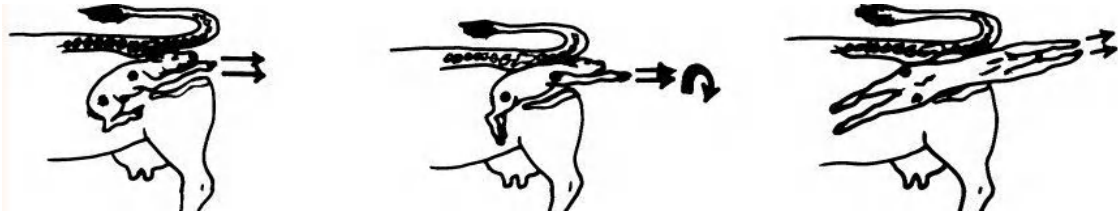
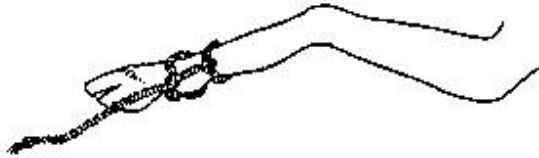


Calving Tips

Delivery of the frontward calf by forced extraction:

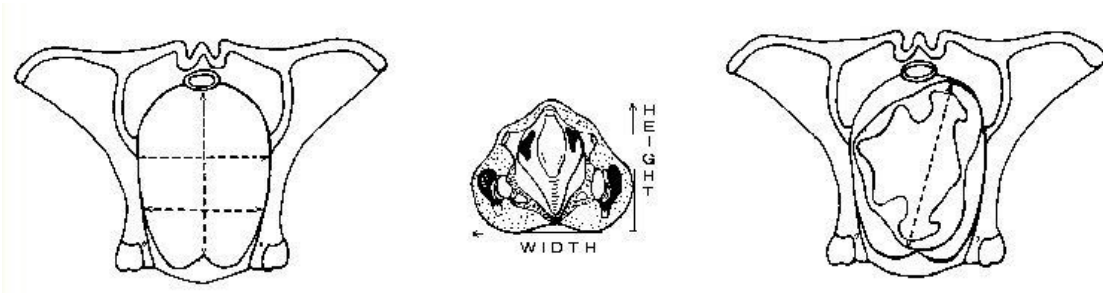


- Must determine if the calf is deliverable or not---90% of producer assisted births are due to a relatively oversized frontward presented calf
- Should have a double hitch on the chains on the front legs, with loops above and below the fetlock. When placing above the fetlock, make sure the loop sits on the bone where it starts decreasing in size---this avoids putting pressure on the growth plate



- Only apply traction when the cow is pushing
- **Method for determining if calf can be delivered:**
 - cow should be down on the **RIGHT** side. This allows the frontward calf to enter the pelvis of the cow relatively straight
 - No more than the **force of one person per leg**, and straight out
 - Usually start with the down leg (the left leg of the calf) which usually enters the pelvis fairly easily
 - Actual test is **if you can get the second shoulder of the calf past the cow's pelvis** ie) if the right leg is one hand's length (about 10 cm) past the cow's vulva
- Once the shoulders and head of the calf are through the pelvis of the cow, delivery by forced extraction is possible
- Apply traction to both front legs until the pelvis of the calf is about to enter the cow's pelvis
 - in a normal birth, this is the time when the umbilical cord becomes compressed and the cow usually takes a break for a short period of time
 - should stop and allow the calf to breathe at this point—failure to do so, and continuing to pull will not allow the calf to expand its chest and take in oxygen and it may be possible to lose the calf!

- On an oversized calf, this is the point when you should rotate the calf so that the widest part of the calf's pelvis is through the widest diameter of the cow's pelvis
-want to rotate 45-90° to maximize available room in the pelvis



Delivery of a Backwards Calf by Forced Extraction

- The test for delivery of a calf in backwards presentation but normal position and posture is to rotate the fetus 45-90° by crossing the legs before attempting delivery to take advantage of the widest diameter of the cow's pelvis

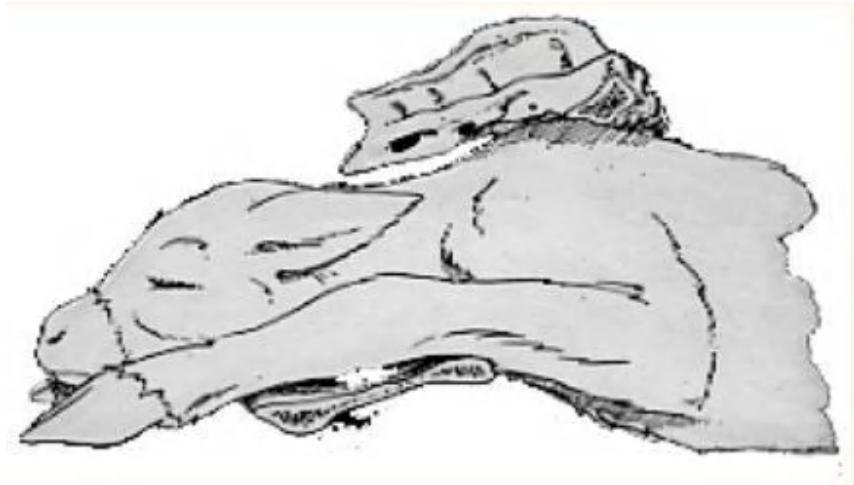


- Direction of pull on the calf is slightly up from a line straight out from the back of the cow
- Test for delivery of a backwards calf is that both hips of the calf can enter the pelvis of the cow with the strength of 2 men pulling
- Once this is accomplished, there is very little time to rotate the fetus to a right side up position (generally 2-3 minutes)
- Time does not become an issue until the calf's tail head and anus emerge from the cow's vulva---at this point, delay should be avoided.

Common Abnormal Presentations

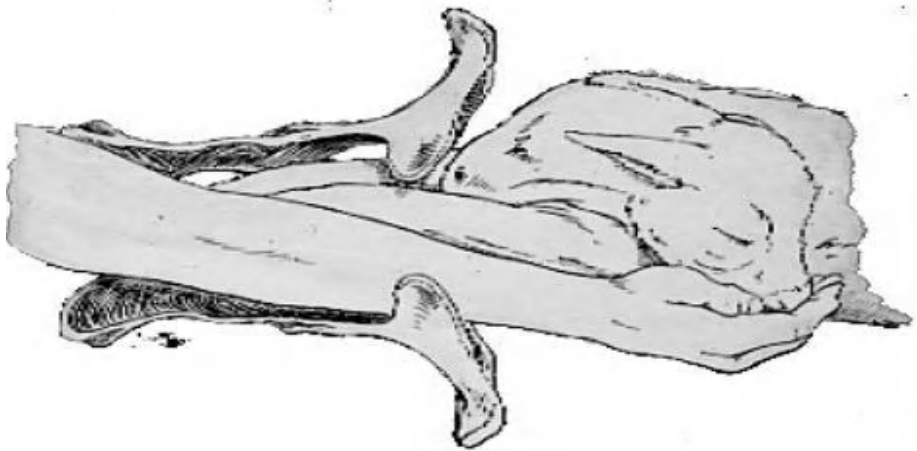
- These are best corrected when the cow is in a standing position
- Some manipulations may be difficult to do with the cow pushing. We can give an epidural, but try to avoid it in case the cow goes down and we need to do a c-section. Something to try is to pass a stomach tube into the cow; this holds the cow's airway open and prevents her from being able to push as strongly. When the malpresentation has been corrected, remove the tube and the cow should be able to push as strong as before.

1. Elbow Lock

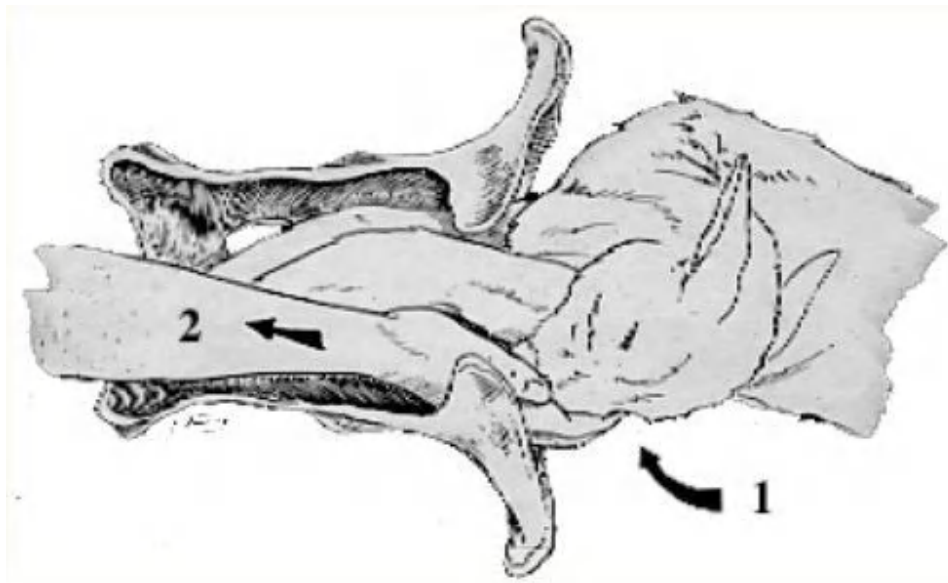


- One or both of the forelimbs are not extended as they come into the pelvic inlet, so the partly flexed elbows lock on the brim of the pelvis and cause an elbow lock
- Corrected by repelling the body of the calf back into the cow while exerting simultaneous traction on the affected limb.

2. Deviation of the Head (“Head Back”)

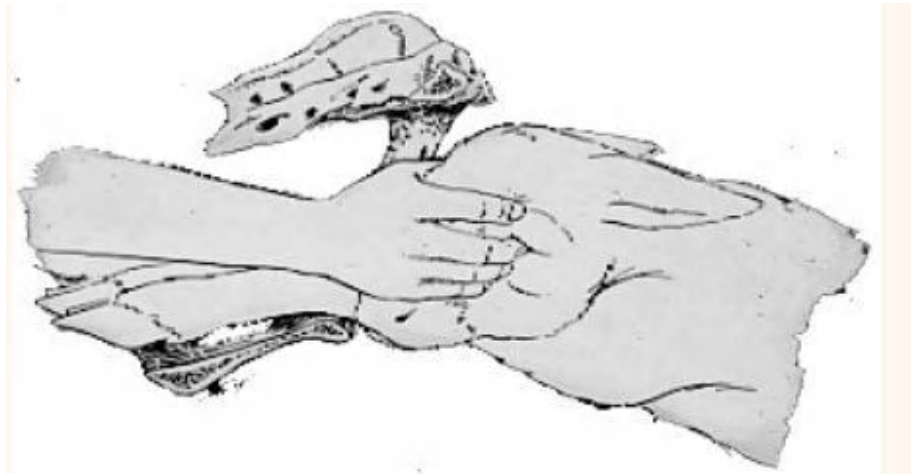


- If the head cannot be felt, do not assume that the calf is coming backwards! Make sure to distinguish between forelimbs and hindlimbs
- If head is back into the right flank of the cow, it will be easier to correct with your left hand (and vice versa)
- Grasp the muzzle, or place the thumb and middle finger in the eye sockets. Lift the head and guide it into the pelvis



- A loop of soft rope or chain placed in the mouth (be careful with a live calf!! Excessive pressure can injure the lower jaw!) or a head snare can be very helpful.
- While pushing the calf back into the cow (place hand on calf's chest between the front legs) apply traction to the calf's head and pull it into the pelvis. This is where the head snare can be very helpful, especially if you can't get 2 hands into the cow to manoeuvre this way!

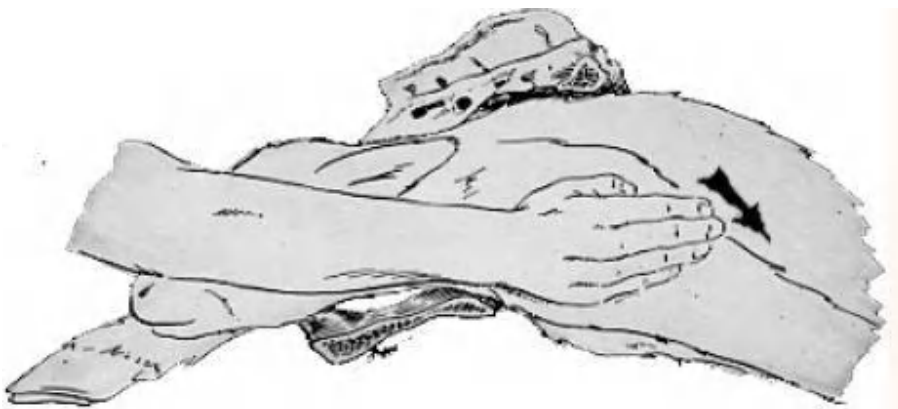
- Sometimes it may be necessary to create even more room for the manipulation of the head into the pelvis, and you may need to push one of the forelimbs back into the cow to create a retained front leg that is flexed at the shoulder. In cases where the head is located down between the front legs, this is necessary to do first, so that you have enough room to bring the head to the side and up into the pelvis



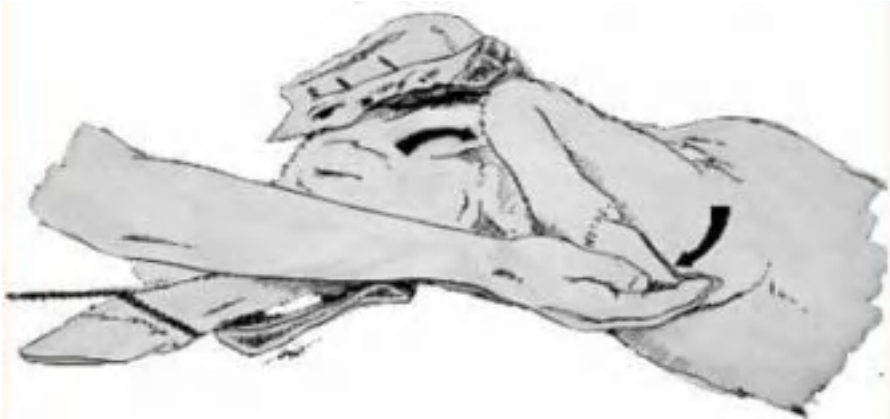
- NOTE: Many of the calves with head deviation/head back, especially between the front legs, are weak or dead before you even start. In addition, many of these calves will still fail the test for delivery even when corrected---quite often the head is back because there was not enough room for it in the pelvis when the cow was pushing!
- Therefore, use good judgment when putting excess effort into trying to correct this mal-presentation—it may end up as a c-section in the end.

3. Retention of One or Both Forelimbs

- The calf may have the head out, but one or both forelimbs are retained.



- If the calf is dead, cut the head off with a knife (if far enough out) or a piece of dehorning wire. This should give you the room you need to bring up the retained leg(s) and pull out the rest of the body.
- If the calf is still alive, secure the head with a chain or head snare around the poll and through the mouth, then lubricate up the head and push it back into the uterus.
- Then, search for the limbs one at a time. If fully retained, grasp the limb just below the knee and pull up until the leg is bent at the knee



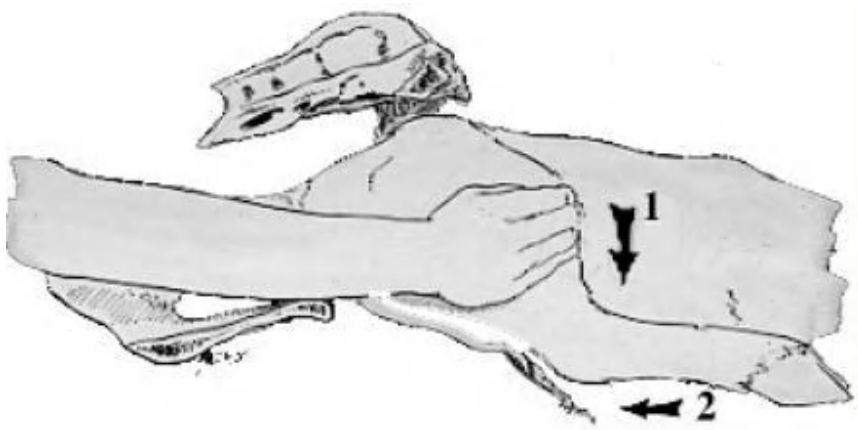
- Once this is accomplished, slip a hand down the limb and grasp the hoof. You should cup the calf's hoof so that you are protecting the wall of the uterus against tears from the foot
- To correct, now you must use opposing forces simultaneously. Repell (push) the knee with one hand in a forward/upward/sideways (outward) direction, and apply traction (pull) on the hoof in a backwards/sideways (inward) direction with the other hand.
- These instructions are for cows large enough to get both hands into. In a smaller cow it may be necessary to use a chain or rope above the fetlock or between the claws of the hoof to manoever into position.
- The other leg, if applicable, is corrected in the same manner.

3. **Breech position (Retained Hindlimbs)**

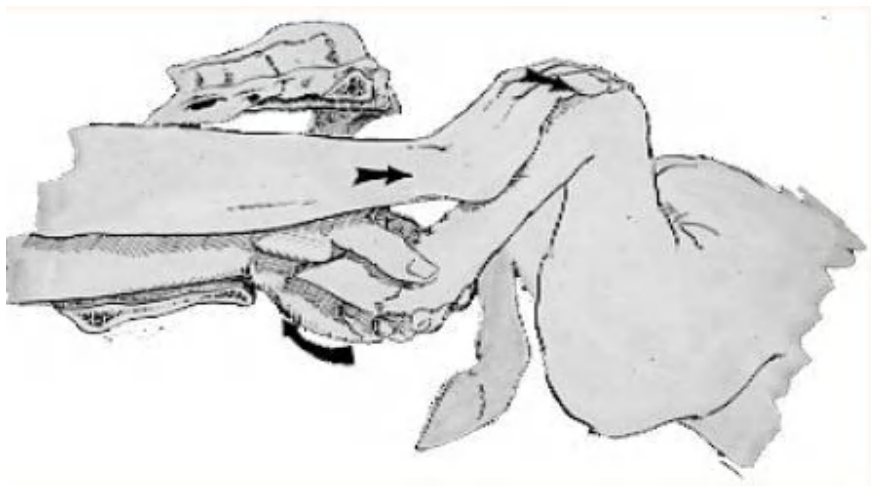
- This is done similar to the retained forelimb position.



- Find the calf's hock and pull it up towards you until it is in the flexed position and the hock is in the pelvis of the cow



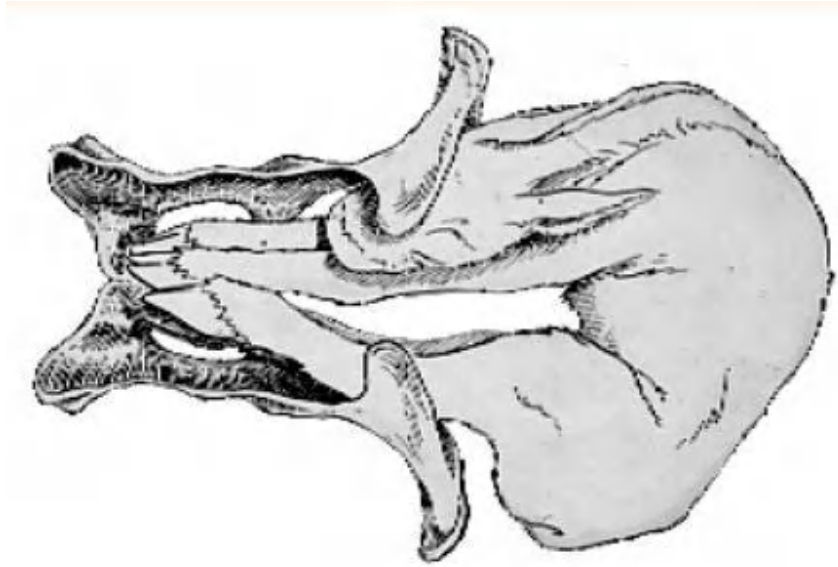
- Slip one hand down to cup the hoof
- Push the hock with one hand in a forward/upward/lateral (sideways/outward) direction, while pulling on the hoof in a medial(inside)/backward direction with the other hand



- Sometimes, the calf has to be pushed back into the uterus before the correction can be made, otherwise there might not be enough room.
- Sometimes, it can be difficult to get both arms into the cow for correction. In these instances, the use of a toilet plunger as a repulsion device against the rump of the calf has worked effectively!

5. Transverse Presentation

- Occasionally, the calf will present with its back against the pelvic opening or with all four limbs extended into the birth canal



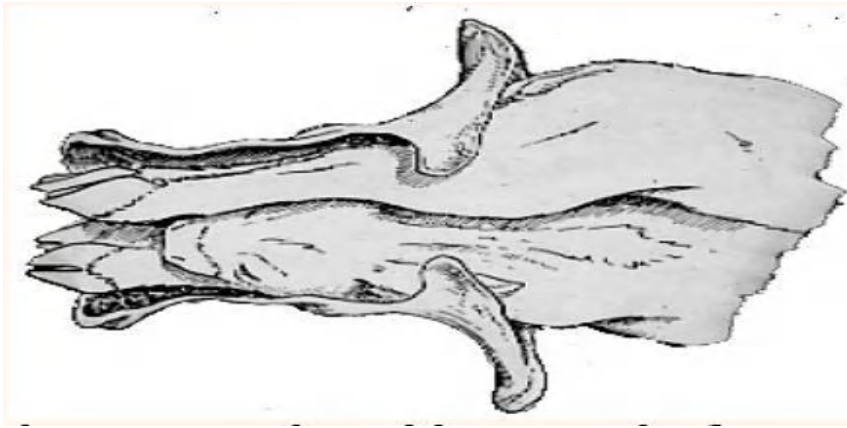
- Determine the hindlimbs from the forelimbs, and if possible deliver the hind limbs first so that you don't have to worry about the head.
- Since the calf is on its side, it's easier to rotate the calf's body by the hind legs than the forelegs
- This requires repulsion of the forelimbs of the calf and usually the trunk of the calf as well. In most instances this is a difficult correction to make, and a c-section may be necessary
- With this presentation, one should always consider the possibility of a schistosomas reflexus (an inside-out calf). Watch for signs like intestines from the calf protruding from the vulva of the cow, and if not sure how to decide, contact your veterinarian



Schistosomus reflexus calf (Inside-out)

6. Twins

- If twins enter the vagina one at a time, there is generally no problem due to smaller size



- However, occasionally twins present together and block the birth canal
- In most cases, one comes forward and the other backwards
- Extract the closest twin first
- If in doubt, first extract the twin presenting the hindlegs, after repelling the other twin back into the uterus

C-Section and Fetotomy

- C-section is the method of choice when dealing with a live calf and want to optimize calf survivability
- In cases where the calf is already dead (and starting to rot), fetotomy is the method of choice for optimal cow survivability
- 5 major indications for c-section or fetotomy decision:
 1. Fetal oversize
 2. Incomplete dilation of the cervix
 3. Irreducible uterine torsion
 4. Fetal deformity or monsters
 5. Uncorrectable abnormal presentation, position or posture of fetus

“It has been my observation that the success of the surgical procedure (c-section) has been more due to the timely decision-making of the producer than to the surgical skills of the veterinarian. Therefore, I recommend you make the decision in a timely fashion for greatest survivability of the calf and the cow.”

***Dr. R.G. Mortimer, MS, DVM
Colorado State University***

Other Calving Tips to Help:

- Use 4-5 gallons of warm water pumped into the uterus to help expand the area you have to work in and this may give you the extra room you need to correct a malpresentation
- Be careful using J-Lube on dystocias: true, it lubricates things and may make it possible to correct a malpresentation, especially if the uterus is dry as what happens when the cow has been calving for a long time. However, recent evidence has raised some concerns that J-lube (and similar products) may cause a severe abdominal infection in cattle (ie if there is a uterine tear or if a c-section becomes necessary) Therefore, if you think that the cow may require a c-section, try to avoid using J-lube in the uterus.
- Putting a stomach tube down the cow's throat (ideally down the windpipe, but into the stomach works almost as well) sometimes help decrease the strength the cow can put into a push. This may help weaken the contractions and allow you to make any corrections necessary in the case of a mal-presentation
- Sometimes a cow's uterus twists, and the calf is unable to be born. You can detect this by feeling the cervix/neck of the uterus spiral down as you are examining the vagina of the cow. You may or may not be able to feel the calf's feet. This presentation usually requires a c-section, but I have managed to correct a few of these by dropping the cow down and rolling her over. Generally, you want to roll her in the direction of the uterine twist.
- It is very important to be able to differentiate front legs from back legs, especially when trying to figure out a twin birth. A general rule is to find the first 2 joints on the leg, the first being the fetlock and the second either being the knee (front leg) or the hock (hind leg)
 - Front leg: the first 2 joints bend in the same directions
 - Hind leg: the first 2 joints bend in opposite directionsIf this is not completely clear, try it out on a newborn calf this spring—it makes sense when you see it and try it!
- When calf is delivered, do not hang it upside down for more than a few seconds!!! This places pressure on the diaphragm, as all the abdominal organs fall down on it. The diaphragm is necessary to expand the lungs and breathe, so by hanging the calf upside down it actually makes it HARDER for the calf to breathe! Instead, place the calf on its side for a few minutes, then sit it up on its chest. Cold water in the ear or a straw up the nose works well for stimulating a calf to breathe (Note: there is actually an acupuncture point that has been shown to stimulate breathing located on the nostrils, so the straw up the nose trick may have more to it than just being annoying to the calf!)

- The most common reason for calf losses in the beef industry is still calving difficulty:
 - The more difficult the calving, the higher the chance of infectious disease (mainly diarrhea or respiratory disease)
 - The more difficult the calving, the harder it is for the calf to maintain its body temperature after calving
 - The more difficult the delivery, there is a decrease in the absorption of antibodies by the calf
 - The more difficult the delivery, there are increased infertility losses in the dam—maternal deaths, treatment costs, diminished productivity of the dam