

Eye Disorders in the Miniature Australian Shepherd

By Jacque McHenry

Even with the Internet as a resource, finding breed-specific articles of this type is not an effortless task. Quite frankly, it is almost impossible to locate straightforward, simple to understand genetic material, especially if you are not medically trained.

My goal here was to produce an easily readable article condensing a lot of rather boring information into a simplistic, albeit still boring article, geared toward both the breeder and the prospective puppy owner. I believe I have achieved my goal. (ha)

Hopefully, this will shed a little light onto the subject for those looking at purchasing a puppy, as well as create a sense of accountability in those breeding this wonderful breed. As you read this, if you happen to find a flaw (or two), please remember I am not an Ophthalmologist, just a "hobby breeder", serious about the Australian Shepherd and researching... but if you need a medical diagnosis, call your Ophthalmologist!

As with every breed, a variety of eye defects can present in the Australian Shepherd breed. Some of these defects are fairly common; others are only rarely detected. Whatever their frequency, and whatever your interest in the Australian Shepherd may be, it is important to be well-informed.

While Australian Shepherds are a hardy breed with relatively few health disorders, breeders must be especially aware of the risks of eye disease. The only way to be sure a breeding animal is truly free of eye defects is to have it checked annually by a licensed Ophthalmologist. Though some will object on the basis of cost, the yearly price is minuscule when compared to the heartache of producing a litter of puppies with serious inherited eye abnormalities! Responsible breeders will have their breeding animals examined yearly, as well as all their puppies examined by an ophthalmologist before placement. *Puppies' eyes can be examined as early as 6 weeks of age, to ensure they are free of defects at the time of purchase.

The following research was primarily done through data presented by the ACVO Genetic Committee, American College of Veterinary Ophthalmologists; for more information, their website is: <http://www.acvo.com/>. Also very helpful in my research, C.A. Sharp's article, Can You See? / Inherited Eye Disease In Aussies. Various other resources gleaned from countless hours of Internet browsing...

Description of eye abnormalities found to varying degrees in the Australian Shepherd, and hence the Miniature Australian Shepherd as well.

1) Microphthalmia with multiple ocular defects. **DO NOT BREED.** Microphthalmia is congenital (present at birth). It is characterized by a smaller than normal eye, and in most cases is accompanied by other eye abnormalities as well. Iris, lens, retina and even anterior chamber are frequently affected.

While it is more common to see this abnormality in a homozygous merle (a merle puppy with excess white markings, resulting from a merle X merle breeding), it can occasionally be found to a lesser degree in affected heterozygous merles as well.

2) Distichiasis. **BREEDER DISCRETION.** Distichiasis can present at any time in a dog's life. Dogs with this condition have eyelashes growing toward the cornea instead of outward, away from the eye. Pain, irritation, and even ulcerations occur as the lashes rub against the eye. Eye surgery may be done to remove the offending lashes, however, other areas of the lid may eventually produce lashes growing inward as well; surgery may need to be repeated at another stage in the dog's life.

3) Iris Coloboma. **DO NOT BREED.** An iris coloboma is a deformity in the way the iris develops. It can be a simple "notching" of the pupillary margin, a small hole in the iris, or in severe cases, it can mean complete absence of iridal development. Generally, this only minimally affects vision. Large colobomas impede the iris' ability to contract properly in bright light, thus causing the dog to squint when exposed to direct sunlight.

4) Persistent pupillary membranes (PPM). **BREEDER DISCRETION OR DO NOT BREED,** dependent upon the presentation of the PPM. As a rule, the pupillary membrane (which covers the pupil) begins to regress as the puppies' eyes develop. By the time the puppies open their eyes, the membrane has fully regressed, however, in the case of PPM, this small membrane leaves "strands" or "tags" spanning from one region of the iris to another, known as an iris to iris PPM. This condition may also present as iris to cornea, iris to lens, or even from tissue in the anterior chamber.

Generally an iris to iris strand is nothing to worry about. It is somewhat common for puppies to present with this form of PPM as youngsters and by 12 months the condition has completely reversed itself. Even if the strand remains, this state would rarely affect vision, so is not much of a concern. Though it is listed at the breeder's discretion, we would not recommend breeding to another animal with the same condition, or to an animal with full siblings with this condition.

The other types of PPM can be very serious and are considered hereditary. **DO NOT BREED.**

5) Cataract. **DO NOT BREED.** This condition is one of the most common eye problems found in the Aussie. It is believed to be hereditary and is characterized by an incomplete or complete clouding of the eye lens. This condition will eventually affect both eyes, and will result in blindness if the cataracts are complete. Surgery is possible, though success will vary.

6) Progressive retinal atrophy – generalized (PRA). **DO NOT BREED.** PRA is a degenerative disease affecting the retinal visual cells. As the name suggests, the cells progressively deteriorate, eventually leading to blindness. Though the frequency of this disease has not been established in the Australian Shepherd, and the means of transmission has not been confirmed in this breed, PRA has been shown to be recessively inherited in the various breeds which have been studied.

Given the research in other breeds, there is a strong likelihood this is a hereditary disease, and as such, animals diagnosed with PRA should not be used in a breeding program. That said, in an article titled *Can You See? / Inherited Eye Disease In Aussies* by C.A. Sharp, she states the only incidents of PRA reported in Aussies have been in working dogs, thus it is *possible* the dogs reported with PRA had actually suffered trauma versus having true, hereditary PRA.

7) Choroidal hypoplasia. DO NOT BREED. “Collie Eye Anomaly”. This condition is rarely found in Australian Shepherds, however is notable and should be kept in mind. CEA is a congenital deformity where the choroid, a thin layer of blood vessels which deliver oxygen and nutrients to the retina, does not develop completely. This condition may present with or without retinal detachment or coloboma.

In a mild form, this defect may only slightly affect vision; however, nearly 25% of dogs suffering from CEA are also affected with other eye problems as well. Incidents of retinal detachment are noted in about 7% of dogs with CEA. *Full retinal detachment results in blindness.

8) Coloboma/staphyloma (unassociated with microrphthalmia). DO NOT BREED. As noted with the iris coloboma in #3, a coloboma is a congenital imperfection which can affect the iris; it may also affect the choroids or optic disc as well. Often seen in dogs with CEA. In the case of Scleral ectasia, there is a thinning of the sclera or cornea, sometimes accompanied by bulging beneath the upper eyelid.

For prospective Aussie owners: I hope this list has not scared you! The incidents of eye disease is actually quite rare in the Australian Shepherd, and you are now “armed” with more information than most breeders have. Make sure your breeder checks eyes, and if their breeding animals are clear, and the puppy you choose is cleared before coming home, you have done well!

For breeders: I hope this list has caught your attention! While eye issues are rare, they are still *very* real and can surprise you, regardless of your skill and knowledge as a breeder. Most eye defects are *not* visible to the casual inspection, or in a regular vet exam. To be positive that your breeding animals and puppies are clear of defects, you must have them thoroughly examined by a licensed Ophthalmologist.

For the sake of your breed, your puppies, future generations, and for your customers, please be responsible and follow the guidelines found here, or consult your ophthalmologist for more information.

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www.runamokfarm.com

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