

## Primary closed angle glaucoma (PCAG)/primary angle closure glaucoma (PAGC) Pilot Project

Primary closed angle glaucoma (PCAG) / primary angle closure glaucoma (PAGC) is significantly associated with defective development of the drainage angle which is termed **goniodysgenesis** (gonio = angle, dysgenesis = defective development), also known as Pectinate Ligament Dysplasia (PLD) or Pectinate Ligament Abnormality (PLA).

Goniodysgenesis is inherited in several breeds and is tested for using a technique called **gonioscopy**. It was originally believed that the degree of goniodysgenesis did not progress after birth and so a 'one-off' test before breeding was advised for dogs of certified breeds. However, recent research has provided evidence of progression of goniodysgenesis with age in several breeds, namely the **Flat Coated Retriever, Welsh Springer Spaniel, Dandie Dinmont Terrier, Basset Hound and Leonberger**.

In consequence, the advice on gonioscopy has been updated for all breeds in which gonioscopy is performed. It is advised that for Schedule A breeds gonioscopy should be carried out every 3 years, unless any evidence to the contrary emerges.

The first test can be performed in dogs from 6 months of age onwards and current advice is that gonioscopy is performed at approximately 1, 4 and 7-8 years of age. Repeat testing should provide much needed longitudinal information about the risk of developing glaucoma in later life and, in conjunction with Breed Clubs, will enable breed-specific recommendations to be developed.

A simple grading scheme (0-3) for gonioscopy was agreed by the Eye Panel Working Party in 2016; it is being **piloted** from July 2017 with the aim of being formally adopted, with or without any revisions, if analysis of the results supports this approach. Initial analysis will take place at around the time of the next Eye Panel Working Party (EPWP) meeting in November 2017.

The grading scheme will be used to complement - and may ultimately replace - the '**Clinically Unaffected**' or '**Clinically Affected**' classification that currently records the results of examination. The EPWP has proposed that a grading system reflects more accurately what the Panellist observes and is better able to inform the potential risk of developing glaucoma in later life. It will provide owners with useful information to aid breeding decisions. The grading proposal is, in part, also a recognition that 'Clinically Unaffected' cannot be an accurate description unless the gonioscopic findings are entirely normal.

The Kennel Club database is not set up to record grades, so the pilot gonioscopy grading project will run **in parallel** with the existing layout of the Certificate of Eye Examination. The recording of results as 'Clinically Unaffected' and 'Clinically Affected' under Goniodysgenesis (G) continues as before for the benefit of the Kennel Club and the results will be published as they are at present. The **grades** will be recorded and collated by the BVA

### Protocol to be followed for the Pilot Grading Project

On the Certificate of Eye Examination

Second section: **EXAMINATION OF THE EYE AND ADNEXA**

#### Gonioscopy grading recorded under Descriptive Comments

0	1	2	3

**Tick one box**

Should there be disparity between the grade assessments in each eye, it is the higher value that is recorded on the Certificate of Eye Examination under Descriptive comments.

Third section: **INHERITED EYE DISEASE STATUS – SCHEDULE A BREEDS ONLY**

	<b>CLINICALLY UNAFFECTED</b>	<b>CLINICALLY AFFECTED</b>
<b>(G) Goniodysgenesis</b>		

*Tick one box as at present*

**Summary**

<b>Grade</b>	<b>Gonioscopic findings</b>	<b>Diagnosis</b>
0	Normal iridocorneal angle (ICA) with no/minimal (0%-<1%) pectinate ligament abnormality (PLA)	<b>Advice:</b> Normal iridocorneal angle -highly unlikely to develop primary glaucoma. Currently classified for KC publication as 'Clinically Unaffected'
1	1-25% of ICA affected by PLA	<b>Advice:</b> mildly affected - unlikely to develop primary glaucoma. Currently classified for KC publication as 'Clinically Unaffected'
2	26-75% of ICA affected by PLA	<b>Advice:</b> moderately affected - low risk of developing primary glaucoma. Currently classified for KC publication as 'Clinically Unaffected'
3	>75% of ICA affected, and/or severe narrowing of ICA	<b>Advice:</b> severely affected - highest risk of developing primary glaucoma, breeding not recommended. Currently classified for KC publication as 'Clinically Affected'