



Blindness in Dogs and Cats

by David Maggs

What is normal vision?

Loss of vision in a family pet can be extremely traumatic, especially when it occurs suddenly. This information sheet explains what is involved in normal vision, what to look for in the event of visual loss, and what to expect if your pet does lose vision.

In all species normal vision requires at least the following:

1. Adequate light reaches the retina.
2. The retina functions normally.
3. The optic nerve and brain function normally.

In addition to these basic requirements, *fully functional* vision requires the following:

- Accurate focusing of the light upon the retina
- Adequate clarity of all ocular (eye) tissues, particularly the cornea and lens
- Correct alignment and coordination of globe (the entire eyeball) movement
- A full complement of retinal cells that act in concert to ensure normal color vision and motion perception
- Normal vision in varying light levels
- High visual acuity for “performance” tasks such as catching thrown objects

Vision in cats and dogs is different from ours. They have better night vision and peripheral vision that we do but their visual acuity (ability to see fine details) is less developed. Also, they do not have well-developed color vision. Our pets are less dependent on vision than we are, perhaps because they have such excellent hearing and sense of smell.

What is vision loss?

Pets that lose vision show variable signs depending on the cause, degree, and rapidity of vision loss. As a rule, if vision is lost gradually, pets adjust well, whereas sudden vision loss is usually immediately evident as stumbling when walking, bumping into objects, or sometimes unwillingness to move at all. Animals that have gradually lost vision and adapted to this deficit may *appear* to become blind suddenly if their environment changes, such as relocation to a new house or simply a movement of household furniture.

Regardless of the rate of onset, if the cause of blindness is associated with inflammation then some evidence of pain such as redness, squinting, or discharge may be observed.

Pain also may manifest as “hiding”- especially in cats- or reluctance to move before vision loss alone is significant enough to impair mobility.

What are the common causes of vision loss in pets?

Although a large number of specific causes of vision loss exist in animals, some general mechanisms are common. These include the following:

- Opacification of the cornea
- Uveitis (inflammation of the inside of the eye)
- Cataract
- Disease involving the retina, optic nerve, or central nervous system (brain)

These disorders may be caused by infection, cancer, aging, diabetes, injury, high blood pressure, or glaucoma or may be hereditary or autoimmune in origin. Many of these conditions can be treated so that some or all vision may be regained. Only a thorough examination by your veterinarian can establish the likely cause and determine what tests should be performed to verify the diagnosis and what treatments are possible.

When should you seek veterinary help?

Although vision is a highly coordinated sense affected by minimal changes in anatomy and function of these essential components, on many occasions such changes can be advanced before they are detectable by pet owners as altered behavior. The ability of animals to utilize other senses, such as hearing and smell, to further compensate for and disguise loss of vision also contributes to difficulty in detecting vision impairment. Since advanced disease may make treatment difficult and because some causes of blindness may also affect other organs in the body, you should consult your veterinarian as soon as possible whenever visual impairment is suspected.

Be ready to describe to your veterinarian as much as you can about the suspected vision loss. Try to establish the following:

- It occurred suddenly or gradually
- One or both eyes are affected
- Day or night vision is affected more noticeably
- The existence of any other signs of ocular or general health problems

Your veterinarian is likely to do various tests to assess your pet’s vision as well as a thorough exam and a general health exam. Sometimes further tests may be recommended since some causes of blindness also may affect other organs in the body. Referral to a veterinary ophthalmologist may be suggested for additional eye evaluation and advanced testing of retinal function.

What should you expect?

Because of their reliance on other highly active senses such as hearing and smell, dogs and cats usually adapt well to partial or even total loss of vision. However, their (and your) adjustment to vision impairment may take a couple of months. At first, pets may bump into things and most owners find this to be difficult. However, animals usually do not injure themselves at this stage unless they fall into a swimming pool or other water or are struck by a vehicle. Obviously, you must adjust your pet's environment so that these or similar accidents cannot occur. With such care and attention, most blind animals readily memorize the layout of their home and yard, function almost normally, and remain happy pets. Some excellent publications and websites have been designed for the owners of blind pets.

If you have further questions, please feel free to contact the clinic at the above telephone number.