

How Examination under the Eye Scheme can help you and your breed

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A number of Eye Schemes operate in different parts of the world and many of them have their origins in the British Eye Scheme, which is administered through a partnership comprising the British Veterinary Association, the Kennel Club and the International Sheep Dog Society and it is the British Eye Scheme, hereafter referred to as the Eye Scheme, which is described here. The Eye Scheme was started in the 1960's and, at its inception, ophthalmoscopic examination was used to identify the presence or absence of generalised progressive retinal atrophy only and a certificate of examination issued. Over the years the Eye Scheme has been expanded and now includes comprehensive examination of the whole eye and adnexa (adnexa = eyelids, lacrimal apparatus, orbit and para-orbital areas) as well as certification for those conditions recognised to be inherited in a number of breeds of dog. The standard examination utilises slit lamp biomicroscopy, indirect ophthalmoscopy and direct ophthalmoscopy and consists of a brief assessment of the external eye and the pupillary light response prior to the application of a mydriatic, followed by more detailed examination of the eye and adnexa once the mydriatic has taken effect.

The Certificate of Eye Examination is in three sections; the first section identifies the permanent identification number, registration number, name, age, breed and sex of the dog as well as the owner's, or agent's name and contact details and the name of their veterinary surgeon. The owner or agent signs this section to confirm that the dog submitted for examination is the one described and that the information obtained from examination may be made available for research purposes. A compulsory requirement for permanent identification prior to examination and certification was introduced in January 2010. The second section is a synopsis of the examination technique used and any abnormalities detected, be they inherited or otherwise acquired, as for example, a corneal scar from previous trauma, a non-inherited cataract, or an inflammatory condition of the retina. On occasions the comprehensive nature of the Eye Scheme examination identifies non-inherited problems that need further and sometimes urgent investigation, examples include systemic diseases such as toxoplasmosis and neoplasia. The third and final section of the certificate identifies the inherited eye disease status of relevance to the breed of dog being examined. The owner is informed of the results at the time of examination and the inherited eye disease status is published by the Kennel Club, the International Sheep Dog Society, or both organisations if the animal is dual registered. Those conditions certified are referred to as Schedule A

conditions and consist of congenital and neonatal conditions as well as those non-congenital conditions that are acquired later in life; the relevant results for each dog examined are listed on the certificate as 'clinically unaffected' (no visible evidence of inherited disease) or 'clinically affected' (visible evidence of the inherited disease). In those pedigree breeds and non-pedigree breeds in which no inherited problems are recognised, any comments are placed in the middle section of the certificate only. In a number of breeds inherited problems are first identified in older dogs, for example, late onset progressive retinal atrophy and some types of hereditary cataract, in consequence, it is usual to advise the owners of animals to be used for breeding that the dog should be examined annually during its breeding life, but that it is also important to conduct further strategic checks later in life. It is not always easy to persuade owners of the necessity for this approach and there is evidence that some owners deliberately present only young animals for examination; an approach that has an adverse impact on efforts to reduce the incidence of all but early onset inherited eye disease. Both the Kennel Club and the International Sheep Dog Society are aware of the damage that this could cause to the reputation of the Eye Scheme and it is being addressed. For those breeds in which inherited congenital or neonatal conditions are recognised, irrespective of whether such breeds also have later onset conditions, owners and breeders also have the option of litter screening, which is applicable to puppies of up to 12 weeks of age. The results of litter screening are not routinely published and the requirements for permanent identification in puppies are under discussion.

Gonioscopy is a technique used to evaluate the drainage angle, as an abnormal drainage angle (goniodysgenesis) is an important factor in those breeds predisposed to most types of primary glaucoma, which are also listed under Schedule A. Certification for goniodysgenesis is a separate examination under the Eye Scheme and is performed without a mydriatic and after the application of a topical local anaesthetic agent to enable insertion of a gonioscopy lens so that the drainage angle can be observed. Currently gonioscopy is the only aspect of the scheme where a grading system is used, with the aim of providing owners and breeders with additional information that may assist decisions about breeding from mildly affected animals.

In addition to Schedule A conditions, there are a number of other conditions listed as Schedule B and these are the conditions that are under investigation for evidence of inheritance. The conditions listed under Schedule A and B may be changed, according to factors such as successful elimination of a

Schedule A condition, or because of evidence that a condition may be inherited and should be included under Schedule B.

Since the inception of the Eye Scheme a major advance has been the introduction of DNA tests for inherited eye disease. Increasingly, samples can be obtained from a buccal swab, rather than from a blood sample and this has provided an incentive to collect samples from both affected and unaffected animals. Clinical examination and laboratory testing go hand in hand and should be regarded as complementary rather than exclusive. The results of DNA tests take precedence over clinical examination; any discrepancies are usually a consequence of factors such as variable age of onset.

It is important to recognise that the number of pedigree and non-pedigree dogs examined under the Eye Scheme is a very small proportion of the total canine population and various ways of gathering more accurate and complete data are increasingly being utilised. This is a critical area for improvement.

There has always been provision for owners to appeal against a decision reached as a result of clinical examination. Owners of dogs classified as 'clinically affected' for an inherited eye condition may seek an opinion with another Eye Panellist and, if the two Panellist opinions differ, the Chief Panellist, or sometimes a previous Chief Panellist, act as the final arbiter. The owner can also elect to go direct to the Chief Panellist as the second Panellist under the appeal rules.

The intense scrutiny to which pedigree dogs have been subjected of late and the sensible objective from the Kennel Club that dogs should be 'Fit for Function - Fit for Life', irrespective of their pedigree or non-pedigree status, have ensured that priorities for ocular conditions with welfare implications have been more clearly established. In practice this means placing more emphasis on breed-related and inherited conditions that are blinding, painful, need corrective surgery or constant medical therapy. The Advisory Council on the Welfare issues of Dog Breeding has listed ocular conditions linked to head conformation as one of eight priorities with welfare implications (<http://www.dogadvisorycouncil.com/page2/index.php>) and the Eye Scheme has been updated to reflect this.

For further information on the Eye Scheme see the British Veterinary Association website:

http://www.bva.co.uk/canine_health_schemes/Eye_Scheme.aspx