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## **EAR INFECTIONS IN DOGS**

Infection of the external ear canal (outer ear) by bacteria or yeast, is one of the most common types of infections seen in dogs. We call this otitis externa. Some breeds, such as Cocker Spaniels and Miniature Poodles, seem more prone to ear infections, but they may occur in any breed.

### **Symptoms**

A dog with an ear infection is uncomfortable; its ear canals are sensitive. It shakes its head trying to get the debris and fluid out, and it scratches its ears. The ears often become red and inflamed and develop an offensive odor. A black or yellowish discharge commonly occurs.

### **Ear Mites**

Ear mites can cause several of these symptoms, including a black discharge, scratching, and head shaking. However, ear mite infections generally occur most commonly in puppies. Ear mites in adult dogs occur most frequently after a puppy carrying mites is introduced into the household. Sometimes, ear mites will create an environment within the ear canal that leads to a secondary infection with bacteria and yeast (fungus). By the time the dog is presented to the veterinarian, the mites may be gone, but a significant ear infection remains.

### **Types of Infections**

There are several kinds of bacteria and at least one type of fungus that might cause an ear infection. Without knowing the kind of infection present, we do not know which drug to use. In some cases, the ear infection may be caused by a foreign body or tumor in the ear canal. Treatment with medication alone will not resolve these problems. Also, the dog must be examined to be sure that the eardrum is intact. Administration of certain medications can result in loss of hearing if the eardrum is ruptured. This determination is made by the veterinarian and must be done in the office.

### **Treatment**

First, the ear canal is examined with an otoscope, an instrument that provides magnification and light. This permits a good view of the ear canal. This examination allows us to determine whether the eardrum is intact and if there is any foreign material in the canal. When a dog is extremely painful and refuses to allow the examination, it must sometimes be completed under sedation or anesthesia.

The next step is to examine a sample of the material from the ear canal to determine which organism is causing the infection. This is called cytology. Examination of that material under the microscope is very important in helping the veterinarian choose the right medication to treat the inflamed ear canal.

The results of the otoscopic examination and cytology tell us what to do. If there is a foreign body or tick lodged in the ear canal, the dog is sedated so that it can be removed. As stated previously, some dogs have such a heavy buildup of debris that sedation is needed to cleanse the canal and examine it completely. Cytologic study of debris from the ear canal dictates which drug to use. Sometimes, it reveals the presence of more than one type of infection (i.e., a bacterium and a fungus, or two kinds of bacteria); this situation usually requires the use of multiple medications or a broad-spectrum medication.

An important part of the evaluation of the patient is the identification of underlying disease. Many dogs with chronic or recurrent ear infections have allergy problems or low thyroid function (hypothyroidism). If underlying disease is found, it must be diagnosed and treated, if at all possible. If this cannot be done, the dog is less likely to have a favorable response to treatment. Also, the dog might respond temporarily, but the infection will relapse at a later time (usually when ear medication is discontinued).

### **Prognosis**

Nearly all ear infections that are properly diagnosed and treated can be cured. However, if an underlying cause remains unidentified and untreated, the outcome will be less favorable. A progress check may be needed before the process is completed, but we expect ultimate success.

### **Complications**

Dogs with ear infections are miserable. Their ears are a source of constant pain resulting in head shaking and scratching. However, that is not the only problem. Head shaking and scratching can also cause broken blood vessels in the earflap, requiring surgery, and chronic ear infections can penetrate the eardrum and result in an internal ear infection.

Closing of the ear canal is another result of a chronic ear infection. There are medications that can shrink the swollen tissues and open the canal in some dogs. However, some cases will eventually require surgery.

### **Ear Surgery**

The surgery for a closed ear canal is called a lateral ear resection. Its purposes are to remove the vertical part of the ear canal and to remove swollen tissue from the horizontal canal. Removing the vertical canal should be successful, but removal of large amounts of tissue from the horizontal canal is more difficult. In some cases, the ear canal is surgically obliterated. This solves the canal problem, but it leaves the dog deaf on that side.

### **Medicating the Ears**

It is important to get the medication into the horizontal part of the ear canal. Be aware that the dog's external ear canal is "L" shaped. The vertical canal connects with the outside of the ear; the horizontal canal lies deeper in the canal and terminates at the eardrum. The ear canal may be medicated by following these steps:

1. Gently pull the earflap straight up and hold it with one hand.
2. Apply a small amount of medication into the vertical part of the ear canal while continuing to keep the earflap elevated. Hold this position long enough for the medication to run down to the turn between the vertical and horizontal canal.
3. Put one finger in front of and at the base of the earflap, and put your thumb behind and at the base.
4. Massage the ear canal between your finger and thumb. A squishing sound tells you that the medication has gone into the horizontal canal.
5. Release the ear and let your dog shake its head. If the medication contains a wax solvent, debris will be dissolved so it can be shaken out.
6. If another medication is to be used, apply it in the same manner.
7. When all medications have been applied, clean the outer part of the ear canal and the inside of the earflap with a cotton ball soaked with a small amount of rubbing (isopropyl) alcohol. Do not use cotton tipped applicators to do this, as they tend to push debris back into the vertical ear canal.