

Breath of Life

Guidelines for Giving Artificial Respiration to a Newborn Calf.

by Heather Smith Thomas

Learning the technique of artificial respiration has saved many calves on our Idaho cattle ranch over the years. Several came backward; some were unconscious after a difficult birth.

The most spectacular “save” was with a big bull calf we had to pull from a first-calf heifer. We knew he was alive when we started pulling him. But when we got him out, he seemed dead — limp and blue and absolutely no reflexes. Even his eyes were glazed over.

In checking him over, we felt a heartbeat. I immediately began artificial respiration. My husband massaged the calf and kept checking the heartbeat.

After 30 minutes of effort, the calf finally began to lose his blue color. His nose and skin became pink and was soon breathing on his own.

After 45 minutes, the calf gained consciousness and was able to hold his head up and look around. We fed him colostrum via stomach tube. It took a few hours for his tongue and nose to return to normal, as they were swollen from the hard birth and pressure of being in the birth canal for so long. After recovery, he became a fine, healthy calf.

There are several causes for breathing failure in a newborn calf. Sometimes a calf will still be encased in his amnion sac and fluids after it slips out of the birth canal; sometimes the sac doesn't break. Unless the calf struggles and breaks the sac, or the cow jumps right up and starts licking its head, it may remain intact and the calf suffocates.

If you are present at the birth, break the sac and get the fluid away from its nose and mouth to allow it to breathe. Most calves will not try to breathe until the sac and fluids are away from the nose. They.

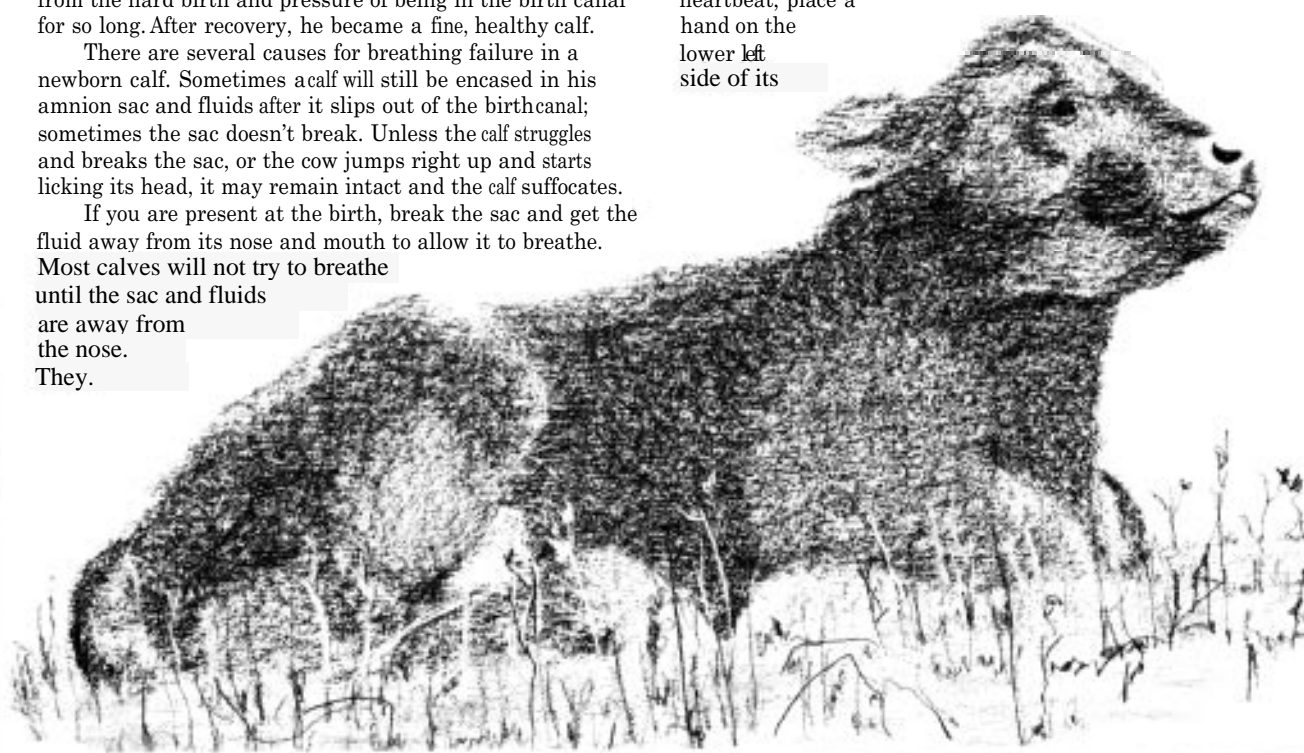
instinctively hold off to prevent drawing fluids into their lungs. This immersion reflex keeps them from drowning by breathing too soon. It also means that some calves will not start breathing soon enough, since the sac remains over the nose, and they suffocate.

In other cases, the calf just needs a little help to start breathing, especially if it has come through a difficult birth and is exhausted or even unconscious. Most of the time, these calves are quite normal in all other respects. If you can get them breathing soon enough, they will be fine.

Knowing what to do and taking prompt action is very important when a newborn calf fails to start breathing.

Heart rate is a good way to tell whether a calf is in respiratory distress. The heart rate drops as the calf's oxygen depletes in his body tissue. If a calf fails to start breathing within 20 to 30 seconds after birth, and has a heart rate lower than normal (normal is 100 to 120 beats per minute), it's in trouble.

To check the heartbeat, place a hand on the lower left side of its



ribcage, just behind and above its elbow. A newborn calf's heartbeat is relatively easy to feel because it's beating strongly and there is little tissue between it and the outside chest wall.

If the heart rate has dropped as low as 30 to 40 beats per minute, the calf's condition is critical.

Another way to detect a calf short of oxygen is by the color of its mucous membranes. The normal newborn calf's gums and tissues will be pink. If the calf's gums and nose are grey and colorless or even blue, it needs to start breathing immediately.

Often you can get a calf to begin breathing by tickling inside his nostril with a clean piece of hay or straw. This makes it cough or sneeze. If that doesn't work, you may need to give it artificial respiration.

First clear the calf's airways. Roll it up onto its breastbone in a sitting-up position, with the head and chin resting on the ground and nose as low as possible. This will allow the fluid to drain out of its nose. If its airways are still full of fluid, use your finger to strip fluid from his mouth and nostrils in a suction action. You can also use a rubber suction bulb to clear the nostrils.

In a normal birth, the calf's head comes out right after his front feet. As his ribcage comes through the birth canal, the pressure of the cow's pelvis squeezes most of the fluid out of the calf's lungs and airways. As the ribcage expands again after it passes through the birth canal, this tends to draw air into the lungs and starts the calf breathing.

In a backwards presentation, the calf's head is still inside the cow until the very last and its airways tend to stay full of fluid. The umbilical cord may be pinched off or broken, as well, as the calf's hindquarters pass through the cow's pelvis. The calf's lifeline is broken too soon. It needs to breathe immediately.

In this emergency situation the calf must be taken out of the cow and started breathing as quick as possible.

Pick the calf up by the hind legs so its head and nose hang downward. This will allow fluid to drain out of its airways. When you have cleared its airway, begin attempts to start him breathing.

Sometimes just some good stimulation, such as brisk massage of its body and legs with a towel or your hands will work. The rubbing increases the calf's circulation and works to stimulate its breathing reflex. Flexing its legs also will prompt some reflex lung action.

If the calf still hasn't taken a breath, try the tickling method mentioned above.

If the calf still hasn't taken a breath after two minutes following birth, you will have to blow some air into its lungs. The quickest, easiest and surest way is with mouth-to-mouth resuscitation.

To accomplish this, lie the calf on its side, with head and neck extended. Cover one of its nostrils tightly with your hand. If his mouth is shut and you can close off one nostril, you have an airtight seal and can gently blow air into its lungs through the other nostril. Don't blow rapidly or forcefully or you may damage the tissues or possibly rupture a lung.

If possible, resuscitate the calf with a two-person team. One person can rub and massage the calf and gently work his legs for stimulation, while the other holds its head and periodically blows into the nostril and lungs. The person rubbing and massaging also can keep checking the heart rate.

When you blow into the nostril, blow until you see the chest wall move and rise. Let the air come back out on its own. Then blow in another breath until the chest wall rises again to show that the lungs are filling. Alternately fill the lungs and let them empty.

Continue this artificial respiration until the calf begins breathing on its own. It may take just a few breaths or it may take quite awhile, depending on the calf's condition.

Usually, once its tissues become less oxygen-starved, the calf's heart rate will rise. It will regain consciousness and will begin breathing on his own. The calf's breathing may be a little erratic at first. If everything else is normal, however, it will usually develop a more regular breathing pattern within a few minutes.

Artificial respiration can save many calves that would otherwise die following birth complications or posterior presentation. With a little effort and knowledge of artificial respiration techniques, you can give them a second chance.

How to Get a Calf Breathing

1. Clear the air passages of fluid.
2. Lie the calf on its side, with head and neck extended.
3. Cover one nostril with your hand and hold mouth shut.
4. Blow gently but steadily into the other
5. Allow the lungs to empty themselves.
6. Repeat the procedure until the calf begins breathing on its own.

Added Note: The Thomas Ranch finished its 1990 calving season in good shape, according to Heather. The last cow calved Feb. 14.

"We calved out 134 cows in five and half weeks," she reports. "We had a few difficult births, but managed to get them all safely born. No losses, so we feel very fortunate."

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