

Your Pet

CANINE INHERITED EYE DISEASE



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ophthalmologist. These schemes have led to the reduction of hereditary eye diseases in some breeds, including cataracts in the Golden Retriever and Afghan Hound and collie eye anomaly in the Shetland Sheepdog. However, most hereditary eye diseases are due to recessive genes and the carrier state cannot be diagnosed by ophthalmoscopic and slit lamp examination. The advent of molecular biology and gene testing will, in the future, make eradication of these diseases possible.

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the science behind animal welfare



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Eye diseases in dogs are much more common than in the cat or horse. Like man, the dog suffers from several inherited eye conditions. Hereditary diseases can be divided into congenital conditions, ie those present at birth, and non-congenital conditions, ie those occurring later in life. It must be understood that not all congenital conditions are inherited and not all hereditary conditions are congenital. Congenital conditions vary considerably in the degree of severity – some are born blind, whereas others only show very minor defects with no apparent effect on sight and no change throughout life. Typical examples of such congenital conditions are collie eye anomaly and multifocal retinal dysplasia. Non-congenital conditions may not occur until the animal is mature. Non-congenital conditions are typically progressive so that the condition starts as a mild problem but progresses ultimately to total blindness. Examples of such conditions are the progressive retinal atrophies (PRA) and cataract, although it should be remembered that not all cataracts are inherited.

Some hereditary eye diseases, such as glaucoma and entropion, are painful, whereas others like PRA and cataract, are not, although the resulting blindness from these conditions

may well make the dog nervous. Hereditary eye diseases usually affect both eyes but, occasionally, only one eye is involved or the 2 eyes are affected to differing degrees.

Hereditary eye diseases can involve all parts of the eye. Sometimes the whole eye is implicated, eg microphthalmos, but more usually one part of the eye is affected, eg eyelid, cornea, iris, lens, retina.

Progressive retinal atrophy

Perhaps the best known hereditary eye disease is PRA in which the retina (the light sensitive membrane at the back of the eye) degenerates from puppyhood onwards. This condition is always bilateral and the first sign noticed by the owner is often night blindness or poor vision in subdued light. This progresses over months or years to total blindness and there is no treatment that will either halt or reverse the degeneration. Breeds affected include the Miniature and Toy Poodle, Lhasa Apso, Tibetan Terrier and Spaniel, English and American Cocker, Labrador and Golden Retriever.

Entropion

Perhaps the commonest hereditary eye disease is entropion (inturning of the eyelid). This affects different breeds in different ways and one, 2, 3 or all 4 eyelids may be involved. The inturned eyelid rubs on the cornea and causes irritation, inflammation, pain and ultimately ulceration. The condition can be cured by surgery and breeds affected include the Chow, Bulldog, Shar Pei, Bloodhound, St Bernard and

sometimes Retrievers and Setters. Entropion is often related to the size, shape and position of the eye and the amount of skin on the head.

Cataracts

Hereditary cataract affects breeds in different ways and the form of the cataract is often breed specific. It is usually, but not always, bilateral and may, or may not, progress to total blindness. The condition is pain free and cataract operations are frequently performed in the dog. Examples of hereditary cataract are found in the Boston Terrier, Golden Retriever, Miniature Schnauzer, Norwegian Buhund, Siberian Husky, American Cocker Spaniel. Another hereditary eye condition is lens luxation. This usually affects dogs aged 3–5 years. The lens in one eye, invariably followed by the second eye, falls away from its attachment and sets up a secondary glaucoma, which is both painful and blinding. Surgery to remove the dislocated lens can be successful.

How to avoid problems

Although some hereditary eye diseases can be treated, it is much better to control these diseases and ultimately eradicate them by breeding from sound dogs. With this in mind the British Veterinary Association/Kennel Club/International Sheepdog Society Scheme for the control of hereditary eye diseases and a similar scheme run by the European College of Veterinary Ophthalmologists is to be recommended. In these schemes, breeding animals are examined by a specialist veterinary