

Cats' eyes

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Cats have evolved one of the most advanced eyes of all domestic animals.

- They can see in the dark seven times better than humans
- They have a special lining at the back of the eye that reflects low levels of light in dark conditions
- Cats can reflect 130 times more light onto their receptors than humans
- The shape of the slit in their eye allows it to dilate 6mm more than humans, allowing more light to reach the receptors at the back of the eye
- They have a very large cornea relative to their size, optimising the amount of light that hits their retina.

These evolutionary changes allow cats to be both daytime and nocturnal creatures.

Their ability to see so well in the dark is one of the things that makes them such efficient hunters. This is one of the many reasons that cats should be kept inside at night.

Eye issues are one of the most common problems we see in cats on a day-to-day basis. While some arise from trauma or injury to the eye, the greatest number are related to those secondary to feline viral or bacterial diseases.

Conjunctivitis in Cats

The conjunctiva is the thin membrane that covers the insides of the eyelids, the inner and outside third eyelid gland and extends up to the white of the globe. It is very fine and contains tiny red blood vessels. It is important in tear production, ocular immunity and keeping the eye clean. It is very reactive and when inflamed, most commonly presents as a red swollen eye.

Herpes virus is the most common cause of conjunctivitis in the cat. It is also one of the most frustrating to treat. Herpes virus is one of the viruses that cause cat flu. It is different from herpes virus in humans and cannot cross species. Your cat cannot give you a cold sore (no matter what your partner tells you!).

Herpes is spread from cat to cat via respiratory secretions and the conjunctiva. Cats are infected through direct contact with sick or carrier animals.

The conjunctiva becomes red and inflamed. It often swells, giving the appearance that the cat can't open their eye. The eye secretes excess reddish coloured tears. The eyelid seems to spasm. Owners often report squinting. To the cat, the eye is itchy, red, dry, and painful.



These signs are often accompanied by other respiratory signs such as sneezing, nasal discharge and a fever. The disease tends to last 10-14 days then the cat starts to recover.

However, the virus is not fully eliminated. Rather it retreats into the nerve roots in the trigeminal nerve on the face. Here it sits and waits to recrudesce (return). Initially the cat's immune systems will keep it in a latent state. When the cat is stressed, or the immune system is compromised, it returns and causes inflammation to the eye.

While generally not as dramatic as the first episode, it can still be quite painful and damaging. Certain medications have also been implicated in its reappearance. Cats who are on corticosteroids often suffer from chronic herpes virus.

As well as causing inflammation to the conjunctiva, severe infections can lead to corneal damage, where a layer on the eye ulcerates. Apart from being painful, these can result in scarring, reduced vision or severe secondary infections. In some cats, especially Persians, dark plaques can form in the cornea called corneal sequestra. These are essentially dead bits of the cornea that need to be surgically removed by an ophthalmologist.

Kittens are overrepresented as being affected by herpes virus. Their immature immune systems and often poor start in life predispose them to the more severe ocular signs. Kittens are often presented with their lids sealed from discharges, with the conjunctiva so swollen, it makes it virtually impossible to see any of the globe.

Not all causes of conjunctivitis are caused by herpes, but it is the most common. Chlamydia Felis is another infectious agent involved in conjunctivitis and ocular infections. It is more easily treated and doesn't hide away like herpes. The presence of secondary infectious agents can also complicate the disease and its treatment.

Direct trauma, chemical and physical irritants can also affect the conjunctiva. Allergic conjunctivitis is far less common in cats than dogs.

How do I know if my cat has herpes?

Most herpes infections are diagnosed based on the clinical signs and response to treatment. Cats can be tested for herpes, calici, and chlamydia via a PCR test. A swab is collected and the test looks for DNA of the virus. The problem is that over 90 per cent of cats carry herpes virus, so just having the virus doesn't mean it is the agent causing the disease. Rather, we tend to focus on signs and treatment.

How do I treat herpes?

Herpes is a viral infection so antibiotics have no real effect. However, antibiotics do treat secondary infections or chlamydia. When clients come in reporting previous improvement with antibiotic gels, it means it was either not caused by herpes, was responding to a secondary infective agent, or would have gotten better without it.

There are specific antiviral treatments available. Topical antivirals include Cidovir, Idoxuridine and Vidarabine. These agents are very expensive, have to be made up by a compounding pharmacist, and with the exception of Cidovir, must be given at least five times a day. More common are the oral antivirals. These are readily available from human chemists (with a veterinary script) and are a lot more affordable than the topicals. Famciclovir is the most commonly used of these. Famciclovir started off as a treatment for human herpes, and was found to be effective in many cat infections. It is often used in conjunction with topical antibiotics treating both primary and secondary infections.

Other supplementary treatment options include oral Lysine to reduce the viral load and Forti flora probiotic

powder from Purina, which has been found to reduce the severity of infection when added to the diet.

Didn't I vaccinate my cat against herpes?

While vaccination does reduce the severity of infection significantly, it is not completely preventative. Hopefully as vaccines continue to improve, protections will get better.

Dr Angela Phillips graduated from the University of Melbourne in 1990. She is an Emergency Medicine veterinarian and joint proprietor at Sydney Animal Hospitals Inner West. Angela completed a residency in Emergency Medicine and Critical Care, as well as her Masters of Veterinary Studies, and she holds certification for AQIS, (Australian Quarantine). Her main interests are in emergency medicine, internal medicine, and critical care.



Dr Phillips and her team at Sydney Animal Hospitals Inner West have been wonderful supporters of Cat Protection over many, many years, providing veterinary services and critical care, emergency accommodation to our cats (when we had to evacuate them after a hailstorm threatened the ceiling of our adoption centre), as well as contributing to our education programs. Thank you to Angela and her team for being p-awesome partners of Cat Protection!

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