

Eye conditions in Samoyeds

Information for breeders and pet owners

Melbourne EyeVet

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Extra eyelashes/distichiasis

Distichia are abnormal extra eyelashes that grow from the glands on the eyelid edge. In most Samoyed they are oftentennfine and float in the tear film and don't cause problems.

However in some dogs, the distichia are thicker and can cause irritation and corneal ulcers. Surgery is necessary in such cases to either cut them out by the root or freeze the root to destroy it. This surgery is a specialist procedure. If your Samoyed is diagnosed with this, let the breeder know as they are passed on from the parents. In Australia over the past 5 years, the incidence of distichiasis varied from 2-8%.



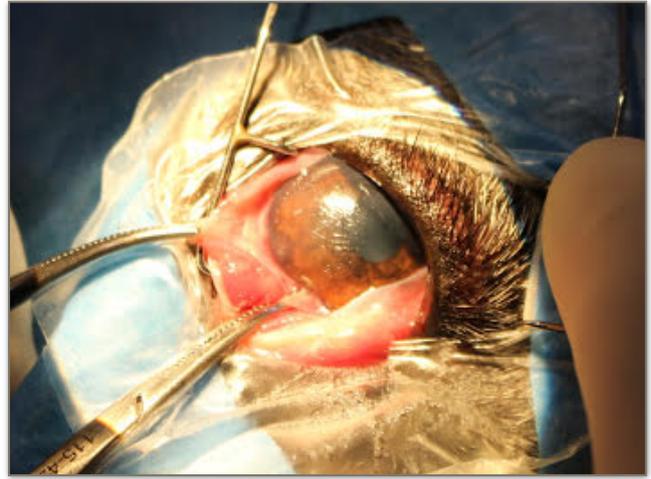
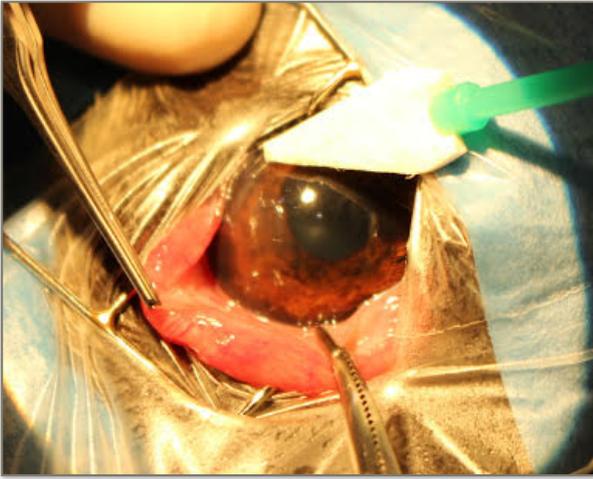
Dry Eye

Dry eye is a condition in which there is sub-optimal tear production. Usually dry eye develops in adult dogs, and is due to immune-mediated disease/ inflammation. This can also develop due to chronic conjunctivitis. Treatment with immuno-suppressive drugs like cyclosporin (ointment or drops) and tacrolimus are used to improve the tear readings and return the eyes to optimal health. Lifelong treatment is required. If not treated, dry eye can result in serious corneal ulcers, scarring and vision loss. In rare cases, these drugs do not control the condition, and parotid duct transposition can be carried out.

Non-healing corneal ulcers - SCCED

This condition is common in Samoyeds. The initial injury is usually a trauma e.g. scratch, then due to an abnormality with healing, the ulcers fail to heal. SCCED stands for superficial (as the ulcers are very shallow) chronic (can be present for weeks to months) corneal epithelial defects (the lesion only affects the outermost epithelial layer of the cornea which is 7 cell layers thick). We will always check the tear readings in such cases due to this breed's predisposition to dry eye.





Such ulcers require surgery to encourage healing. Options include diamond burr debridement, grid keratotomy and superficial keratectomy. It is recommended that a specialist veterinary ophthalmologist performs these. In relaxed patients, it may be

possible to perform the burring or the grid keratotomy in the consult room under topical anaesthetic. This is definitely only something a specialist can do and high powered magnification is required.

In some cases, an ulcer can become infected with a nasty organism (usually bacteria) and intensive medical therapy or more involved surgery is required. Luckily, this is rare. The take home message is that if an ulcer doesn't heal within 1-2 weeks or appears to be getting worse, consider a referral to an eye specialist.



Corneal lipid dystrophy

Samoyeds are amongst the many breeds that develop corneal lipid dystrophy. This is usually a bilateral, symmetrical, noninflammatory corneal syndrome that is often familial. Centrally located circular or oval crystalline deposits are present just under the surface of the cornea. These white to grey spots typically appear between 2 and 5 years of age. Medical treatment is not usually effective and these lesions rarely cause significant visual impairment. In Australia the incidence has varied from 0-5% over the past 5 years.

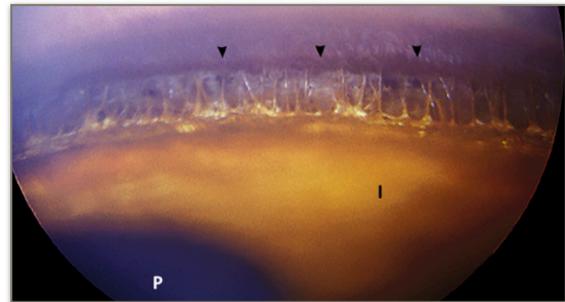
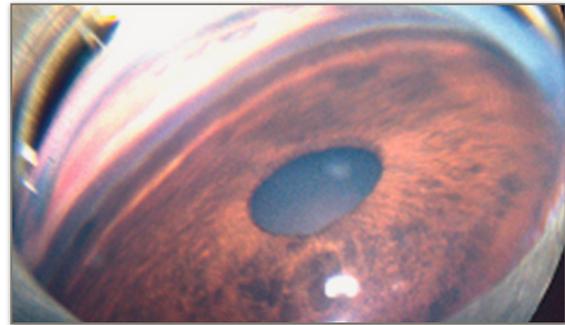


Cataract

A cataract is an opacity of the lens inside the eye. Both congenital and adult onset cataracts have been described in this breed, including star cataracts (small focal opacities at the centre, back of the lens. These are known as PPSC Posterior Polar Subcapsular Cataracts). In the Samoyed, onset is usually at by 2-3 years. Fortunately due to diligence of the many good breeders, the incidence is now very low. Breeding dogs should be screened (annually for males and prior to breeding for females) if it is suspected to be in certain lines. In Australia in there have been 4 cases of bilateral star cataracts over the past 5 years. Fully mature cataracts affecting vision are fortunately rare in this breed in Australia.

Primary glaucoma

The most serious eye condition that eye specialists are seeing more of in Samoyeds is glaucoma. This is due to an abnormal drainage angle inside the eye. Fluid (aqueous) is produced and filtered through the drainage angle constantly. If the drainage angle is malformed (goniodysgenesis), the intraocular pressure can suddenly increase (unlike in humans, where the pressure increases slowly over time). This is an inherited condition, passed on from parents with abnormally developed drainage angles. Gonioscopy can be performed to assess a breeding dog's drainage angle and breeding is only recommended in dogs with angles that are over 75% open. Both the percentage open and the width of the angle is assessed. Of 200 dogs checked by gonioscopy from 2012-2017, 154 had drainage angles that were over 75% open. Of the 46 dogs with less than 75% open, 24 had less than 50% open (therefore 22 dogs had between 50-75% open). Only a couple of dogs had completely closed drainage angles.

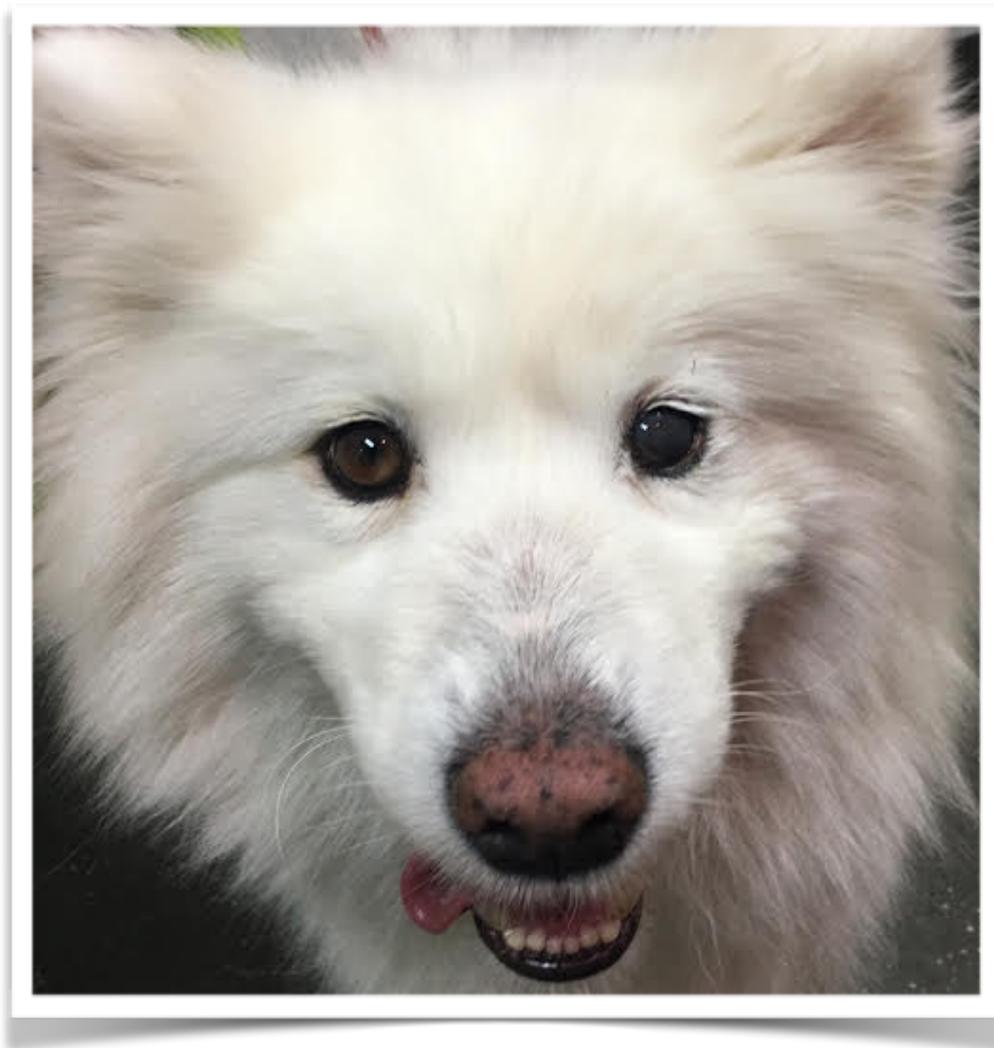


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Unfortunately when glaucoma occurs, the first eye is usually blind and efforts are directed towards delaying glaucoma in the fellow eye (usually prophylactic drops with a drug called Cosopt). Glaucoma is painful and surgery is required - either eye removal or intraocular

silicon prosthesis for blind eyes.

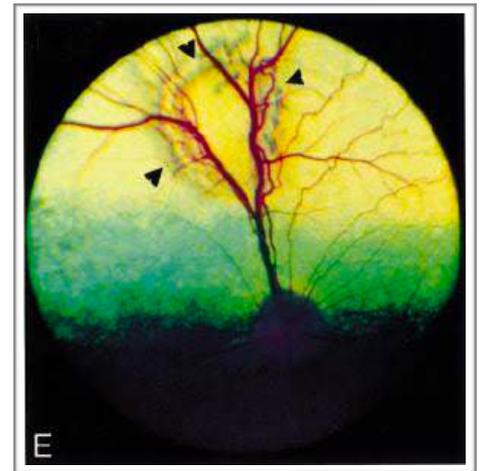
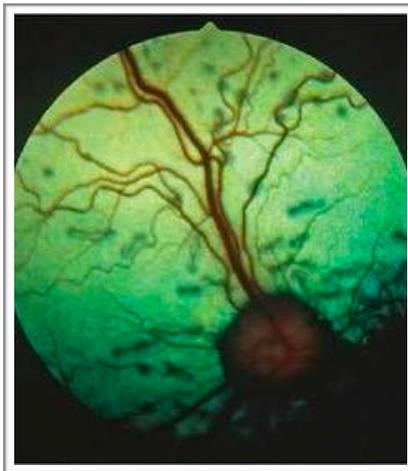
When glaucoma develops in the fellow eye, surgery is performed to implant a drainage device (Baerveldt Shunt) to try to control the glaucoma. An intensive medication regime is also required. Unfortunately not all surgeries are successful in controlling the glaucoma.



MRD - Multifocal Retinal Dysplasia and Geographic Retinal Dysplasia

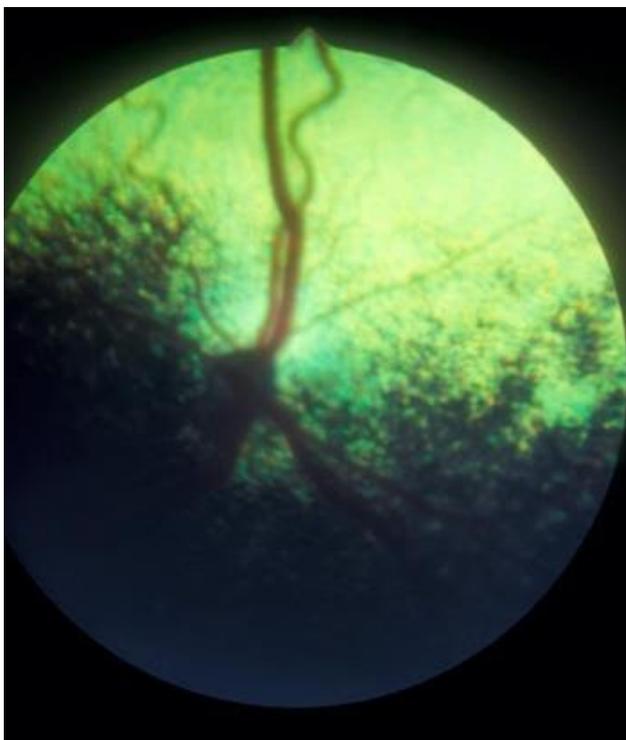
Retinal dysplasia is another inherited condition seen in this breed. MRD are linear, triangular, curved or curvilinear areas of retinal folding is seen. If these have not disappeared by 12 months of age, a diagnosis of MRD is made (see left photo). It is a congenital, non-progressive condition with varying degrees of severity. MRD does not affect vision (unless perhaps in extremely severe cases). Affected dogs should not be bred as more severe forms may be seen, although the genetic relationship between folds and more severe forms is undetermined.

A second form of retinal dysplasia is geographic retinal dysplasia when a giant retinal fold, often circular or U-shaped, is seen. This area of retina is abnormal and can result in focal retinal detachment, and even predispose the affected dog to total retinal detachment and vision loss. I know of only 4-5 dogs over the past 6 years that have been diagnosed with this. A third form, total retinal dysplasia is extremely rare in this breed. Affected eyes are blind.



Optic Nerve Hypoplasia

Over the past couple of years a few cases of optic nerve hypoplasia have been seen. Affected puppies are blind. When a bright light is shone into the eye, there is no movement of the pupil (it should constrict i.e. become small). Beware however if the other eye is normal and light is entering it, this will cause the blind eye's pupil to constrict. For



this reason, this test should be done in a darkened room. A diagnosis can be made by a veterinary eye specialist. If this condition is bilateral, the blind dog can live a happy life and is best placed in a home with another dog. It is possible however that they may be a bit anxious in busy dog parks and may become fearful. Owners need to be aware of this anxiety and provide plenty of reassurance and not place the blind dog in frightening situations. More information about blind dogs is available on our website.

ACES - Australian Canine Eye Scheme

Eye Certification via ACES is recommended to assess dogs for breeding. This is a full eye examination that will pick up many inherited eye conditions including

predisposition to glaucoma, distichiasis, corneal dystrophy, microphthalmos (small eye), cataract, retinal dysplasia and optic nerve hypoplasia. Only registered veterinary eye specialists who have been listed as ACES Panelists can perform this test. Breeders will be presented a certificate with the full results of the test. Melbourne EyeVet works closely with breeders to ensure that the puppies they breed have optimal eye health.

Prospective owners should expect to be provided with copies of all the testing of the parents including copies of eye certificates, hip and elbow certificates, DNA test results and even more health test results by very diligent breeders.

A link to the annual reports by breed can be found at <https://www.ava.com.au/aces>