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There's more to your cat's ear than he's telling you

Upright and standing tall, folded or curled, cat ears come in a variety of sizes and shapes. Despite dramatic variations in appearance between some breeds, all cat ears function the same way.



DR. ELAINE WEXLER-MITCHELL
THE CAT DOC

Ears can be the difference between winning a cat show or being able to dart away from danger. The ears are a component of the cosmetic appearance of a cat but they are also an important part of feline communication. Ear position lets you know if your cat is happy, scared or mad. Ears provide a channel for hearing and function in balance, which are two very important senses in the animal world.

Many owners think that their cat has a hearing problem when he does not come or perform on command. Unfortunately, this is seldom the case. I think the

truth is that most cats have a very selective sense of hearing!

The anatomy of the ear is complicated, and the way it functions is amazing. The precise interactions involved occur in milliseconds. Hearing is a basic sense, but the components are far from basic. Balance and equilibrium are considered reflexes. The brain processes the information it receives from the ears and reacts without conscious thought ever occurring.

The ear is composed of three distinct areas: the external ear, the middle ear and the inner ear. Most cat owners are familiar with the external ear. The pinnas are the skin and cartilage that protrude from the surface of the head, and what most owners consider to be the "ear." The pinna conducts sound into the external ear canal. The ear canal leads to the ear drum or tympanic membrane. The tympanum is the beginning of the middle ear.

Volume, pitch and tone are components of sound that a cat can recognize. The actual receptors for

sound are special hairs lining the basilar membrane of the organ of Corti in the cochlea. When the hairs are stimulated, they evoke electrical impulses that travel to the brain. Through training and experience, the brain associates different sounds with different meanings. What may startle an older cat may not affect a young cat.

Assessing the hearing abilities of a cat is difficult. The only definitive diagnostic tool is the electroencephalograph, which measures brain waves in response to sound stimuli. This testing is performed under anesthesia and is only available through certain veterinary specialists. Most veterinary practitioners rely on less scientific testing, such as the cat's response to a loud noise. Hearing is more important to a cat that spends time outside. Good hearing alerts a cat to cars and other animals that can pose threats.

Loss of hearing in cats can be the result of a variety of problems. Trauma, aging and tumors all can impair hearing or cause complete deafness. Prolonged admin-

istration of certain antibiotics can cause hearing loss by damaging the hairs in the organ of Corti. Ear infections can cause permanent damage to the tympanic membrane, middle or inner ear.

The most common cause of chemicals destroying hearing (ototoxicity) is the improper application of ear cleaners or mite killing products into ear canals with ruptured ear drums.

Hearing aids are not available for cats. If you have a deaf cat, you need to protect it from outdoor dangers. These include other animals and cars. Deaf cats are easily startled, and in my experience can be more aggressive. They can be more defensive and protective since they've lost one of their important protective senses. Fortunately deaf cats can make good pets and live normal life spans.

If you are unsure about your cat's ability to hear, you should consult with your veterinarian.

Dr. Elaine Wexler-Mitchell owns The Cat Care Clinic in Orange, 714-282-2287.