Dach-Facts: *Lafora Disease in MWHD*

Health & Welfare Information from the Dachshund Breed Council

What is Lafora Disease?

Lafora Disease is an inherited form of epilepsy that affects Miniature Wirehaired Dachshunds.

Symptoms develop because the dog cannot efficiently process starch into sugar. Over time, insoluble starch platelets gradually build up in the central nervous system. Survey results indicate that the majority, if not all dogs, will go on to show clinical symptoms to a greater or lesser degree. It typically becomes apparent any time from age 5+ with a variety of symptoms including myoclonus (jerking, characteristically this can be induced by flashing lights, sudden sounds and movement, especially when close to the dog's head) and/or generalised or complex partial seizures. As the disease progresses, other neurological symptoms such as ataxia, blindness and dementia may occur.

Genetics of Lafora

Lafora is an inherited autosomal recessive condition. A dog must inherit two of the mutated genes, one from each parent to be classified **"Affected".** A dog that has only one mutated Lafora gene is a **"Carrier".** It will not become clinically affected by the disease but, if bred to another "Carrier" or "Affected" dog, some of the puppies born will be likely to receive the two mutated genes and thus be clinically affected. If a dog carries no mutated genes it is **"Clear"**.

(Read more about the research and genetics of Lafora's Disease at http://laforadogs.org/about-lafora/genetics.)

WHDC Testing Programme

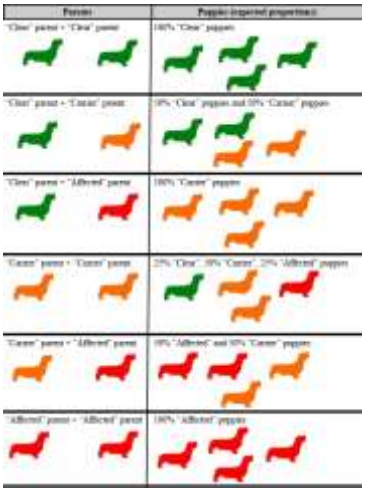
Since 2010, the Wirehaired Dachshund Club has coordinated a Lafora testing programme. In 2013, funded with money raised from Dachshund clubs, the Kennel Club Charitable Trust and other donations, a reliable DNA test was developed by Dr Berge Minassian and his team at the Hospital for Sick Kids in Toronto, Canada. At that point, approx.**10% tested dogs were "Affected", 42% "Carriers"** and **48% Clear.** **Kennel Club Approved**

Test

In March 2013, the test was Kennel Club approved and is '**recommended**' for registered mini wires and '**required**' for **KC Assured Breeders**. Test results are sent direct to the Kennel Club, where results will be added to the dog's registration details, triggering publication of results in the next Breed Records Supplement, any new registration certificate, on certificates of any future progeny, and on the Kennel Club Health Test Results website.

Safe vs. Unsafe Breeding

See a larger version of this breeding chart on the reverse of this leaflet or at http://www.whdc.co.uk/lafora-test-results.php



Because the disease is "late onset", the only way to avoid breeding "Affected" Mini Wires is to use the full DNA test to screen all breeding stock, prior to mating.

Dogs that are "Affected" by the disease, or are "Carriers" of the genetic mutation, are at risk of producing more "Affected" puppies if they are bred from with others carrying the mutation.

(N.B. "Unaffected" results are from an earlier test that could identify dogs that were NOT affected but may be either carriers or clear).

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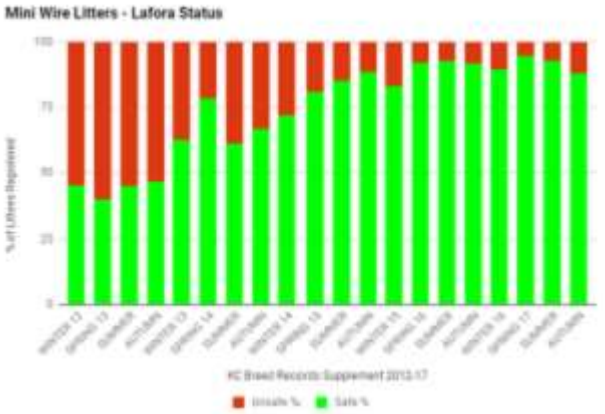
Current Situation (Jan 2018)

More than 700 samples have now been tested and the frequency of affected dogs has dropped to 5%, and carriers to 21.6% respectively.

Since the DNA test was introduced, the DBC has reporting the number of litters that are 'unsafe' and at risk producing Affected puppies. Unsafe combinations are:

- Not Tested to Not Tested
- Carrier to Carrier
- Affected to Carrier
- Affected to Affected
- Carrier to Not Tested
- Carrier to Not Affected
- Affected to Not Affected
- Not Affected to Not Affected
- Not Tested to Not Affected.



During 2017, 92% of litters were 'lafora safe' – there is NO Excuse for any unsafe litters, now that the DNA test is so readily available.

Who should test?

The Breed Council's and all UK Dachshund Breed Clubs' Code of Ethics states breeders will:

"*Use all Health Scheme tests currently required or recommended for the KC Assured Breeder Scheme on all breeding stock. Make responsible decisions in the light of Health Scheme test results to avoid producing clinically affected puppies and will follow any breeding advice issued under each scheme prior to breeding.*"

Owners of Show-Winning Dogs.

As show-winning dogs are in demand for breeding and therefore have a greater influence on the general health of the population, owners of top-winning dogs should lead the way.

Owners of Stud Dogs

Stud dog owners have a responsibility to the breed to know not only the status of their own dog but also that of any bitches brought to them and refuse to mate any unsafe pairings, or better still, test your stud AND insist that you will only allow a mating with a tested bitch, as that will encourage others to test.

Owners of dams

Ensure you know the status of both your own dog and that of any prospective studs. Dogs should not be mated unless you can **guarantee that no affected dogs will be born**. Sadly, experience suggests that you cannot always take the word of the owner.

Owners of dogs that might be affected

1: If your dog shows symptoms, alert the breeder of your dog now and get your dog tested as soon as possible.

2. Check the status of your dog's dam, sire and known littermates on the Kennel Club Health Test Results website. If any are affected, use the diagram and information on the WHDC test pages to decide whether your dog might be affected or contact the WHDC testing team for advice.

How to get your dog tested

The Kennel Club Approved Lafora DNA test is available from Dr Berge Minassian at the Hospital for Sick Children in Canada, with support from the Wirehaired Dachshund Club (WHDC).

The test costs approximately £225 including courier and vet fees, but a subsidy is available

if tested via the WHDC regular bulk testing sessions in the UK, minimising vet and courier fees and simplifying the testing process for owners. The total subsidised price is £150.

Please visit www.whdc.co.uk for the latest news or contact a member of the testing team to confirm the date of the next testing session:

Nora Price: 01543 276797
pn.price274@btinternet.com

Sue Holt: *0161 308 4403*

susan.holt@talktalk.net

Owners may request a test direct to Dr Minassian. However, individual enquiries reduce time for his invaluable research into developing a treatment for the human and canine form of Lafora. Enquirers must organise their own test, courier paperwork and payment etc. All results are shared with the WHDC and Kennel Club.

Progression Survey

Dr Clare Rusbridge of the University of Surrey's School of Veterinary Medicine and the Toronto Hospital team, supported by the Dachshund Breed Council, continue to monitor the progression of the condition in Lafora affected dogs. Details of their latest research was published in August 2017 in PLOS One.

To take part in this important ongoing project, please complete the form at this link:

http://www.laforadogs.com/owning-a-laforadog/progression-survey/

or contact Gill Key (details opposite).

Further Information:

Dachshund Breed Council's Health website

www.dachshundhealth.org.uk

For the latest Dachshund health and welfare information and advice.

This DBC Dach-Facts leaflet has been written in conjunction with the

Laforadogs Support Group:

- Working to eradicate Lafora
- Advice on how to manage and cope with a dog suffering from Lafora
- Raising awareness
- Supporting fundraising for research

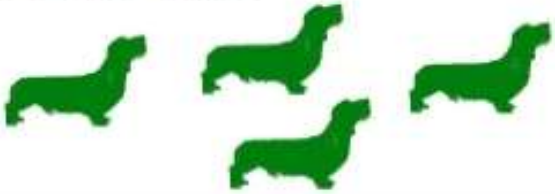
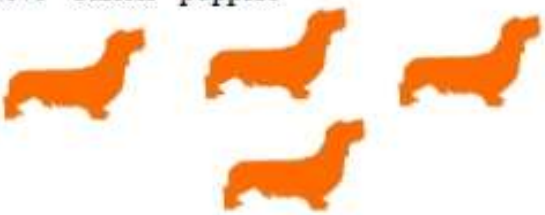
www.laforadogs.com

Gill Key 01934 862992

laforadogs@btinternet.com

LAFORA DOGS

Please print a copy of this from either of the above web sites and take it to your vet so they are up to date with what is happening.

Parents	Puppies (expected proportions)
"Clear" parent + "Clear" parent 	100% "Clear" puppies 
"Clear" parent + "Carrier" parent 	50% "Clear" puppies and 50% "Carrier" puppies 
"Clear" parent + "Affected" parent 	100% "Carrier" puppies 
"Carrier" parent + "Carrier" parent 	25% "Clear", 50% "Carrier", 25% "Affected" puppies 
"Carrier" parent + "Affected" parent 	50% "Affected" and 50% "Carrier" puppies 
"Affected" parent + "Affected" parent 	100% "Affected" puppies