

# Juvenile Renal Dysplasia (JRD)

## A SIMPLIFIED EXPLANATION

by David Payne

Juvenile Renal Dysplasia (JRD) is a kidney disease. The JRD carriers can be potentially affected with reduced kidney development, which in turn reduces kidney function. This is because this disease affects the normal development of the kidneys', much like Hip Dysplasia (HD) which affects the normal development of the Hips. Like HD which varies in the amount it affects the hips, with measured scores in the British BVA/KC system from ZERO to 106 at the worst level, JRD has similar varying levels of effect on the development of the kidneys.

A JRD carrier needs to have its kidney function assessed by a Vet, this would include Urine & Blood tests, and it may also include a wedge biopsy of the kidneys, if considered appropriate by the Vet. In carriers of a very young age it may be advisable to have the kidney function regularly monitored up to the age of two years at least, again because, in a similar way to Hips, the kidneys take some time to reach full development, and as most will know we do not have our dogs hips scored before 1 year of age because of the hips development period.

The owners of the JRD carriers have been advised to consult a Vet as soon as possible regarding the JRD DNA Test result, and request tests on kidney function and other Veterinary advice.

The mode of inheritance of JRD is considered to be **Dominant with incomplete penetration**. Dominant means only one JRD carrier parent can pass it on to some of its offspring, in the case of a JRD Homozygote carrier, they will pass it on to ALL of their offspring. The **incomplete penetration** is because when a GSD is a carrier it is potentially affected to various levels or degrees, much like Hip Dysplasia in a litter varies in its Hip scores or Hip grading for each dog in the same litter.

When the level of Kidney development is below that which is required to survive, the JRD carrier will show some clinical signs, some of which are loss of appetite, loss of weight, lethargy, and clear urine. JRD carriers so affected at this level will die. Many carriers can live for many years with only slightly impaired kidney function, and can go easily undetected as carriers. These carriers if undetected can pass the disease onto their offspring.

With our large and diverse gene pool in the German Shepherd Dog breed, it is my opinion that JRD carriers, especially Homozygote carriers should NOT be bred from, or if identified after they have been bred from, they should be retired from breeding. It is therefore vital for our breed that when a carrier is identified, any siblings or offspring that is or may be used for breeding are JRD DNA Tested, The carriers parents should be tested, and where additional carriers are identified, a similar pattern of testing should be considered. Only by adopting this method of testing and retiring carriers from breeding can we eliminate JRD from our breed.

If we do nothing, in a few years our breed could be swamped with JRD, a horrifying prospect indeed.

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