

Otology in the Dog & Cat: A Clinicians Approach to Diagnostics & Treatment

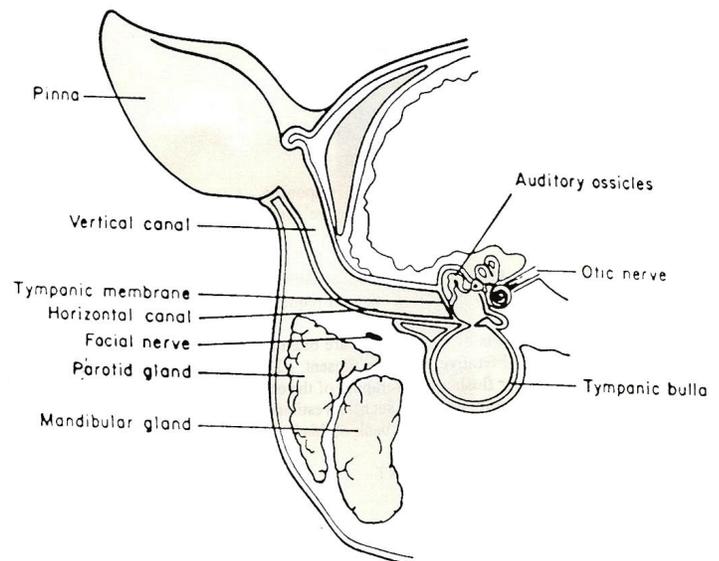


Klaus Loft, DVM
dermatology@angell.org
angell.org/dermatology
617-524-5733

The structure of the ear in dogs and cats can make them more prone to ear infections, but rarely is a primary cause of otitis externa.^{1,2}

Otitis externa is inflammation of the outer ear. Most cases of otitis externa or media presenting for ear symptoms have a concurrent secondary condition such as a bacterial or fungal infection that is perpetuating the ear inflammation. If this condition has lasted more than 6 weeks or has recurred multiple times, it is classified as “chronic.” Chronic otitis externa can progress and extend beyond the tympanic membrane (eardrum) into the middle ear (otitis media) or even the inner ear (otitis interna).^{3,4}

Recurrent otitis externa, if not treated properly, can cause chronic and irreversible damage to the ear canal such as narrowing of the ear canal lumen called stenosis. This stenosis will ultimately interfere with hearing, medication application, cleaning, and normal aeration. Additional complications of improperly treated otitis externa include head tilt, localized nerve damage (facial paralysis) and otic mineralization, where normal cartilage begins to mineralize, essentially hardening into bone.



This can be a painful condition which, in extreme cases, requires surgery to remove the ear canal completely (Total Ear Canal Ablation with Bulla Osteotomy - TECABO)⁵.

As a general rule, chronic reoccurring otitis externa does not just occur at random. We believe that there are numerous factors that can contribute to the development, severity, and duration of otitis externa once the inflammatory process is established.

The 3 P's of otitis in cats and dogs ^{2,6,7}

1. *Predisposing factors*

- Conditions that facilitate and increase the risk of localized inflammation and infection (unlikely to cause disease without a “catalyst”)

2. *Perpetuating factors*

- Factors that will maintain/worsen the inflammatory process and or “prevent” the elimination of the problem

3. *Primary factors*

- Conditions/disorders that can initiate inflammation in the ear canal

Common underlying causes for ear infections

- Allergic disease (atopic dermatitis of both cats and dogs, cutaneous adverse food reaction, less commonly to be associated with feline ear issues)
- Parasites (ear mites, ticks, demodex)
- Foreign bodies (grass awns, dried medication and/or wax, displaced hairs)
- Diseases causing abnormal skin renewal time (keratinization disorders, immune mediated dermatosis)
- Trauma (excessive ear cleaning, using Q-tips, hair plucking)
- Tumors (benign polyps, benign masses, malignant masses)
- Drug reactions (ear cleaners, topical, and systemic pharmaceuticals)

Diagnosis

Steps to diagnose and manage the pet's ear infection.

- Otitoscopic examination and documented findings (videoscopic or hand held otoscopy)
- Ear cytology before treatment and/or culture and repeat cytology at end of treatment
- Bacterial culture - always do cytology when submitting cultures (Aerobic, Modified Jo-EYE, Anaerobic⁸⁻¹¹)
- CT/MRI Scan
- Deep ear flushing under general anesthesia to visualize and remove accumulated material and biofilm^{12,13} from affected ear canal and middle ear. Plus collect samples for cultures and biopsies.

Treatment

Most ear infections are treated with a combination of ear cleaning and topical ear medications. If the infection is especially severe or is very deep (middle ear infection), one or more in-hospital flushes may need to be performed. These flushes may be performed awake or require full anesthesia depending on the severity of the condition. Oral medications may also need to be prescribed.¹⁴

Recheck examinations with ear cytology will be necessary prior to discontinuing medication to determine when your pet's ear infection has fully resolved. In extreme cases of otitis media and otitis interna, surgery may be required to access these cavities for treatment of any associated infections.

Since otitis externa and media are often associated with primary allergic disease, management is often lifelong... To hydro-b or not to hydro-b (modified after W. ShakespEARe)

Helpful Links

- North American Vet derm meeting: www.navdf.org/
- AAVD North American vet derm group www.aavd.org
- ACVD American college of Veterinary dermatology www.ACVD.org
- European Vet Derm group www.esvd.org/
- World Association of Vet Derm www.wavd.org
 - <https://wavd.org/continuing-education/consensus-guidelines/>
- World Society of vet dermpath www.ISVD.org

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Angell Dermatology: Phone: 617-524-5733 • Fax: 617-989-1613 • dermatology@angell.org • angell.org/dermatology

Angell Animal Medical Center • 350 S. Huntington Ave., Boston, MA 02130 • 617-522-7282 • fax: 617-989-1635
MSPCA-Angell West • 293 Second Ave., Waltham, MA 02451 • 781-902-8400 • fax: 781-622-1410

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