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The sound of silence

Valeria Higgins investigates the sometimes silent world of our feline friends

Meeting Casper, a white cat with blue eyes who was deaf, at Cats Protection's Belfast Adoption Centre was an eye opener. I never knew that much about deaf cats and how adept their coping mechanisms are, so I decided to examine how these felines cope without one of their senses.

Cats, like humans, have five senses with which they navigate the world around them. Most of the cat's senses are much more acute than a human's. They can see better in the dark and hear higher-pitched sounds; their sense of smell is about 14 times stronger; they have a well-developed sense of touch all over their body which is far more advanced than ours – their paws are able to pick up slight vibrations in the ground and their whiskers are important for picking up air movements and telling them about objects they make contact with. Taste is the only sense where humans have a wider range – cats have far fewer taste buds than either humans or dogs and, because they are carnivores, their sense of taste is focused on protein and fat and they are far less able to distinguish sweet tastes.

When a cat is deaf from birth or begins to go deaf later in life, it compensates for this by using its other, better developed senses more, and it is thus sometimes hard to tell whether it really is deaf.

According to the Cats Protection (CP) Veterinary Department, "Some cats are born deaf but many cats lose their hearing gradually as they age. Sudden loss of hearing is normally the result of illness or injury and may be temporary or permanent."

There are two main types of deafness:

- Where the sound cannot pass into the ear, as in the case of tumours, outer and middle ear infections, wax build up or ear mites. This type may be reversible by treating the root cause
- The second cause is where the nerves associated with the ear do not function properly; this can be due to genetic problems as in the case of some white cats, inner ear infections, drug toxicity, noise trauma or age-related degeneration. This type can produce permanent deafness

Diagnosis

"Some deaf cats call out more often and more loudly, because they cannot regulate their own volume, while others may become mute," say the CP vets. "It can be difficult to determine if a cat is deaf, particularly if he has been deaf from birth and is very used to his condition, but other signs may include a failure to respond when spoken to or called; being easily startled; signs of dizziness or disorientation; no longer being afraid of the vacuum cleaner or other loud appliances; shaking the head or clawing at the ear; pus or other discharge coming from the ear or an unpleasant odour emanating from the ears."

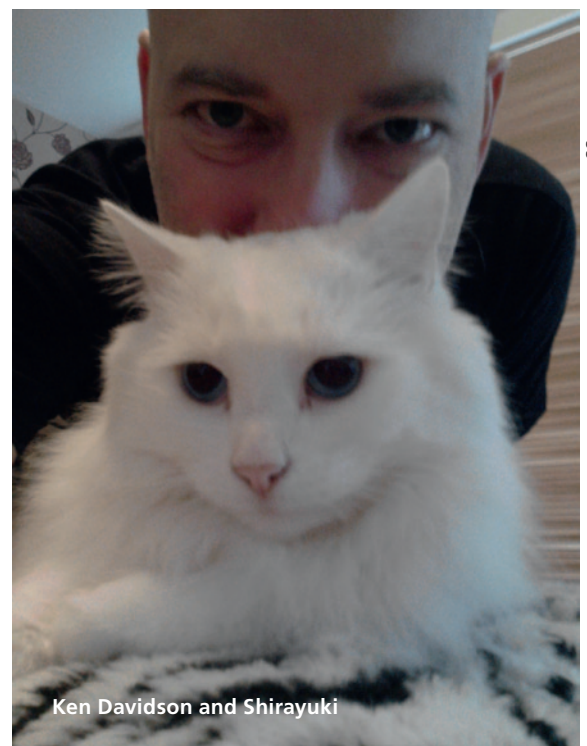
A vet will attempt to detect deafness by making sounds outside the visual field of the cat and looking for a twitch of the ears, or a movement towards the sound source. The only way to get a definitive diagnosis is through a Brainstem Auditory Evoked Response (BAER) test – involving a clicking sound being directed into the ear while computers measure the brain's electrical activity in response to the sound.

The CP vets say: "Where deafness is inherited from birth, it is almost always in cats with white coats. It is caused by degeneration of the auditory apparatus of the inner ear and may affect one ear (unilateral) or both (bilateral). The gene responsible for the defect is linked to coat and eye colour and it has been determined that if a cat has two blue eyes, it is three to five times more likely to be deaf than a cat with two non-blue eyes. A cat with one blue eye is twice as likely to be deaf than the cat with two non-blue eyes."

Day-to-day life

Deaf cats tend to have a normal quality of life; they cope by using their other senses to compensate for the hearing loss. It's important to remember that these cats are unable to hear danger signals – such as cars or other animals – and need to be kept indoors for their own safety, or only allowed outside into an escape-proof garden. But what else should owners be aware of?

"A deaf cat is easily startled because he won't be aware that you are approaching. Make sure that you walk heavily so he can feel the vibrations. At close range, sharp hand claps or stamping on the floor might still be sufficient to gain a partially-deaf cat's attention," advise the CP vets. ▶



Ken Davidson and Shirayuki

Photo: Valeria Higgins

This is confirmed by Ken Davidson, a Cat Care Assistant at CP's Belfast Adoption Centre, who has a deaf cat called Shirayuki.

Ken says: "I find it amazing how sensitive cats are to vibration. If I'm playing with him and try to sneak up behind him, Shirayuki can sense even subtle changes in the floor. Or if I click my fingers from quite a distance away, he will turn his head."

The CP vets say: "Deaf cats can learn to recognise hand signals or the flashing of a torch. Make sure the signal you choose to call your cat is distinct and consistent so he doesn't get confused."

"We recommend that all cats are microchipped. This is important for cats that are kept indoors as those that go outside, in case indoor cats escape. A properly fitted quick-release collar that states that the cat is deaf and explains he is microchipped is also recommended."

Just a few minor changes can be implemented to enhance the quality of life of a deaf cat: you can provide feeder puzzle balls, toys, climbing towers, scratching posts and places both to hide and also to observe what's going on from up high."

Adapting to owning a deaf cat

Owners can take it for granted that cats comprehend the world around them by using all their senses. But what if one of those was no longer there – how would cats change their behaviour and what do owners need to know?

Nicky Trevorrow, CP's Behaviour Manager, says: "Deaf cats are very adaptable and can compensate for their lack of hearing by using their other senses more. One of the most important senses for a cat is their sense of smell as they rely on scent for distant communication signals that last over time, so that they feel safe and secure when they smell their own rub scents."

"Cats mark their territories with long-lasting scent signals that can be topped up – from their faces, scratching and spraying. Modern cleaning means we are constantly removing cats' scents from their environment which can cause some anxiety and disorientation."

"We also frequently bring new scents into our homes. It is really beneficial for any cat, whether deaf or not, to always have something that has their familiar facial pheromones – if not, you could rub scent on something to provide reassurance."

Humans who are born or become deaf later in life can use sign language. Cats use body language to communicate with us and other cats, but can we use sign language to communicate with them?

Nicky explains: "Our domestic cats have learned to use vocalisation to interact with humans. Just like any cat, deaf cats can learn other cues, whether they are from ourselves or the environment, and can still interact well with us."

"They get a response from us – for example, pawing the door means that we open it for them – and so they repeat the behaviour as it was successful. Much of our 'talking' to our cats by itself doesn't mean much to a cat, it's only when we combine words with our actions that they may pick up on the sound of the words, such as 'fish!'"

"It's important for owners of deaf cats to be more observant of their cat's body language, facial expression and actions as well as their own non-verbal cues to ensure



Gillian McMullen and Izzie

Photo: Valeria Higgins

good channels of communication. Consistent and predictable communication can help deaf cats get into a routine.

"Cats can be trained to use hand signals through positive reinforcement, in the same way you can train a cat to do other things. It would take time, a consistent approach and accurate timings as well as finding the right type of reinforcement for that specific cat."

This technique is used by Gillian McMullen, the Coordinator of the Armagh Branch of Cats Protection, whose cat Izzie is deaf.

Gillian says: "Izzie comes to hand signals. I kneel down and clap my hands when I want her to come in from the garden."

"Izzie mainly stays in my back garden and doesn't venture further than the driveway. I also use a harness and lead, which I trained her on from when she was a kitten."

Gillian says: "She is fascinated with light beams and stares at the wall for long periods of time just waiting to see a beam of light reflected. Izzie also has a very peculiar miaow and this becomes very high pitched when she is alone in a room."

Ken Davidson also taught his cat sign language. He says: "Prior to cuddling or a treat, I will flash the palm of my hand at him, in rapid succession, spreading the fingers wide. I chose that as it is a very strong visual signal and can't be mistaken for anything else. Consistent reinforcement meant that after about six weeks he understood what it implied, ie nice stuff, and after a year he would come when I called him using it."

Although owning a deaf cat does present its own unique issues, cats are very adept at coping with the loss or partial loss of one of their senses, and few adjustments need to be made to accommodate them. This 'disability' does not diminish their ability to be a cat. Next time you are out looking for a feline addition to your family, don't bypass those that are hard of hearing, these cats will give just as much love and pleasure as ones with full hearing. ●