



**Ocular disorders known or presumed to be inherited (published)**

	<b>Diagnosis</b>	<b>Description and comments specific to the breed</b>	<b>Inheritance</b>	<b>Gene/ marker test</b>	<b>References</b>
<b>A</b>	Distichiasis		Unknown	NO	1,2,3,4,6
<b>B</b>	Entropion		Unknown	NO	1,6
<b>C</b>	Ectropion		Unknown	NO	1,6
<b>D</b>	Prolapsed gland of the nictitating membrane		Unknown	NO	5,6
<b>E</b>	Keratoconjunctivitis sicca		Unknown	NO	4,6
<b>F</b>	Corneal dystrophy -stromal		Unknown	NO	1,6
<b>G</b>	Corneal dystrophy, posterior polymorphous	Endothelial, not leading to corneal oedema	Unknown	NO	1,6,7
<b>H</b>	Persistent pupillary membranes - iris to iris		Unknown	NO	6
<b>I</b>	Glaucoma		Unknown	NO	8,9,10,11,12 13,14

<b>J</b>	Cataract		Unknown	NO	1,4,6,15,16, 17,18,19,20
<b>K</b>	Progressive Retinal Atrophy (PRA)		Autosomal recessive	PRCD	1,6,21,22,23 24,25
<b>L</b>	Retinal dysplasia -multifocal		Autosomal recessive	NO	26
<b>M</b>	Iris cyst		Unknown	NO	1,6
<b>N</b>	Optic disk coloboma	Small colobomas on the nasal side of the optic nerve head	Unknown	NO	1,6
<b>O</b>	Neuronal ceroid lipofuscinosis		Presumed autosomal recessive	NO	1,6

### **The ECVO's advice relating to hereditary eye disease control**

Please see ECVO Manual chapter 8: VET Advice

### **Recommendations regarding age and frequency for eye examinations**

Please see ECVO Manual chapter 7: ECVO Age and Frequency recommendations

**Other ocular disorders (reported)**

	<b>Diagnosis</b>	<b>Source</b>
<b>A</b>	Eury-/macroblepharon	ACVO genetics committee
<b>B</b>	Atresia of lacrimal punctum	ACVO genetics committee
<b>C</b>	Exposure keratopathy syndrome syndrome/pigmentary keratitis	ACVO genetics committee
<b>D</b>	Chronic superficial keratitis/ pannus	ACVO genetics committee
<b>E</b>	Retinal dysplasia -folds -geographic/detached	ACVO genetics committee

**References**

1. Rubin Lionel F., Inherited Eye Diseases in Purebred Dogs, Baltimore: Williams & Wilkins, 1989;77-87.
2. Bedford PGC: The treatment of canine distichiasis by the method of partial tarsal plate excision. J Am Anim Hosp Assoc 15:59, 1979.
3. Lavach JD: Diseases of the eyelids (Part II). Comp Cont Ed 1: 485, 1979.
4. William LW, et al: A survey of ocular findings in the American cocker spaniel. J Am Anim Hosp Assoc 15:603, 1975.
5. Morgan RV, et al: Prolapse of the gland of the third eyelid in dogs: A retrospective study of 89 cases (1980-1990). J Am Anim Hosp Assoc 29:56, 1993.
6. Chaudieu G. Chahory S. Affections oculaires héréditaires ou à prédisposition raciale chez le chien. 2nd ed. Ed. Du Point Vétérinaire, 2013; 383-389.
7. Gwin RM, et al: Posterior polymorphous dystrophy of the cornea in cocker spaniels: Preliminary clinical and specular microscopic findings. Proc Am Coll Vet Ophthalmol 14:154, 1983.
8. Brooks DE et al: Canine glaucoma: Pathogenesis, diagnosis and treatment. Comp Cont Ed 5:292, 1983.

9. Gelatt KN: Animal models for glaucoma. *Invest Ophthalmol Vis Sci* 6:592, 1977.
10. Lovekin LG et al: Clinicopathologic changes in primary glaucoma in the Cocker spaniel. *Am J Vet Res* 29:379, 1978.
11. Peiffer RL: Animal models of glaucoma. *ILAR News* 26:10, 1983.
12. Slater, MR; Erb, HN: Effects of risk factors and prophylactic treatment on primary glaucoma in the dog. *J Amer Vet Med Assoc.* 188:1028, 1986.
13. Smith RIE, Peiffer RL, Wilcock BP: Some aspects of the pathology of canine glaucoma. *Prog Vet Comp Ophthal* 3:16, 1993.
14. Bedford PGC: A gonioscopic study of the iridocorneal angle in the English and American breeds of Cocker spaniel and the Basset Hound. *J Small Anim Pract* 18:631, 1977.
15. Olesen HP, et al: Congenital hereditary cataract in cocker spaniels. *J Small Anim Pract* 15:741, 1974.
16. Barnett KC: Comparative aspects of canine hereditary eye disease. *Adv Vet Sci Comp Med* 20:39, 1976.
17. Gelatt KN: Lens and cataract formation in the dog. *Comp Cont Ed* 1:175, 1979.
18. Yakely WL: Familial cataracts in the American Cocker spaniel. *J Am Anim Hosp Assoc* 7:127, 1971.
19. Yakely WL: Cataracts in the American Cocker spaniel. *Proc Am Coll Vet Ophthalmol* 6:27, 1975.
20. Yakely WL: A study of inheritability of cataracts in the American Cocker spaniel. *J Am Vet Med Assoc* 172:814, 1978.
21. Barnett KC: Canine retinopathies III. Other breeds. *J Small Anim Pract* 6:185, 1965.
22. Aguirre G, Acland G: Variation in retinal degeneration phenotype inherited at the PRC1 locus. *Exp Eye Res* 46:663, 1988.
23. Zangerl B, Goldstein O, Philp AR, Lindauer SJP, Pearce-Kelling SE, et al: Identical mutation in a novel retinal gene causes progressive rod-cone degeneration in dogs and retinitis pigmentosa in humans. *Genomics* 88:551-563, 2006.

24. Acland GM, Ray K, Mellersh CS, Gu W, Langston AA, Rine J, Ostrander EA, Aguirre GD. Linkage analysis and comparative mapping of canine progressive rod-cone degeneration (prcd) establishes potential locus homology with retinitis pigmentosa (RP17) in humans. *Proceeding of the National Academy of Sciences of the United States of America* (1998): 95, 3048–3053.
25. Acland GM, Ray K, Mellersh CS, Landston AA, Rine J, Ostrander EA, Aguirre GD. A novel retinal degeneration locus identified by linkage and comparative mapping of canine early retinal degeneration. *Genomics* (1999) 59, 134–142.
26. MacMillan AD, Lipton DE: Heritability of multifocal retinal dysplasia in the American Cocker spaniel. *J Am Vet Med Assoc* 172:568, 1978.