

# Cataract Surgery at Animal Eye Care

## What is a cataract?

A cataract is an opacity of the lens. The lens is normally clear and transparent. A cataract forms when the lens itself goes cloudy. A cataract is not a film or coating of the eye, but it is the lens protein inside the lens capsule that becomes cloudy.

A cataract can affect just a small part or the entire lens. Small cataracts may not have any affect on vision. If the cataract involves the entire lens in both eyes then your pet will have very poor vision. In more advanced cataracts, you may notice that the pupil, which normally appears black, has undergone a colour change and becomes bluish or white. As the pupil opens and closes, this cloudiness may appear larger or smaller. The cataract is simply being covered and uncovered by the iris.

## What causes a cataract?

There are many possible causes including diabetes, inherited causes, and PRA (Progressive Retinal Atrophy) - but often we do not find a specific cause.

Breeds most commonly seen at Animal Eye Care with inherited cataracts include Cocker Spaniels, Poodles, Australian Cattle Dogs, Maltese, Boston Terriers and Bichon Frise.

## What is the treatment for cataracts?

Surgery is the only effective method to cure cataracts. There are currently no known preventative treatments for cataracts, and no proven medical treatments.

## Do cataracts need to be treated?

Unfortunately as cataracts progress, they can begin to leak lens protein inside the eye. This causes inflammation inside the eye, called Lens Induced Uveitis (LIU). Diabetic dogs seem particularly prone to this. LIU can lead to painful conditions such as glaucoma and lens luxation. So even if you decide against surgery, your pet may need long-term drops to prevent or control this inflammation. Watch for redness on the whites of the eyes— if treated early, these painful conditions can often be avoided.



## Should my pet have cataract surgery?

Most blind animals cope very well as they have a good sense of smell, hearing and they know their home environments extremely well. However, successful cataract surgery can greatly improve an animal's quality of life. Factors that need to be considered include the patient's age, general health, and the health of the eyes themselves

The decision on whether to remove a cataract is a joint one between you, your local veterinarian and Animal Eye Care. Please feel free to speak to us at any time if you have any additional questions regarding cataracts or cataract surgery.

## Is my pet a good candidate for cataract surgery?

Cataract surgery is an involved and intricate surgery. We need to make sure that your pet is healthy and free of any problems that might interfere with the success of cataract surgery. In some older dogs we may recommend that your local veterinarian decided whether your pet requires a physical examination and pre-operative blood & urine tests, dental examination and in some cases chest X-rays and heart examination.

**Older dogs** may still be good candidates for cataract surgery. With the use of modern anaesthetic agents cataract surgery has been successfully performed on dogs and cats as old as 19 years. One concern with older dogs is that their retinas may have age related degeneration. Senility is also an issue with older dogs, and specific drugs or a prescription diet may be recommended to help boost poor brain function.

**Diabetic dogs** make excellent candidates for cataract removal. The increased sugar levels in the lens make the cataract softer and easier to remove with the new technique of phacofragmentation. Diabetic patients can potentially have problems as their wound healing is slower and they are more prone to infection. We use extra sutures and antibiotics to prevent these problems. Diabetics are also prone to lens capsule rupture and this may mean that a n IOL—lens cannot be placed. Overall diabetics seem to have a higher success rate.

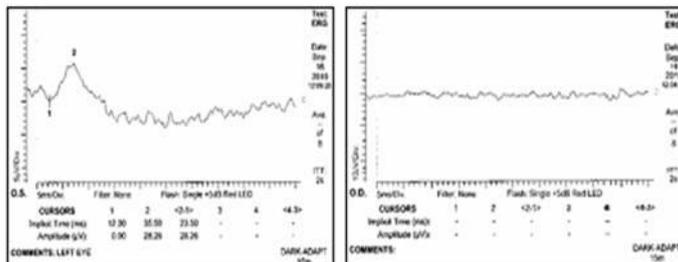
Cases in which there has been pre-existing reaction against the cataract (lens induced uveitis) tend to have poorer success rates. This reaction will increase the risk of more inflammation after surgery, glaucoma, retinal detachment, bleeding and cloudiness in the eye.

One of our eye vets will give you an estimated likelihood of restoring useful vision based on your pet's breed, health, age and the condition of their eyes.

## Why do we check the retina?

The retina is the nerve tissue at the back of the eye which sends information from the eyes to the brain. The retina must be healthy in order for cataract surgery to restore vision. Some breeds of dog (and their crosses) such as Labradors, Australian Cattle Dogs, Australian and Silky Terriers, Poodles, and Cocker Spaniels can have PRA (Progressive Retinal Atrophy). In these cases, this is the cause of the poor vision and the cataracts. PRA in its early stages can cause poor night vision, followed by poor day vision and eventually cataracts. In many cases the early signs of PRA are missed, even by the most diligent of owners, and it is assumed that the cataracts are the cause of the vision loss. In these cases the dog is blind because of the PRA, so cataract surgery will not restore vision.

If one of our eye vets is unable to visualise the retina during the consult (due to the density of the cataracts), we will perform an Electroretinogram (ERG) on the day of the surgery. This is an electrical test of the retina—using a computer, we measure the electrical response to bright lights flashed into the eye. If the ERG shows that the retina is not working effectively, cataract surgery is not an option for your pet.



A normal ERG wave

A flat ERG

We may also perform an ultrasound to look at the structures within the eye and check for any sign of a retinal detachment.

## Laser retinopexy

There is an increased risk of retinal detachment if your pet's eyes are very inflamed, the cataracts are very mature, the lens is loose or if the lens 'bag' tears during surgery, Some breeds of dog (Poodles, Bichons, Shih Tsus) are also more prone to retinal detachments. In these cases, we will perform laser retinopexy to 'spot weld' the retina on to the back of the eye. This procedure reduces the risk of it happening. If problems arise during surgery, we may do laser retinopexy immediately after surgery.



## When is the best time to operate?

In the past cataract surgery was usually delayed until the cataract had matured and the patient had gone totally blind. We now know that surgery is considerably more successful if the cataract is removed before it matures. We now decide to remove the cataract if it is likely to progress. This can usually be predicted by considering the animal's age, breed, and the size and location of the cataract. In some cases the most predictable thing about cataracts is that they are unpredictable.

Allowing the cataract to grow and mature will reduce the success rate for a number of reasons. Firstly, more mature cataracts are more likely to develop uveitis – inflammation, which can lower the success rate by as much as 20 to 30%. Secondly, more mature cataracts can cause vitreous degeneration which may lead to cloudiness in the jelly of the eye. Thirdly, the risk of retinal detachment is increased. And finally, the capsule which holds the lens can become cloudy and opaque.

## Gonioscopy

Prior to surgery we will use gonioscopy to look at the drainage angle of the eye to determine whether the eye is predisposed to glaucoma (increased pressure inside the eye). Eyes that are predisposed to glaucoma will most likely require long term drops to control the intraocular pressure. In some cases it is not possible to control the pressure and vision may be lost.

## One eye or both?

Until quite recently in humans, only one eye would ever be done at a time. Most veterinary ophthalmologists are happy to do both eyes at the same time. There is a small risk that the surgery may not be successful in both eyes if a complication such as an infection should develop, but fortunately this is very rare with the new small incision techniques of cataract surgery. The benefits of doing both eyes are that the surgery is substantially less expensive than doing the 2 eyes on separate surgeries, and only one anaesthetic is required. The decision on whether to operate on one or both eyes is yours to make.

## What are the risks?

Our success rate at Animal Eye Care is comparable to other veterinary eye specialists around the world. We regularly discuss and review our techniques with our colleagues. In young animals with early cataracts we record our highest success rate of over 93%. This means 93 out of every 100 eyes regain useful vision that is maintained for 12 months. Several years after surgery the success rate is reduced to around 90%. In cases where the cataract is mature and particularly those with pre-existing inflammation in the eyes, a much lower success rate is to be expected.

With cataract surgery both in animals and humans there are a number of potential complications. These include glaucoma (increased pressure in the eye), uveitis (inflammation in the eye), cloudiness of the lens capsule, corneal oedema (a blue haze to the eye), retinal detachment, sudden retinal degeneration, and haemorrhages in the eye. In some cases we do not get any vision because of complications.

One of our eye vets will explain your pet's chances of regaining useful vision after cataract surgery.

## Prior to surgery

If the cataracts are mature or the eyes are inflamed at the time of the initial appointment, then anti-inflammatory eye drops are commenced at one drop once daily. These eye drops are then increased to three times daily starting three days before surgery. We may also start oral anti-inflammatory tablets at this time, normally twice daily. It is important to let us know about any other medications that your pet is taking as they might not be safe to use with the medications we prescribe.

For older dogs pre operative blood and urine tests will be needed.

It is vital that your dogs teeth are clean, and are free of any gum infections



## On the day of surgery

On the day of surgery, your pet will need to be dropped off at our clinic at 8am with an empty stomach. Surgery is performed in the middle of the day and after surgery, we will monitor the pressure inside your pet's eyes for several hours. Once the intraocular pressure has stabilised, your pet can go home later that same day. We do not keep animals overnight as our clinic is not staffed after hours.

## How is surgery performed?

Cataract Surgery is performed by Victoria's most experienced Veterinary Eye Specialist- Dr Robin Stanley or by our American trained specialist Dr Heather Kaese. Surgery is performed on Mondays, Tuesdays or Wednesdays. Your pet will be able to return home the same day following cataract surgery. We do not keep animals overnight as our clinic is not staffed after hours.

## You are in experienced hands...cataract surgery

Animal Eye Care is one of Australia's leading animal eye care centres. Dr Robin Stanley has been doing cataract surgery since 1988. He has lectured and demonstrated surgical techniques to other veterinary ophthalmologists in Australia, Europe, Hong Kong, Singapore and Taiwan, Philippines and Sri Lanka.

Dr Heather Kaese is also a very experienced cataract surgeon. She has been very involved in training eye surgeons in her previous job in the United States for the world's largest veterinary eye practice.

Our surgical techniques are being constantly reviewed to ensure that we maximize our success. We have had a number of specialists visit our clinic from overseas to enhance their knowledge and skills.

Cataract surgery is performed using the latest proven technique called phacofragmentation. This is the same technique that is currently used in humans. The surgery is performed with the aid of an operating microscope. A very specialized general anaesthetic is given, and a neuromuscular block is administered which helps to improve access to the eye. Whilst under the general anaesthetic the animal is carefully monitored including measurement of blood pressure, and blood oxygenation by pulse oximetry, respiratory function by ET CO<sub>2</sub>. We have a team of very experienced veterinary nurses.

Two small incisions (1mm and 2.8 mm long respectively) are made into the eye, and the anterior capsule (front of the lens capsule) is removed with a fine pair of forceps. The cataract is then removed by phacofragmentation which uses ultrasound energy to break down the cataract. In some cases part of the posterior capsule is removed. The incision in the eye is then enlarged to between 4 to 8 mm through which the intraocular (artificial) lens is then inserted. The incision is stitched closed with fine hair-like dissolving sutures. Laser is not used to remove the cataract; in humans laser may be used after surgery to remove scars, but it is not used to actually remove the cataract.



## The equipment

Animal Eye Care has recently purchased new equipment, which is currently found in the more modern human cataract surgery centres. We are now using cold phacofragmentation which reduces the risk of complications.



## After surgery

Your pet will need to wear an Elizabethan Collar for 7 days after surgery. Many dogs dislike these collars however they are necessary to protect the eyes from accidental damage. It is very important to regularly check that the collar is not rubbing the skin, especially underneath the neck. If your dog is prone to ear problems, make sure that the ears are cleaned regularly during this time.

Generally there is little, if any pain associated with the procedure. We routinely give a pain-relieving injection on the morning of surgery, and we may use anti-inflammatory tablets during the post-operative period. After surgery, your pet will need to be on several different eye drops and these may need to be given up to 10 times a day. Some drops may be continued twice a day for up to 12 weeks.

We will need to check your pet's eyes the morning after surgery, and then usually 3, 10 and 24 days after surgery. Four post-operative visits are included in the surgery fee if seen at East Malvern, however if you would prefer to be seen at a travelling clinic, a \$30 fee will be charged. If Saturday appointments are required, they should be booked when scheduling surgery as they tend to book up quickly. If an after-hours consult is required, then a fee will be charged for an after-hours visit. We then suggest visits every 6 to 12 months to monitor the health of the eye. A fee is charged for these long term follow up visits.

## What will my pet's vision be like after surgery?

With the cataract successfully removed, your pet's vision is greatly improved, and most pets return to their previous activities. We routinely recommend that we replace the cloudy lens with a plastic intraocular lens (IOL). We find that with an IOL, your pet will regain their vision much more quickly, and the lens also helps

with their close-up vision and depth perception. An IOL also seems to reduce the risk of a secondary cataract from forming. However not all patients are suitable for an IOL and this may be discovered during surgery. Without an IOL, generally the patient's close up vision (less than 75 cm) is poor, but the mid to long distance vision is normal.

As with humans it can take 3 to 7 days for your pet to regain useful vision. In some cases it may take up to 6 weeks for your pet to learn how to see again. This often is the case where an IOL has not been implanted.

## Will the cataract grow back?

Generally no. However sometimes in very young dogs, the lens may try to regrow. In young dogs we can also sometimes get scarring of the posterior lens capsule, which may look like a cataract. In most cases this does not seem to affect the dog's vision, even though you may notice cloudiness. For dogs under the age of five we therefore routinely recommend removing the posterior capsule at the time of surgery when a lens is implanted. This will require us to do laser retinopexy to reduce the risk of retinal detachment. During surgery in some cases we find that the posterior capsule is cloudy after we have removed the cataract, and in these cases we will remove the capsule, and then do laser retinopexy immediately after surgery.

## What does it cost?

Cataract surgery is an intricate and specialised procedure. We use mainly human equipment and medications to ensure our patients have the best possible outcomes. One of our eye vets will give you an itemized estimate of the surgery fee that has been tailored to your pet's needs.

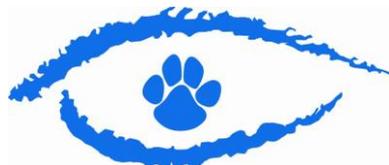
The cost includes the surgery fee, operating microscope, suture materials, surgical instrument fee, phacofragmentation fee, IV and gaseous anaesthesia fee, anaesthesia monitoring fee, theatre fee & disposables, drugs (drops required immediately after surgery and injections at the time of surgery), Elizabethan collar to protect eye after surgery, hospitalisation, in-hospital eye exams and 4 post operative visits at the East Malvern clinic during normal clinic hours. A fee will be charged for post-op checks seen after hours or at a travelling clinic. This fee does NOT include the medications prescribed prior to surgery, and any additional medications that may be required after surgery.

Please note that while we endeavour to keep costs as close to your estimate as possible, occasionally we may need to use different equipment or medications for reasons that only become apparent during surgery.



## Any questions?

We understand that the decision of whether or not to have cataract surgery on your pet is a big one. We welcome any questions or concerns that you may have. Please feel free to contact us on (03)9563 6488 or email us at [info@animaleyecare.com.au](mailto:info@animaleyecare.com.au)



**Animal Eye Care**

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