



# OPHTHALMOLOGY REFERRALS

Miss Sally Turner | MA VetMB DVOphtal MRCVS | RCVS Specialist in Veterinary Ophthalmology

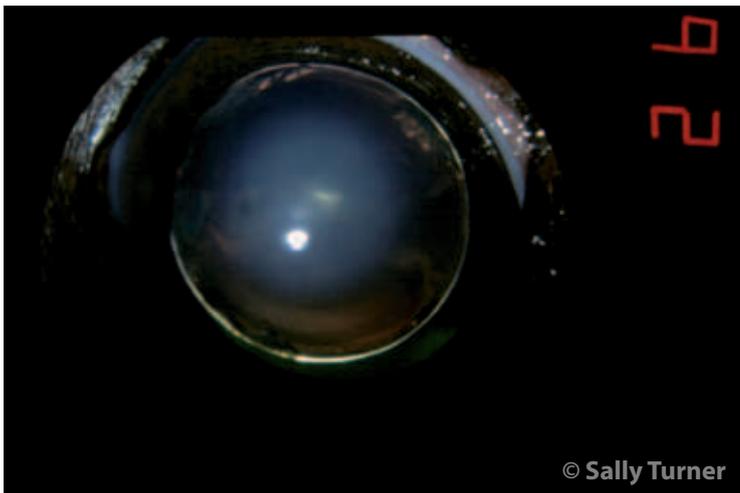
## Lens Luxation

### Normal position of the lens

The lens is the transparent structure in the eye which assists focusing. It is a flattened sphere which is held in place by tiny ligaments around its circumference. It sits just behind the iris and pupil.

### Lens luxation

In some dogs, particularly the terrier breeds, the ligaments can break down, allowing the lens to dislocate from its normal position. It can fall backwards into the eye (posterior luxation), where it rarely causes discomfort, or can fall forwards (anterior luxation), where it blocks the drainage of fluid from the eye, allowing a build up of pressure or glaucoma to develop. This is painful and can cause permanent blindness. Surgical removal of an anterior lens luxation is the only possible treatment.



Anterior lens luxation – the lens is sitting in front of the iris and the clouding is due to corneal oedema where the lens is pressing on the back of the cornea

### The surgery

Once the eye has been prepared for surgery it is opened through the clear cornea and the dislocated lens is then removed. The eye is closed by sutures which are absorbable and do not need removal. Sometimes further stitches are also placed in the corner of the eye – these again dissolve.

### Post-operative care

The patient stays in the hospital for 1-2 days. Once home it is vital that he/she is kept quiet and not allowed to jump up or bark excessively for example. Lead exercise only is allowed for a few weeks – the eye has been opened and needs time to heal properly. Eye medication will be dispensed and it is important that the instructions are carefully followed. Frequent rechecks will be necessary with the Ophthalmologist.

### Vision

The aim of surgery for an anterior lens luxation is to alleviate discomfort and save any vision. If the lens has been forward for any length of time the chance of restoring vision is reduced although hopefully some guidance vision can be saved. In earlier cases quite good vision can be maintained, although it will never be as good as prior to the lens dislocating, since the eye can no longer focus. If the eye is already blind through glaucoma then the surgery will aim to make the eye comfortable but any return of vision is very unlikely.

### Complications

Lens luxation is a very serious condition and unfortunately complications can develop. These include persistent glaucoma despite the fact that the lens has been removed – it can often be controlled with drops (possibly for life) but sometimes removal of the eye itself is the only way to remove the pain associated with glaucoma.

Another potential complication is retinal detachment, where the retina is pulled off the back of the eye as the lens has moved forwards. Often these eyes remain blind, but they are usually pain-free.

### Hereditary lens luxation

Weakness in the lens ligaments is known to be hereditary in the terrier breeds and the Border collie therefore if one lens has luxated it is almost certain that the same thing will happen in the other eye at a later date – look for any signs of discomfort or a change of appearance of the eye and take your dog along to a veterinary surgeon immediately if you are at all concerned.

### DNA testing

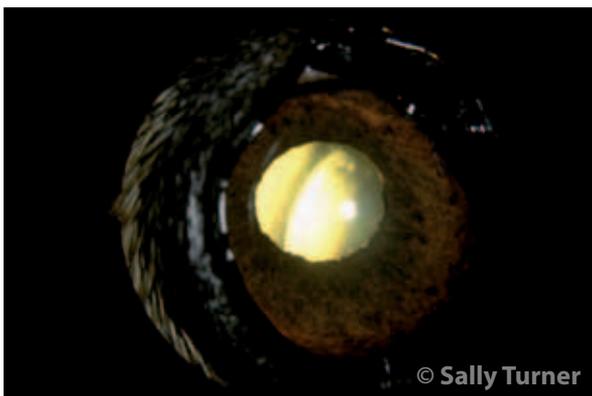
The abnormal gene responsible for lens luxation in many of the terrier breeds was discovered by the team at the Animal Health Trust and they have also developed a DNA test for the condition. This can be performed on blood samples or cheek swabs, and can differentiate between affected, carrier and normal dogs. For more information see [www.aht.org.uk](http://www.aht.org.uk)

### The 'subluxated' lens

Before the lens falls out of position completely it can 'wobble' as some of the ligaments break, but a few remain to keep it loosely in place. This is a subluxated lens. Surgery can be performed on these lenses, to remove them, prior to complete dislocation. However complications are still encountered, mainly glaucoma. This can even be present in the subluxated lens and some cases respond better to the newer anti-glaucoma drops without the need to operate straight away. Careful monitoring of subluxated lenses is required. Some cases of subluxated lenses respond well to these eye drops which aim to keep the pupil small (so the risk of the lens falling forwards is reduced) as well as lowering intraocular pressure reducing the risk of glaucoma and some dogs can even avoid the need for surgery altogether with their permanent use (although these do remain in the minority).

### The posterior lens luxation

As mentioned above, sometimes the lens can fall into the back of the eye, where it causes little or no discomfort. These cases are sometimes left – the surgery is technically very demanding and the risks of complications greater. However the lens can still move around in the eye, and can fall forwards, causing discomfort and possible blindness. If your pet has a posterior luxation, you will be asked to monitor it carefully, and seek specialist veterinary attention if there are any signs of discomfort or a change of appearance in the eye. The use of drops can help to prevent the lens from falling forwards and many cases can now be managed long term on just topical medication without the need for surgery.



Posterior lens luxation – the line seen across the pupil is the edge of the lens slipped behind.