

## Dach-Facts: Lafora Disease in MWHHD

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. By March 2014, more than 400 UK MWHHDs had been tested, more than 250 with the full DNA test, available since August 2013 and developed by Dr Berge Minassian and his team at the Hospital for Sick Children in Toronto, Canada. Results show approx. **10% "Affected"**, **40% "Carriers"** and **50% Clear**.

### Kennel Club Approves Test

In March 2014, the Kennel Club approved the Toronto DNA Lafora test. Copies of tests will now be 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 Supplement, any new registration certificate, on certificates of any future progeny, and on the Kennel Club Health Test Results website.

ABS breeders: Lafora is currently classified as a 'recommended' DNA test.

### Safe v 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>

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

(n.b. "Unaffected" results on the WHDC site are from an earlier test that could identify dogs that were NOT affected, but may be either carriers or clear).

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.

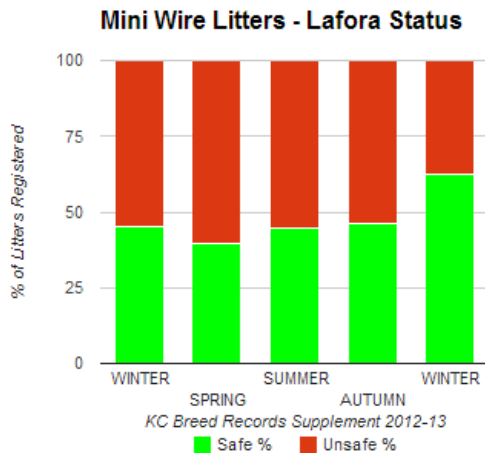
Dogs that are "Affected" by the disease, or are "Carriers" of the genetic mutation, are at risk of producing more "Affected" puppies if they are bred from with others carrying the mutation.

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The October 2013 DBC Newsletter revealed that approximately 57% litters bred in the past 9 months were 'unsafe', and 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.

There is NO Excuse for so many unsafe litters being bred, now that the DNA test is available.

### Who should test?

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

*I will not breed from any stock that has, or may carry, any serious hereditary faults. In particular, I will not allow any dog to be used at stud if he has, or could carry, serious hereditary faults and I will be very selective of the bitches on which he is used. If health screening/testing is available for any hereditary disease/illness carried by my breed, I will ensure all my breeding stock is tested.*

### Owners of Show-Winning Dogs.

It is easy to lay the blame for irresponsible breeding on pet owners or those that produce puppies purely for financial reasons, but an analysis of Top Dogs for 2013 and 2014 [www.showdach.co.uk](http://www.showdach.co.uk) show that 55% of show-winning dogs had been tested by early March 2014. Of tested male dogs in this sample, only 4% were tested affected, compared with a population average of approx. 10%. This is either good news, or may imply that some dogs are not tested because there is a possibility they are affected. As show-winning dogs are exactly the dogs that are in demand for breeding and therefore have a greater influence on the general health of the population, owners of top winning dogs should be leading the way.

### Owners of Stud Dogs

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.

Why not take a proactive stance and promote yourself as a 'safe' breeder? Get the dog tested then only allow known safe breeding combinations - better still, test your stud AND insist that you will only allow a mating with a tested dog 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.

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### 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 Test Results website and WHDC result pages. 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 for a limited period 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 inclusive. A further subsidy is available for those wishing to upgrade their test result from "unaffected" to "Carrier" or "Clear" status.

Please visit [www.whdc.co.uk](http://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**

[laforatesting@mypostoffice.co.uk](mailto:laforatesting@mypostoffice.co.uk)

**Sue Holt: 0161 308 4403**

[susan.holt@talktalk.net](mailto:susan.holt@talktalk.net)

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

### **Further Information:**

#### **Dachshund Breed Council's Health website**

[www.dachshundhealth.org.uk](http://www.dachshundhealth.org.uk)

For the latest Dachshund health and welfare information and advice.

This DBC Dachs-Fact 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.org](http://www.laforadogs.org)

**Gill Key 01934 862992**

[laforadogs@btinternet.com](mailto:laforadogs@btinternet.com)














**This is a relatively newly recognised condition. 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.**

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