

Lancashire Heeler	
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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	Lens luxation (PLL)		Autosomal recessive	ADAMTS17	1,2,3
B	Collie Eye Anomaly (CEA)		Autosomal recessive for CH/CRD; for coloboma unknown	NHEJ1	4,5,6

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 membranes - iris to iris	ACVO genetics committee
B	Retinal Dysplasia - focal/multifocal	Finnish Kennel Club Database
C	Distichiasis	Finnish Kennel Club Database
D	Progressive Retinal Atrophy (prcd)	ACVO genetics committee

References

1. Sargan DR, Withers D, Pettitt L, et al. Mapping the mutation causing lens luxation in several ^[L]_{SEP} terrier breeds. J Hered. 2007;98:534-538.
2. Farias FH, Johnson GS, Taylor JF, et al. An ADAMTS17 splice donor site mutation in dogs ^[L]_{SEP} with primary lens luxation. Invest Ophthalmol Vis Sci. 2010 Sep;51:4716-4721.
3. Gould D, Pettitt L, McLaughlin B, Holmes N, Forman O, Thomas A, Ahonen S, Lohi H, O'Leary C, Sargan D, Mellersh C. ADAMTS17 mutation associated with primary lens luxation is widespread among breeds. Vet Ophthalmol (2011) 14(6):378-84.
4. Bedford PG. Collie eye anomaly in the Lancashire heeler. Vet Rec. 1998 Sep 26;143:354-^[L]_{SEP}356.
5. Parker HG, Kukekova AV, Akey DT, et al. Breed relationships facilitate fine-mapping studies: a 7.8-kb deletion cosegregates with Collie eye anomaly across multiple dog breeds. Genome Res. 2007 Nov;17:1562-1571.
6. Lowe JK, Kukekova AV, Kirkness EF, et al. Linkage mapping of the primary disease locus for collie eye anomaly. Genomics. 2003;82:86-95.