

Surgical Procedures of the Genital Organs of Bulls



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KEYWORDS

• Bovine • Bull • Surgery • Genitalia • Fertility

KEY POINTS

- Injuries affecting the reproductive tract of bulls can cause pathologic changes that result in substantial economic and genetic losses to beef or dairy producers.
- Findings during a thorough physical examination are helpful indicators for the need to perform surgery and correct any abnormalities of the reproductive tract causing infertility.
- Injuries, diseases, or conditions of the reproductive tract of bulls can be managed surgically or treated to preserve the genetic potential of the bull.

PRESURGICAL CONSIDERATIONS

The majority of the reproductive tract abnormalities involving infertility in a bull are diagnosed via a thorough history and physical examination; seldom, a more in-depth diagnostic evaluation is required. The history should describe the bull's reproductive status and may include information such as conformation, gait, copulatory performance, drug therapy, behavioral changes, previous injuries, illnesses, or prior urogenital surgery.

Examination of the Genital Organs of the Bull

The penis and prepuce, from the sigmoid flexure to the glans penis, are examined easily with the bull adequately restrained. These structures, along with the scrotum and testes, should be evaluated visually and by palpation. Enlargements or restriction of movement inside the sheath should be considered abnormal (**Fig. 1**).^{1,2}

The authors have nothing to disclose.

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Fig. 1. Restraint of the bull (A) and evaluation of the external genitalia (B). General conformation of the scrotum and testicles, penis, sheath, and prepuce should be palpated and evaluated visually from the sigmoid flexure to the glans penis.

The penis and prepuce are examined after extending the penis manually by transrectal rectal massage or by electroejaculation. The bull's penis is most easily extended while the bull is mildly sedated. Massage of accessory sex glands, as well as manually straightening the sigmoid flexure after the bull is sedated, exposes the penis (**Fig. 2**). The penis can also be desensitized and extruded by anesthetizing the internal pudendal and middle hemorrhoidal nerve at the lesser sciatic foramen. An internal pudendal nerve block is indicated when anesthesia of the penis, prepuce, or retractor penis muscle is desired for any standing surgery.³

Palpation and ultrasonographic examination are important means of evaluating the accessory sex glands (**Fig. 3**). Ultrasonography can also be used to assess the physical status of cavernous tissue and to identify urethral abnormalities. Ultrasonographic examination of a penile hematoma may identify a rupture of the tunica albuginea.^{4,5}

Other evaluations less commonly used include endoscopy, contrast radiographs of the cavernous spaces (cavernosography) for identifying a rupture or laceration of the tunica albuginea of the corpus cavernosum penis and also determining the cause of persistent impotence, and vascular shunts.^{6,7} Urethral catheterization for obtaining fluid from the seminal vesicles for cytologic examination and culture.^{8,9}



Fig. 2. Evaluation of the penis and prepuce.

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