

PHPV in the Staffordshire Bull Terrier: Frequently Asked Questions

What is PHPV?

PHPV stands for persistent hyperplastic primary vitreous. It describes an abnormal proliferation of the vascular (blood vessel) supply to the posterior region of the lens. This abnormal process occurs during development, while the pup is still in the dam's uterus.



What are the signs of PHPV and when can it be diagnosed?

The exact signs vary from individual to individual but always involve some form of opacity of the posterior lens capsule. In more extensive cases, there may be abnormal blood vessels in the posterior region of the eye, bleeding within the eye and cataract. Both eyes are usually affected.

When can be PHPV be diagnosed and is it progressive?

PHPV can usually be diagnosed in puppies at 6-8 weeks of age. It should be noted, however, that very minor cases of PHPV may very occasionally be missed at this age and so the results of litter examination should be seen as preliminary and routine eye examination should be repeated prior to intended breeding. PHPV itself is not progressive as it is a congenital condition. However, dogs with PHPV are at risk of developing secondary complications in the future such as progressive cataracts, bleeding within the eye and retinal detachment.

What is the significance of PHPV?

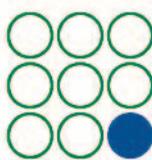
PHPV is significant because it can cause blindness – usually as a result of cataract formation. Cataract surgery may be possible in some cases but dogs with PHPV tend to have more serious complications after surgery such as retinal detachment. Thus, PHPV is best regarded as a condition to be avoided by selective breeding through elimination of affected individuals from the breeding population.

Is there a grading system for PHPV under the BVA/KC/ISDS eye scheme?

Under the BVA/KC/ISDS scheme, dogs are either classed as 'affected' or 'unaffected' – there is no grading system. This is in contrast to the European (ECVO) scheme which grades PHPV based on a system originally proposed for the Doberman.

Is PHPV inherited?

PHPV is considered inherited in the Staffordshire Bull Terrier although the precise mode of inheritance is unknown. Further work is needed to fully understand the genetics of this disease and a project, with this purpose, is ongoing at the Animal Health Trust.



How common is PHPV in the Staffordshire Bull Terrier?

Looking at the litter screening results from 2010-2013, 4-8% of litters contained at least one puppy affected by PHPV. The true prevalence may be even higher than this as the majority of litters are still not eye tested.

Is it ok to breed from PHPV-affected dogs?

The BVA/KC/ISDS eye scheme and AHT geneticists do not recommend breeding from any dog affected by PHPV regardless of severity. This is because the genetic mutations underlying mild cases could easily be the same as those for severe cases. Thus, it is possible, that puppies born to mildly affected parents might develop much more severe eye problems.

How often should adult breeding dogs be eye tested?

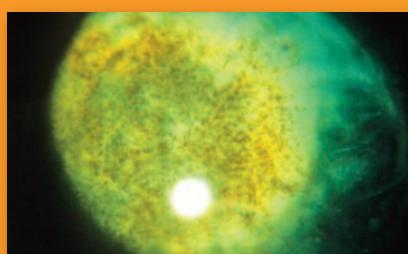
It is recommended that breeding dogs be tested every 12 months throughout their lives. The routine eye examination not only includes assessment for PHPV and hereditary cataract (HC) (the two Schedule A conditions in the Staffordshire Bull Terrier) but includes an examination of the whole eye. This is important to screen for emerging inherited conditions, which may develop late in a dog's life.

References

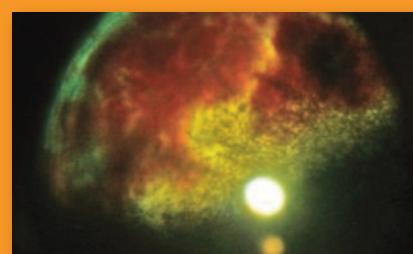
1. Curtis R., Barnett K.C. & Leon A. Persistent hyperplastic primary vitreous in the Staffordshire bull terrier. *The Veterinary Record* 1984, 115: 385
2. Leon A., Curtis R., & Barnett KC. Hereditary persistent hyperplastic primary vitreous in the Staffordshire bull terrier. *Journal of the American Animal Hospital Association* 1986, 22: 765



Mild PHPV but still causing visual deficits



Moderate PHPV causing severe visual deficits



Severe PHPV causing blindness

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