

Great Pyrenees	
----------------	---

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

	Diagnosis	Description and comments specific to the breed	Inheritance	Gene/ marker test	References
<b>A</b>	Entropion	Lower lateral eyelid; more frequently after 5 months of age; uni- or bilateral	Unknown	NO	1,2
<b>B</b>	Ectropion	Macroblepharon and “diamond eye”	Unknown	NO	1,2
<b>C</b>	Eversion of the cartilage of the nictitating membrane	In puppies three months of age	Unknown	NO	2
<b>D</b>	Corneal dystrophy -endothelial	In dogs >8 y.o.	Unknown	NO	2
<b>E</b>	Cataract	1.Congenital associated with microphthalmia 2.Posterior nuclear; dogs >3 y.o.	Unknown	NO	2

<b>F</b>	Multifocal retinopathy	Multifocal bullous retinal detachments observed by 11 weeks of age, they progress until 20 weeks of age; minimal progression after 1 year of age; no problem of vision and ERG abnormalities	Autosomal recessive	BEST1 (VMD2) CMR1	2,3,4,5
----------	------------------------	--	---------------------	----------------------	---------

**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
<b>A</b>	Distichiasis	ACVO genetics committee
<b>B</b>	Corneal dystrophy -epithelial/stromal	ACVO genetics committee
<b>C</b>	Persistent pupillary membranes	ACVO genetics committee
<b>D</b>	Progressive Retinal Atrophy (PRA)	ACVO genetics committee
<b>E</b>	Retinal dysplasia -multifocal -geographic	ACVO genetics committee

### References

1. Rubin LF. Inherited eye diseases in purebred dogs. Williams & Wilkins 1989;164-165.
2. Chaudieu G. Chahory S. Affections oculaires héréditaires ou à prédisposition raciale chez le chien. 2nd ed. Ed. du Point Vétérinaire 2013;181-183.
3. Grahn B, Cullen CL: Retinopathy of Great Pyrenees dogs: fluorescein angiography, light microscopy and transmitting and scanning electron microscopy. *Vet Ophthal* 4(3),191, 2001.
4. Guziewicz KE, Zangerl B, Lindauer SJ, et al. Bestrophin gene mutations cause canine multifocal retinopathy: A novel animal model for best disease. *Investigative Ophthalmol & Visual Science*,48:1959-1967,2007.
5. Grahn BH, Philibert H, Cullen CL, Houston DM, Schmutz S. Multifocal retinopathy of Great Pyrenees. *Vet Ophthalmol* 1998;1:211–221.