

STEP-BY-STEP

Soft Palate Advancement Flap for Palatal Oronasal Fistulae

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The soft palate advancement flap can be used to correct caudal to mid-palatal oronasal fistulae.¹ Palatal oronasal fistulae involve palatal mucosa and underlying palatal bone allowing for communication with the nasal cavity. The possible causes of palatal oronasal fistulae include congenital anomaly, complications of cleft palate repair, and injury from trauma (gunshot, vehicular, falling, electrical shock, foreign body, ingestion of caustic chemicals, or bites).^{1,2} Clinical signs of oronasal fistula may include chronic rhinitis, sneezing, and mucopurulent nasal discharge. An obturator device may be used to occlude the defect,³ however surgery is generally recommended for repair of palatal oronasal fistulae. A soft palate advancement flap technique for repair of caudal palatal oronasal fistulae using a feline cadaver specimen is described step-by-step.

Figure 1

Oral photograph showing a simulated caudal palatal oronasal fistula in a feline cadaver specimen (A). Bilateral maxillary nerve blocks should be done before beginning the procedure.⁴ Anatomical considerations include the major palatine foramina located in the maxillary bone, halfway between the dental arch and midline at the level of the mesiopalatal root of the fourth premolar tooth (green arrow). The major palatine artery, vein, and nerve exit each foramen and course along the palatine sulcus. The sulcus is located halfway between the midline and the dental arch (yellow arrows). The artery enters the nasal cavity through the palatine fissure (red arrow) [B].²

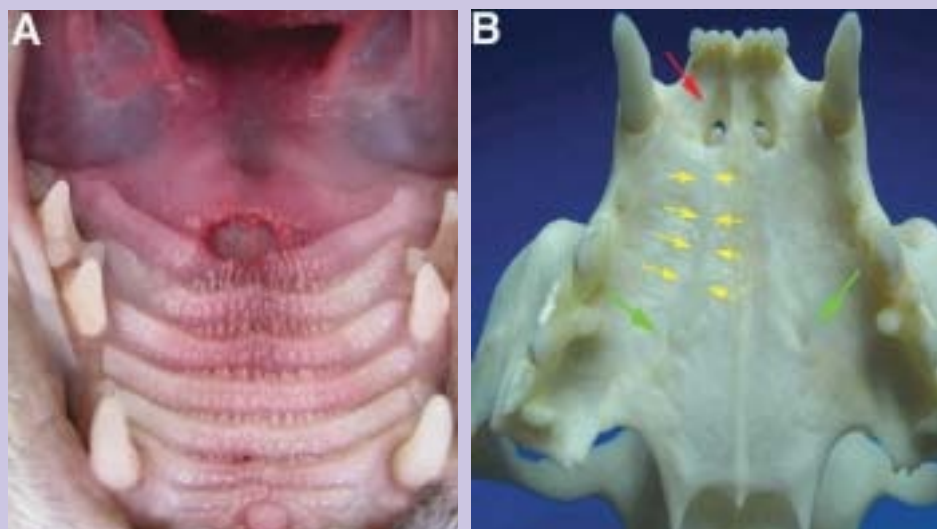


Figure 2

Oral photograph showing a simulated caudal palatal oronasal fistula in a feline cadaver specimen. A probe is used to measure the defect (4-mm) [A]. A # 15 scalpel blade is used to remove peripheral tissue extending 2-mm beyond the bone defect. The caudal extent of the right and left edges of the defect are extended caudally using a # 15 scalpel blade. The incisions diverge slightly to optimize blood supply at the flap base. The incised tissue surrounding the defect is removed. A periosteal elevator is used to separate the palatal mucosa and attached periosteum from the underlying bone. This incision is then carried toward the oropharynx to the point that eliminates any tension at the rostral aspect of the flap and the edge of the defect. Rough bone edges should be removed with a carbide or diamond bur (B).¹



Figure 3

Oral photograph showing repair of a caudal palatal oronasal fistula in a feline cadaver specimen. The flap is elevated to allow direct visualization of the nasopharynx facilitating removal of any debris or devitalized soft tissue. Stay sutures are used to decrease trauma during elevation and manipulation of the advancement flap (A). The elevated flap is advanced into position without tension (B).



Figure 4

Oral photograph showing the repaired caudal palatal defect in feline cadaver specimen. The wound closure is done in two layers. The nasal mucosa is apposed using 5-0 monofilament absorbable suture^a in a simple interrupted pattern.² The palatal aspect should be sutured in a rostral to caudal direction using 4-0 or 5-0 monofilament absorbable suture^a in a simple interrupted inverted pattern leaving knots on the nasal aspect. Patient size influences knot location and the ability to appose the flap using a two-layer closure.



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