Repair or Replace - Preputial Resection Revisited

Dr Alan Guilfoyle
Partner, Clermont Veterinary Surgery
Adjunct Senior Lecturer James Cook University
Clermont Qld 4721

Introduction
Preputial repair surgery is always tempting to do (“because I can do it”) but what is the ultimate objective? Assessment of each case is essential for success but more importantly, is a genetic fault being perpetuated? Surgery, if attempted, is aimed at retrieving as much healthy tissue as possible and minimising the effects of scarring.

Ethics
“As vets, our job is to enhance Darwin, not bypass him”. In production animal medicine, the failure to rid a herd of genetic faults can lead to ongoing loss of production and economic wastage.

What may be accommodated in commercial beef production, certainly may not be tolerable in seed-stock herds.

Considerations
The deliberate selection for desirable traits in production animals (polled, daily weight gains) unfortunately more often than not is also accompanied by unintentional selection of less desirable traits (loose and heavy sheaths with tendency to preputial prolapse).

Hence, commercial breeding can be an ongoing balance of characteristics (some herds may get “too tight” in conformation so a “loose” bull is introduced).

Stud breeding however is aimed at perpetuating the pureness of the breed with all the desirable characteristics. Some breeders try to breed the “cake” rather than the “recipe ingredients”

Assessing the Case
“Did it break or did you break it?”
1. Establish the cause of the injury - Breakdown, external injury, nutrition or disease.
2. Stud or commercial
3. Prognosis and cost benefit analysis; salvage or return to breeding
4. Insured or money back
5. Other: temperament, conformation, “last of the line”

Assessing the Surgical Approach
• Need a healthy “neck” of normal tissue below the hairline which is the operation site
• Ensure that there is no active inflammatory or infective process present – if so treat and defer surgery until “healed”
• When the prepuce is severely damaged, need to reclaim as much preputial tissue as possible

Pre Surgery
Regurgitation and inhalation of rumen contents is a hazard of ruminant surgery under sedation and in the recumbent position.
Ensure the animal is off food for twenty fours and water for twelve hours

**Anaesthesia & Restraint**

“Best anaesthesia is the one you know” and is dependent on the method of restraint.

1. Standing - sedation with epidural and pudendal block
2. Recumbent - full sedation
3. TipTable - sedation and regional anaesthesia
4. Work Place Health & Safety must be considered

**Preputial Resection Method**
Use of towel clips allows for easier alignment and handling of tissues.

Cruciate of #2 absorbable synthetic (or material of choice) are placed through all layers eliminating any dead space.

Incision now made along cranial aspect. This rarely can be done with scissors due to the amount of scar tissue present.

This is thick scar tissue.

Again top of incision, skin and mucosa are secured.

The “V” is made at the top of the incision.

and sutures placed.

The prolapse has now been divided into two “flaps” with the top section of each incision sutured down to length of 25mm.
At a line defined by the level of the bottom sutures, a incision is made across the skin of one prolapse section.

An incision is then made across the mucosa at the same level but saving if possible some extra mucosa.

The prolapsed portion is then completely excised and any bleeders clamped off.

The skin, mucosa and underlying tissues are then pulled together and held by towel clips.

Any bleeders are ligated with preferably plain gut or similar suture of choice.
The line is closed with single interrupted sutures through all layers leaving the tag ends at least 40mm long (for ease of removal later).

Before starting on bottom portion, the prepuce can be anchored up against the abdominal wall with towels clips (if working with minimal labour) or held by an assistant.

The process is then repeated on the bottom portion of the prolapse.

Skin

Mucosa

Subcutaneous tissue – may use scissors if preferred.
Don’t panic if you think you are lost!

Bring skin, mucosa and underlying tissues together with a towel clip.

The underlying tissue can easily slip away. Ensure that these tissues are included when the skin and mucosa are sutured together.

Otherwise an open blood vessel may pull away causing haemorrhage and a haematoma.

When operation is complete, a “V” should be visible at arrows.

The double “V” in the excision line allows the site to heal with minimal risk of stricture due to scarring.
Aftercare

- Slinging is usually not required as the bull should be able to retract the remaining prepuce. Antibiotics and antiinflammatories of choice can be used.
- Sutures can be removed after 14 days if absorbables are not used.
- “Physiotherapy” can be allowed after three weeks but the bull should be placed back into general work under the wound area has completely healed.

AFTERCARE

- Antibiotic, anti-inflammatory therapy of choice. A suitable ointment of choice is put over the suture line.
- Sutures removed 10 -14 days.
- Restricted “physiotherapy” at three weeks. When serving capacity is OK, return to herd.