Spitz Pomeranian (Klein Spitz)	

Ocular disorders known or presumed to be inherited (published)

	Diagnosis	Description and comments specific to the breed	Inheritance	Gene/ marker test	References
A	Entropion	Lower, nasal trichiasis & epiphora associated	Unknown	NO	1-3
B	Distichiasis	Dogs > 6 m.o.	Unknown	NO	1, 3
C	Persistent pupillary membranes -iris to iris		Unknown	NO	1
D	Cataract	Dogs around 4 y.o.	Familial predispo-sition	NO	2, 3
E	Progressive Retinal Atrophy 1 (PRA)	Late onset, dogs > 4 y.o.	Suspected autosomal recessive	prcd	1-3
F	Progressive Retinal Atrophy 2 (rcd 3)	Early onset	autosomal recessive	PDE6A	4
G	Retinal dysplasia	(Multi)focal	Presumed autosomal recessive	NO	3, 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	Blepharophimosis	French panel, 2
B	Atresia of lacrimal punctum	1
C	Allergic conjunctivitis	1
D	Vitreous degeneration	Dogs> 8 y.o, personal observations (G. Chaudieu); ACVO genetics committee
E	Optic nerve hypoplasia	Personal observations (G. Chaudieu)

References

1. Maggs D J, Miller PE, Ofri R (2013) Fundamentals of Veterinary Ophthalmology, D. Slatter, 5th ed. Elsevier Saunders, 474.

2. Rubin LF (1989) Inherited diseases in purebred dogs. Williams & Wilkins, Baltimore, 226-227.

3. Chaudieu G, Chahory S (2013) Affections oculaires héréditaires ou à prédisposition héréditaire chez le chien. Rueil-Malmaison : Ed. du Point Vétérinaire, Wolters Kluwer France, 284.

4. Petersen-Jones SM, Entz DD, Sargan DR (1999) cGMP phosphodiesterase-alpha mutation cuses progressive retinal atrophy in the Cardigan Welsh Corgi dog. Invest Ophalmol Vis Sci. 40 (8): 1637-1644.

5. Aguirre-Hernandez J, Sargan DR (2010) Multifocal retinal dysplasia in the German Spitz (Klein and Mittel) is not caused by mutations in BEST1. Anim Genet. 41(3): 333-334.