

CATARACT SURGERY

Cataract surgery has become commonplace in the field of veterinary ophthalmology. In fact, it is probably the single most common surgery for many ophthalmic surgeons. Specialised training and modern equipment have drastically improved the success rate of canine cataract surgery over the past 5 years. As a matter of fact, most veterinary ophthalmologists will quote success rates of 90%.

WHAT IS A CATARACT?

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

WHAT CAUSES CATARACTS TO FORM?

Most cataracts form in young to middle aged dogs due to a hereditary predisposition (ie - they do not necessarily ensue with old age, like they do in people). In other words, it is an inherited cataract that came from either the mother or the father, or both. Cats can also develop hereditary cataracts, however, it is a less common occurrence. The exact mechanism by which the opacity occurs is unknown for the most part, nevertheless, molecular changes in the lens fibres and proteins occur which result in a loss of transparency. Other causes of cataracts include diabetes, trauma, chronic inflammation inside the eye, and retinal degeneration.

HOW DO I KNOW THAT MY DOG HAS CATARACTS?

Sometimes the earliest indication of cataract formation is simple visual difficulties. Your pet begins to bump into stationary objects, refuses to go up and down stairs or has trouble finding their favourite ball or toy. You may notice a white opacity in the normally black pupil. Often, cataract formation will stimulate inflammation (called uveitis) within the eye and your pet may experience ocular pain and redness. This situation, called lens induced uveitis, must be seen and treated immediately by your veterinarian. The age at which cataracts form is often genetically determined and does not necessarily ensue with old age. Many young dogs, as young as 1-2 years of age, will develop hereditary cataracts. Certain breeds, such as the Bichon Frise, are particularly prone to early onset cataracts.

HOW ARE CATARACTS REMOVED?

The modern technique for cataract removal is called phacoemulsification. This procedure uses high frequency ultrasonic waves emitted from the tip of a small probe, to break the solid lens into a liquid so that it can be vacuumed out of the eye. By breaking the lens up into very tiny bits before removal, it allows the whole lens to be removed through a 2.5mm incision in the cornea. The old technique required an incision half the diameter of the entire cornea. Once the lens has been broken up and vacuumed out, a small, artificial silicone or plastic lens is folded in half, inserted through the incision and placed in the

spot where the old lens was. In some cases the lens is not implanted - these dogs still regain sight after surgery - however, up-close detail is diminished. Remember, once the surgery begins, the ophthalmologist has to remove the entire lens, not just the cataract. This is necessary because any natural lens material left behind will cause inflammation. The new lens is placed right into the old position and will take over the role of focusing light beams onto the retina. The corneal incision is then stitched up with one or two dissolvable sutures and the surgery is finished. With surgery finished, your pet is now ready to see again.

WHAT HAPPENS THE DAY OF SURGERY?

****PLEASE LEAVE ALL OF YOUR PET'S MEDICATIONS WITH US ON THE DAY OF SURGERY, AS WE WILL NEED TO USE THEM THROUGHOUT THE DAY**IF YOUR PET IS DIABETIC, DO NOT GIVE ANY INSULIN THE MORNING OF SURGERY, BUT DO BRING THE INSULIN IN TO THE CLINIC WITH YOUR PET!!!!**

Since the cataract blocks the view of the back of the eye, the ophthalmologist is unable to determine if the retina (the tissue that transmits the visual signals to the brain) is healthy and functioning (the retina MUST be functioning for the eye to be able to see). A test known as an electroretinogram (ERG) is essential prior to cataract surgery to ensure that the retina is working properly. If it is not functioning, then the eye is not a candidate for surgery because the eye will still be blind even once the cataract is removed. This test involves sophisticated instrumentation used to measure the response of the retina when a 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 flashed periodically into the eye and the computer evaluates the response. An ultrasound examination of the eye will also be performed prior to surgery to check for any other abnormalities. For surgery, a breathing tube will be placed in his/her windpipe to administer gas anesthetic. His/her heart rhythm, blood pressure, blood oxygen and carbon dioxide levels will all be closely monitored for the entire surgery (which usually lasts about an hour and a half for one eye, two hours for both eyes). Throughout the day, your pet will be kept comfortable and the pressure inside the eye will be monitored closely to ensure it stays within normal range.

WHAT HAPPENS AFTER SURGERY?

Your pet will go home the same evening but will need to return to our office the following day for a checkup. Frequent recheck exams are necessary after surgery to ensure proper healing is taking place - we will need to see your pet 1 week after surgery, then usually every other week or so for the next few months. From there, the Dr. will advise you how often he would like to see your pet over the following year. Extremely strict rest is required in the first 24-48 hours. After that time, **exercise will need to be restricted to an absolute minimum for 2-4 weeks.** Your pet will require time to adjust to his or her new vision. They will also have to adjust to wearing a plastic head collar. This collar is necessary to prevent them from damaging their eye by rubbing or by banging into their surroundings. **This head collar MUST stay on at ALL times for at least 2 weeks after surgery.** Medications are a very important part of the aftercare. These medications are very important.

*******IT IS EXTREMELY IMPORTANT THAT YOU CALL US IMMEDIATELY**

IF YOU NOTICE ANY CHANGE WITH THE EYE, FOR EXAMPLE: IF THE WHITE OF THE EYE TURNS MORE RED, OR IF THE SURFACE OF THE EYE BECOMES HAZY OR BLUE IN COLOUR, OR IF YOUR DOG SUDDENLY STARTS SQUINTING. ANY OF THESE SIGNS COULD INDICATE AN EMERGENCY THAT REQUIRES MEDICAL ATTENTION RIGHT AWAY!!!!!!!!!!!!*****

WHAT WILL I NEED TO DO AT HOME?

- Keep the head collar on at all times (even at night).
- Keep your pet very quiet.
- Administer the medications at the appropriate times. (“4 times daily” is the same as every 6 hours)
- When using eye drops, hold the head up (nose pointing upwards), pull the upper lid back to open the eye, then drop the medication directly onto the eyeball. Wait 5 minutes between different drops so as not to flush out the previous medication before it has been absorbed. If you are required to use drops and ointment, use the ointment last.
- Wipe away any discharge from the eye with a clean, moist Kleenex or face cloth.

****IMPORTANT - BEFORE SURGERY!!****

If your dog regularly goes to a groomer for clipping, be sure to have this done BEFORE surgery, as your pet will not be allowed any visits to the groomer until the eye is well healed (which can take up to a month **or longer** after surgery). It may be worth while asking the groomer to clip the face & ears short to prevent the fur from matting while the head collar is on.

SIDE VIEW OF THE EYE

