

CALVING COWS/ HEIFERS

1. PURPOSE

To facilitate comfort and ease of calving and to identify and address any complications which may arise.

2. RESPONSIBILITY

- 2.1 Trained and qualified personnel
- 2.2 Herd Manger
- 2.3 Veterinarian

3. MATERIALS

- 3.1 Halter
- 3.2 Chains and handles.
- 3.3 Pail with Endure® and warm water.
- 3.4 Lubricating gel
- 3.5 Insemination gloves
- 3.6 Paper towel
- 3.7 Calf puller
- 3.8 Iodine

4. GENERAL

- 4.1 3 general stages of Calving:

Stage and Time	Events
I – Preparatory (2 to 6 hours)	Calf rotates to upright position. Uterine contraction begins (15-minute intervals) Water sac expelled
II – Delivery (30 minutes – 4 hours)	Cow usually lying down. Fetus enters birth canal. Uterine contractions: (2-minute intervals) Expulsion and delivery of the calf.
III – Cleaning (2 to 8 hours)	Expulsion of the fetal membrane or placenta

- 4.2 Normal delivery should be completed within 2 to 3 hours after the water sac appears in the heifers, and 1 to 2 hours in cow/heifers. If prolonged, the calf may be born dead or weak.
- 4.3 Most calf fatalities are caused by injuries or suffocation resulting from difficult or delayed parturition. (See Table 2: Factors Contributing to Calving Problems).
- 4.4 Any abnormal fetal positions must be corrected in the early stages of delivery.
- 4.5 Heifers and cows with small pelvic areas will likely need assistance.
- 4.6 If a cow has had more than one calf, the calving time may be considerably shorter.

- 4.7 Abnormal presentation requires the assistance of the veterinarian or an experienced herdsman to position the fetus correctly prior to delivery. If unable to position to allow for vaginal delivery, a veterinarian should be consulted.

5. PROCEDURE

- 5.1 Ensure the preparation of equipment in case of assisted delivery is required. (Refer to SOP [DC-405: Pre-Partum Preparation of Dairy Cattle](#))
- 5.1.1 Prepare pulling chains and handles in a pail of warm water and Endure®.
- 5.1.2 Prepare lubricating gel, gloves, and insemination gloves in a plastic caddy.
- 5.1.3 Leave materials near the box stall.
- 5.2 The amniotic sack or water bag should appear first followed by BOTH front hooves then the nose and the head on top of the front legs (Fig. 1). At this point it is difficult to tell if it is the front or back legs showing.
- 5.3 DO NOT assume the 2 legs you see are the front legs, when they first appear they are very similar to the hind hooves. Notify a technician if you are uncertain of the presentation.
- 5.4 Notify a technician if the water has broken and record the time.
- 5.5 If a cow or heifer tries to push the calf out lying down with her rear end pressed against the wall:
- 5.5.1 Put a halter on and get her up and moved to a position where she has room behind her.
- 5.5.2 To avoid her repeating the same thing it may be necessary to tie the halter (Using a quick-release knot) to a low position in the stall, allowing her to lie or fall without restraint.
- 5.5.3 **NEVER** leave a tethered animal unattended.
- 5.6 If the presentation is normal, allow the cow/ heifer to deliver on her own.
- 5.7 If unsure of the presentation, confirm with experienced personnel, or technician.
- 5.8 If the presentation is normal but the cow/heifer is having trouble after pushing for more than half an hour the calf may need to be pulled. (Refer to Sections 5.9 and 5.10)

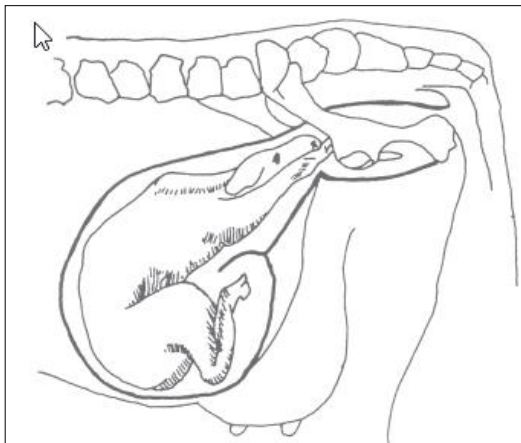


FIGURE 1: Normal position of the calf just prior to

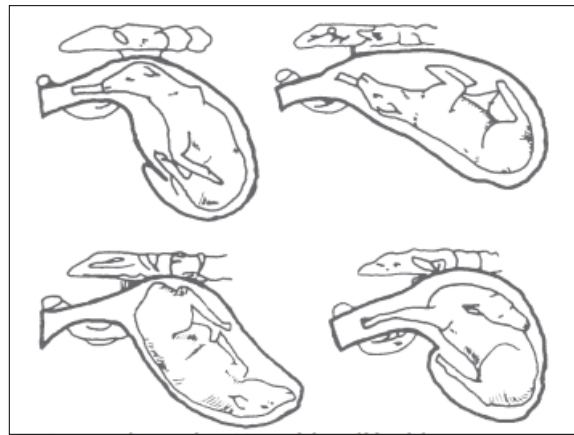


FIGURE 2: Abnormal positions of the calf for delivery

5.9 CALVING ASSISTANCE:

- 5.9.1 If the calf is in an abnormal position, **IMMEDIATELY** inform a technician or if unable to reach a technician, the Dairy Manager. If unavailable, contact the Herd Veterinarian.
- 5.9.2 If no progress has been made in the delivery after giving assistance for 30 minutes, contact the veterinarian.

*** IMPORTANT:**

Correct any abnormal fetal positions in the early stages of delivery. (Figure 2 and Table 2)

NEVER pull a calf unless in Normal presentation or backwards with both hind legs coming out.

Give assistance during delivery or call the herd veterinarian when needed. Do not wait more than 30 minutes after labor begins to act.

5.9.3 Don clean lubricated gloves.

5.9.4 Hold the calf's legs and pull hard when the dam is pushing.

5.9.5 Add copious amounts of lubricant around the vulva and in the vagina.

5.9.6 Keep hold of the calf while the dam relaxes between contractions.' DO NOT PULL BETWEEN CONTRACTION AS IT CAN SEVERELY HARM THE COW.

5.9.7 Attach the pulling chains to the front legs of the calf:

5.9.7.1 Place the loop of each chain around each leg.

5.9.7.2 Slide the chains 2 to 3 inches above the ankle joints and dew claws.

5.9.7.3 Place a second loop below the ankle joint (Figure 3).

5.9.7.4 Make sure the chain pulls from either the top of the leg over the fetlocks or the bottom of the leg (dew claw side). Be careful to avoid the dewclaws.

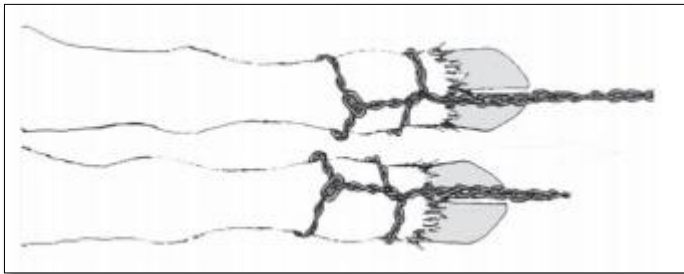


FIGURE 3: Proper attachment of the pulling chains

5.9.8 Lubricate the vagina.

5.9.9 If arm strength is not enough to pull the calf out, then a calf puller may be required. Do not operate a calf puller without consulting a technician or the herd veterinarian as improper use may severely harm the cow and calf.

5.9.9.1 Attach the obstetrical handles and apply gradual traction, making sure the chains have not slipped.

5.9.9.2 Maintain the butt plate of the puller just below the vulva opening and the jack end of the puller at or below the level of the calf's hocks.

5.9.10 If all the guidelines to determine if the calf can pass through the pelvic canal are met, continue to deliver the head and shoulders.

5.9.11 Once the head and shoulders are exposed, pull the calf downward at a 45-degree angle.

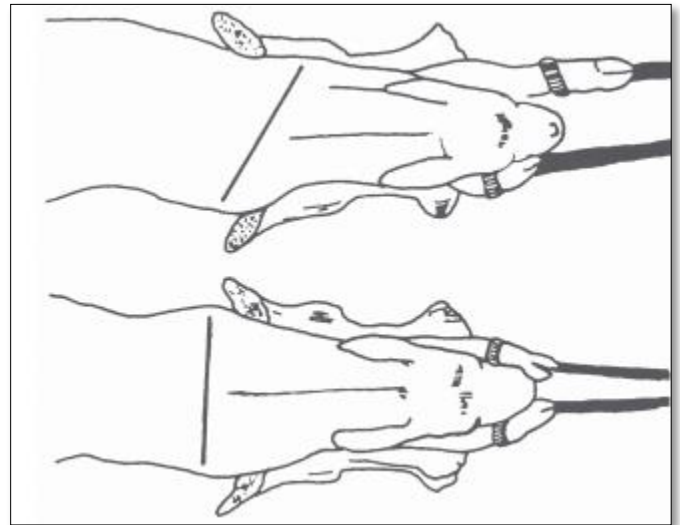


FIGURE 4: "Walking out the shoulders"

5.10 Assuming labor has continued for 30 minutes with no progress, refer to [Table 1: Signs of Dystocia](#) and [Table 2: Factors Causing Dystocia](#). Make all decisions based on an actual pelvic examination.

5.10.1 Restrain the cow/ heifer with a halter if she is standing and nervous.

5.10.2 Wash the vulva and rectum with diluted Endure and paper towel.

5.10.3 Don and lubricate insemination gloves.

5.10.4 Lubricate the vagina.

5.10.5 Examine the cervix for dilation:

5.10.5.1 Admission of 2 to 3 fingers:

5.10.5.1.1 Non-dilation of cervix: Interfering too soon.

5.10.5.1.2 Possible uterine torsion: One must have an idea of how long the cow has been in active labor. If labor has been going on for 2-3 hours without progress, contact the veterinarian.

5.10.5.2 Cervix is 6-7 inches wide: Full dilation.

5.10.6 Check for life of the unborn calf:

5.10.6.1 Pull or pinch the foot to cause movement of the leg.

5.10.6.2 Pinching near the eyes causes movement of the head.

5.10.6.3 Place fingers in the calf's mouth to elicit sucking or movement of the tongue.

5.10.6.4 Absence of vital signs, sloughing of the hair or foul odor may indicate the calf is dead.

5.10.7 Determine the presentation (direction of delivery), position (how the calf is lying), and posture (location of legs, head, and neck) of the fetus (Figures 1 and 2). The normal presentation of the calf is front feet and headfirst and the normal position is backside up.

*** IMPORTANT:**

NEVER pull a calf in any other position or whose head or legs are bent back because the chances of killing the cow and the calf are great.

5.10.7.1 If the position is normal (Fig. 1.) and the placenta has not broken as the calf is coming out, break it by tearing with fingers.

5.10.7.2 If the position is abnormal (Fig.2.), it will be necessary to reposition the calf. Contact the Dairy Manager or Technician for assessment.

5.10.8 Examine the size of the calf relative to the birth canal. (See Table 1: Guidelines to Determine If Calf Can Pass Through the Pelvic Canal).

*** IMPORTANT:**

Forcing a large calf through a small pelvic opening almost invariably results in death of the calf as well as injury, paralysis or even death of the cow.

5.10.8.1 If all three of these guidelines cannot be accomplished, you should be concerned that the calf is too large to successfully pass through the pelvic canal and a caesarean section may be needed. Contact the herd veterinarian.

5.10.8.2 If all the guidelines to determine if the calf can pass through the pelvic canal are met, allow the cow/heifer to deliver on her own.

Table 1: SIGNS OF DYSTOCIA

Bloody discharge - may be signaling an abortion.
Cow/heifer was pushing but has stopped.
Water has broken and she has stopped pushing after ½ an hour and/or there is no sign of the hooves.
One hoof showing or hind hooves showing, both look very similar at this stage.
Pushing for a while with no progress.
First thing in the morning finding bedding pushed up the walls, she's exhausted and/or eyes sunken in.

Table 2: FACTORS CAUSING DYSTOCIA

Calf Effects	Birth weights are influenced by the genetics of the sire and dam, sex of the calf, age of the cow/heifer, environmental temperature conditions, and nutrition of the cow/heifer. The shape of the calf may also have a small effect.
Cow/heifer Effects	Age and pelvic size are the major factors to influence dystocia.
Age	2-year-old heifers require more assistance at calving than do cow/heifers because these females usually have smaller pelvic areas.
Pelvic Area	The calf's birth weight and cow/heifer's pelvic area have a combined effect on dystocia. The degree of dystocia is determined primarily by the size of the calf in relation to the size of the cow/heifer's pelvic area. A large calf forced through a small pelvic opening may result in death to the calf and injury (including paralysis) to the cow/heifer.
Fetal Position at Birth	About 5 % of calves at birth are in abnormal positions (foreleg or head turned back, breech, sideways or rotated (Fig.4).

Table 3: GUIDELINES TO DETERMINE IF THE CALF CAN PASS THROUGH THE PELVIC CANAL

1	By pulling on the legs, the entire head of the calf should enter the bony pelvic canal.
2	Continue to pull on one front leg. The first joint (fetlock) of that leg should extend at least one hand's width past the vulva of the cow/heifer.
3	Pull on the opposing leg. The fetlock of this leg should also extend at least one hand's width past the vulva of the cow/heifer.

5.11 POST DELIVERY CARE FOR THE CALF: refer to SOPs:

- [DC-501: Colostrum Management](#)
- [DC-504: Newborn Calf Care](#)
- [DC-505: Calf Feeding](#)

5.12 POST-DELIVERY CARE FOR THE COW/ HEIFER: refer to SOP [DC-405: Post-Partum Care of Dairy Cattle](#)

6. REFERENCES

Randle, R.F., Berger, A.L.; Assisting the Beef Cow at Calving Time; The Board of Regents of the University of Nebraska.
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Document Status and Revision History

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