

Antibiotic Therapy for Ear Infections

- Any pet can develop an ear infection; underlying allergies or other illnesses are often the cause.
- Bacterial infection generally occurs secondary to the inflammation and unhealthy environment in the ear.
- A typical course of antibiotics can be as brief as 5 to 7 days, or as long as several months. It is best to give all medications as directed for the full course of treatment, even if the ears look better right away.
- Systemic illnesses such as thyroid disease and adrenal gland disease (in dogs)
- Foreign material in the ears, including dirt, sand, or plant material

Ear infections are painful. Some pets with this condition may even try to bite people who try to touch their ears or head (including their owners). The clinical signs of otitis can vary depending on the severity of the inflammation, but can include the following:

What Is an Ear Infection?

The medical term for an ear infection is *otitis*. Ear infections generally begin as inflammation of the skin inside the outer ear canal (the tube-shaped part of the ear visible under the ear flap). Once inflammation is present, discharge, redness, and other characteristics of an ear infection become established. Inflammation of the canal leads to the overgrowth of normal bacteria and yeast that live in the ear; other “opportunistic” bacteria can also take advantage of the inflammation and unhealthy environment inside the ear to establish infection. The overgrowth of these organisms causes more inflammation and other unhealthy changes inside the ear. In some cases, ear infections that start in the outer ear canal can progress to involve the middle ear and inner ear. Deep infections can lead to deafness and other complications.

What Causes Ear Infections?

Any pet can develop otitis regardless of ear shape, exposure to water (swimming), or the amount of hair inside the ear canal. Ear infections in dogs and cats are most often the result of an underlying problem. Many conditions can predispose a pet to developing an ear infection, including the following:

- Allergies (food allergy or inhalant allergy)
- Ear mites
- Polyps or other growths in the ear canal

- Shaking the head or rubbing the head and ears on the floor or on furniture
- Scratching the ears
- Discharge from the ears (can sometimes have a very bad odor)
- Redness of the ear canal and ear flap; the ears may also feel warm when touched

A typical course of antibiotics can be as brief as 5 to 7 days, or as long as several months. It is best to give all medications as directed for the full course of treatment, even if the ears look better right away.

Some pets with severe otitis may cry or groan as they rub and scratch their ears. Some pets scratch so severely that their nails create wounds on the skin around their face, neck, and ears. If the otitis is severe or chronic, the outer ear canal can begin to thicken and become deformed. This thickening can make the ear opening very narrow, so cleaning the ears becomes more difficult. Ulcerations on the inside of the ear canal can also result from infection and trauma.

If a chronic or severe otitis progresses to involve the middle or inner ear, more severe clinical signs can occur, including development of a head tilt, incoordination, inability to stand or walk, and increased pain.

Why Are Antibiotics Necessary to Treat Ear Infections?

Once the inflammation associated with an ear infection is established, bacteria (and yeast) can create secondary infections. These infections can be relatively straightforward to diagnose and treat with antibiotics or antifungal medications. Still, the underlying reason for the inflammation must be addressed, or the secondary infections are likely to recur. Diagnosing the underlying cause can be challenging and may require additional testing.

During a physical examination, your veterinarian may use a cotton swab to collect some debris from your pet's ear. This material can be placed on a slide and examined under a microscope to determine if the infection is due to yeast, bacteria, or mites. Your veterinarian may also recommend bacterial culture and sensitivity testing of the debris found inside your pet's ear. This information can help determine the best medications to treat the infection.

Your veterinarian will also likely clean your pet's ears to remove as much debris as possible before treatment begins. Cleaning begins creating a healthier environment inside the ear—an environment that will not continue to support bacterial overgrowth.

How Are Antibiotics Given?

In many cases, antibiotic medication for an ear infection can be applied (usually as an ointment or drops) directly into your pet's ear. Sometimes, oral antibiotics or antifungal medication (for yeast) may also be recommended. Your veterinarian may also administer an injection of antibiotics in the office to start treating the infection quickly (while oral or topical medication is taking effect). Oral or topical

steroids may also be prescribed to help reduce swelling and inflammation and to make your pet more comfortable with having his or her ears handled.

Antibiotics for ear infections are available in many formulations, so notify your veterinarian if you are having problems medicating your pet, because there may be other options available. You should also notify your veterinarian right away if your pet seems to be experiencing any side effects from medication.

A typical course of antibiotics for treating an ear infection can be as brief as 5 to 7 days or as long as several months. In many cases, the ears may start looking better after only a few applications of medication or after only a few doses of oral medication. However, it is advised to give all medications as directed for the full course of treatment. Your veterinarian may recommend recheck exams during the course of treatment, to monitor how well the condition is responding to therapy. Notify your veterinarian right away if your pet's ears begin to look worse, if the problem seems to return after treatment is completed, or if other signs of illness are observed.

How Can Future Ear Infections Be Prevented?

Once an infection has resolved, regular cleaning helps prevent recurrence by promoting a healthy environment inside the outer ear canal. Never insert a cotton swab into your pet's ear canal; these swabs can rupture the eardrum, which could lead to additional complications. If you are uncomfortable cleaning your pet's ears, ask your veterinary team to review ear cleaning procedures with you.

Underlying conditions, such as allergies, should also be addressed to help prevent recurrence of ear infections.

Returning for regular check-ups with your veterinarian is also an important way to track your pet's progress and catch ear infections early before they have a chance to get firmly reestablished.