Belgian Shepherd Dog - Groenendael	

Ocular disorders

	Diagnosis	Description and comments specific to the breeds	Inheritance	Gene/marker test	References
A	Chronic superficial keratitis (CSK)	-Chronic progressive immune mediated inflammatory condition, bilateral,spreading from the lateral canthus across the superficial cornea, age predilection 3-5 years	Not defined	None	1
B	Lympho-plasmocytic inflammation of the external surface of the nictitans membrane	-Bilateral chronic progressive immune mediated inflammatory condition -seen alone or together with A.	Not defined	None	1
C	Cataract	1. posterior suture line opacities (1 family of dogs) 2. nuclear fibrillar opacities, dogs older than 7 years, significance not known	Not defined Not defined	None None	1
D	Retinal dysplasia-multifocal	Congenital multiple folds, linear or Y shaped, generally in tapetal area, many disappear when animal matures	Presumption : autosomal recessive	None	1
E	Progressive retinal atrophy-generalized	-Degenerative disease of the retinal visual cells leading to blindness - Limited breeding studies in the Groenendael	Not defined, presumption of recessive ?	None	1,3

F	Retinopathy in pups (1 closely inbred family)	-Pups blind at 8 weeks -disturbed vision in bright and dim light -multifocal round oval areas of retinal thickening in tapetal area -inner photoreceptors and retinal pigment epithelial cells affected	recessive ?	None	1,2
G	Achiasmic optic nerves with nystagmus	-described in one small family -congenital nystagmus is frequently noted - no chiasmal decussation of the retinal ganglion cell axons	Autosomal recessive	none	4

The ECVO's advice relating to hereditary eye disease control

A	Chronic superficial keratitis (CSK)	NO BREEDING from the affected animal
B	Lympho-plasmocytic inflammation of the external surface of the nictitans membrane	OPTIONAL
C	Cataract	NO BREEDING from the affected animal
D	Retinal dysplasia-multifocal	OPTIONAL
E	Progressive retinal atrophy-generalized	NO BREEDING from the affected animal, its parents or offspring
F	Retinopathy in pups (1 closely inbred family)	NO BREEDING from the affected animal, its parents or offspring
G	Achiasmic optic nerves with nystagmus	NO BREEDING from the affected animal, its parents or offspring

Recommendations regarding age and frequency for eye examinations

As for all other breeds (see part 7)

References

1 . Rubin LF, Inherited eye diseases in purebred dogs. Baltimore, Williams & Wilkins, 1989, 35-37

2. Wolf ED, Samuelson D, Retinopathy in a family of Belgian Shepherds, Proc.Am.Col.Vet. Ophthalmologists,12: Supplement,1981.

3. Miller TR, et al: Generalized retinopathy in the Belgian sheepdog. Invest Ophthalmol Vis Sci 27(Suppl): 310, 1986.

4. Hogan D, Williams RW: Analysis of the retinas and optic nerves of achiasmic Belgian sheepdog. J Comp Neurol 52(3):367-380, 1995.