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UNIVERSITY OF MINNESOTA



Dairy Extension
Department of Animal Science
101 Haecker Hall
1364 Eckles Ave.
St. Paul, Minnesota 55108
(612) 624-4995



Dairy Update

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DOCUMENTS

CALVING ASSISTANCE

APP 10

Jeffrey K. Reneau
Extension Animal Scientist, Dairy Management

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Almost any farmer who has observed his cows during the calving process is aware of the signs which occur when calving nears: udder development, vulva enlargement, mucus discharge and pelvic ligament relaxation. However, few may know the actual stages of labor and the approximate duration of each of the three stages. Awareness of what the normal steps of calving are and how long they last should help in making timely decisions on whether calving assistance is necessary.

STAGE 1. Transitional Phase

The cow prepares herself for delivery. This includes fetal position, lubrication of reproductive tract, and cervical dilation. No assistance will be required in this stage. Except for the very careful observer this stage may go unnoticed.

External Signs or Signs The Farmer Sees

1. Slight pain and uneasiness, getting up and down.
2. Cow may be seen kicking at her belly or looking at flank area.
3. As contractions occur, the cow will arch her back, elevate, switch her tail and strain.
4. Cow may claim other calves in the pasture.
5. The cow remains aware of her surroundings and continues eating and drinking as usual.

Note: Heifers may show signs 1 through 3 more intently than cows.

Uterine Changes or Signs The Farmer Doesn't See

1. Contractions get stronger and more frequent as labor progresses giving the cow a feeling of uneasiness.
2. The wave of each contraction begins at the base of the uterus and extends upward through the uterine wall pushing the placenta against the cervix.

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When Stage 1 is Ending

1. The cervix is 3/4's dilated and amnion (water bag) is pushing through the cervix.
2. The cow passes urine and feces frequently. This is a natural cleansing process to allow more room for the calf in the pelvic canal.
3. Uterine contractions are frequently strong enough to force the cow or heifer to lie down a few minutes at a time.

STAGE 2. Active Phase (Actual Delivery of the Calf)

External Signs

1. Cow circles, strains and will usually get up and down frequently.
2. The water bag may be visible, unless it ruptured early in labor. Feet will also be visible.
3. Front legs appear. If the calf is coming backwards the dew claws will usually point up rather than down.
4. The head appears and should be resting on the front legs with the nose at the cannon bone.
5. After delivery of the head and shoulders, the hips will be the last obstruction to delivery. Usually after the head and shoulders are delivered completion of the normal delivery takes only a few minutes.

Uterine Changes in Stage 2

1. Cervix is completely dilated.
2. Vagina and vulva stretches as calf enters birth canal.
3. Uterine contractions are much more frequent and stronger during delivery.
4. Most of the labor is required to present the calf's head.

STAGE 3.

This is the passage of the afterbirth (placenta). The cow is generally allowed 8-12 hours to deliver the placenta before it is considered retained.

The average duration for each stage of labor is shown in Table 1.

TABLE 1. Average Duration, Interval Between Contraction and Duration of Contraction for Each Stage of Labor.

	Duration	Interval Between Contractions	Duration of Contractions
Stage 1	Cow 2-3 hours Heifer 4-5 hours	10-15 minutes decreasing to 3-5 minutes	15-30 seconds with a gradual increase as calving progresses
Stage 2	Cows 0.5-1.5 hours Heifers up to 3 hours	3-5 minutes decreasing to a 1 minute interval (after feet appear)	1 minute, gradually increasing as delivery progresses until calf is born
Stage 3	Cow or heifer Within 8-12 hours		

Armed with the above knowledge of how long it takes to move through each stage of delivery, let's go back to the original concern of when assistance should be offered. Stage 2 is obviously when the greatest amount of assistance may be necessary. Table 2 shows a more complete breakdown of the progress a cow or heifer should make and the time required during a normal delivery. Assistance should not be given in any delivery where normal progress is being made. Unnecessary assistance is often the cause of uterine infections which will hinder later reproductive performance.

TABLE 2. Duration for Each Progressive Event in Stage 2 in the Average Cow.**

	Duration	Progress
Stage 2	1/2 hour	Position head and feet against cervix; feet to move from cervix to vulva
	1/2 hour	Feet appear until tongue is visible; nose appears
	1/2 hour*	Head delivered
	1 minute	Rest of calf delivered

*Most critical phase of Stage 2.

**Heifers will require a slightly longer duration than the average cow.

The three major causes of calving difficulty (dystocia) are: 1) a large fetus or a small maternal pelvis; 2) malpresentation, posture or position, and 3) uterine inertia and incomplete cervical dilation. Although there are many other problems which cause calving difficulty, the large fetus or small maternal pelvis account for over 50% of the cases. Little can be done to correct the problem of a large fetus or small maternal pelvis during delivery. However, proper sire selection (calving ease sires for Holsteins) and making sure heifers are fed properly are two practices that can be used to avoid future difficulty of this nature.

Malpresentation, posture or position of the calf can be almost anything. The main thing is to remember what is normal and that the birth of the calf will not progress smoothly if that calf is not positioned normally. The two normal positions are: 1) a calf coming forward with head resting on the two front feet (most common), or 2) a calf coming backward with both back feet presented to the birth canal. If a farmer attempts to reposition the fetus from abnormal to the normal position, a good rule of thumb is: If the calf cannot be repositioned and delivered alive by one man (and certainly no more than two men) pulling, and if manipulation lasts more than 20 minutes from start to finish, you should get veterinary assistance immediately.

Controversy still exists as to when assistance should be given. It is not recommended that over-eager and premature assistance be given. Neither is it wise to allow an unproductive labor to go too long without intervention. The main thing is that the cow is observed frequently to assure that she is progressing through delivery as normally as possible. Progress is the key word. As long as the cow can make adequate "progress" with delivery on her own, no assistance is necessary.

Things to Remember When Giving Assistance

1. Be Clean.

Cleanliness cannot be overemphasized. Always wash the animal and yourself before examining the animal. Provide yourself with disposable plastic gloves to protect yourself and the animal. All calving facilities should be kept clean to prevent transfer of infections from one cow to another. If a maternity stall is used, it should be bedded with clean, fresh straw before each use.

2. Be Careful.

Unthoughtful and unnecessary roughness may cause significant damage to the reproductive tract which will result in depressed reproductive performance. Bruises, abrasions, and vaginal tears often occur in assisted deliveries and should be minimized. Good lubrication is the key. Amniotic fluid has good lubricating properties but is exhausted after prolonged labor. Manual manipulation of the calf will require use of lubricants. There are several good obstetrical lubricants available from veterinarians or veterinary supply houses and they are preferred. Mild household dish soaps or mineral oil can also be used.

3. Be Sensible.

Know your limits and when you are confused about an abnormal presentation or do not know how to correct it, do not proceed with delivery. Use traction wisely. Two men pulling on a calf will not damage a cow nor will using a calf puller if steady progress is being made. But overzealous attempts to force a malpositioned calf to be delivered by excessive traction are guaranteed to result in disappointment to you and injury to the calf and cow.

Remember, progress is the key word. When progress is not being made -- get help.