



Caring for a blind cat

Could your cat be visually impaired? Veterinary ophthalmologist

Natasha Mitchell explains how you can find out

Cats rely on their vision to perform several tasks such as navigation, hunting, orientation, avoiding undesirable situations, interaction with other cats and watching the world go by. In order to see an image, several factors are combined including detecting light and motion, depth perception and perception of shape and colour. The brain receives this information from the eye, along with other information about sounds, smells, texture and taste and combines all of these to create a complete visual experience.

Extra layer

Cats have evolved to become excellent night-time hunters. Vision in a normal cat is very good but, in order to gain advantages that particularly help with night vision and hunting, some trade-offs mean that cats do not see in the same fine detail as we do. The main reason that cats have better night – nocturnal – vision than us is because they have an extra layer in the back of their eye called a tapetum. This is a reflective layer which lies underneath the retina – the ‘seeing’ part of the eye.

The retina contains special cells called rods and cones which absorb light and convert it into information which is processed by the brain to form an image. Some light passes through the retina without being absorbed, but is then reflected back onto the rods and cones by the tapetum, allowing a second chance for the light to be absorbed. The tapetum is responsible for the mirror-like reflection which we see from cats when we catch them at night with a bright light, such as with the headlights of a car. It is suggested that cats’ nocturnal vision is six times better than ours. Another factor which improves their nocturnal vision is the fact that they can dilate their pupils so widely, maximising the amount of light which enters the eye in dim lighting.

How can you tell if your cat’s vision is poor?

Believe it or not, determining how much your cat can see can be quite difficult. However, in most cases where vision has been lost gradually, behaviour changes are more subtle because the cat is able to gradually adapt to the disability, learning where furniture and other obstacles in the home are. Sudden vision loss is easier to notice. Bumping into objects is an obvious result of poor vision, but actually may only be noticed when furniture is moved or when doors which are normally opened are closed. This is because cats possess a tremendous ability to adapt to the situation and will retain an awareness of the normal layout of their familiar environment, only getting caught out when it is changed.

You may notice more hesitation and a reluctance to jump down from a height. The cat may actually climb down by gingerly reaching his feet down first. They are usually happier climbing up onto objects, but go about it in a more cautious manner. They may walk in a crouched position with their body closer to the ground and stretch their necks out further, using their long whiskers to feel their way. Cats with vision problems actually seem to grow longer whiskers!

In some cats with vision problems you may notice a change in the appearance of their eyes. Cloudy eyes can be caused by cataracts, which is an opacity of the lens. It could also be caused by glaucoma, a raised pressure inside the eye, or uveitis which is the medical name for inflammation inside the eye. Eyes may be red due to high blood pressure causing bleeding inside the eye, or due to glaucoma, uveitis or a tumour in the eye. With some conditions affecting the retina such as retinal detachment secondary to high blood pressure, the absence or thinness of the retina allows even more light to be reflected back from the tapetum, making the glow from the back of the eye appear more intense.

If you have noticed a recent colour change in one or both of your cat’s eyes, it is highly recommended that you take him to your vet to have an eye examination. In many cases, your vet will be able to tell you what is wrong and can therefore advise on the best treatment. In some circumstances, your vet may recommend that you are referred to a specialist in veterinary ophthalmology. The ophthalmologist is better equipped to be able to diagnose certain conditions and will be able to offer treatment advice and specialised procedures. Some conditions will be managed with eye drops or oral medications and all conditions are more successfully treated when diagnosed early on in the course of the disease.

How can I test my cat's vision?

This can be tricky, even for your vet! As well as closely observing your cat's behaviour, as mentioned earlier, there are several tests which a vet will perform, some of which can be tried by an owner at home.

The menace response test

Gently waving a hand towards the eye would cause a normal cat to blink. It is important not to create an air current by waving a hand on one side of the head which, of course, a normal cat will sense and blink their eye as a reflex.

The dazzle reflex

This involves shining a bright focused light suddenly into the eye. A normal cat would blink, squint or turn their head away, but a blind cat cannot see it and will continue to stare ahead.

The tracking response test

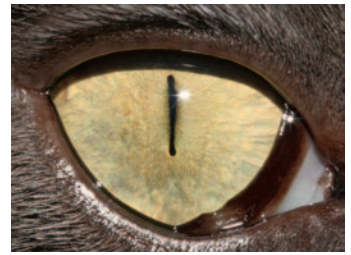
This involves dropping small pieces of cotton wool, from a height, near your cat. A cat with normal vision can't resist watching them fall. The reason cotton wool is chosen is because it doesn't make a noise as it passes through the air. Noisy objects falling can be followed using the sense of hearing on its own.

How can I care for my blind cat?

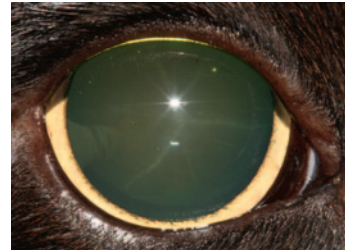
Visually impaired cats function very well in familiar surroundings, so much so that it may be a surprise for you to learn that your cat has any vision problems at all. Cats face many challenges in order to adapt to life without vision, but do so without our knowledge in many instances.

Cats do not feel sorry for themselves because their vision is poor, but they get on with things. Some causes of blindness – for example high blood pressure – require specific treatment which your vet will prescribe. There are lots of simple but effective ways in which the home and garden can be adapted to support a visually impaired cat. A detailed technical guide which covers all of the topics discussed in this article in much greater detail was published in August 2008. *Caring for a Blind Cat* is available as an electronic – e-book – or printed softback via www.catprofessional.com. E-books cost £7 and printed books are £9.99 plus postage. ●

This pupil is constricted – in this case because of bright sunlight – which means that more of the coloured iris is visible and the pupil is a narrow slit



This is a dilated pupil. The coloured iris is only visible at the periphery and there is a large central dark – which can appear black – area



This cat has poor vision and is apprehensive when moving in a strange environment. He is crouching low to the ground

Photo: Courtesy of Professor Sheila Crispin



Cataracts in both eyes – the eyes appear greyer as the lenses are cloudy



A veterinary ophthalmologist examining a cat's eye, with the help of a veterinary nurse



About the author

Natasha Mitchell graduated from University College Dublin in 1998. She developed a keen interest in veterinary ophthalmology and obtained a Royal College of Veterinary Surgeons (RCVS) Certificate in Veterinary Ophthalmology in 2004. After working in two ophthalmology referral practices in the UK, she set up her own veterinary ophthalmology service based in Limerick, Ireland. She is studying towards a RCVS Diploma in Veterinary Ophthalmology. Natasha has developed a website for owners and vets www.eyevet.ie and published her first book, *Caring for a Blind Cat* in 2008 through Cat Professional www.catprofessional.com



Photos: Courtesy of Natasha Mitchell unless otherwise stated