


Shetland Sheepdog	
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Ocular disorders known or presumed to be inherited (published)

	Diagnosis	Description and comments specific to the breed	Inheritance	Gene/ marker test	References
A	Microphthalmia	Multiple ocular defects, uni or bi-lateral	Unknown	NO	1
B	Distichiasis	Corneal ulcers possibly associated	Autosomal dominant with incomplete penetrance	NO	1-3
C	Punctate keratitis	Young adults affected	Unknown	NO	1
D	Corneal dystrophy - stromal	3 y.o. dogs, anterior microcrystalline, epithelial ulcers possible	Unknown	NO	4, 5
E	Cataract	Posterior cortical, dogs > 2 y.o.	Unknown	NO	1, 5
F	Retinal dysplasia, (multi)focal	Folds	Unknown	NO	5

G	Slowly progressive retinopathy (SPR)	Slowly progressive without blindness	Presumed autosomal recessive	NO	6
H	Progressive Retinal Atrophy (PRA)	2-8 y.o dogs diagnosed	Autosomal recessive	CNGA1	7
I	Retinal pigment epithelial dystrophy (RPED)	Dogs > 2-3 y.o., slowly progressive	Unknown	NO	6
J	Collie eye anomaly (CEA)		Auto-somal recessive, polygenetic	NEHJ1	5, 8-10
K	Micropapilla		Unknown	NO	5

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)

	Diagnosis		Source
A	Persistent pupillary membrane		ACVO Genetics Committee
B	Optic nerve coloboma	Isolated coloboma described in the USA	ACVO Genetics Committee
C	Uveo-dermatologic syndrome		ACVO Genetics Committee

References

1. Chaudieu G, Chahory S (2013) Affections oculaires héréditaires ou à prédisposition héréditaire chez le chien. Rueil-Malmaison : Ed. du Point Vétérinaire, Wolters Kluwer France, 125-28.
2. Barnett KC (1976) Comparative aspect of canine hereditary eye disease. *Adv Vet Sci Comp Med* 20: 39-67.
3. Dice PF (1984) Corneal dystrophy in the Shetland Sheepdog. *Trans Amer Coll Vet Ophthalmol*: 241-242.
4. Severin GA (1996) Severin's ophthalmology notes. Third Edition, Design Pointe, Fort Collins, 309.
5. Rubin LF (1989) Inherited eye diseases in purebred dogs. Williams & Wilkins, Baltimore, 260-266.
6. Karlsham L, Hertel E et al (2011) A slowly progressive retinopathy in the Shetland sheepdog. *Vet Ophthalmol* 14: 227-238
7. Wilk AC, Ropstad EO, Ekesten B et al (2015) Progressive atrophy in Shetland sheepdog is associated with a mutation in the CNGA 1 gene. *Anim Genet* 46(5): 515-521.
8. Barnett KC, Stades FC (1979) Collie eye anomaly in the Shetland sheepdog in the Netherlands. *J Small Anim Pract* 20 : 321-329.
9. Bedford PGC (1982) Collie eye anomaly in the United Kingdom. *Vet Rec* 111: 263-270.
10. Lowe JL et al (2003) Linkage mapping of the primary disease locus for collie eye anomaly. *Genomics*, 82: 86-95.