

Castrating Beef Calves



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Castrating Beef Calves

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Castration is removal of the testicles of a male animal. Castration of your bull calves is an easy procedure to perform. Several techniques can be used and all can be mastered by the cattle producer. Feeder steers sell for more than bulls and the difference will pay for the costs associated with the practice several times over. Based on Tennessee livestock auction market reports, 500-pound steer calves sell for \$25 more per head than bulls of comparable quality. All male Tennessee feeder calves should be sold as steers.

Why Castrate?

There are several good reasons for castrating bull calves. Steers are less aggressive in the feedlot than bulls and are less likely to injure one another. Also, steers can be grouped with heifers without any danger of unwanted pregnancy in the heifers. However, the best reason for castrating bull calves is the increased value of the calf. Processors prefer steers over bulls, because at typical slaughter ages, steers have higher meat quality. Steers may grow a little slower than bulls, but the difference can be made up by implanting the steer calves with a growth promotant at the time of castration.

When to Castrate

Castration of calves can be done at any age. Purebred producers often wait until after weaning to decide which bull calves to castrate. However, in most commercial cow-calf operations, the earlier in the calf's life the job is done, the better. A young calf seems to experience less discomfort as a result of castration than an older one. Younger calves are easier to handle and restrain than older, larger ones. Finally, the bleeding, infection and weight gain depression associated with castration are less in younger calves. Baby calves are easy to catch and handle for the first 36 hours of life and this is an ideal time for castration. Some producers prefer to wait and castrate calves in groups. This is acceptable as long as all calves are castrated at less than 3 months of age. Avoid castration during the hot, summer months due to fly problems and resulting infections. Castrating on cold, wet days may not be a good idea. The calf may lie down in mud and pick up bacterial infections.

Restraint

Proper restraint should allow the operation to be done safely and efficiently. Calves less than 36 hours of age can often be caught in the pasture, put on their side,

tied with a short piece of rope and castrated by one person. Older baby calves can often be caught, held and castrated by two people. The castration of older, heavier calves usually requires a chute. Any time a calf is castrated standing up, tail restraint is recommended. Lifting the calf's tail up and pushing it forward over the back will quiet the calf and decrease kicking and potential injury to the person doing the procedure (Figure 1).

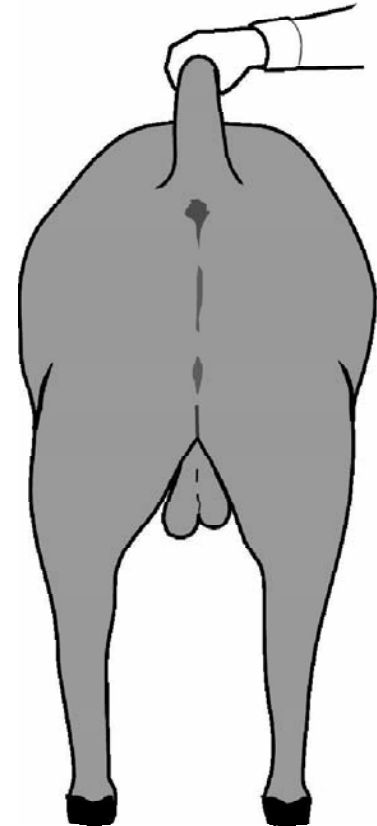


Figure 1. Tail restraint for castrating older calves standing in a squeeze chute.

Anatomy

Before beginning castration, one needs to know a little about the anatomy of the area. Important structures include the scrotum, testicles and spermatic cord (Figure 2).

The scrotum (sac) is a bag of normal skin that holds the testicles. The scrotum is divided into two halves by a membrane called the scrotal septum.

Each testicle is covered by a tough, strong membrane called the vaginal tunic. The vaginal tunic covering each testicle needs to be removed during surgical castration or swelling and infection are more likely to result.

The spermatic cord attaches to the top of the testicle. In addition to carrying sperm from the testicle, the spermatic cord contains all the blood supply to the testicles.

The testicles produce the male hormone (testosterone) and sperm.

Examining the Scrotum

The first step in any castration procedure is to examine the contents of the scrotum. Two descended testicles should be found. Removal of these testicles is the object of castration. Sometimes problems may be found during examination, such as finding only one testicle. The other testicle is probably up in the abdomen and this calf should not be castrated. Contact your veterinarian for help. About one out of 200 calves will be affected by this heritable condition called Cryptorchidism.

The other problem is inguinal hernia. This problem occurs

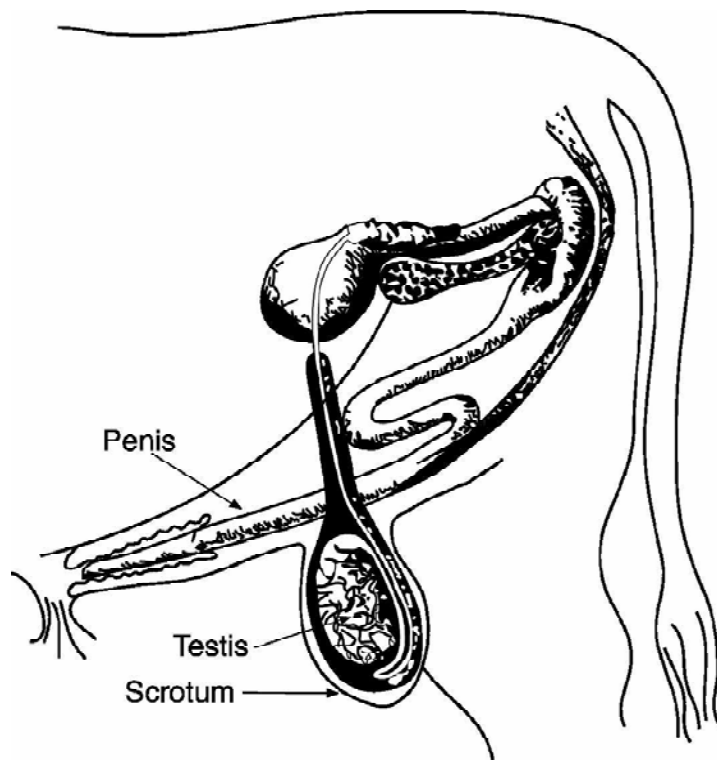


Figure 2. Anatomy of reproductive tract of the bull.

rarely, but affected calves have a larger than normal opening into the abdomen, allowing intestines to get into the scrotum. One side of the scrotum is usually affected and this side will appear unusually large, often near the top. Usually two testicles can be felt. In addition, the enlarged area will feel soft and mushy (Figure 3). **DO NOT ATTEMPT TO CASTRATE CALVES WITH EITHER OF THESE CONDITIONS.** Call your veterinarian for advice and help.

Surgical Castration

Surgical castration is preferred. A correctly surgically castrated calf will have less depression of weight gains and a lower incidence of infections than calves castrated by other methods. Most importantly, a surgically castrated calf is almost certainly

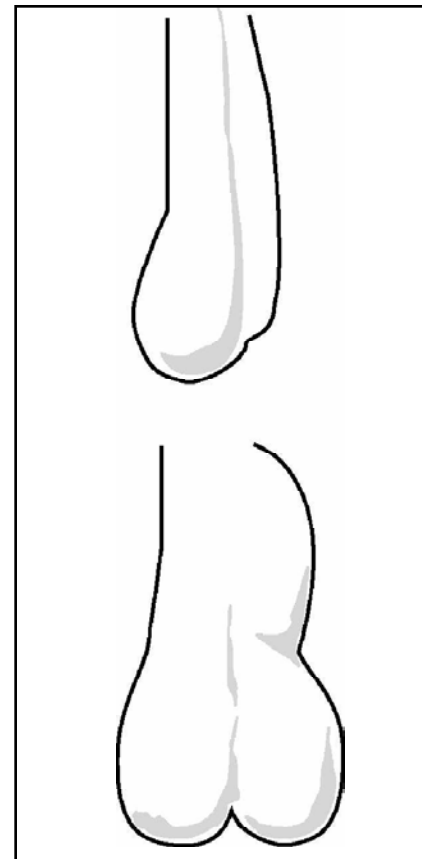


Figure 3. Examples of Cryptorchidism (top) and inguinal hernia (bottom).

completely castrated. Calves castrated by other methods are often incompletely castrated and will be discounted in the calf's sale price. These calves will sell for about \$4 per hundredweight less than properly castrated calves. These facts make surgical castration the procedure of choice.

Equipment

The equipment needed for surgical castration includes:

- a clean bucket and water
- disinfectant such as chlorhexadine or providol iodine
- a Newberry knife, scalpel or other sharp knife
- either emasculators, surgical clamps or a dull knife.

Opening the Scrotum

The first step in surgical castration is opening the skin of the scrotum. An important point to remember is that a larger opening is always better than a smaller one. Smaller openings do not allow adequate draining and could result in a much higher incidence of infection following castration. Cleanliness is also important. Instruments should be clean and maintained in a bucket with water and disinfectant. Hands should be washed in the disinfectant before beginning and between calves. Avoid touching the chute or the calf's body. If the scrotum is dirty, it should be washed with disinfectant. The water and disinfectant should be replaced after 15 calves are castrated because the water will become dirty and the disinfectant will be ineffective.

A very good method of opening the scrotum is by use of the Newberry knife (Figure 4).

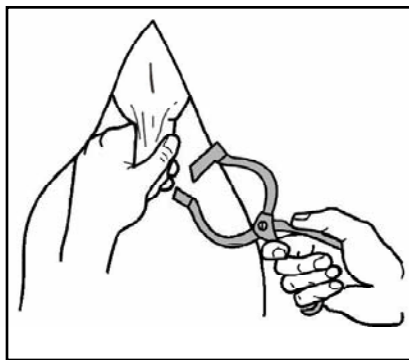


Figure 4. The Newberry knife is an excellent, safe tool for opening the scrotum.

Before the Newberry knife has been removed from the disinfectant, one hand is used to pull the scrotum down and back.

The jaws of the Newberry knife are opened and the blade is placed against the side of the scrotum as high as possible but below the testicles to avoid cutting them. The blade should always be used at least half way up the length of the scrotum (remember,

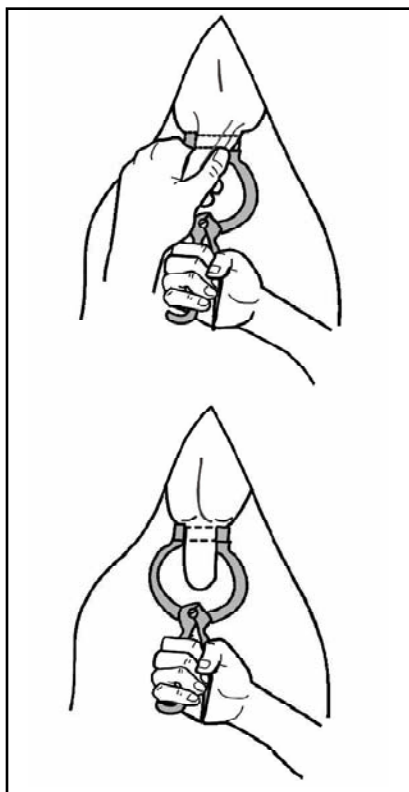


Figure 5. Procedure for using the Newberry knife to open a scrotum.

a bigger opening is better than a smaller opening). The jaws of the Newberry knife are closed by squeezing the handles from side to side. The scrotum is then opened by forcefully pulling the Newberry knife down and back at a 45-degree angle. The result is an incision down both sides of the scrotum (Figure 5).

Another proven method of opening the scrotum is to remove the bottom one-third to one-half of the scrotum, using a sharp knife or scalpel. The bottom of the scrotum is pulled down and back with one hand (using surgical clamps or pliers is safer), while the other hand cuts off the bottom of the scrotum from side to side (Figure 6). Be careful not to cut the testicles, your other hand or the big vein inside the calf's leg.

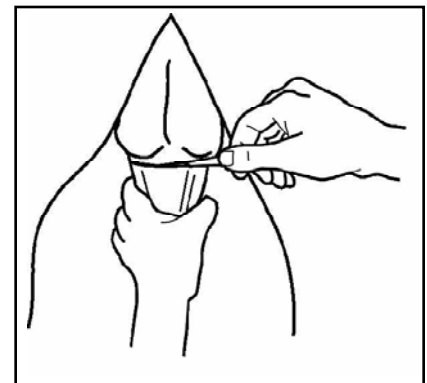


Figure 6. A clean, sharp knife or scalpel are proven methods for opening the scrotum.

Removing The Testicles

Next, grasp the tunic-covered testicle and pull it down and back with one hand while the other hand pushes the scrotal skin up (Figure 7).

Keep pulling **slowly** on the testicle until you feel the muscle in the spermatic cord separate.

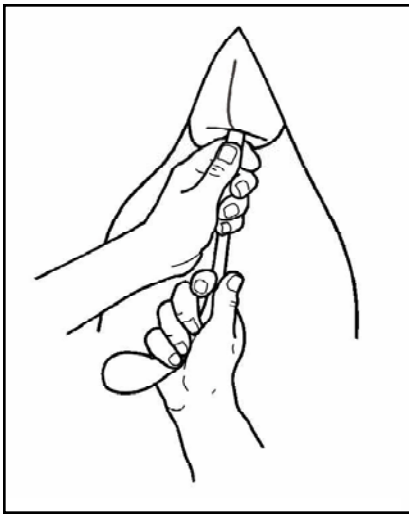


Figure 7. Removing the testicle.

Separating the muscle first reduces the amount of bleeding that occurs. Also, the calf now cannot pull the testicle back up. Grasp and pull the other testicle (Figure 8).

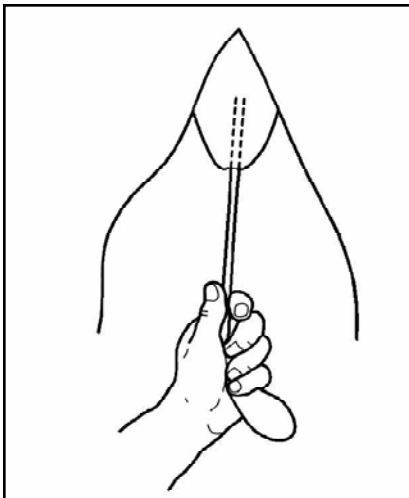


Figure 8. Slowly pull the testicle until the muscle in the spermatic cord separates.

There are two methods of removing the testicles from the calf. Emasculators are specialized instruments designed to crush and cut the spermatic cord so the testicles can be removed. Many types of emasculators are available and all can be made to work well. To use the emasculators, open the jaws and place them **straight**

across **one** spermatic cord. Make sure the crushing side of the jaws is directed up. Also, make sure that no skin is caught within the jaws. Close the jaws of the emasculator and squeeze tightly for 15 seconds or more. Remove the testicle and do the other side (Figure 9).

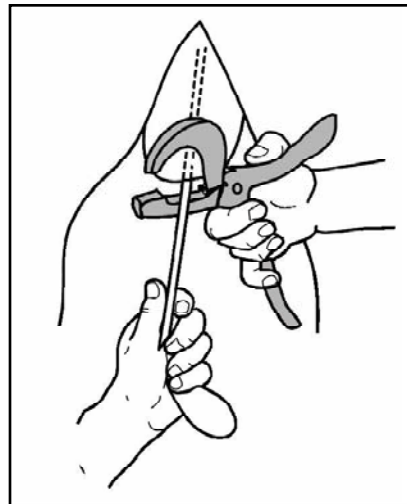


Figure 9. Using emasculators to crush the spermatic cord.

Another way of separating the cord is by using a dull knife. After the testicle has been pulled down and back, the knife blade is used to scrape the cord in a shaving motion. Eventually, the cord will be severed. **DO NOT CUT THE CORD.** Cutting the cord will result in excessive bleeding.

Wound Treatment

The final step in surgical castration is wound treatment. Flies cause annoyance and are associated with an increase in wound infections. Liberally apply fly spray repellent. Surgically castrated animals should be released immediately to a clean, dry area. Unweaned calves should be returned to their mothers. A

clean, dry uncrowded area allows the calf to calm down and walk around or lie down as it sees fit. A crowded, excited calf will bleed more. If you don't feel comfortable castrating a calf, call your veterinarian. A veterinarian can quickly and safely castrate your calves. Other health and management practices can be done at the same time.

Other Castration Methods

One of the "bloodless" methods of castration is the use of the emasculator or "clamps." This method is generally used on older, larger cattle. The emasculator is used to "pinch" the cord through the skin of the scrotum. Different sizes of emasculators are available, as one size can't be used on all animals. Emasculators eventually will wear out and not be effective. In good working order, an emasculator closed on an ordinary sheet of paper should crease the paper but not cut through it.

To use the emasculator, move one testicle to the bottom of the scrotum. Find the spermatic cord above the testicle and move it to the side of the scrotum. The jaws of the emasculator are placed over the cord and about one-third of the way across the width of the scrotum. The emasculator should be about 2 inches above the testicle on that side. The jaws of the emasculator are closed (Figure 10). It should be possible to feel the cord snap apart after the jaws are closed. After 30 seconds, the instrument can be removed. The jaws should never be clamped across the middle of the scrotum. Some operators will double clamp each

side to ensure successful surgery. Do not store an emasculatome “closed” because this can spring the tool and make it ineffective. While this method is often used in larger calves, it is slow, difficult and sometimes unreliable.

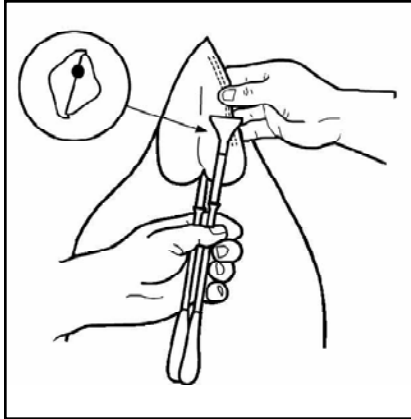


Figure 10. Using emasculatomes or “clamps” to castrate by pinching the spermatic cord.

The least desirable method of castration involves the use of elastrator bands (Figure 11). Elastrator bands are associated with a high incidence of missed testicles and wound infections, including tetanus. Growth rates are reduced

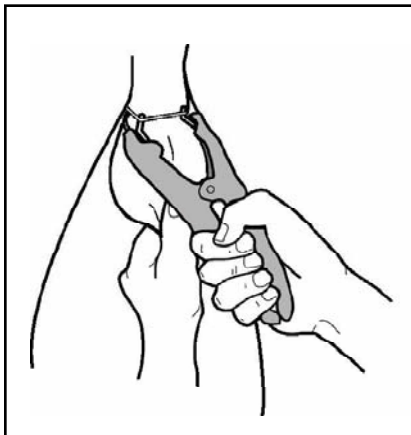


Figure 11. Using an elastrator to apply bands to castrate young calves.

for about two weeks after castration. Elastrator bands should not be used in calves older than one month of age since the band may

not cut off all of the circulation to the testicles in older calves. However, this method does not involve surgery and the necessary equipment is inexpensive.

Elastrator bands should be stored in a refrigerator so that they maintain their elasticity. To use an elastrator, first put the band on the elastrator instrument and press the handles several times to stretch the band. Hold the handles with the prongs pointed up. Close the handles to open up the elastrator band. Pass the band up and over the scrotum. Pull the scrotum down and make sure both testicles are completely below the band. Open the handles, allowing the band to close on the neck of the scrotum. Pull the instrument off the band. Always recheck to make sure both testicles are **completely** below the band. If a mistake has been made, use a sharp knife to cut off the band and repeat the procedure. After banding, calves will often show discomfort by rolling on the ground or kicking at their belly for up to 30 minutes. The calf’s scrotum should dry up and fall off in two to four weeks. Rubber banding methods have been developed for use in older, heavier cattle. These methods use surgical rubber tubing and have gained wide acceptance in feedlots. These methods are not desirable for younger calves, and the expense of the equipment may limit the acceptability of these methods to the small cow/calf producer. Castration at older ages can result in stags that are of less value than steers.

Regardless of the method used to castrate a calf, some swelling is usually noticed by one day after castration. This swelling is generally gone in a week.

Safety

Producers have been injured while castrating calves. Listed below are several tips that should help do the job more safely

- Castrate calves as young as possible. Young calves are easier to handle and also experience less stress.
- While castrating calves a few days old, keep an eye on the calf’s mother. Some cows may become aggressive if you handle their calves.
- Good handling facilities and an experienced work crew are probably the most important safety considerations when castrating older cattle.
- Place a bar behind the calf when castrating in a chute to reduce the possibility of being kicked. Make sure that the person holding the calf’s tail maintains firm, steady forward pressure so the calf will not move and will kick less.
- Use a Newberry knife to open the scrotum in surgical castration. You are less likely to cut yourself or the calf.
- If a knife or scalpel is used to remove the bottom of the scrotum, use forceps or pliers to hold the scrotum. The operator is much less likely to cut his/her hand.

Summary

Castration of the male calf is a simple, money-making practice for Tennessee feeder cattle producers. It is a simple procedure that is best done early in the calf’s life. Tennessee feeder cattle should be marketed only as steers or heifers.

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