

VETERINARY TECHNICAL DATASHEET

Primary Lens Luxation, (PLL)



Mutation Found In :Terrier breeds, Australian Cattle Dog, Chinese Crested, Danish Swedish Farmdog, Lancashire Heeler, Pumi, Volpino Italiano

Disorder Type

- Eye

Disease Severity

- Moderate/severe

Background

Primary lens luxation (PLL) is an inherited condition in dogs that can cause displacement of the ocular lenses. The disorder is caused by degeneration of the zonular fibers that are required for attachment of the lens. When the lens luxates, it may do so either into the anterior or posterior chamber of the eye. PLL most closely follows an autosomal recessive mode of inheritance though heterozygous dogs also have a low risk of developing PLL.

Key Signs

- Subluxation and luxation of the lens
- Iridodonesis
- Blindness

Clinical Description

PLL is most commonly observed in dogs 3 to 8 years of age. Subluxation, where the lens is partly detached, commonly occurs before complete luxation. An anterior lens luxation is particularly serious and manifests as squinting, redness, and watering of the eyes, requiring immediate veterinary care.

Mode of Inheritance

- autosomal recessive

Gene Name

- ADAMTS17

Next Steps

Untreated, PLL results in glaucoma, corneal opacities, corneal edema, and blindness. The second lens tends to become displaced within weeks or months of the first luxation and therefore should be carefully monitored.

References

Farias FH, Johnson GS, Taylor JF, Giuliano E, Katz ML, Sanders DN, Schnabel RD, McKay SD, Khan S, Gharahkhani P, O'Leary CA, Pettitt L, Forman OP, Boursnell M, McLaughlin B, Ahonen S, Lohi H, Hernandez-Merino E, Gould DJ, Sargan DR, Mellersh C. An ADAMTS17 splice donor site mutation in dogs with primary lens luxation. Invest Ophthalmol Vis Sci. 51(9):4716-4721, 2010.