

Reproductive tract injuries of bulls

In order to be a successful breeder, a bull must produce adequate amounts of fertile semen and must be able to deliver that semen to the reproductive tracts of cows. There are a number of injuries a bull can sustain that can damage his reproductive tract to the extent that he is not capable of successfully breeding. The following are commonly encountered problems that often require veterinary diagnosis and correction.

Reproductive tract problems

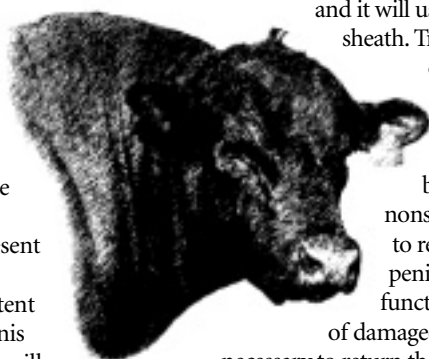
► **Persistent frenulum** —

A thin band of tissue, or frenulum, connects the penis to the prepuce of a bull at birth. This band of tissue normally disintegrates by about one year of age, but in some yearling bulls it is still present at the start of their first breeding season. A persistent frenulum will pull the penis into a rainbow shape and will prevent breeding. Correction of this problem can be achieved with a simple surgery, which is very rarely accompanied by complications.

► **Penile hair ring** — Body hair can accumulate on the penis due to riding activity. This hair can gather into a ring near the end of the penis. In some cases the ring can cause enough constriction to severely damage the penis. This condition can be discovered by routine examination of the penis during a breeding soundness examination (also referred to as a BSE). Treatment consists of removing the hair ring, but if damage is extensive, the bull may not return to service.

► **Penile warts** — Warts, which are caused by a virus, are commonly found on the penis of bulls, particularly young bulls. The warts can become quite large and prevent successful breeding. Surgical removal is usually successful, with return to breeding about three weeks after surgery.

► **Preputial lacerations with prolapse of the prepuce** — The prepuce can be lacerated during mating or from damage to the sheath. The deeper the laceration, the more serious the prognosis. Superficial tears will commonly heal with only 30 days sexual



rest. Deeper lacerations will cause the prepuce to become inflamed and swollen, and it will usually hang out of the sheath. Treatment includes daily flushing with an antibacterial solution and frequent pressure bandaging. If nonsurgical treatment fails to return the penis/prepuce to normal function, surgical removal of damaged tissue may be necessary to return the bull to breeding function.

► **Hematoma of the penis** — This condition is often referred to as a broken penis, but it is actually a tear in the fibrous, elastic layers that surround the penis. The bull will have a swelling immediately in front of the scrotum. This swelling is due to blood forming a clot around the penis. The injury occurs during mating and is considered very serious. About half of the bulls with a hematoma condition that are removed from the breeding pasture and given three months sexual rest will recover and be able to breed cows again. Slightly more bulls will recover with medical or surgical care. After the injury has appeared to heal and the swelling has disappeared, complications from the injury can still prevent successful breeding.

Complications include adhesions between the penis and prepuce, vascular damage preventing erection, nerve damage to the penis and recurrence of the hematoma.

Deviations of the penis

Earlier trauma can cause deviations of the penis after the initial damage has healed. Laceration of the prepuce or hematoma of the penis can cause scar tissue to form

between the penis and the prepuce, which can produce a deviation. Correction of trauma-induced deviations usually depends on surgical removal of scar tissue or adhesions. The prognosis for return to breeding depends on the extent of the damage.

Deviations can also occur without prior injury, and, in fact, these spontaneous deviations are more common than those caused by trauma. Spontaneous deviations are due to an abnormality of the fibrous ligament that runs along the top of the penis. This ligament is supposed to keep the penis relatively straight during erection. Three types of deviations can occur. They are:

► **Spiral** — The most common of this group is a spiral deviation, which occurs when the ligament slips off to the left side of the penis causing a counterclockwise spiral. A similar condition is commonly seen when using an electroejaculator to collect semen samples. But it is not considered a problem unless it occurs in natural breeding situations.

► **Ventral** — If the ligament along the top of the penis is thin and stretched, it cannot hold up the end of the penis, and the penis takes on a rainbow shape.

► **S-shaped** — The S-shaped deviation occurs in older bulls with an excessively long penis. The ligament along the top of the penis is strong enough but is too short. Therefore, during an erection, the penis is pulled into an S-shape.

Surgical correction has been described for spiral and ventral deviations, but long-term return to breeding is not expected.

Each of these injuries to the penis or prepuce can cause an otherwise fertile bull to fail to impregnate cows. To minimize the chances of excessive open cows, all bulls should receive a thorough physical examination along with a semen evaluation prior to each breeding season. In addition, bulls should be frequently observed during mating to ensure they are successfully breeding cows.



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