made."

If the cow or heifer is acting uncomfortable, and you've seen fluid expelled or membranes hanging out, within an hour there should be feet showing. In another hour the calf should be born. "If she is not making that kind of progress, you need to intervene and assist," Funnell advises.

If you see feet, it's easier to assess progress, but when everything is still internal, it can be difficult. She says there is no visible way to assess early progress, but these situations require early intervention or the calf may be lost. Eventually the placenta is compromised, and the calf dies.



## Normal stages of labor

**Stage I – Early labor** — preparatory stage lasting one to four hours when the cervix dilates and uterine contractions move the fetus toward the birth canal.

**Stage II – Active labor** — abdominal straining lasting 30 minutes to two hours resulting in expulsion of the calf.

**Stage III – Expulsion of the placenta** after delivery of the calf.

Cody Creelman, Veterinary Agri-Health Services, Airdrie, Alberta, says the first thing he tells producers is to be familiar with the stages of labor, so they know what should happen with a normal birth. “In stage one the cow or heifer is restless, and we may see softening of the pelvic ligament,” he notes. “She usually separates herself from the herd and goes into nesting mode, circling, seeking a good place to lie down and calve.”

She may pace the fence if she’s confined. He says she may get up and down a lot or just seem more alert than usual. “Another clue that an old cowboy taught me is to look for the tail kink,” Creelman advises. “The tail usually drops straight down, but when the cow is in early labor the tail is out a little and kinked off to the side a bit.”

He says early labor usually lasts one to four hours, but it’s still normal for it to last up to 24 hours — or longer on first calving heifers.

Stage two is when the calf is entering the cow’s pelvis. He says she’s had some uterine contractions and weak abdominal cramping up to that point, but once the calf starts into the pelvis, strong abdominal contractions begin. The water sac is usually seen emerging from the vulva or the water begins rushing out as it breaks.

This stage, active labor, usually lasts between 30 minutes to two hours, depending on the cow and whether she is upset by moving her into a calving pen or into the barn. He says stage 2 ends with expulsion of the calf.

“The general rule of thumb when monitoring the calving cow is to look for progression every hour,” he advises. “If a heifer or cow is actively straining for more than one hour with no progress, you need to check her,” he says. If it’s an older cow that usually calves quickly and nothing is happening, you definitely should check her. This is also true if she’s taking more time than usual in early labor — never progressing into active labor. This can be an indication something is wrong.

“On the other hand, the cow may be taking her full two hours,” he notes. “If you are seeing progress — the water bag, then the feet, then the nose — you can give her a little more time.”

However, if only the water bag is visible and she stalls, it is time to check. On rare occasion, a producer may see placental tissue coming out with no feet, which means the calf is detaching and can’t live much longer. This is an emergency and the cow needs restrained, so the producer can check to see what’s happening and deliver the calf.

“There are some other odd things that might happen, such as the calf coming breech — just a tail in the birth canal — or we see the calf’s intestines coming out of the cow, or abnormal hemorrhaging from the cow,” Creelman explains. “If we see something unusual we need to check her immediately.”

### Checking the cow

It’s important to be very clean. Creelman says to scrub her perineal area, and your arms. Additionally, he says to go in clean using long plastic gloves, and apply sterile lube.

“If you decide you need to manipulate the calf to correct a problem, the rule of thumb is to take no longer than 30 minutes,” he advises. “If you’ve attempted a correction for more than 30 minutes, it’s time to call your veterinarian or your neighbor for assistance.”

If nothing enters the birth canal because the calf is breech or there is a uterine torsion, the cow may not begin abdominal straining. She may seem as if she is still in early labor, so it is common to keep waiting for something to happen. However, if she goes too long, the placenta will detach from the uterus causing problems.

In many cases, the producer knows the cow’s history and knows that she’s taking an abnormally long time. It’s better to check too soon than to wait too long and have a dead calf.

“There is no harm in checking, as long as we handle the cow appropriately with good facilities to restrain her, and going in clean,” Creelman

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fully for help later and there is more vaginal swelling. The swelling narrows the birth canal, which makes everything more difficult. The chance of having a live calf decreases for every hour the proper interventions aren’t made. The cervix may be closing down again if the calf is breech, or some other problem may be present, that has prevented it from entering the birth canal.

“If you’ve been manipulating the calf, the sac around the calf has been broken for too long, and the calf gets dry,” Creelman explains. “There’s no lubrication left because all the fluids have now been expelled and the uterus starts contracting down around that calf. It becomes more difficult to manipulate the calf to correct a problem. I have to make a decision whether to pump the uterus full of lubrication and try to extract the calf vaginally, or go ahead with a C-section. I don’t want to put fluid in there if I have to do a C-section. Filling the uterus with lube — especially J-lube — can cause a lot of problems if I have to do surgery.” If any of that lube leaks out into the abdomen during the surgery, it can be fatal to the cow.

### Is the calf too large?

Sometimes the calf isn’t progressing through the birth canal because it’s too large. In this situation, the cow is checked to determine whether the calf is too large to be pulled. If so, a veterinarian needs to be called in case a C-section is required.

“There are two things I go by to determine if the calf is too large for vaginal delivery,” he explains. “One clue is the feet crossing. If it’s a normal presentation where the calf is in diving position, if those legs are crossing over each other, it’s usually

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because the shoulders and elbows are too large coming through the pelvis. When I see those legs crossed, very rarely will I be able to do a forced extraction through the birth canal.”

Creelman says his other rule of thumb, when he reaches in to assess the situation, is to make sure there’s room over the top of the calf’s head. He says if you put your hand over the head and can’t get your fingers between the calf’s forehead and the cow’s pelvis, he’s too large to come through.

“If your hand will fit and you think the pelvic area is large enough, but the birth canal is tight, you may need to take a little time stretching it before actually trying to pull the calf,” he explains. In first calf heifers especially, he says there will be some tight rings of connective tissue inside the vulva, and even though the feet may come through, these rings have to stretch a lot more before the head can come through. “It pays to put your arms in there and stretch that tissue before you attach chains to the legs and pull the calf,” he advises.

#### **What am I feeling?**

When the producer checks a cow that’s taking too long and nothing is showing at the vulva, the first thing to do is to try to find two feet, a head or two feet and a tail. “To know if these are front feet or hind feet, do a flexion test,” Creelman explains. “In the front leg, the fetlock and the knee both flex the same direction — both joints bend down. In the hind leg, the fetlock flexes one direction and the hock flexes the opposite direction.”

Sometimes when there are twins, there may be extra legs trying to come into the birth canal or possibly a leg from each calf. Even if there are two front legs, it is important to make sure they belong to the same calf before

chains are attached to start pulling.

With a breech calf, it has to be pushed back enough to have space to manipulate each hind leg very carefully into the birth canal. “We cup a hand over the top of the foot to make sure it doesn’t tear the cow’s uterus as we flex the hock and bring it around,” he notes. “It’s crucial to position the limb at a diagonal, to come through the widest space in the pelvis.” It takes a long arm to reach the feet of a breech calf, if it’s a long-legged calf and the feet are positioned toward the front of the calf.

“As long as you know which legs you have, you can make the decision on what to do and whether you can assist the birth,” he says. If there are two front legs but no head, it is critical to find the head and get it coming into the birth canal. If there are two back legs and it’s not breech, that calf can be pulled backward as long there is enough space for the calf’s hips to come through.

“Reach into the birth canal and try to place your hand over the hips, and also make sure the tail is not pointing forward,” Creelman advises. If the tail is up over the calf’s back, it makes the space just that much smaller and may also injure the cow as the calf is pulled.

Creelman says as long as there is a hand’s thickness width between

the cow’s pelvis and the calf’s hips, the calf should pull out fine. It will usually require the effort of two people or a calf puller to pull a backward calf out quickly enough, so he can start breathing since the umbilical cord will be pinched off or pulled apart as he comes out. His front end can’t be inside the cow for very long, or he will suffocate.

“Sometimes we see calves with fused joints that won’t bend or straighten, and are completely immobile — and you can’t get the legs into the birth canal,” Creelman says. “There are other abnormalities like two-headed calves, or an inside-out calf with intestines on the outside. Sometimes those are extremely difficult to remove vaginally. In many cases, we have to do a fetotomy or a C-section because the calf’s spine is fused backward and there is limited room to move it around.”

Creelman says with these abnormalities, the veterinarian will have tricks for manipulating or extracting those calves. If the producer comes across something uncommon, it’s usually best to have some help. When in doubt, get professional help because the veterinarian probably has more experience on handling these unusual situations. **HW**