CATARACTS IN ANIMALS

What is a cataract?
A cataract is an opacity in the lens, which is a clouding within the normally transparent lens. Very small cataracts can be present which do not appreciably affect vision. However cataracts can develop further and when larger they do obscure vision. They are the most common cause of blindness in dogs, and can affect people or any species of animal.

What is nuclear sclerosis?
Nuclear sclerosis is a term used to describe an age-related change within the lens. All older dogs develop a hardening of the centre of the lens, and this may be seen as a greying within the eye due to the scattering effect on light. This does not significantly interfere with vision and does not cause any eye discomfort. Therefore no treatment is required.

What causes cataracts?
There are several possible causes of cataracts, and your vet may be able to find out the cause after examining the eyes. Cataracts in dogs most commonly form because they are inherited, in response to trauma (for example a cat claw injury), due to diabetes mellitus, or they may be age-related cataracts. Occasionally they may occur due to a retinal condition called Progressive Retinal Atrophy. The cause is not found in every case.

What treatment is available?
Fortunately there is a very successful surgical procedure whereby the cataractous lens can be removed using a procedure called phacoemulsification, and substituting it with a synthetic lens. There is currently no medical treatment that has been proven effective in reducing cataracts. Anecdotally, some eye drops containing the anti-oxidant N-acetyl-carnosine, may prevent cataracts from developing in normal lenses, but there is no scientific proof to back this up. It is important to appreciate that not every eye is suitable for cataract surgery.

When should cataract surgery be done?
Success rates with cataract surgery are much higher in cataracts which are operated on sooner rather than later. The cataract can cause inflammation and adhesions within the eye which would complicate surgery. The cataracts also get harder with time, whereas they are generally softer when they first occur. Harder lenses require a lot more ultrasound energy to break them up, therefore surgery times are prolonged and complications are more likely.
What is involved in cataract surgery?
The animal requires a general anaesthetic and neuromuscular blockade in order for the eye to be completely relaxed. Two very small incisions are made in the eye. Specialised phacoemulsification equipment is used to ultrasonically fragment and remove the defective lens material. In most cases, an artificial intraocular lens is implanted to replace the opaque lens. This allows a very good quality of vision to be restored to the pet. Occasionally this is not possible, and in this case the animal will still have vision restored, although he or she will be long-sighted. The incisions are closed with very fine dissolvable suture material which does not need to be later removed.

What are the risks of surgery?
- Cataract surgery using the phacoemulsification is a very successful procedure; however there are inherent risks involved with any anaesthesia or surgical procedure. There is a risk to every animal, no matter how healthy, when they are administered a general anaesthetic. With new developments in anaesthetic drugs and monitoring equipment, this risk is small. However an animal can die under general anaesthesia.
- Surgery can cause an increase in the pressure inside the eye (intraocular pressure) and can result in glaucoma. Glaucoma is a painful and binding condition. In many cases, the intraocular pressure can be controlled using eye drops for a period of time after surgery. If the intraocular pressure is not controllable, this condition could result in your pet losing the affected eye.
- Inflammation inside the eye (termed ‘uveitis’) is inevitable after surgery, which is why your animal will need eye drops and oral medication after surgery. This uveitis is usually controllable, but it can result in an inflammatory product called fibrin accumulating in the eye. This is usually controllable with eye drops, but sometimes a procedure is required to dissolve it. Under sedation, a substance called Tissue Plasminogen Activator may be injected inside the eye, which rapidly reduces the fibrin.
- Retinal detachment can occur days to weeks after surgery. This usually results in blindness although occasionally the retina will reattach. Retinal detachment is not painful.
- Intraocular infection is a rare but serious complication, which could result in your pet losing the affected eye.
- Capsular opacification, or "secondary cataract," refers to the cloudiness of the bag surrounding the prosthetic lens. Young animals in particular may have some microscopic lens cells left behind that may re-grow, causing ocular discomfort. This opacity rarely occurs to such an extent that it causes visual problems. A second irrigation / aspiration procedure under general anaesthesia may sometimes be required to correct this complication.

Why is cataract surgery so expensive?
Cataract surgery is expensive because it requires specialized equipment and ophthalmic disposables which are very expensive. Training of staff is also costly. The instruments used for cataract surgery in dogs are the same instruments used for cataract surgery in people.
What aftercare is involved?
- The animal usually stays the night of surgery and is examined the morning after surgery.
- A buster collar will be fitted in order to prevent the animal from traumatising the eyes. This needs to be left on 24 hours a day for the first two weeks after surgery.
- Exercise needs to be very restricted, with lead walks only. The animal should not be encouraged to jump up on things or play with toys (especially toys that involve the animal shaking the head).
- A harness should be used for attaching to the lead rather than a collar, as this avoids any pressure on the neck.
- Medication is essential after surgery to ensure that the eyes have the best chance of a good result. Oral antibiotics and anti-inflammatories are prescribed in all cases, and should be given as directed. Eye drops are also needed four times daily for approximately five weeks after surgery, and then twice daily for three months and then once daily for up to another three months. However, each case is assessed on an individual basis and the frequency of administration may be adjusted in response to the appearance of the eye.
- Re-examination visits are required usually one week, one month, three months, six months and one year after surgery, with annual checks recommended. However, extra visits may be needed should your animal experience eye discomfort.

What if surgery is not done?
Cataract surgery is an elective procedure and will only be carried out if the animal is healthy enough and is likely to benefit from the procedure by having sight restored. Cataracts tend to cause some inflammation inside the eye, termed ‘lens-induced uveitis’. This may be low-grade and require no treatment or more likely require daily eye drops; or it may be severe and cause pain, retinal detachment or glaucoma. Lens-induced uveitis may render the eye unsuitable for surgery at a later date. Regular check-ups would be advised in order to ensure that your animal is as comfortable as possible. Blindness does initially reduce an animal’s quality of life but they are remarkably adaptable and can lead a very happy life with no vision. Blindness alone is not usually an indication for euthanasia. Please ask for further information on coping with a blind pet if required.