



## Otitis Externa (Ear Infection)

### ABOUT THE DIAGNOSIS

Otitis externa is inflammation of the outer ear canal. It occurs very commonly in dogs (especially “floppy-eared” breeds like cocker spaniels and Cavalier King Charles spaniels) and rarely in cats, except when cats have ear mites. In dogs and cats, the outer ear canal is a tube that has two components: a vertical part and a horizontal part. The opening in the ear that we see when we look at the inside surface of a dog’s or cat’s ear leads immediately to the vertical part. This vertical part of the canal extends inward and bends to become the horizontal part, which is narrower in most animals. At the end of the horizontal part of the external canal is the eardrum (*tympanic membrane*). On the other side of the eardrum are the middle and inner parts of the ear. The outer ear has an overall funnel shape that has the important function of conducting sound waves to the eardrum. The outer ear is lined with skin that contains glands that produce wax and other substances.

**Symptoms:** In animals with otitis externa, the skin that lines the outer ear often becomes red, itchy, and painful. Pus, waxy material, and other debris can accumulate. Otitis externa can be very uncomfortable for your pet and should be treated as soon as possible. Otitis externa can cause head shaking, scratching and rubbing, a foul odor, abnormal behavior or even irritability, and hearing loss in long-term situations.

**Potential Causes:** In many dogs, the ear appears to be an “Achilles’ heel” that can show inflammation or discomfort before any other part of the skin. For example, allergies to foods or airborne allergens in the environment commonly cause skin problems on various parts of the body, especially the external ear canal. Often, the ears are the only part of the body showing outward symptoms of allergy and inflammation (redness, pain). Less commonly, some animals with weakened immune systems (e.g., pets undergoing chemotherapy treatments) and those with autoimmune diseases are more susceptible to otitis externa. Hormonal imbalances (hypothyroidism and others) have also been associated with otitis externa as a side effect.

Many disorders that cause otitis externa are confined to the ears. Parasites (e.g., mites) can live in the ear canal, and this is a common cause of otitis externa in cats but less so in dogs. Foreign objects such as grass awns (foxtails) or other plant material can become lodged in the external ear canal and produce similar symptoms.

Some animals are inherently predisposed to otitis externa. For example, animals with narrower than normal ear canals and with long, hanging (floppy) ears like many spaniel or retriever breeds are more likely to develop otitis externa. Debris can accumulate more easily in these ears, creating an environment in which organisms (bacteria, yeast, fungi) can thrive and trigger intense inflammation. The presence of tumors or growths in the canal can also lead to a secondary otitis externa. Moisture in the ears of animals that swim may increase susceptibility to otitis externa. The use of inappropriate cleaning methods and solutions can lead to otitis externa and other external ear complications. For example, plucking hairs out of your pet’s ears can trigger inflammation in some cases, which may make otitis worse rather than better.

**Diagnosis:** If your pet has ear problems, it is critical that you thoroughly discuss your pet’s medical history and daily routine with your veterinarian. For example, it is important for the veterinarian to know if your pet hunts in the woods, swims in lakes or ponds, has ever been diagnosed with a medical problem, and if your pet is taking or has taken medication. If the problem occurs only during certain times of the year, this is important and can indicate an underlying allergic basis to the otitis externa. Your veterinarian should ask if and how you clean your pet’s ears at home and what you feed your pet, because these factors can be linked to the cause of otitis externa. Bring any medications and cleaning solutions that you use on your pet to the veterinary clinic. This information is essential in determining whether an underlying problem exists and whether advanced testing or treatment is necessary in managing the condition.

After obtaining a complete medical history, your veterinarian can perform an otoscopic exam in which a tiny light source and cone are gently placed in the ears to look down the ear canal. It may be necessary to numb the ears by placing drops of a topical anesthetic solution into the ears. In some pets, the condition has produced so much inflammation that this simple examination is unacceptably painful, and they may need to undergo general anesthesia for a thorough examination of the ear canals. This allows your veterinarian to assess whether the eardrum is intact (because there are certain medications that must not be placed in the ear if the eardrum is injured) and to look for underlying problems such as foreign bodies, polyps, or pus. Treatment without complete examination may be tried, but an underlying problem may be ongoing. Further testing is always warranted if the condition is not improving with treatment.

Your veterinarian may gently swab inside the ears and examine the contents under a microscope to look for parasites, bacteria, yeast, fungi, and abnormal cells.

In some cases, a small sample of skin (biopsy) can be removed while your pet is anesthetized and submitted to a laboratory for microscopic analysis (here again, attempting to identify an underlying cause).

In very severe cases of otitis externa, special radiography tests (CT or computed tomography, “CAT scan”) can be taken to determine if the middle and inner ears are affected.

If your veterinarian suspects that a generalized disorder (e.g., hypothyroidism) might be part of the cause of the ear problems, specific blood tests that screen for these disorders may be warranted.

Overall, with otitis externa, the goals of veterinary care are twofold: to control the inflammation and pain as quickly as possible for comfort (short-term solution) and to attempt to identify any underlying cause in order to prevent the problem from flaring up as much—or at all—in the future (long-term solution).

## LIVING WITH THE DIAGNOSIS

Depending on the cause, treatment of otitis externa can be nothing more than a matter of placing medication in your pet’s ears and performing regular cleanings, or it can involve a long-term commitment to treating recurrent problems. There is tremendous variation from one to the next in terms of the cause of otitis externa, so the level of treatment and the expected outcome and long-term need for care can range from serious to trivial. Occasionally, the cause of ear problems may never be found. In this case, the symptoms are treated initially and again whenever they recur. Keeping your pet’s ears clean is important because it helps prevent an environment in the ears that promotes inflammation. Your veterinarian or veterinary technician can show you how to properly do this and which ear cleaning products are safe to use with your pet.

For some dogs, a simple lifestyle change can help. For example, if swimming causes moisture in the ears that perpetuates otitis externa, then reducing or avoiding swimming may help tremendously.

## TREATMENT

The treatment for otitis externa requires controlling the inflammation and then treating the underlying cause of the otitis externa, if the cause can be determined. Drops and ointments are available to control parasites such as mites as well as bacteria, yeast, and fungi. Medication is available to remove wax (ceruminolytics). If your pet’s eardrum is damaged, or if inflammation is so severe at first that the ear cannot be handled painlessly, your veterinarian may prescribe pills that must be given by mouth instead, to avoid having medication reach the middle or inner ears.

For animals very severe, treatment-resistant otitis externa, surgery may be a necessary option to remove part of the external ear canal. This procedure is performed by veterinary surgical specialists. It is not a cure-all, since many underlying causes of otitis externa, such as allergies, will persist despite surgery; rather, surgery is an end-stage salvage procedure to make the ear more comfortable.

## DOs

- Give medication exactly as directed by your veterinarian.
- Talk to your veterinarian before placing any medicine or cleaning products in your pet’s ears. Some products can cause more severe problems if they are used under the wrong circumstances.

### DON'Ts

- Never insert anything (Q-tips, cotton-tipped swabs) into the ear canal. Cotton balls may be used for wiping dissolved wax and cleaning fluid from the surface of the pinna (ear flap), but cotton swabs/Q-tips only push debris back into the deeper parts of the canal, which is counterproductive and could be dangerous.
- Do not pluck hairs from your pet’s ears. This activity can traumatize the skin and lead to more inflammation, not less.

## WHEN TO CALL YOUR VETERINARIAN

- If you cannot keep a scheduled appointment.
- If you are unable to give the medicine as prescribed.
- If the problem worsens despite giving medicine.
- If you see signs that may suggest worsening of the condition (see below).

## **SIGNS TO WATCH FOR**

- Head-shaking, rubbing of the ears on the ground, constant pawing or scratching at the ears, or signs of pain on touching the ears indicate an ongoing disease process, and likely inflammation, in the ear. Visible improvement in comfort should be apparent within 24-48 hours of beginning treatment for otitis externa (be it liquid in the ears, an injection, or oral tablets/pills at home), and if this improvement is not occurring, you should contact your veterinarian.
- Symptoms such as constant, sustained head tilt (holding the head rotated with one ear pointing toward the ground), turning constantly in the same direction or losing balance and falling to one side, even to the point of not being able to stand, or other general signs of not feeling well such as lethargy or loss of appetite can indicate that inflammation has entered deeper in the ear canal and is causing a middle ear infection. Any of these symptoms warrants a recheck with your veterinarian.

## **ROUTINE FOLLOW-UP**

- As dictated by the initial exam and response to treatment.