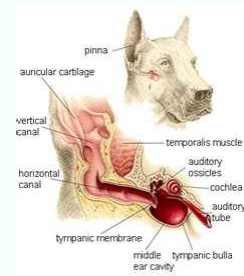




## Ear Infections Understanding a Frustrating Disease

### Anatomy of the ear: four main areas

1. **Pinnae:** Ear flap, skin that overlays cartilage
2. **Outer (external) Ear:** Ear canals, both vertical and horizontal canals and glandular structures (earwax production).
3. **Middle Ear:** Eardrum, hearing apparatus, Eustachian tubes and facial nerve
4. **Inner Ear:** Vestibular apparatus and cochlea for hearing and balance



### Primary Causes of Infection

**Hypersensitivity Diseases:** Allergies (#1 cause of otitis in dogs), food allergy, contact allergy, atopy (inhaled allergies).

**Parasites:** Ear mites (#1 cause of otitis in cats), Demodex mites, Sarcoptic mite and ticks.

**Keratin disorders:** Hypothyroidism, Seborrhea, excessive earwax production.

**Glandular Disorders:** Gland hyperplasia, altered secretions.



Chronic ear infection

### Diagnosis of Otitis

1. Receiving an accurate history from the pet owner.
2. Physical Exam: Feeling the ears and ear canals and otoscopic exam (looking into the ears and canals with magnified light source instrument).
3. Cytology: taking a swab of the discharge in the ears, making a slide and looking at it under the microscope this can determine if we are dealing with a yeast or bacterial infection and how severe an infection may be.
4. Culture and Sensitivity: Special sterile ear swab sent to a lab, to see if any resistant bacteria are grown and is recommended for chronic or persistent problems.

### Treatment & Management of Ear Infections

**Ear cleanings:** A thorough ear cleaning is important for effective management of ear infections. If earwax or debris is not removed, then topical ear medications cannot reach the lining of the ear canals.

**Appropriate therapy or medications:** Topical medications or oral medications many times chose by what is found on cytology and occasionally anti-inflammatory medications.

**Instructions for owners on ear cleanings:** Owners should know how to clean their pet's ears, how

often and what cleaner to use.

**Recheck/follow-up appointments:** Setting up recheck appointments is important because many times the doctor will request a follow up for many reasons. May be to let medication start working and then come back in for a proper ear cleaning and give more or add different medications.

**Determine underlying primary cause:** When possible the underlying cause should be identified and also treated as part of therapy. (Ex. Allergies).

**Remember:** Adequate cleaning (including at home) is usually what makes the difference between cases that resolve and those that become chronic.

### Three Types of Infection

**External Ear Infection (Otitis Externa)** Acute or chronic inflammation of the external ear, but can include pinnae.

Can lead to swelling and narrowing of ear canals.

Long-standing irritation can result in mineralization and hardening of the canals.

Most commonly seen in dogs (approx. 20 % or more of dogs seen by vets) and less commonly in cats.

**Middle Ear Infection (Otitis Media)** Usually results from the spread of external ear infection across a ruptured eardrum.

**Inner Ear Infection (Otitis Interna)** Results in extension of middle ear infection and is rare.



### Clinical Signs of an Ear Infection

Itchy, Painful ears, shaking of the head, redness, swelling, discharge, odor, hair loss, crusting, scaling, ulceration, scabs, broken hairs, crying/whimpering when ears are touched.

### Predisposing Factors

**Anatomy or conformation of the ears:** narrow ear canals, long canals, and floppy ears.

**Excessive moisture:** Swimmers or bathing

**Excessive hair:** reduces airflow and will trap bacteria/yeast.

**Inappropriate treatment by owners:** using the wrong ear cleaner or over the counter medication, irritating ear cleaners or not cleaning well.

**Obstructive ear disease:** polyps or tumors

If you have a concern about your pet's ears, call us today!

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