

Teaser Bull Preparation

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Introduction

Heat detection by human observation in beef cows is much more difficult and time intensive than it is in dairy cows. Consequently many producers rely on teaser bulls (a.k.a. gomer bulls). Any time one creates a teaser bull there are two main objectives. The first and most important is to be sure the bull in question is unable to impregnate the cows he is placed with. Of secondary importance in creating a teaser that is a non-entry teaser and will not spread venereal disease. In some herds the spread of venereal disease is of very little concern and as such the herd owner does not worry about this aspect. Choosing a bull from the owner's herd helps assure a healthy bull.

A third aspect that people seldom worry about is the libido of the teaser. We as veterinarians should be creating teaser bulls from young, vigorous, fertile bulls. We are occasionally presented with a cull bull (rejected because of failure to pass a breeding soundness examination) to be made into a teaser bull. This is always an uncomfortable scenario as if the bull does not have enough libido to follow and mark cows in heat we have failed in our mission. With this same thought in mind a young bull is far more sexually active than an older more lethargic bull, and therefore makes a superior teaser bull.

We are often asked how long a given teaser bull will remain sexually active, and there are certainly techniques that produce bulls that are only active (at least in the owners perception) for a year. Far too much emphasis is placed on this aspect of teaser bull preparation. From a production economics standpoint, new teaser bulls should be created each year from young sexually active bulls. These young bulls will gain weight over the summer and can be sold in the fall of the year before harvested forages and purchased feed needs to be put into them. Basically these are non-productive animals and to winter them does not produce profits.

The technique one uses to create a teaser bull is largely a matter of personal preference, although client demand may enter into the selection process.

Vasectomy

Vasectomy is one of the earliest techniques described for the preparation of a teaser bull. A vasectomy certainly fits our first criteria, that of being unable to impregnate cows. However, as it still leaves a bull capable of intromission it can spread venereal disease. We seldom use this technique unless it is in conjunction with some other technique that will prevent entry. Although an epidural anesthesia may be sufficient, vasectomies are usually performed with the aid of a local block at the surgical site.

A number of techniques have been described to perform a vasectomy on a bovine, and basically the incision or incisions can be on the front of the neck of the scrotum, the posterior side of the neck of the scrotum or possibly laterally on both sides of the scrotum. Some operators prefer a single incision over the median raphe while others prefer to make a separate incision for each vas deferens. The incisions in the neck of the scrotum need to be about 1 inch in length to allow exteriorization of the cord. Once the skin and common layer of the vaginal tunic has been incised, in a vertical manner, the parietal layer of the vaginal tunic is carefully incised to expose the contents of the spermatic cord. Care must be taken in incising the parietal tunic as damage to the pampiniform plexus creates excessive hemorrhage which is difficult to control. Once the contents of the spermatic cord have been exposed the vas deferens must be identified. The pampiniform plexus is an intermingled mass of arteries, veins and nerves, while the vas deferens lies in a fold of tunica vaginalis by itself. Furthermore the vas deferens is a firm cord like structure. Once the vas deferens has been identified it is isolated and a 2-3 cm piece is ligated with fine absorbable suture and removed. The vaginal tunics are usually not sutured and the skin is closed with non-absorbable sutures.

It is probably advisable to confirm the gross identification of the vas deferens by histopathology. This is especially important until the operator becomes comfortable with the technique. Sperm can remain viable

in the tract for up to 30 days; therefore it is advisable to not use this bull as a teaser bull for at least 30 days.

Epididymectomy

The epididymectomy consists of removing the tail of epididymus, and this technique has been described for both bulls and rams. Again this is a technique that is performed under local anesthesia and can be performed with the animal standing or in lateral recumbency. As with the vasectomy, the epididymectomy leaves an animal that is still capable of intromission so it is seldom performed as a sole procedure. The operative sites are on the ventral scrotum over the tail of the epididymis, and each incision is about 1 inch in length. While squeezing the testicle to the bottom of the scrotum the tail of the epididymis protrudes through the incision. The tail of the epididymis is separated from the bottom of the testicle and is ligated proximally and distally. Once ligated, the tail of the epididymis is removed. Care must be taken to avoid damage to the tunica albuginea and testicular tissue. Each incision is closed by two or three interrupted sutures of non-absorbable material, which are removed in 2-3 weeks.

Penile Translocation

In a penile translocation the preputial orifice, and hence the prepuce and penis, is moved to a site just lateral to the fold of the flank. This allows the penis to extend but to be deviated in such a manner as to avoid sexual contact. The animal must be placed in dorso-lateral recumbency with heavy sedation (combined with a local block) or general anesthesia. Once the animal is anesthetized and positioned, a liberal area around the penis, prepuce and ventral midline and extending laterally to the area lateral to the fold of the flank is clipped and prepped for surgery.

Several variations of this procedure have been proposed. Basically one creates a circular incision around the prepuce being about 1 inch from the preputial orifice on all sides. Once through the skin several large bleeders are usually encountered which must be ligated. Inserting a sterile glass or plastic speculum into the prepuce at this point helps delineate the preputial cavity facilitating dissection. A linear incision is extended from this circular incision around the prepuce to the base of the scrotum. The dissection is continued through the loose subcutaneous tissue freeing the prepuce, preputial opening and penis from the surrounding tissue. Care must be taken to preserve the blood supply to these tissues.

Once the penis and prepuce have been freed, a 2 inch (it should be noted that this 2 inch diameter piece of skin will expand to a 3 inch defect) diameter circle of

skin is removed from the area just lateral to the fold of the flank. Using blunt and sharp dissection, as needed, a tunnel is created from this flank incision to the caudal end of the previous incision (near the base of the scrotum). This tunnel must be large enough that the penis can freely be pulled through it without kinking or constriction. A sterile surgery glove is placed over the end of the prepuce and the prepuce is pulled up through the tunnel to exit lateral to the fold of the flank. The skin around the preputial opening is sutured to its new site using interrupted sutures of non-absorbable suture material. The ventral midline incision is closed with non-absorbable suture in a pattern of the surgeons choice.

Because of reports of bulls learning to gain intromission even with this abnormal placement of the prepuce, it is probably advisable to perform either a vasectomy or an epididymectomy before concluding this surgery. Skin sutures can be removed in 2-3 weeks, and the bull should be ready to use in 4-6 weeks.

Penis Tie-Down

By this procedure an adhesion is formed between the tunica albuginea of the dorsum penis and the ventral abdominal tunic. The patient must be sedated, and the area just anterior to the scrotum and rudimentary teats is anesthetized by local anesthesia. A longitudinal 4 inch long incision is made where the sheath attaches to the body wall (about 2 inches lateral to the midline). This incision should be midway between the end of the sheath and the base of the scrotum. Once through the skin, the subcutaneous tissue is carefully dissected to expose the ventral abdominal tunic or linea alba. All loose connective tissue should be removed from the ventral abdominal tunic as we wish to create a firm and permanent adhesion with no loose elastic tissue to interfere. The penis is brought through the incision and the urethra is identified. Once the urethra is identified it is ideal to place a towel clamp around the urethra. This not only serves as a handle for the penis but it saves further efforts at identifying the urethra throughout surgery. Once the urethra has been located (ventral on the penis), the dorsal surface of the penis from the preputial attachment posterior is cleared of any loose elastic tissue for a distance of 4-6 inches. Again removal of all elastic tissue and clean exposure of the tunica albuginea is essential for a firm and lasting adhesion.

The penis is sutured to the ventral abdominal tunic with 4-6 interrupted sutures of heavy non-absorbable suture. These sutures include the dorsal third of the penis and a half-inch bite of ventral abdominal wall. They are placed one-half inch apart, and the most anterior suture should be placed about 1 inch posterior to the preputial attachment. Care should be taken to avoid the

urethra during placement of these sutures as this can cause a urethral stricture. Once the penis is fixed to the ventral abdominal tunic the skin is closed with non-absorbable suture. Although this should create a permanent adhesion it is advisable to also perform a vasectomy or epididymectomy in case of procedure failure.

Penectomy

Penectomy has been described by several techniques. The advantage of all methods of penectomy is the fact that the short penis is incapable of intromission, so both major concerns in teaser bull preparation are met without having to add a vasectomy or epididymectomy. The earliest technique described for penectomy as a method of teaser bull preparation is similar to a urethrotomy. This surgery is performed with the bull in standing position anesthetized by epidural anesthesia or local anesthesia at the surgical site. The surgical site is the area between anus and the attachments of the scrotum. A 4 inch midline incision is made at a point halfway between those two anatomical references. The penis is separated from surrounding tissue by blunt dissection and can be pulled from its attachments on the ventral abdomen and the prepuce by strong traction. The penis is then cut off 1 inch distal to the lowest point of the skin incision, and the dorsal artery of the penis is ligated. The stump of the penis is then transfixed to the skin incision with a non-absorbable suture. The remaining part of the incision is closed with simple interrupted sutures. Special care must be taken with blood clots which may occlude the penis. The patient should be observed to ascertain that he is able to urinate. The patient must have sexual rest for 6 weeks before being used as a teaser bull.

The second method of penectomy has also been called a phallectomy in the literature. This technique is performed with the bull restrained in dorsal recumbency, with either general anesthesia or heavy tranquilization and a local block. The preputial cavity needs to be thoroughly flushed with a weak disinfectant solution. A ventral midline skin incision is made starting about 4 inches anterior to the scrotum and extending forward about 6 inches. This incision is carried through the skin and subcutaneous tissue until the penis can be isolated and delivered through the incision. Once the penis has been exteriorized the sigmoid flexure is straightened and a tourniquet is placed around the penis at the posterior aspect of the incision. The

end of the penis is amputated starting about 4 inches posterior to the preputial attachment. In amputating the penis, the incision is made at a 45 degree angle to create a ventral flap which may be sutured up over the end of the penis. The urethra is spatulated for a distance of about 1 inch, and the edges are sutured to the lateral sides of the penile stump to hold the urethra apart and to create hemostasis. The remaining end of the penile stump is now sutured over the end of the penis. The prepuce is now freed from its attachment to the glans penis and is sutured to the new penile stump with interrupted sutures. Once the tourniquet is removed from the penis the skin is closed with non-absorbable sutures.

Preputial Obliteration

In a preputial obliteration the normal preputial opening is closed and a small urinary fistula is created to allow egress of urine. Once the bull is restrained in lateral recumbency, the end of the sheath and the fistula site are locally anesthetized. A 1 inch Penrose drain is fixed to the glans penis by interrupted sutures of absorbable suture material. A communication is established with the preputial cavity by removing a 1 cm diameter piece of skin, subcutaneous tissue and preputial lining from the midline, about 2 inches caudal to the preputial orifice. The preputial lining is sutured to the edges of skin with simple interrupted sutures and the Penrose drain is brought through the fistula. The drain serves to carry urine past the fresh incision and also prevents excessive stenosis of the opening. The end of the sheath is then removed in a circumferential manner and closed in a three layer (preputial mucosa, subcutaneous tissue and skin) closure. The skin sutures and Penrose drain can be removed in 2-3 weeks.

As this bull is still fertile, it is advisable to perform either a vasectomy or an epididymectomy in conjunction with the preputial obliteration. The bull should not be used for 30 days after surgery.

Summary

There are certainly other methods to prepare a teaser bull, and they may be preferred by some surgeons. As there is no one best way to create a teaser bull, the decision as to which technique to use depends on the veterinarian, the owner and the circumstances.