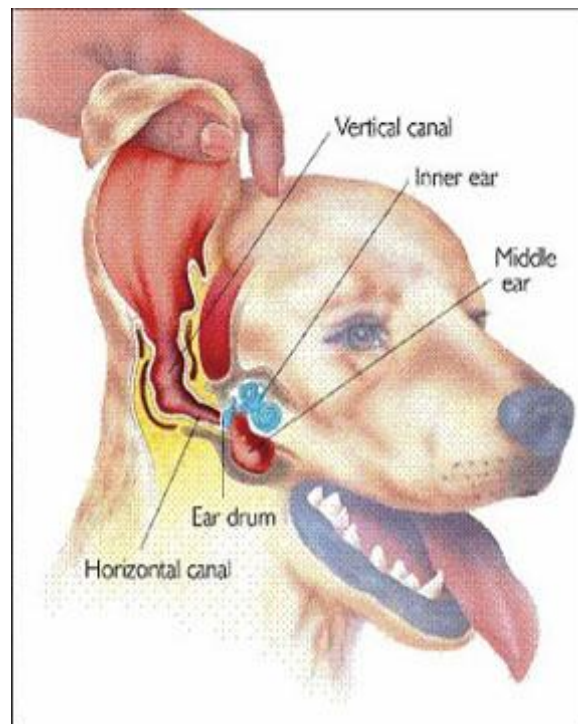


EAR CANAL ABLATION AND BULLA OSTEOTOMY

The canine and feline ear is comprised of the pinna (ear flap), vertical ear canal, horizontal ear canal, middle ear, and inner ear. The ear canal is mostly comprised of secretory epithelium (skin) and cartilage. The middle ear is deep to the ear drum and is surrounded by bone known as the tympanic bulla. The inner lining of the middle ear also consists of secretory epithelium.



<http://www.fitzalanhouse.co.uk/>

The total ear canal ablation (TECA) is a procedure that surgically removes the entire ear canal (both vertical and horizontal components). The goal of the TECA is to remove all diseased portions of the ear as well as any secretory epithelium in the middle ear.

When to Consider TECA

Most animals that present to DVSC for TECA are those who have had chronic

infections affecting one or both ears. These patients present with clinical signs including head shaking, ear exudate, persistent scratching of the ears, malodorous ears, and pain. Conditions that may lead to these signs include otitis externa/media (ear infection), inflammatory polyps, neoplasia (cancer), trauma, and congenital abnormalities. The patients who have chronic symptoms that cannot be medically managed are potential candidates for TECA.

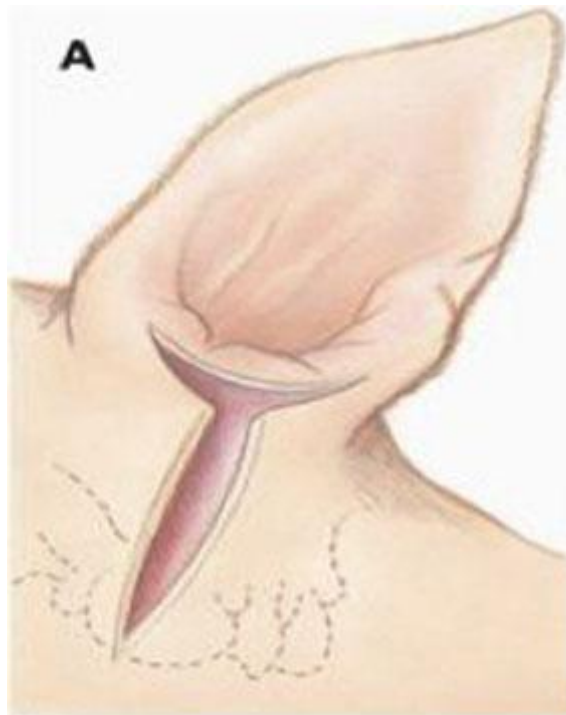
Diagnosis

The most common reasons for chronic aural disease are otitis externa/media, inflammatory polyps, and neoplasia. The diagnosis of these etiologies relies on a combination of historical information, physical examination, otoscopy, biopsy, and/or diagnostic imaging (radiographs or CT). An experienced veterinary surgeon can help recommend appropriate diagnostics on a case-by-case basis.

Procedures

Total Ear Canal Ablation:

(A) A T-shaped incision is made in the skin at the opening of the ear canal



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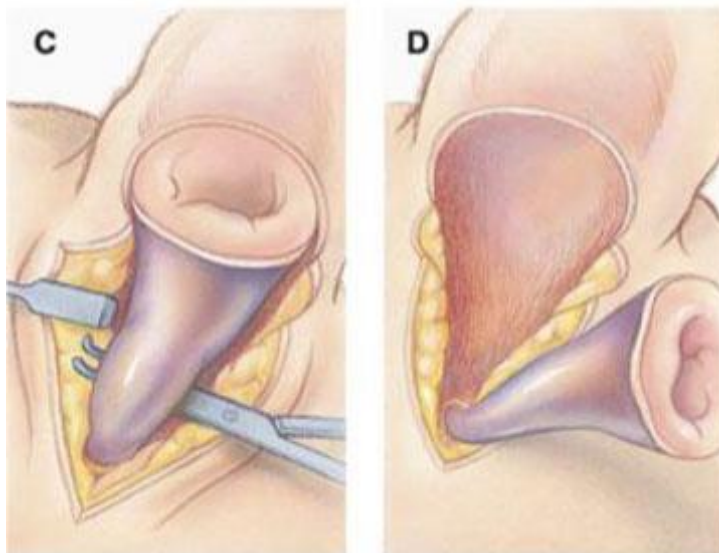
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B) Sharp dissection is used to incise around the external opening of the ear canal and separate it from the base of the pinna.



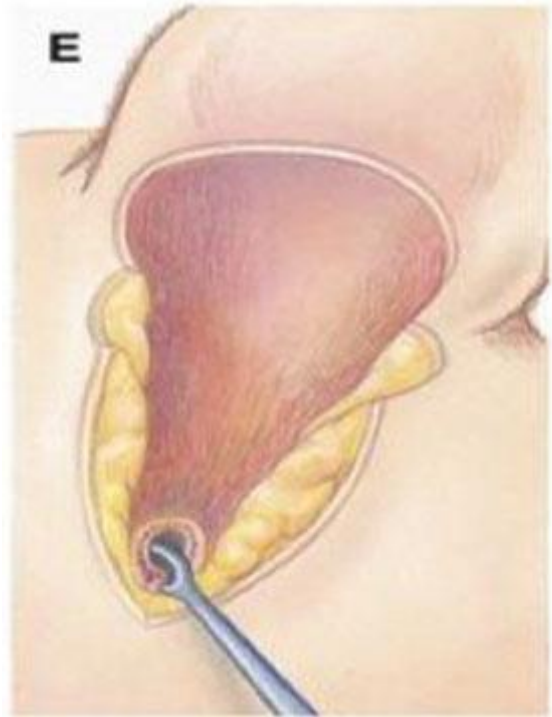
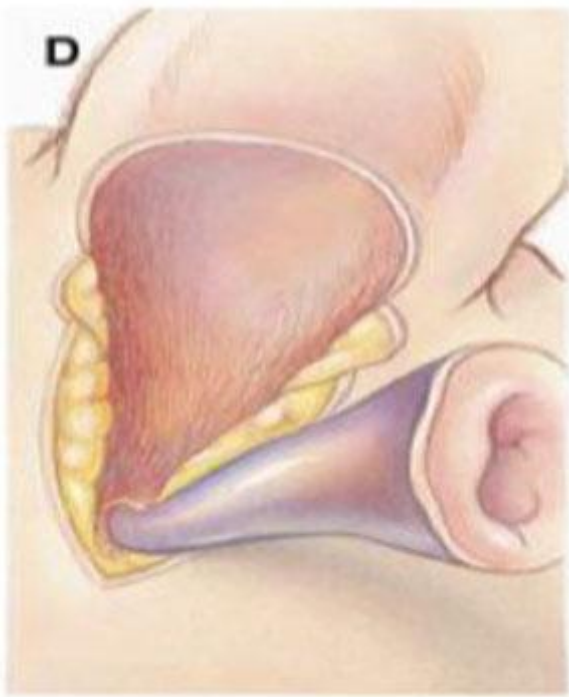
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(C-D) Careful blunt dissection is then used to separate the cartilaginous ear canal from the surrounding soft tissues of the head.



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(D-E) The ear canal is then sharply separated from its attachment to the external acoustic meatus (opening to the middle ear).

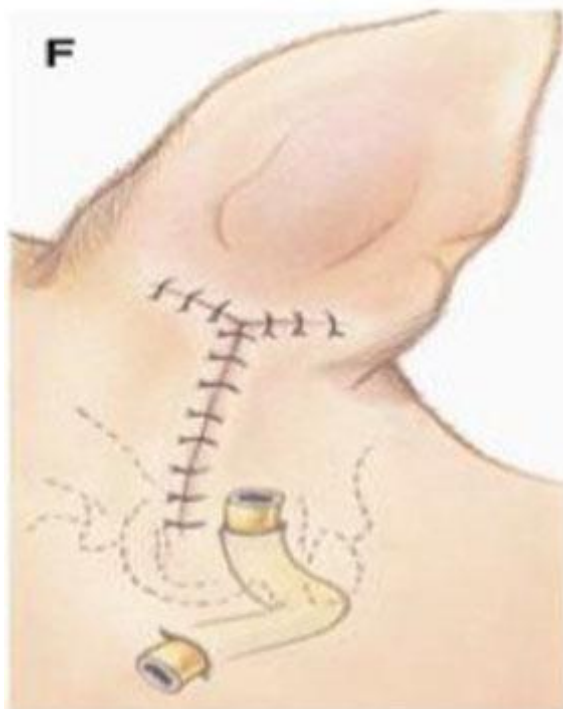


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Bulla Osteotomy

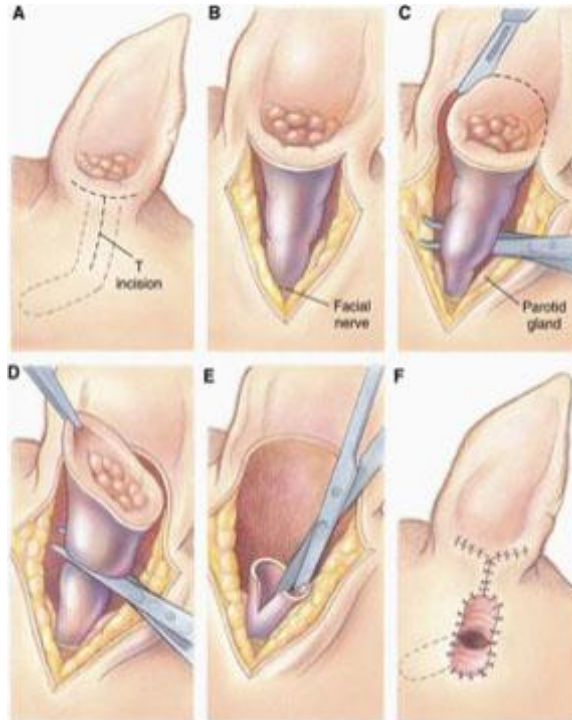
(E - above) The middle ear is then further exposed and curettes are then used to scrape the inside of the bulla, removing as much secretory epithelium as possible.

(F) The incision is closed with suture material. A surgical drain may be placed depending on surgeon preference.



Vertical Ear Canal Ablation

Uncommonly, when only the vertical ear canal is affected or there is mild disease, a vertical ear canal ablation may be performed. This procedure is similar to a TECA however the horizontal ear canal is preserved. Successful outcomes with this procedure are much lower than those of the TECA.



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Complications

Intra-operative complications may include hemorrhage and nerve damage due to the ear's close association with vascular and nervous structures. Damage to certain nerves can cause symptoms such as Horner's syndrome, facial nerve paralysis, and deafness. Usually Horner's syndrome and facial nerve paralysis are transient, but a small proportion of patients may have permanent neurologic dysfunction. Cats seem to be more sensitive to neurologic complications than dogs. Rarely will significant hemorrhage occur.

Post-operative Care

Post-operative, patients are kept on pain medications and activity restriction for 2-4 weeks. An E-collar (cone) is provided so the patient does not scratch at the surgical site. Incisions are monitored for any signs of dehiscence, inflammation, pain, and/or drainage. Usually incisions take about 2 weeks to heal. Sometimes cold/hot packing the surgical site may be beneficial in decreasing swelling and fluid production.

Prognosis

Prognosis is dependent on the etiology of aural disease. Up to 90% of patients with otitis externa/media that are treated with TECA have successful outcomes. Numerous clients have commented that removal of the diseased ear canals greatly improves the patient's quality of life. The need for topical medications is eliminated, and the patient's discomfort is alleviated. Inflammatory polyps are essentially cured after TECA. Prognosis with aural neoplasia is variable and depends on the type of neoplasia, duration of growth, and severity. Studies have shown that tumors found within the ear canal are best treated with a TECA. This provides the best opportunity for curing the patient of the tumor, and minimizes the risk of leaving neoplastic cells in the surgical field. An experienced veterinary surgeon can help determine prognosis on a case-by-case basis.

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