TEASER PREPARATION IN RUMINANTS: A LIFE-SAVING PROCEDURE

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A teaser (gomer) is a sterilized male used to detect estrus in females. Teaser animals can be useful in cattle and small ruminant populations. Their principle use is to identify females for artificial insemination. Other potential benefits of using teaser animals include hastening the onset of cycling in young heifers and causing cows to begin cycling earlier following calving. In sheep, teaser rams are used to encourage ewes to start breeding earlier during the breeding season and for shortening the lambing period.

Goals for the creation of teaser animals include the prevention of fertilization and prevention of the spread of venereal diseases (mainly Tritrichomonas fetus in cattle). The maintenance of libido is a third and equally important goal. Prevention of fertilization is accomplished by sterilizing the animal in one of two methods, vasectomy or epididymectomy. To minimize the spread of venereal diseases, either a penopexy (prevents penile exteriorization) or translocation of the prepuce and penis (re-directs the penis) are performed.

Teaser Bulls

Choosing the correct bull to make a teaser is the first important step. A good candidate should have a mild temperament and good libido. He should be of moderate to small adult size so that he can be used on heifers without causing a problem. Ideally the surgery is performed while he is less than 600 lbs to facilitate restraint and the surgical procedure. An animal that is destined to be culled from the herd because of low genetic potential makes an ideal candidate. Finally the animal should be free of contagious disease, especially venereal diseases to avoid spreading disease among the herd. Tritrichomonas fetus is a venereal disease that is becoming increasingly more common in beef herds within the US. This disease is carried and spread by bulls within a herd and can lead to early embryonic death and abortion. Campylobacter fetus spp. veneralis causes another venereal disease leading to poor conception rates and infertility. Bulls are asymptomatic carriers and mature bulls may become chronic carriers.

The procedure is typically performed with the animal in lateral recumbency. I prefer the bull restrained on a tilt table although casted with ropes and good sedation may suffice. Local anesthesia with 2% lidocaine is infused locally over the surgical sites. Consider withholding feed 24 hours prior to the procedure to decrease the chance of bloat or regurgitation during the procedure.

Sedation increases the safety of the procedure, and makes performance of the procedure easier. Many appropriate sedation protocols have been described. The author prefers xylazine @ a dose of 0.05 mg/kg IV. Another useful sedation protocol for minor procedures is 0.01 mg/kg butorphanol, 0.02 mg/kg Xylazine, and 0.04 mg/kg ketamine given together IM. Caution should be used with acepromazine because the possibility of causing paraphimosis which can make the penopexy procedure difficult.
Vasectomy

Vasectomy is the mainstay therapy for rendering a bull infertile. The surgical incision is made directly over the spermatic cord at the cranial base of the scrotum. The spermatic cord is exposed as the fascial attachments of the cord to the scrotum are broken down. Following exposure of the spermatic cord, the deferent duct is identified by palpation. The duct will feel more firm than any other structure within the cord. A 2-3 cm section of the duct is separated from the remainder of the cord. It is ligated and transected at both ends. The skin is closed routinely. A one layer closure is sufficient. If the spermatic cord is prolapsed through the opening created in the vaginal tunic and subcutaneous tissues, it is replaced but the tunic is not closed. The author routinely lavages the tissues with procaine penicillin G (PPG) prior to skin closure. A vasectomy is performed on the opposite side in an identical manner. It is not recommended to perform both vasectomies from a common incision. The excised portions of the vas deferens should be kept for histopathologic analysis if question ever arises that the bull is fertile. Infertility is not immediate as there may be viable sperm in the duct distal to the vasectomy site. Allowing 60 days is recommended to clear out this sperm before using.

Epididymectomy

An epididymectomy is an alternative procedure for rendering a bull infertile. This procedure involves excision of the tail of the epididymis. Epididymectomy is easier to perform than vasectomy because the epididymis is larger and palpable through the skin. Located at the most ventral portion of the scrotum, it can be accessed on a standing animal easier than can the vas deferens.

Incisions are made on the ventral scrotum directly over the tail of the epididymis following a local block in the area. Firm ventral pressure is applied to the testicles to cause the tail of the epididymis to prolapse through the skin incision. The tail of the epididymis is separated from the ventral testicle. Proximal and distal ligatures are placed, and the tail of the epididymis is ligated and excised. As for the vasectomy, it is recommended to wait 60 days before using the animal for teasing to allow the distal duct to clear any viable sperm.

Penopexy

The penopexy or “penile-tie-down” is a procedure aimed at preventing penile exteriorization by establishing a firm adhesion between the penis and linea. Following local block of the skin and subcutaneous tissues, an incision is made directly lateral to the prepuce. Fascia is dissected until the linea is exposed. The penis is also exposed and dissected free from the loose fascia covering it. The urethral groove on the ventral aspect of the penis is identified. It is important that the location of the urethra is known at all times. A towel clamp placed around the urethral groove can help to keep the proper orientation of the penis during the remainder of the surgery. The dorsal aspect of the penis and the linea are scarified to promote adhesion formation.

Four to six sutures using large (recommend #3) non-absorbable (recommend Braunamid) sutures are pre-placed through the dorsal aspect of the penis and the linea. The sutures are placed through the penis directly behind the preputial reflection. Sutures should be placed approximately 2 cm apart and when tightened, the tip of the glans penis should be protected by the prepuce. It is possible to pexy the penis too far forward which can allow the tip of the glans
penis to be exposed. The surgical site is closed routinely. The author will infuse PPG in the tissues prior to closure. The bull should have at least 6-8 weeks of sexual rest to allow a firm adhesion to form.

Complications of the penopexy include infection or dehiscence of the surgical site. Breakdown of the penile pexy and subsequent penile protrusion is another possible complication. Urethral obstruction is a possible complication from surgical error. Almost inevitably, the bull will develop decreased libido. The useful life of a teaser bull is approximately 1-2 breeding seasons.

Penile-Preputial Translocation

Another method of preventing intromission is relocating the preputial orifice laterally so that the extended penis misses the vaginal opening of the cow. Following infiltration of local anesthetic around the prepuce, the prepuce is dissected free from the surrounding tissues. A 2 cm ring of haired skin is left intact at the preputial opening. A circular piece of skin is excised in the area where the flank fold meets the abdomen. This circular plug of skin should be approximately 6 cm in diameter and should be sized to accommodate the ring of haired prepuce that was previously freed. A subcutaneous tunnel is created with large forceps from the opening at the flank fold medially to the base of the prepuce. The prepuce is grasped with forceps and pulled through this subcutaneous tunnel. The author uses a sterile palpation sleeve to cover the haired portion of the prepuce to decrease contamination of the subcutaneous tissues. The ring of skin around the preputial opening is sutured to the skin of the lateral abdominal wall with simple interrupted sutures. It is important to verify that the prepuce is not twisted prior to suturing. Successfully passing a long instrument through the prepuce will assure that the preputial lumen is patent. The midline skin incision is closed routinely.

Teaser creation in small ruminants

The principles for creation of teasers in small ruminants are the same as that for cattle. Venereal transmission of Trichomonas is less of a problem for small ruminants and therefore often only the vasectomy or epididymectomy is performed. The surgical procedure is the same for the ram and buck as it is for the bull. Restraint is often easier in the small ruminant as the procedure can usually be performed with sedation, a local block and manual restraint in a casted position.

Under Xylazine sedation, (0.05 mg/kg) the buck is cast and placed into a sitting position. An assistant can sit in a chair during the procedure and hold the animal between their legs rather comfortably. The vasectomy can be performed easily while the animal is in this position. Lidocaine is infused in the skin and subcutaneous tissues at the base of the scrotum or over the tail of the epididymis. The toxic dose of lidocaine is much lower in small ruminants and one should be cautious in these animals. 4 mg/kg of lidocaine (approximately 1 ml of 2% lidocaine per 10 pounds of body weight) is usually thought to be a safe dose for sheep and goats.

6-8 weeks of sexual rest to ensure all viable sperm distal to vasectomy site is cleared out. A semen check to ensure infertility is recommended prior to use.
Non-surgical methods:

In goats, intersex animals have been used very successfully to identify cycling animals. A teaser can also be created hormonally. A wether, doe or ewe that is not actively being used for breeding can be used for a teaser by the administration of testosterone propionate. The dose is 100 mg testosterone propionate every third day. Alternatively 150 mg may be administered weekly. Testosterone administration should begin 3 weeks before the teaser is used and administration should continue through the breeding season.