

Surgical Castration

Types of open surgical castration:

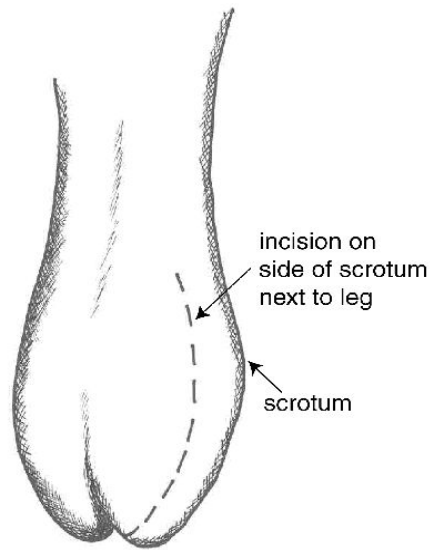
- Surgical ligation.
- Newberry knife.
- Dual-action emasculator.
- Henderson castration tool.
- Incise, twist and pull

Open-closed method

1. Standard aseptic preparation. Position yourself at the side or rear of the calf and reach forward between the hind legs.
2. Make sure the scrotum is clean. Use a mild surface disinfectant (iodine) to prepare the incision sites.
3. Make an incision to open the skin of the scrotum.
4. Pull the testicle through the incision. It will be covered with a thin, but tough, white membrane. Separate this from the testicle by pulling it away near the tip of the testicle.
5. The remaining tough cord contains the artery, veins and spermatic cord.
6. In older calves, use an emasculator to crush and cut both blood vessels and spermatic cord at the same time. An emasculator lessens the risk of bleeding. (The emasculator must be placed on the cord correctly in order to crush the cord properly).
7. In younger calves (<3 months), it is common to separate the blood vessels from the vas deferens. Shave through the vas with the scalpel. Gently pull the vessels until the strand breaks.
8. Repeat on the other side.

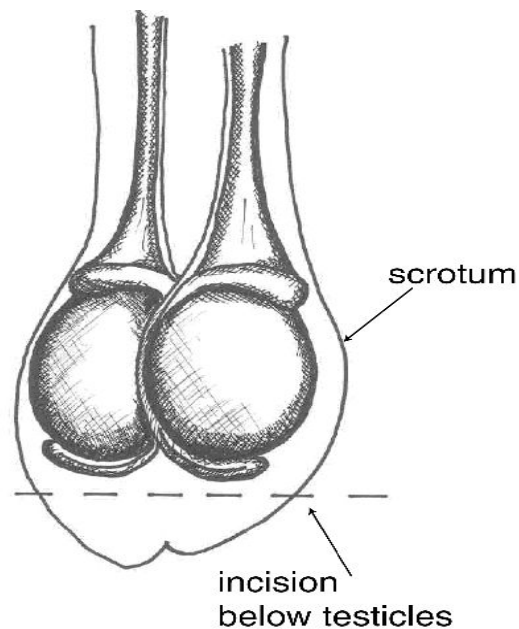
Incision Method A

- Make the incisions on the outside of the lower half of each side of the scrotum.
- Once the testicle is in the proper site, hold it there and use a scalpel to make an incision over the testicle. The incision may extend into the testicle itself.



Incision method B

- Use one incision to remove the bottom third of the scrotum. To do this, first push the testicles up toward the body so the lower third of the scrotum is empty.
- Grasp the tip of the scrotum between your thumb and forefinger. Use a sharp scalpel to cut across the scrotum just above your thumb and finger. This cut will completely remove the tip of the scrotum and the testicles will fall down or can be pulled down by reaching up into the open scrotum.
- After making the incision, the remainder of the castration is similar.



Surgical ligation: vaginal tunic is not incised.

Open-open method

Surgical castration is performed by making an opening in the scrotum & removing the testicles. In young calves, the bottom $\frac{1}{3}$ of the scrotum is removed by a horizontal incision with a sharp blade or scalpel. Isolate the spermatic cord & cut or apply tension evenly on the cord until it breaks free. For older bulls, either a horizontal incision or a vertical incision can be made. An incision should be made which is large enough to allow for drainage. The wound is left open to drain and heal via secondary intention. A newberry knife is one of the safest methods to make two vertical incisions, for the removal of each testicle. An emasculator is used to clamp and cut the spermatic cord. This should be left in place for 15 to 20 seconds to control bleeding.

Surgical ligation: vaginal tunic is incised to expose the testicle and its structures

Complications

- Hemorrhaging
- Excessive swelling of the scrotum
- Infection of the scrotal tissue
- Tetanus
- Seroma formation
- Myiasis
- Draining of scrotal sac may become obstructed