

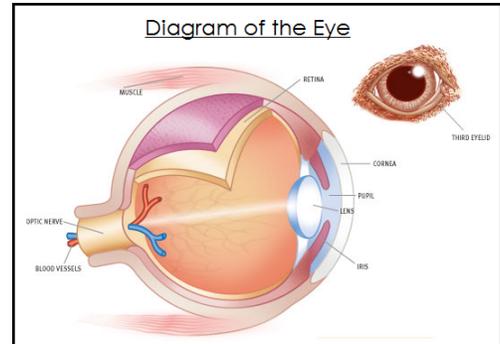


## Cataract Surgery

Cataract surgery has become commonplace in the field of veterinary ophthalmology, and as such, is one of the most common procedures performed by many ophthalmic surgeons. In recent years, specialized training and modern equipment have dramatically improved the success rate of canine cataract surgery. In fact, many veterinary ophthalmologists cite success rates of 90%!

### What is a cataract?

A cataract is an opacity within the lens. The lens is a disc shaped crystalline structure that sits behind the iris in the pupil, and helps to focus light beams on to the retina. It is necessary for the eye to achieve accurate, detailed vision. When an opacity forms within the lens, it is said to have a cataract. It is not a film over the lens or cornea, but an actual spot (or opacity) within the lens itself.



### What causes a cataract to form?

Cataracts are typically inherited, forming in young to middle-aged dogs. Subsequently, they are not a facet of the aging process, as commonly associated with in people. Although cats can also develop hereditary cataracts, it is a less common occurrence.

The exact mechanism which causes the opacity to occur is not entirely understood. However, what is understood is molecular changes in the lens fibres and protein occur, resulting in a loss of transparency. Other causes of cataracts include diabetes mellitus, trauma, chronic inflammation within the eye and retinal degeneration.

### How do I know if my dog has cataracts?

Sometimes the earliest indication of cataract formation, is difficulty seeing. This often presents as reluctance to walk up or down stairs, difficulty finding his favorite toy or bumping into stationary objects. You may also notice a white opacity in the normally black pupil. Often cataract formation will stimulate inflammation (uveitis) within the eye; subsequently, your pet may experience ocular pain, and redness of the eye. This is called Lens Induced Uveitis and must be treated by your veterinarian immediately.

The onset of cataract formation is genetically determined and does not necessarily coincide with the onset of old age. Certain breeds, such as the Bichon Frise, are prone to early onset of cataract formation. Therefore, should you notice any of the above mentioned symptoms, it is very important to consult with your veterinarian immediately.

### How are cataracts removed?

The modern technique for cataract removal is Phacoemulsification. This procedure uses high frequency ultrasonic waves emitted from the tip of a small probe, breaking the solid lens into a liquid which is then vacuumed from the eye. By breaking the lens into microscopic pieces prior to removal, it allows the entire lens to be removed through a 2.5mm incision in the cornea. This is a significant improvement from older techniques which required an incision half the diameter of the entire cornea!



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Once the lens has been removed, a small artificial silicone (or plastic) lens is folded in half, inserted through the incision and placed where the old lens once was. In some cases, the artificial lens is not implanted; these dogs will regain vision after surgery, although close-up detail is diminished.

Surgery requires the ophthalmologist to remove the entire lens – not just the cataract. Leaving even a small amount of natural lens material, would result in inflammation. The new lens replaces the old, and will assume the role of focusing light beams on to the retina. The corneal incision is then stitched with one or two sutures, and surgery is complete. With surgery finished, your pet is ready to see again!

#### What happens the day of surgery?

Before the ophthalmologist begins surgery, a test called an Electroretinogram (ERG) must be performed to ensure the retina is both healthy and functioning. As the retina is responsible for transmitting visual signals to the brain, it must function for vision to be possible. If the retina is not functioning, vision will not be restored with cataract surgery.

An ERG uses sophisticated instrumentation to measure the response of the retina when light is shone upon it. A special contact lens connected to a computer is placed on the eye, and two tiny needles are placed under the skin. A light source is intermittently flashed into the eye, while the computer evaluates the response.

An ultrasound examination of the eye will also be performed prior to surgery. This allows the ophthalmologist to determine if other abnormalities exist, which may affect a positive surgical outcome. We want to ensure we have as much information as possible about your pet's eye, before surgery begins.

As your pet is prepared for surgery, a breathing (endotracheal) tube will be placed in his windpipe for the administration of inhalant anesthesia. His leg will be shaved, and an IV catheter placed, for administering IV fluids, which help protect his vital organs during surgery. His heart rhythm, blood pressure, blood oxygen and carbon dioxide levels will be closely monitored by our anesthesiologist and Registered Veterinary Technicians throughout the procedure. Generally, we anticipate cataract surgery for one eye to last approximately 1 ½ hours, while cataract surgery for both eyes lasts approximately 2.

As he recovers from surgery, we will continue to monitor your pet closely, to ensure he is comfortable and pain free. Additionally, the pressure inside his eye will be monitored closely, ensuring it stays within normal range.

**The day of surgery, please be sure to bring your pet's medication with you, as he will need it during his stay.**

**If your pet is diabetic, please do not give him insulin the morning of surgery! However, do bring his insulin with you, so it can be given at a later time during the day.**

#### What happens after surgery?

Your pet will likely go home the same evening, **but will need to return the following day for a follow-up appointment.** Frequent recheck examinations are a necessity after surgery to ensure the eye is



healing properly. We will need to see him again one week after surgery, then every other week for the next few months. The doctor will advise you as to how often he would like to see your pet over the following year.

Incredibly strict rest is a necessity in the first 24-28 hours following surgery, after which exercise is to be kept to an absolute minimum for 2 – 4 weeks longer. During the majority of this time, your pet will need to wear an Elizabethan Collar (a 'cone', or 'e-collar'). This collar is necessary to prevent him from damaging his eye by pawing, rubbing or banging against objects in his surroundings. It will take a little time for your pet to adjust to his new vision, and wearing his e-collar. **While wearing an e-collar may be unpleasant, it is imperative the collar be worn at all times for the initial 2 weeks following surgery, at which time the ophthalmologist will provide you with further instruction.**

Giving your pet his medication as prescribed by the doctor is an important component of his aftercare. If you have any questions about his medication, or are having difficulty administering them as prescribed, please do not hesitate to contact us for assistance.

**During the weeks following surgery, you must contact us immediately if you notice any changes in your pet's eye. These changes could include: the white of the eye becoming more red, the surface of the eye becoming hazy or blue in colour or a sudden onset of squinting in the effected eye. Any of these symptoms could indicate an emergency which requires immediate medical attention. Should you have an emergency outside our regular business hours, please contact your primary care veterinarian or your local veterinary emergency hospital for assistance.**

#### Homecare Summary

The success rate of your pet's cataract surgery depends on a variety of factors, including your commitment to his aftercare. If you have any questions or concerns regarding what to expect in the weeks following surgery, please do not hesitate to contact us. We are always happy to answer your questions, and help ease any concerns you may have.

In summary, you will need to:

- Keep your pet's e-collar on at all times, even at night, for a minimum of 2 weeks
- Limit his exercise for at least 2 to 4 weeks; accompany him outdoors (on leash) to relieve himself, and immediately return inside
- Carefully wipe away any discharge from the eye with a clean, moist tissue or face cloth
- Administer his medication as prescribed, ensuring it is given at the appropriate time (4 times daily, is the same as every 6 hours)
- If administering several different eye drops, wait 5 minutes between each drop, to ensure the medication is not flushed from the eye before it has the opportunity to absorb
- If giving both drops and ointment, always administer the drops first, ointment last. Ointments leave a residue on the eye, which will prevent drops administered immediately after from being absorbed
- Monitor your pet's eye for any changes, and contact us immediately should you become concerned

**Final note:** if your pet frequents a groomer, be sure to have this done before surgery, as he cannot be groomed again until his eye has completely healed (a month or longer). You may want to consider having his face and neck clipped, to prevent his fur from matting while wearing his e-collar, and food from collecting in his beard.