

Mille Lacs Veterinary Clinic

OBSTETRICS:

GUIDE TO CALVING PROBLEMS

DR. CHRIS NORD

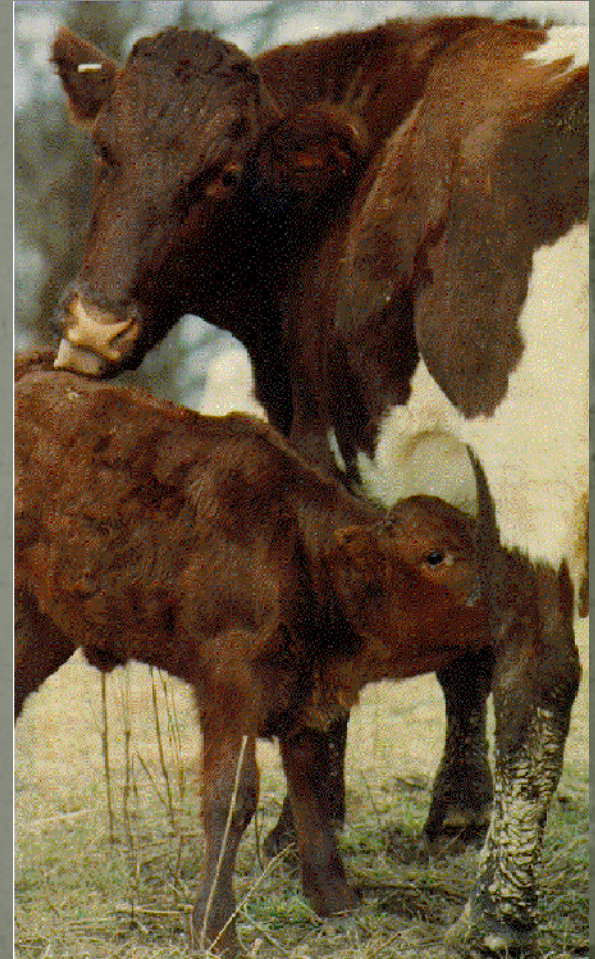
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Cow Condition

Nutritional Management during pregnancy can greatly influence:

- Fetal growth
- Colostrum Quality and Quantity
- Calf Viability
- Milk Volume & Composition
- Future Fertility of Cow



Cow Condition: Nutrition

- Energy needs close to term are greater than maintenance, but beware of overfeeding during this period.
- It only takes ~2 weeks for a cow to deposit excess internal fat from a diet with excess energy.
- Feed ~4% BW hay supplemented with 2-4 pounds of balanced grain mix or free choice hay with free choice minerals/lick tubs. BCS will influence feeding
- Targets for weight gain in heifers should be 1-1.5 lb/day with calving at ~ 2 years of age at ~85 % of mature weight.
- Body condition score at calving is single most important factor for reproduction. Cows and heifers should be at BCS of 5-6 at calving.

Nutrition - Minerals

- Balanced minerals very important for calf development: may need feed analysis.
- Strategic supplementation of minerals to reduce costs
 - Only feed mineral supplements when needed
 - 45 days prior to calving through breeding season
 - Minimize overfeeding (target between 75 – 125% of requirements)
- Salt should always be available
- Free choice minerals – 15-30% salt

Cleanliness



- ❖ Majority of calf loss occurs from birth to 3 days of age.
- ❖ The most important thing for a calf is to be born in a clean, dry area and receive good quality colostrum within a few hours of birth. Decide on a Birthing area plan and a Movement Plan before calves are on the ground. Plan for Muck.

Cleanliness: Critical Control Areas

- Colostrum: 2 quarts by 4 hr & 4 quarts by 8 hr. Feed colostrum to calf if:
 - Calf is too weak or cold
 - Cow or heifer is being a poor mother
- Consider colostrum supplement on day 1. (NurseMate, Newborn Calf Gel, First Defense, etc.)
- Sick calves should be moved with the cow to a separate area away from healthy calves.



Calving Calendar

- The age spread on calves in a lot/barn should never be greater than 30 days to reduce disease spread. 14 days for first group is even better.
- Pull the Bull: by limiting your calving interval you can you can select for cows that breed back quickly, increase profitability, and decrease calfhood disease!
- Consider some modification of “sandhills calving system”

Basic Assisted Calving

Assist cow if she has not made any progress after 1 hour.

Restrain the Cow (behind gate with halter, chute, headlock) +/- tail tie.

Wash vulva with soap & water. Wear clean sleeves on both arms.

Use plenty of lube when checking and assisting (Vaseline, Chlorhex lube, Do Not use only soap, beware of powdered J-lube)

Always use clean bucket with soap & water along with clean chains and other calving equipment ("calf jack", head snare).

Need to have normal forward presentation of calf (head & two front feet first) or normal rear presentation (two hind feet with tail coming between legs) and a fully dilated cervix before pulling.

Use one chain on each leg with a half hitch and gently assist with calf jack.

Wash and dry equipment so it's ready for next time.

CALVING PLAN

By following the flow chart, unnecessary trauma to the cow and calf can be avoided, as well as valuable time saved.

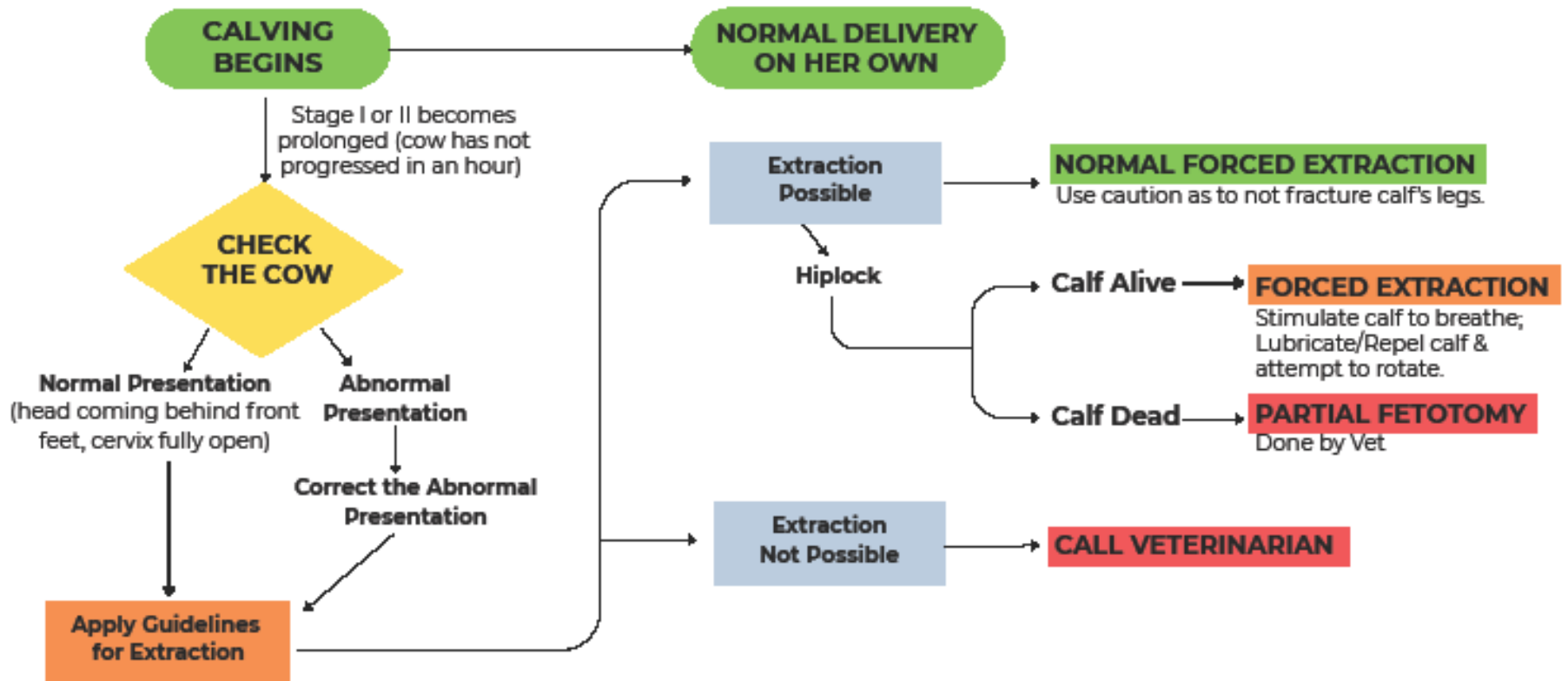
At any point, the veterinarian can be called with questions/for assistance.

LABOR STAGES:

Stage I: 6-12 hours (up to 24 hrs for heifers). Signs of belly pain, decreased appetite, and separation from herd.

Stage II: ½ to 4 hours (heifers longer). Increased abdominal straining, amnion appears (thick, tacky fluid), actual delivery of calf. Calf can survive 8 hours or more once Stage II begins.

Stage III: Up to 8 hours for placenta to be delivered after calf is born.



Labor

Stage One: Preperation

- Typically 2-6 hr. Contractions begin. Cervix starts to dialate & 1st water sac (chorioallantoic) breaks.
- Often unnoticed in cows and only take 2-3 hours.
- Will be longer in heifers: 4-6 hours (up to 12).
- Signs:
 - Go off alone,
 - Lay down and get up a lot
 - Begin to strain
 - Water breaks

Labor

Stage Two: Delivery

- Typically takes $\frac{1}{2}$ - 6 hours (up to 8hr). Cows: 2-4
Heifers 3-6
- Calf enters birth canal, second water sac (amniotic) breaks, cervix is fully dilated, significant contractions to deliver calf.
- ❖ You should intervene if progress is not being made after 30 minutes. Other signs of problems might include: Head, but no feet. Tail only.

Equipment needed to assist calving.

- OB Sleeves
- OB chains (straps)
- OB handles
- Clean bucket
- Calf Puller (Be Careful)
- Liquid soap
- Lubricant
- Hot water
- Disinfectant



Assisting with Delivery

- ❖ Use two-point traction (chain on each foot with double hook)
- ❖ Apply force in a downward arc.
- ❖ Typically, only need to use as much force as one strong man can apply.
- ❖ Use calf puller carefully
 - ❖ Do not use a jack to the point of bending.
 - ❖ Buy one with two chain hooks with a ratcheting action.

Can the calf be delivered?

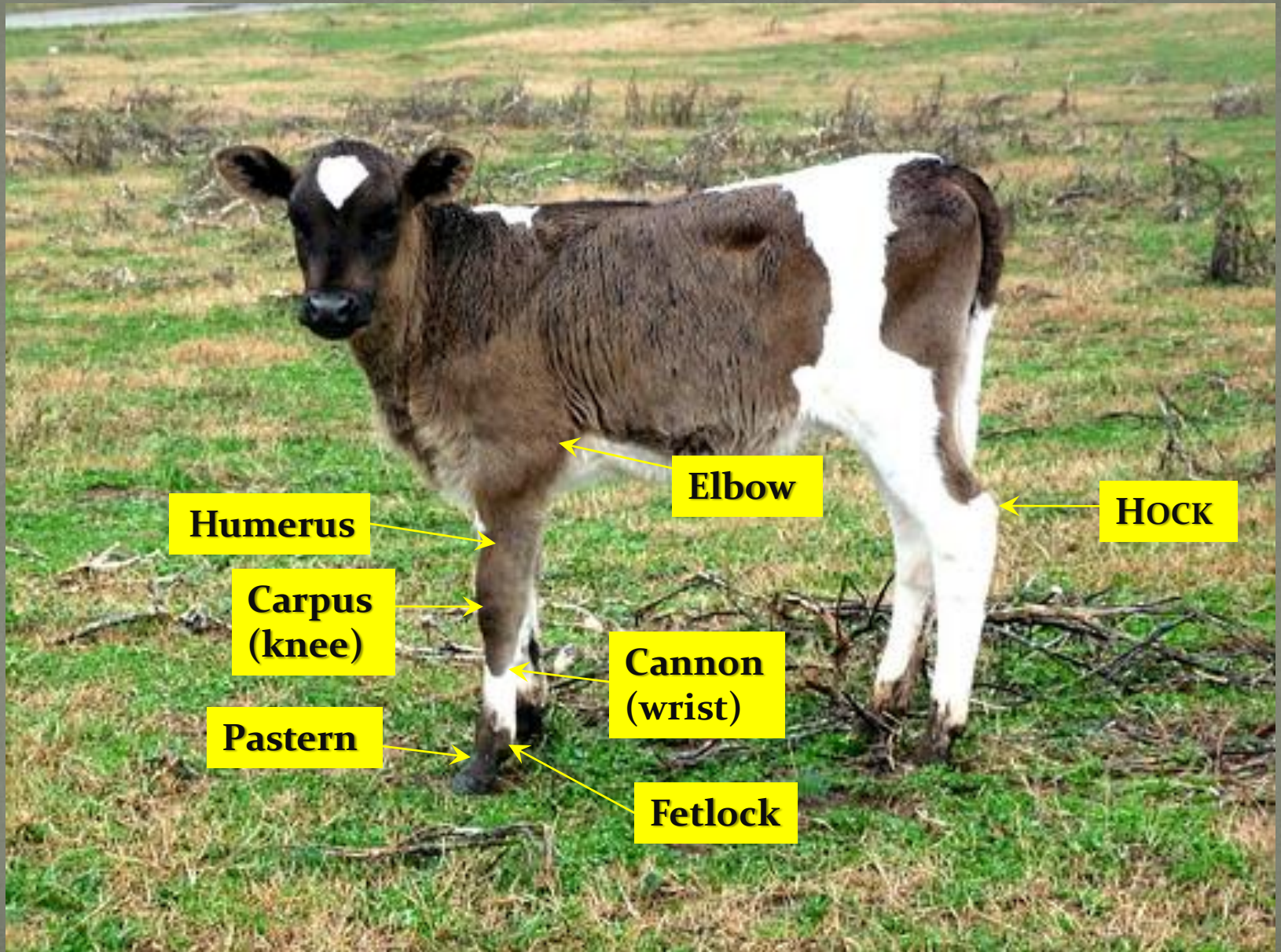
While pulling on both front legs together, does the whole head enter the birth canal?

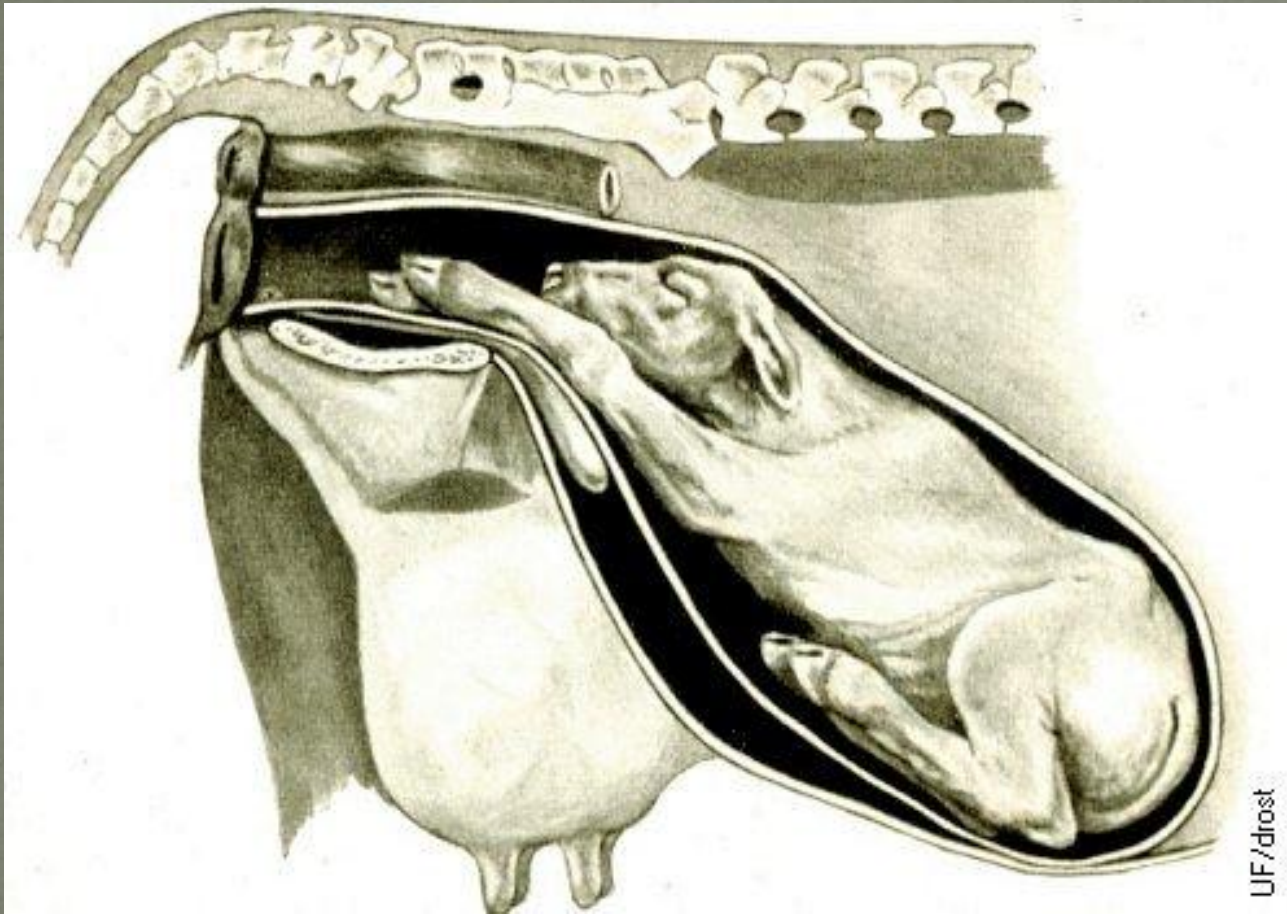
When you pull on one leg does the fetlock (second joint) extend a hand's width past the vulva?

When you pull on the other leg does that fetlock extend a hand's width past the vulva?

❖ If you can't answer YES to ALL three you have a problem.

Calf Anatomy Diagram





Normal Anterior Presentation

In stage 2 of labor, the cervix is fully dilated. The calf is in normal presentation, position, and posture with both the legs, head and neck extended.

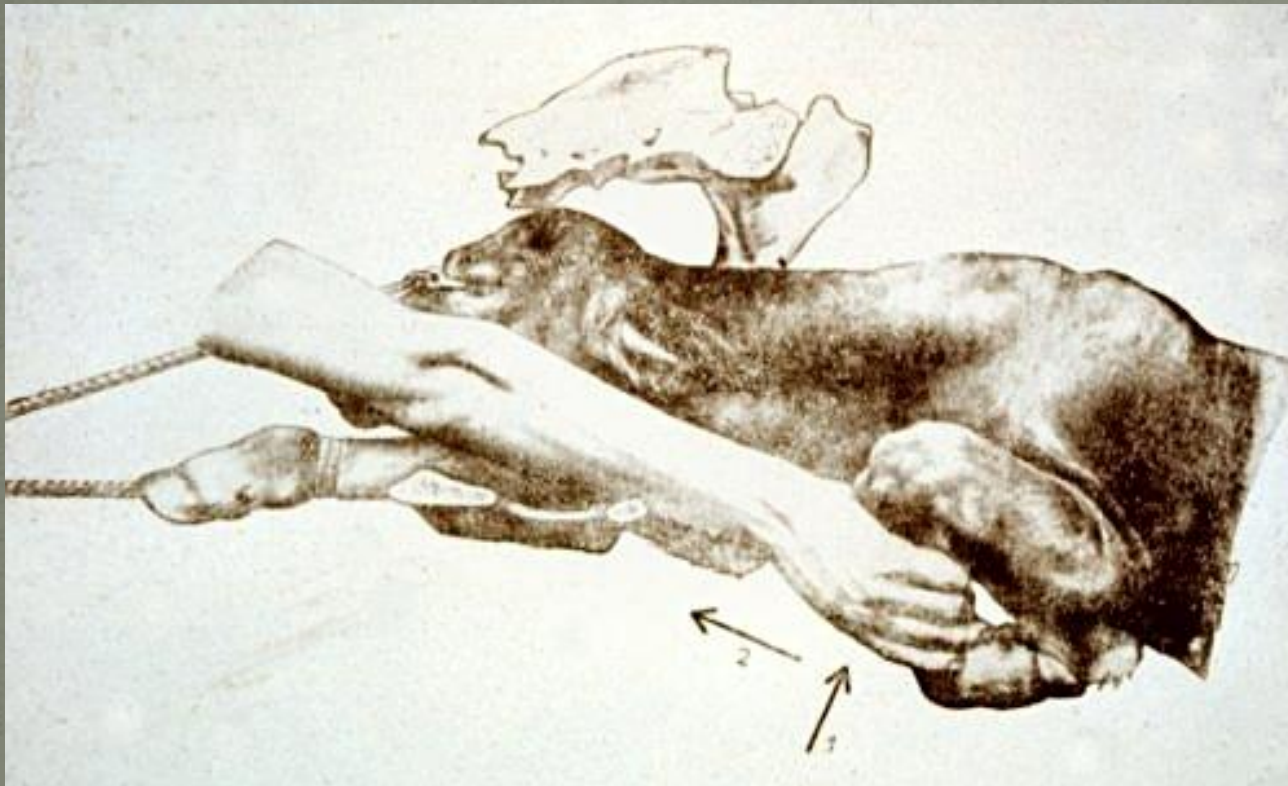
Source: Drost M (1974)



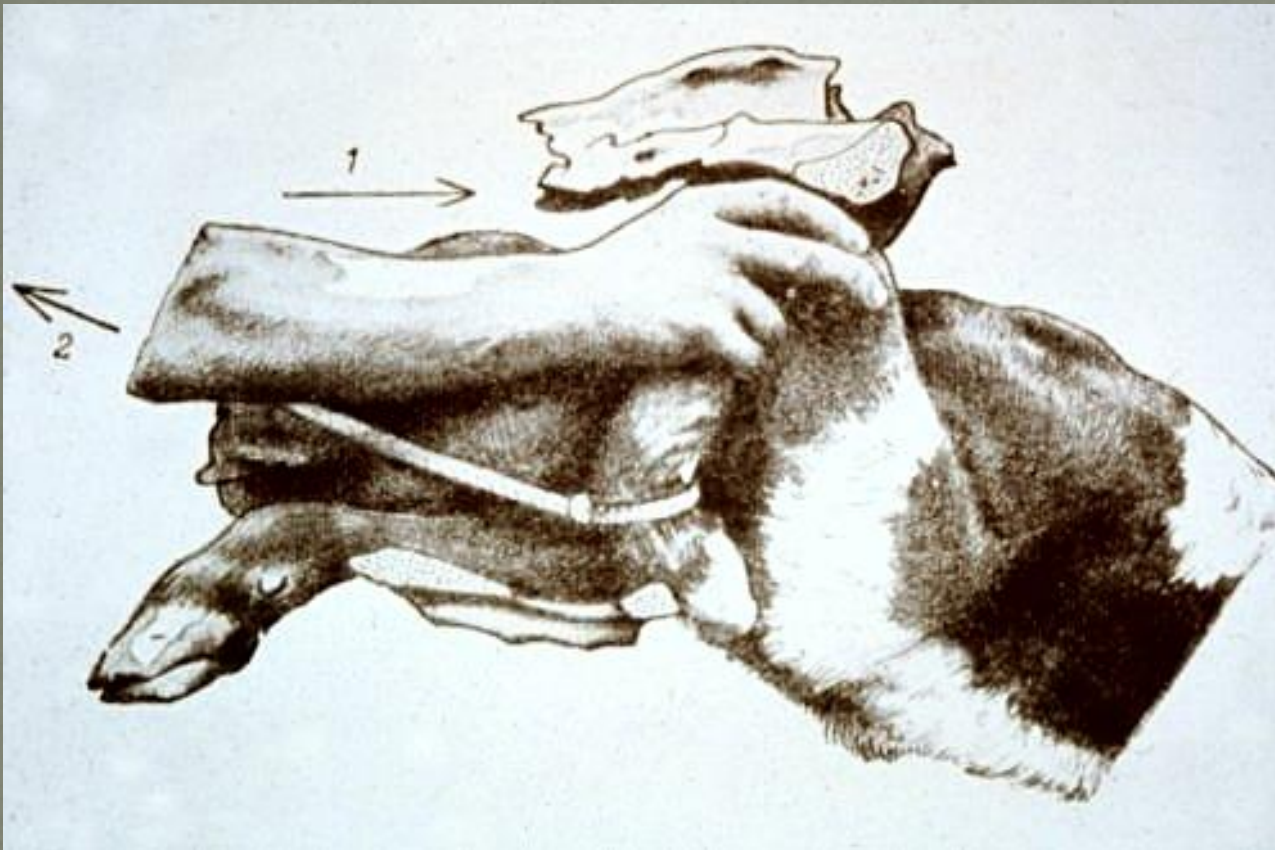
Leg Retained at Carpus (Knee)

Retention (bending) of one or both legs at the knee makes the calf unable to pass through the birth canal. Source: Utrecht (1976)

Correction of Retained Carpus (Knee) 1



If the calf is not too large, retention (bending) at the knee can be corrected by grasping below the knee and by directing the knee upward and outward, while turning the hoof towards the midline and then extending the leg. Source: Drost M (1976)



Correction of Retained Carpus (Knee) 2

If the calf is large, or there is limited room to maneuver, a chain or a rope may be placed on the farthest portion of the limb and traction applied to it while the knee is pushed upwards and outward. Source: Drost M (1976)



Leg Retained at the Shoulder

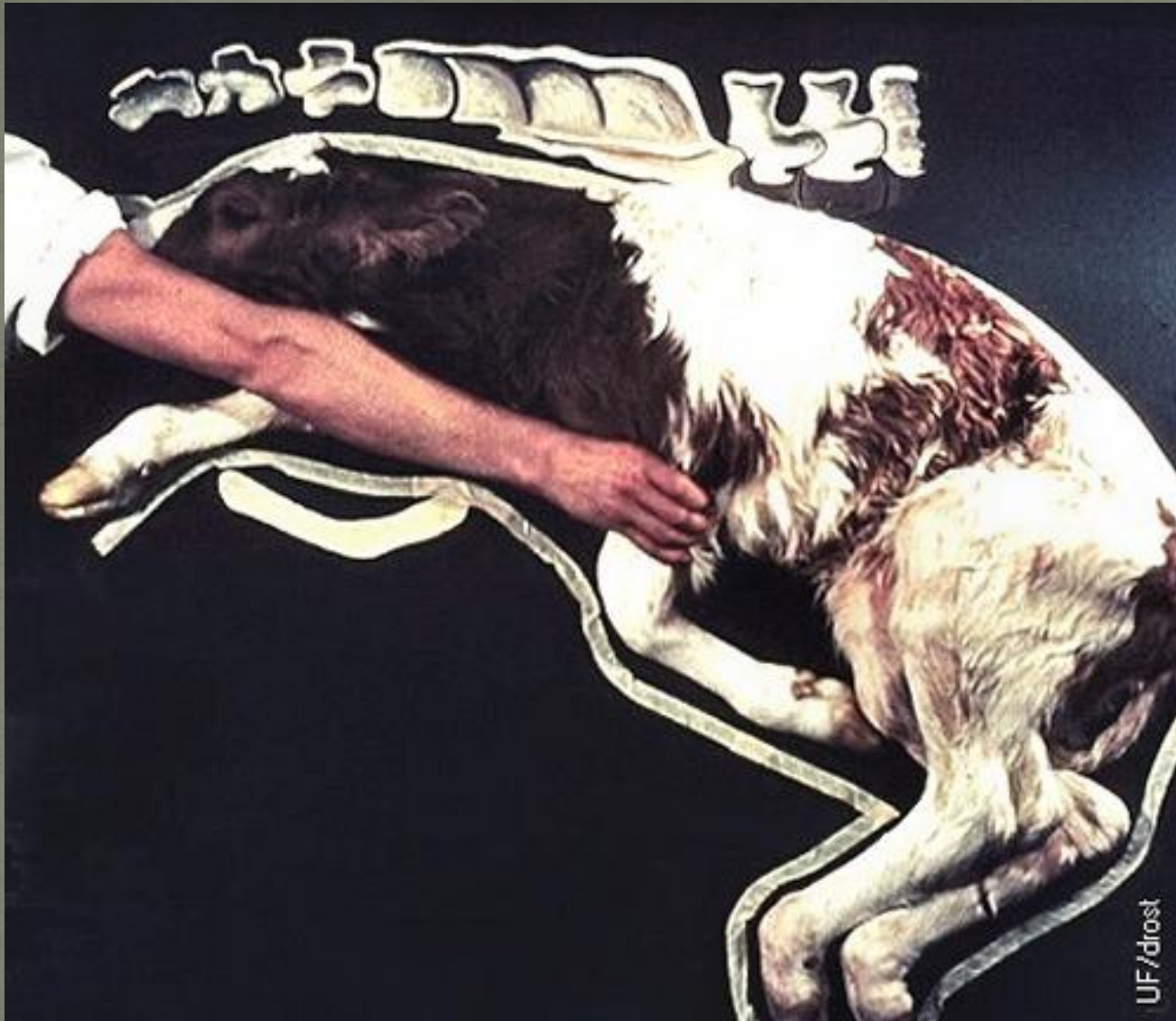
Retention (bending) of one or both legs at the knee makes the calf unable to pass through the birth canal. Source: Utrecht (1976)



Repelling the Calf

To correct abnormal posture, the calf may need to be pushed further back into the uterus to gain access to the knee or foot.

Source: Utrecht (1976)



Retrieving the Carpus (Knee)

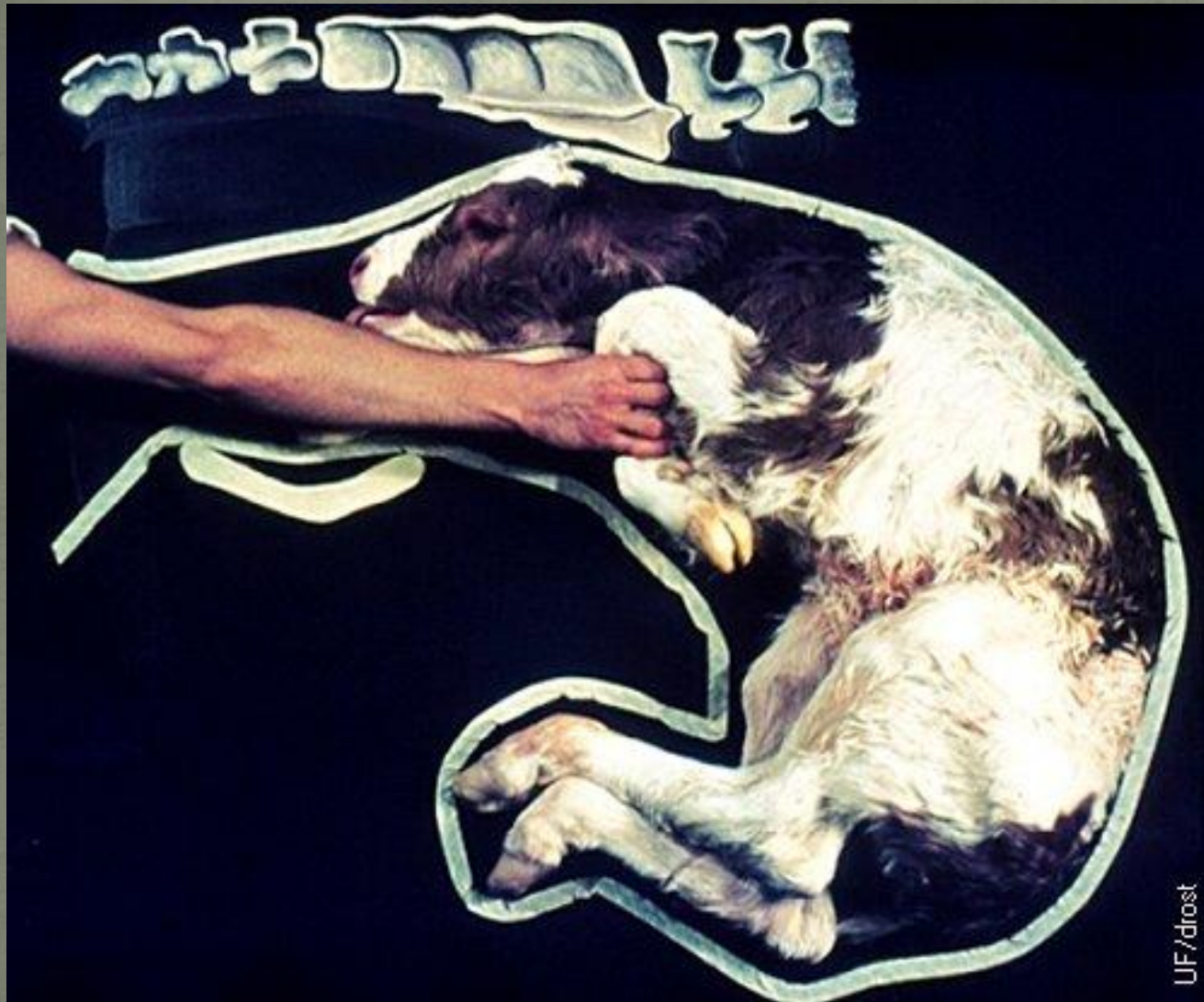
The upper portion
of the leg (humerus)
is grasped and the
leg at the knee joint
is twisted inward.
Source: Utrecht
(1976)



Pulling the Carpus (Knee) Upwards

The knee is lifted up and directed inward so the farthest portion of the forelimb can be reached and straightened.

Source: Utrecht (1976)



Elevating the Pastern

While the wrist is grasped firmly, the knee is directed up and outward to guide the pastern inward. Source: Utrecht (1976)



Pushing the Carpus (Knee) Upwards and Laterally

While the wrist is grasped firmly, the knee is rotated upwards and out to lift the calf's claw above the level of the cow's pubic brim. Source: Utrecht (1976)



Cupping the Claws

It is important to protect the tight outer wall of the uterus just below the cow's pelvic rim against the calf's pointed claw by cupping the hand around the hooves. Source: Utrecht (1976)



Normal Posterior Longitudinal (Backwards) Presentation

This calf is in a backwards presentation, facing downward, and in normal posture with both legs extended. Source: Utrecht (1976)



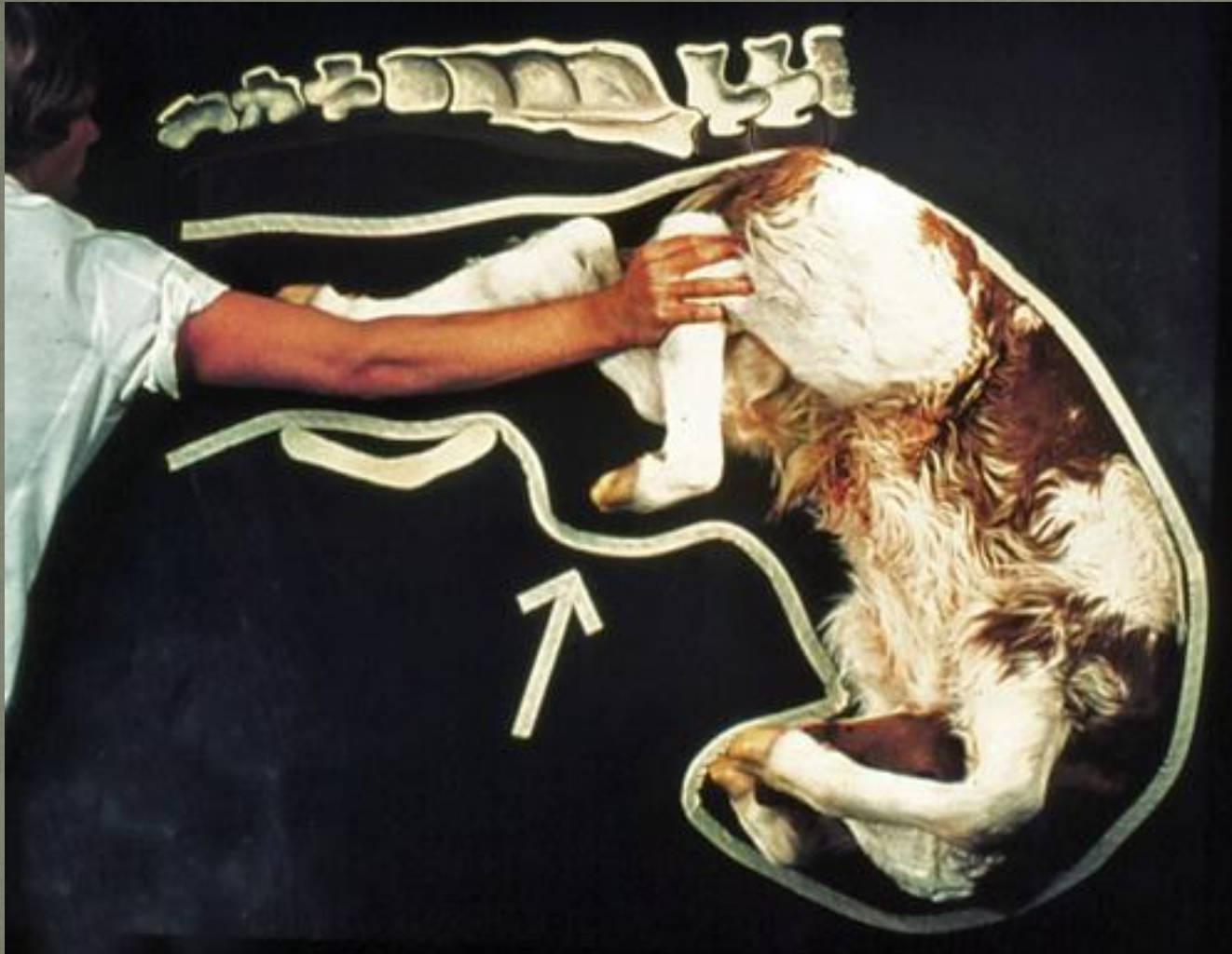
Repelling Posterior (Backwards) Presentation

This calf is in a backwards presentation, facing downward, with the right leg retained (bent) at the hock. The calf is being pushed back into the uterus to make room for maneuvering the bent leg straight. Source: Utrecht (1976)



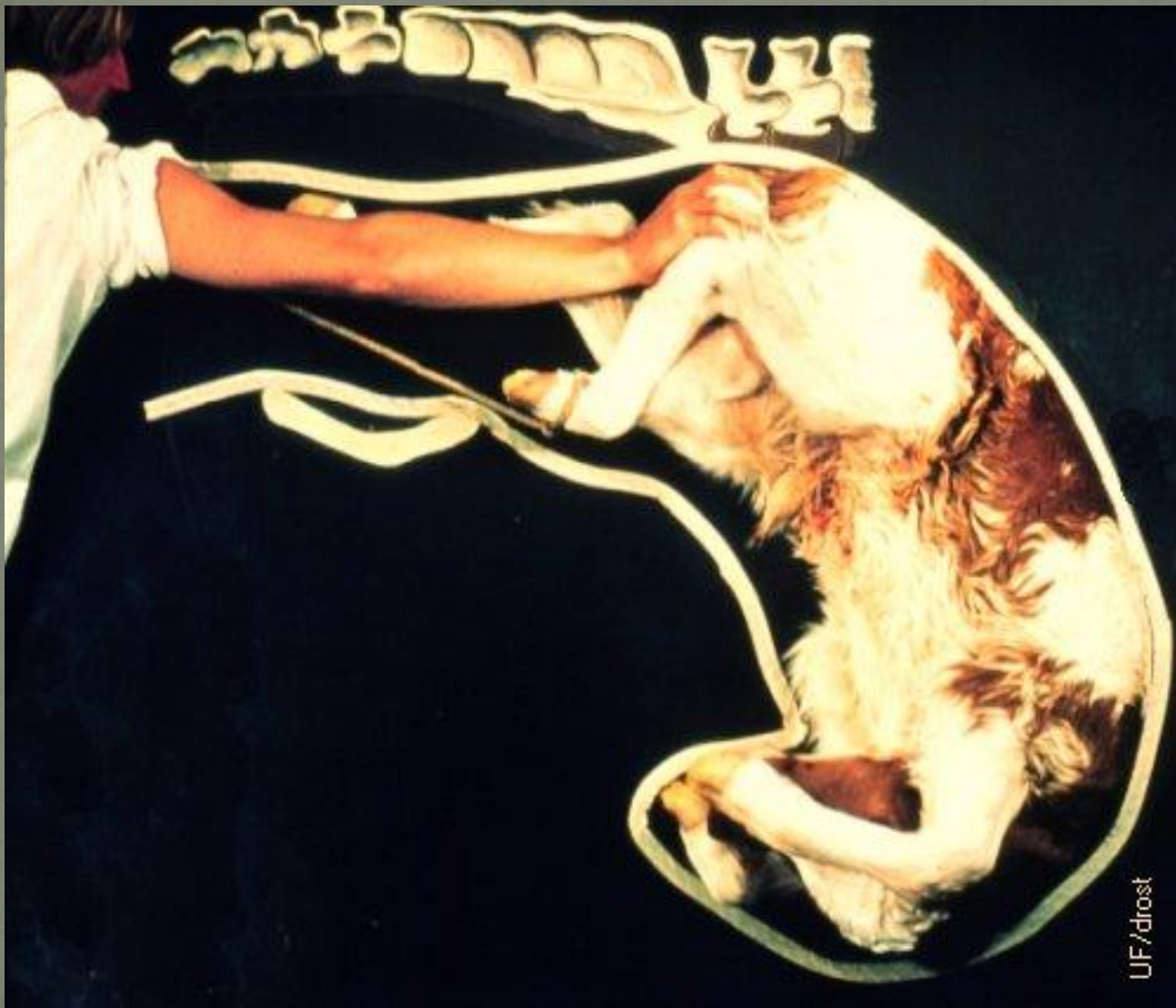
Repositioning the Hock

The hock is pushed upwards and outward to make the hoof more accessible. Source: Utrecht (1976)



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The hock is pushed upwards and outward to make the hoof more accessible. Source: Utrecht (1976)



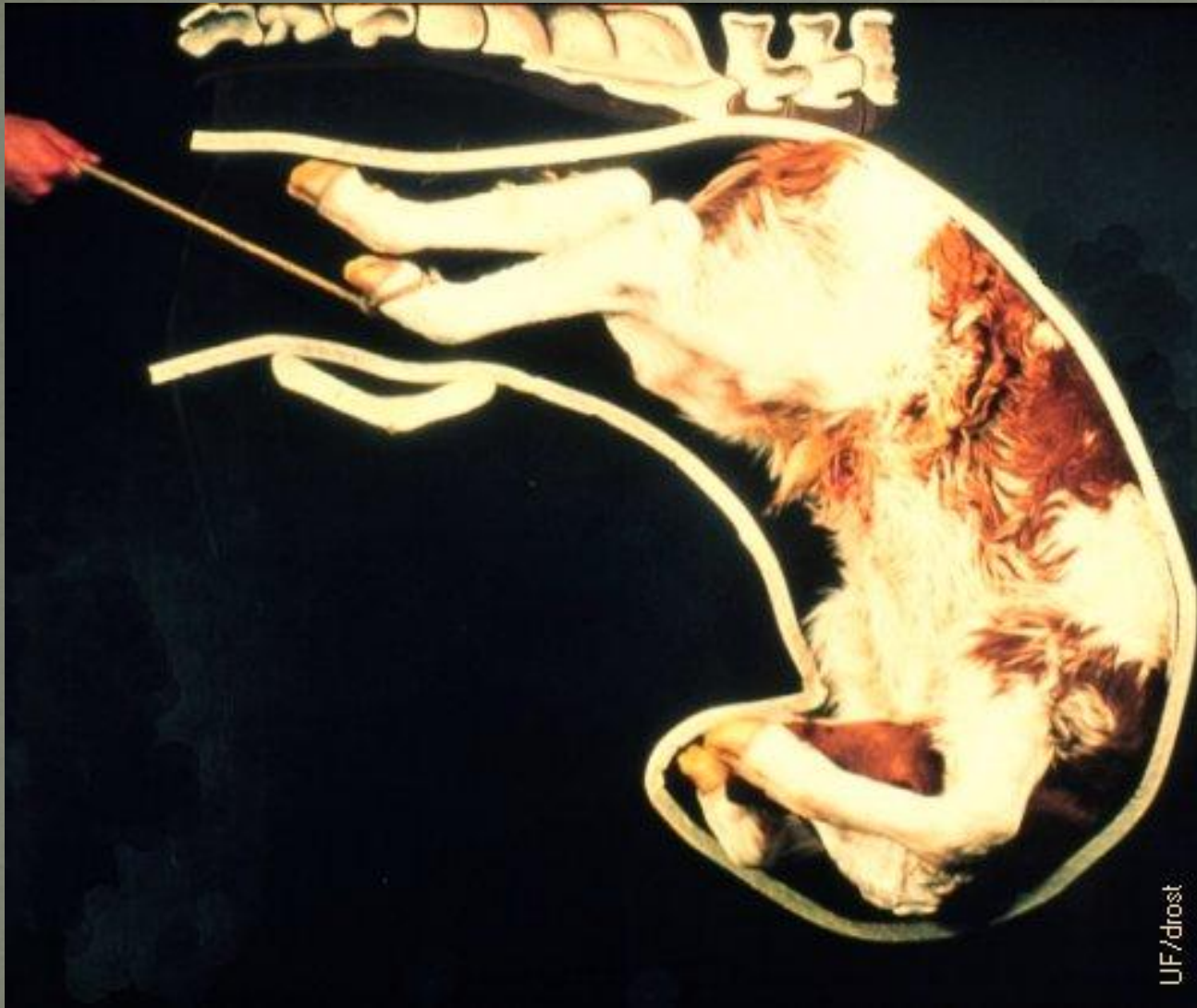
Repelling the Hock while Pulling on the Foot

With a chain placed on the foot, the hock is pushed forward and outward while the leg is straightened by pulling on the pastern using the chain. Source: Utrecht (1976)



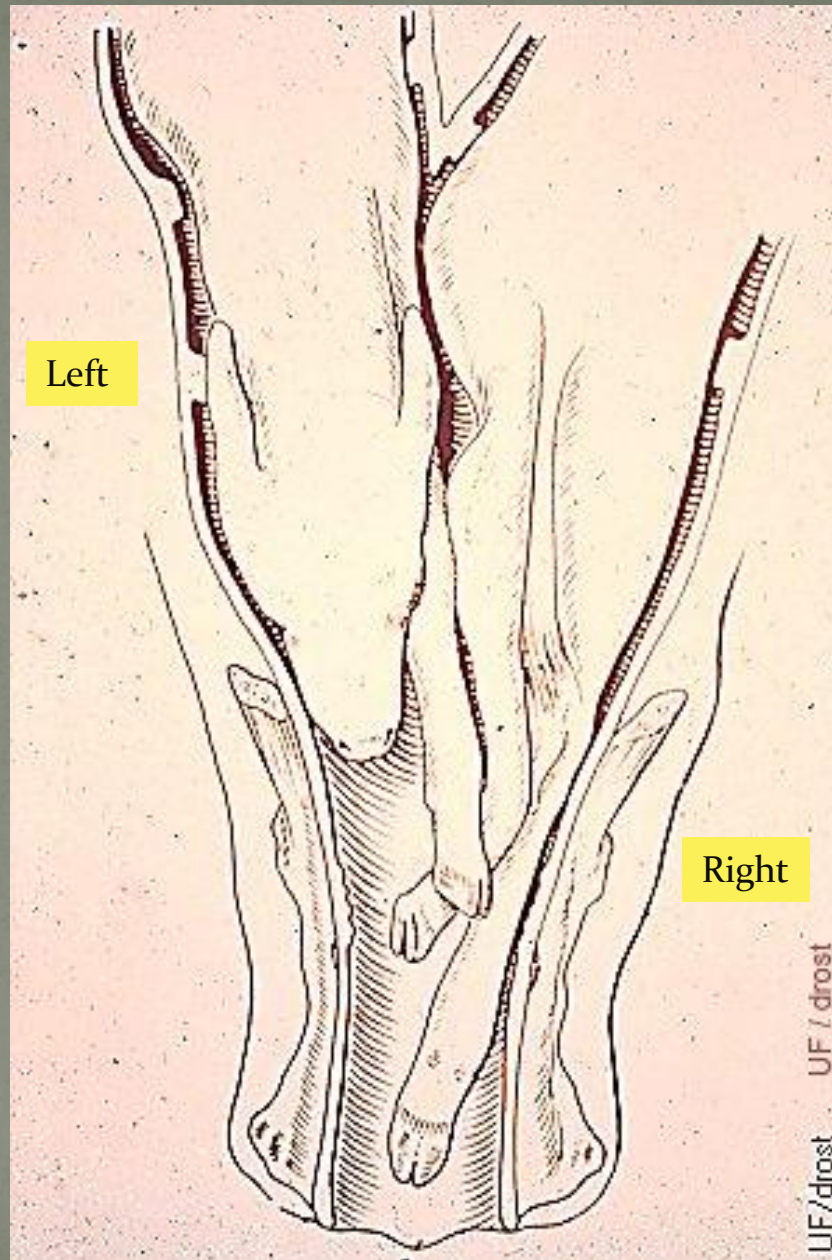
Cupping the Claw

The uterine wall is protected against the calf's pointed claws by cupping them with the hand.
Source: Utrecht (1976)



Final Extension of the Leg

With both legs straight, the possibility that the calf can fit through the birth canal increases. Next estimate the size of the calf and the amount of space in the cow's pelvic cavity to determine if the calf can be delivered vaginally. When delivering a backwards calf make sure the tail is tucked down between the legs before pulling. Source: Utrecht (1976)



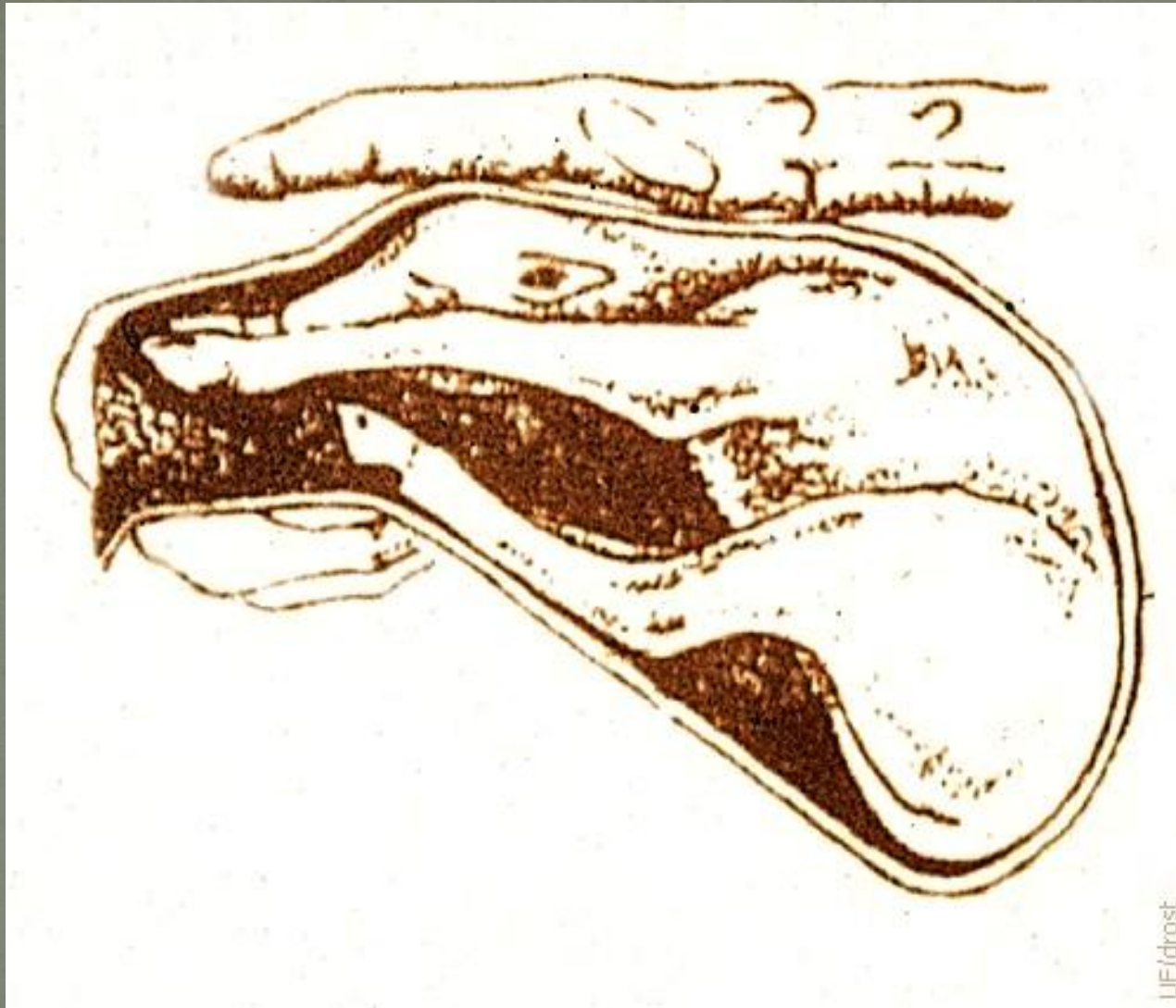
Twins

The twin on the left is in a forward presentation and its right leg is bent back. The twin on the right is in backwards presentation with both legs straight out. To differentiate a front leg from a hind leg count the number of joints below the hock or the elbow, these can feel similar inside the cow. **There are two joints below the elbow and there is only one joint below the hock.** It is usually advisable to deliver the twin in backwards presentation first. Source: Drost M (1976)



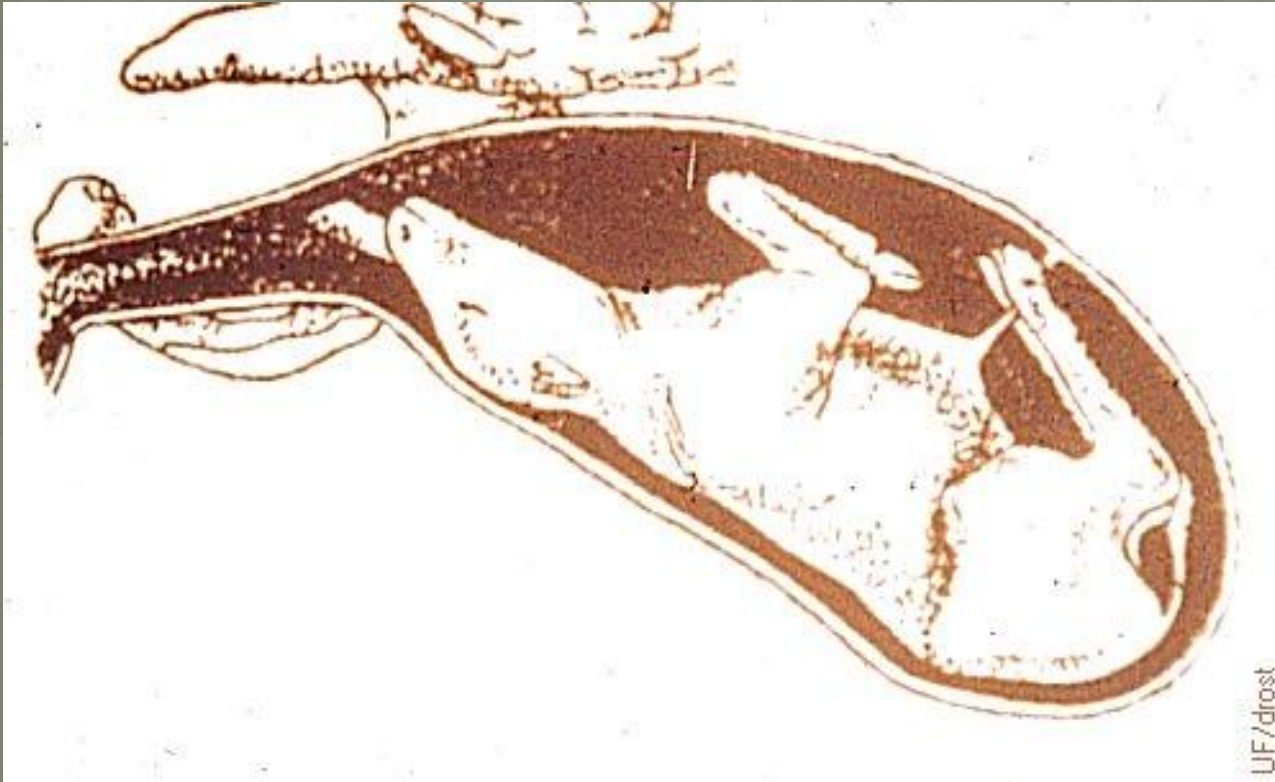
Lateral Deviation of the Head

The calf is in forward presentation, facing downward, but its head is turned to the left or right of its own body. If the fetus is weak it may fail to keep its head and neck extended resulting in this abnormal posture. Another reason for this position is that the head and shoulders are too large to enter the pelvic canal together. Source: Drost M (1976)



Dog-sitting Position

The dog sitting position is a term used to describe a calf in forward presentation, whose hind legs are extended and enter the pelvic inlet. Correction is very difficult unless the front half of the calf can be pushed back into the uterus and the calf removed by the hind legs. Pressure on the front limbs with partially pushed back hind limbs can result in a tear of the uterine wall. Source: Drost M (1976)



Dorso-Pubic (Upside down) Position

It is unusual for a calf to be in a position on its back. When the calf does appear to be on its back, torsion (twisting) of the uterus should be first ruled out.

Source: Drost M (1976)



True Breech

This calf is in a backward presentation, facing downward, with both hind legs retained (bent forward) at the hips; in this position the calf does little to help dilate the birth canal. The calf must be repelled forward and each leg retrieved in turn. Delivery should be done slowly to allow dilation. Source: Drost M (1976)



Stretching the Vulva

If the calf can be delivered vaginally, it is helpful to stretch the lips of the vulva, especially in heifers. With the heifer standing, the forearms are inserted halfway to the elbows. Next, with the fingers folded, the arms are wedged apart in the direction from 11 o'clock to 5 o'clock and alternately from 7 o'clock to 1 o'clock; repeat 10 or more times. Source: Haibel GK (1983)



Starting the Delivery

Always pull gently at the same time the cow pushes.

Source: Utrecht (1976)



Chest Out-Rotate 45 Degrees

On a large calf, when the chest is out rotate the calf about 45 degrees. The calf's hips are now past the narrow portion of the pelvis. At this stage the hips are rotated back to a downward presentation and the calf is pulled in a downward arch towards the udder of the cow. Source: Utrecht (1976)



Working the Vulvar Lips over the Head & Hips

The vulvar lips frequently delay progress. The vulvar lips should be stretched over the head and hips of the calf with the flat of the hands. Source: Utrecht (1976)

Sometimes it's Not coming out the Back



Sometimes it's Not coming out the Back





Propping up the calf for Ease of Respiration

As soon as the calf has been delivered immediately check that it is breathing. It is best to place the calf on its sternum to allow both sides of the chest to expand. Stimulate breathing by poking a clean straw into the nostrils. In severe cases where extra fluid remains in the airway and breathing is difficult use a calf respirator. Source: Utrecht (1976)

Colostrum

- SINGLE MOST IMPORTANT THING FOR THE CALF FOR OPTIMUM HEALTH!
- Most of us just assume they got it, right?
- #2 rule: 2 quarts (Good quality colostrum) within 2 hours is goal!
- Is there mastitis, can they reach the udder, can they latch on, are the teats filthy?
- Is the colostrum the “best” it can be?
- Cow will begin to “produce” colostrum 4-5 weeks prior to calving.



Colostrum

Dairy: Milk the cow into a clean bucket. The calf gets about to 4 quarts of good quality colostrum within the first several hours after calving.

Beef: Make sure cow has good colostrum. Make sure calf is up and actively nursing within 2 hours of birth.

Thank you for your time and attention!



Madigan Squeeze Technique

[://youtu.be/-oxGVrRzCYI](https://youtu.be/-oxGVrRzCYI)

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Questions?



Little Timber Farms Blackduck, MN