Norwegian Elkhound	

Ocular disorders known or presumed to be inherited (published)

	Diagnosis	Description and comments specific to the breed	Inheritance	Gene/ marker test	References
A	Glaucoma	Primary open angle (POAG)	Autosomal recessive	ADAMTS10	1,2,7
В	Rod dysplasia (rd)	Rod photoreceptors fail to develop normally. Vision impairment in dim light by 6 months and total blindness at 3-5 years. (Seems to have been bred out of the population)	Presumed autosomal recessive	NO	3,4
С	Early retinal degeneration (erd)	Night blind at 6 weeks and blind by 1 year of age	Autosomal recessive	STK38L	5,6,8

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
Α	Distichiasis	ACVO genetics committee
В	Persistent pupillary membranes	ACVO genetics committee
С	Cataract	ACVO genetics committee
D	Retinal Dysplasia -folds	ACVO genetics committee
E	Late onset progressive retinal atrophy (prcd-PRA)	British National panel
F	Ectropion	ACVO genetics committee
G	Uveal cysts	ACVO genetics committee
Н	Corneal dystrophy-epithelial/stromal	ACVO genetics committee
I	Macroblepharon	ACVO genetics committee

References

- 1. Ekesten B, Bjerkås E, Kongsengen K, Narfström K.(1997) Primary Glaucoma in the Norwegian Elkhound. Vet Comp Ophthalmol; 7: 14-18.
- 2. Oshima Y, Bjerkås E, Peiffer RL. (2004) Ocular histopathological observations in Norwegian Elkhounds with primary open angle, closed cleft glaucoma. Vet Ophthalmol 7; 185-188.
- 3. Aguirre GD, Rubin LF: Progressive retinal atrophy (rod dysplasia) in the Norwegian elkhound. J Am Vet Med Assoc 158:208, 1970.
- 4. Aguirre GD, Rubin LF: The early diagnosis of rod dysplasia in the Norwegian elkhound. J Am Vet Med Assoc 159:429, 1971.
- 5. Acland GM, Aguirre GD: Retinal degenerations in the dog: IV. Early retinal degeneration (erd) in Norwegian elkhounds. Exp Eye Res 44:491, 1987.
- 6. Kukekova AV, Aguirre GD, Acland GM. Cloning and characterization of canine SHARP1 and its evaluation as a positional candidate for canine early retinal degeneration (erd). Gene.2003 Jul 17;312:335-343.

- 7. Ahonen SJ, Kaukonen M, Nussdorfer FD, Harman CD, Komarony AM and Lohi H. A novel missense mutation in ADAMTS10 in Norwegian Elkhound primary glaucoma. 2014. PLoS ONE, 9(11),e111941.
- 8. Goldstein O, Kukekova AV, Aguirre GD, Acland GM. Exonic SINE insertion in STK38L causes canine early retinal degeneration (erd). Genomics. 2010 Dec; 96(6):362-8.