

Genetic Health Testing

There's a bit of "tom foolery" going on out there over genetic health testing. This is to help you navigate the waters on the subject, so that you can make the best choice for your new westie pup from a breeder that is doing all they can to ensure the health of your puppy for a lifetime. Genetic health testing is no laughing matter. It is our considered opinion that no dog should ever be bred without proper genetic health testing first—and we sure aren't talking about the testing required by the AKC, which does no more than identify parentage. Don't be one fooled with fancy footwork in slick worded advertising—either the dogs are properly genetic health tested, or my advice is...run.

Let's start by explaining what the AKC requires. Form the AKC website...

"Effective for litters whelped on or after July 1, 2000, AKC DNA Profiling is required if a stud dog is classified as a Frequently Used Sire, meaning that he has produced seven or more litters in his lifetime or more than three litters in a calendar year."

"AKC DNA Profiling is for parentage verification and genetic identity purposes only. It does not provide information regarding genetic health, conformation, performance ability, coat color, etc. AKC DNA does not determine breed or if a dog is purebred."

That isn't health testing. Far from it. A good breeder would never leave testing to sending in a sample for the frequent sire program. They do more...a lot more, and it is done to provide all that information the AKC test does not reveal—and genetic health is really what we are looking for, and you should too.

We use Embark testing and verify testing through UC Davis to do all we can to ensure we are breeding only the best, both phenotype (what the dog looks like) and genotype (DNA). This is why we never see genetic issues with our puppies nor do with limit our health guarantee on genetic issues. There is simply no reason not to test. It is not frightfully expensive, nor is it hard to do, and the suffering testing BEFORE breeding can avoid is downright priceless.

So, what are we looking to avoid with genetic testing our westies? Here's a list

Conditions For West Highland White Terrier

Craniomandibular Osteopathy, CMO

Degenerative Myelopathy, DM

Globoid Cell Leukodystrophy, Krabbe disease

Pyruvate Kinase Deficiency

CMO

A genetically inherited condition that results in a calcification of the leg, or jaw of certain breeds. In one study, 66 of the dogs studied with CMO were either Westies, or Scotties. It is often referred to as “Westie Jaw”, and can affect a pup from a very young age (6 weeks) and last up to 18 months. No, it is not harmless. The condition can in essence, glue the jaws shut, forcing the pup to suck their food through their teeth, which in turn, ruins the teeth too. No, it doesn't kill them, but it sure does cause a world of suffering for both the pup, and their owner, who suffers right along with their pup. It can affect 1:20 pups born, and some consider that acceptable odds. We however, do not.

DM

Degenerative myelopathy caused by mutation of the SOD1 gene is an inherited neurologic disorder of dogs. This mutation is found in many breeds of dog, though it is not clear whether all dogs carrying two copies of the mutation will develop the disease. The variable presentation between breeds suggests that there are environmental or other genetic factors responsible for modifying disease expression. The average age of onset for dogs with degenerative myelopathy is approximately nine years of age. The disease affects the white matter tissue of the spinal cord and is considered the canine equivalent to amyotrophic lateral sclerosis (Lou Gehrig's disease) found in humans. Affected dogs usually present in adulthood with gradual muscle atrophy and loss of coordination typically beginning in the hind limbs due to degeneration of the nerves. The condition is not typically painful for the dog,

but will progress until the dog is no longer able to walk. The gait of dogs affected with degenerative myelopathy can be difficult to distinguish from the gait of dogs with hip dysplasia, arthritis of other joints of the hind limbs, or intervertebral disc disease. Late in the progression of disease, dogs may lose fecal and urinary continence and the forelimbs may be affected. Affected dogs may fully lose the ability to walk 6 months to 2 years after the onset of symptoms. Affected medium to large breed dogs can be difficult to manage and owners often elect euthanasia when their dog can no longer support weight in the hind limbs. Affected small breed dogs often progress more slowly than affected large breed dogs and owners may postpone euthanasia until the dog is paraplegic. Why in the world wouldn't you want to test against DM prior to breeding is just beyond me.

Krabbe disease (white shaker disease)

Affected dogs have a history of a relatively sudden onset of constant tremors over the entire body, including the head and eyes. These tremors occur when opposing muscle groups alternately contract and relax in a repetitive manner (Smith and Thacker, 2004). Uncontrolled eye movements, referred to as opsoclonus, consist of rapid, involuntary, multidirectional (horizontal and vertical) movements of the eyes. Although some affected dogs may have constant tremors, they remain alert and responsive to their owners and environment. These dogs generally retain normal sensory and muscle functions, which are controlled by the cranial nerves. Consequently, they are able to sense when their faces are touched, and their pupils dilate and constrict appropriately in response to changes in light. In some instances, tremors may be severe enough to cause a wobbly, uncoordinated gait, or overreaching with the legs when walking forward (Smith and Thacker, 2004). This latter change in gait is called hypermetria.

Again, with proper testing, no pup needs to deal with this. We can simply choose, as a good breeder would, to not breed dogs that pop up positive with simple, very low-cost genetic testing in the first place!

Pyruvate Kinase Deficiency

Pyruvate kinase deficiency (terrier type) is an inherited metabolic disease affecting West Highland white terriers. Affected dogs have insufficient activity of the pyruvate kinase enzyme which breaks down glycogen for energy. Deficiency of this enzyme results primarily in easily damaged red blood cells (hemolysis). Affected dogs typically present between 4 months and 1 year of age with pale gums from decreased numbers of red blood cells (anemia) and lethargy or exercise intolerance. Clinical findings during a veterinary exam include severe anemia, hardening of the bones, and an enlarged spleen and liver. While dogs can live for several years with this disease, they typically die from severe anemia or liver failure by 5 years of age. There is simply no excuse for not testing against Pyruvate Kinase Deficiency. There are even studies going on that will do it for FREE.

OUR GENETIC TESTING

Yes, we have our sires DNA on file with the AKC, however we go the distance for our puppies. Our genetic testing protocol covers all of the inherited diseases mentioned above that are all too common to the West Highland White Terrier, and well over 150 others as well. Feel free to ask to see the results. We love showing our customers just how much care we put into not only bettering our breed, but keeping it as healthy as possible as well. Never assume a high puppy price tag means squat...plenty out there with high priced babies who claim they invest a lot into their dogs, and fail them on such a basic, low cost measure to ensure they are not passing on preventable genetic issues that can be heartbreaking down the road. A genetic health test kit is less than \$150. We consider that chump change for the benefits it offers our pups, now, and for generations to come.

Yes, we support genetic health testing. Big time.

Welch's Jolly Westies

<http://www.welchjollywesties.com/>