



Ear Infections



Evaluation of the Patient with Ear Disease
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Treating the Patient with Ear Disease
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Causes of Ear Disease

Ear disease, one of the most common conditions seen in veterinary medicine affects approximately 15-20% of all canine patients and 6-7% of all feline patients. The term otitis externa refers to an inflammation of the external ear canals, whereas otitis media refers to middle ear disease, and otitis interna is a disease of the internal ear. It is vital to understand the underlying mechanisms of ear disease and to direct treatment at all of the contributing factors in an effort to effectively treat and resolve these complications. Because there are so many components to ear disease, it is easier to categorize them into primary, predisposing and perpetuating causes.

Primary Causes of External Ear Disease

Because the external ear canal is lined with skin, any disease that affects skin can also cause abnormalities in the ear canal. Primary causes of ear disease are conditions which by themselves can cause inflammation in the ear canal. Some of these include parasite infestations (such as *Otodectes earmites* or *demodex mites*), allergies (to food or environmental allergens such as pollen or dust), foreign material in the ear canal (such as plant material or buildup of cerumen/wax), hormonal diseases (such as low thyroid), autoimmune skin diseases, and ear canal tumors or polyps.

Predisposing Causes of External Ear Disease

Predisposing factors of ear disease are those that change the climate within the ear, allowing for inflammation or infection to easily develop in animals with a pre-existing primary disease.

Anatomical variability between breeds is one of the most common predisposing factors. Narrowed ear canals or excessive ear folds (ex. Shar Peis and Bulldogs) can trap moisture, wax and debris, which prevent the body's ability to rid those components. . Excessive moisture in the ears from swimming or bathing can promote inflammation as well. Trauma to the ear canal, such as using Q tips or irritating topical substances, may also harm the ear canal lining.



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Perpetuating Factors of External Ear Disease

Perpetuating factors include anything that prevents normal and prompt resolution of ear disease. These factors are not the reason for the initial onset of disease, but need to be addressed before healing is possible. The most common perpetuating factors for chronic otitis are secondary bacterial or yeast ear infections. A common misconception is that bacterial or yeast infections are a cause of chronic or recurrent ear disease. In fact, these infections are only possible because of underlying primary factors. It is imperative to keep this in mind as our job should not end with just ridding the ear of secondary infections but identifying and treating the underlying cause of the infections so that they stop recurring.

Another potential perpetuating factor is caused, ironically, by the treatments themselves. Some animals may develop contact reactions to topical medications. Overmedicating can also be problematic as the excess medication keeps the skin of the ear canals wet and ulcerated, ultimately preventing or slowing the healing process. On the other hand, under medicating may not rid the ear of organisms or adequately treat inflammation. Inappropriate use of antimicrobial drugs is also detrimental. For example, treating a yeast ear infection with an antibiotic (meant for bacteria) will not cure the infection and may do more harm than good. Hence, the importance of performing cytology (microscopic examination of ear debris) on both ears ear each time a pet is presented for a possible infection. Not only does this enable identification of the organism(s) present (bacteria, yeast or both) but it aids the doctor in choosing which type of medication is appropriate for your pet.

Another common, but unfortunately under diagnosed perpetuator of external ear disease is otitis media, or middle ear disease. Otitis media is present in up to half of all dogs with chronic otitis externa and needs to be addressed before external ear disease can be resolved.

Lastly, when ear infections become very chronic, ear canal scarring, narrowing and even calcification (hardening into bone) can occur, making it even more difficult and sometimes impossible (in cases of ear canal calcification) to clear ear infections and resolve ear canal inflammation.