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Introduction

This report summarises the key health data we have available on the breed in the UK, collected by us, together with information on the work of Dachshund Health UK during the year.

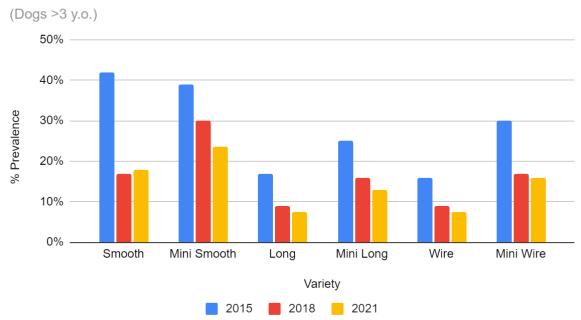
For a full report on breed health and population data, please refer to the Breed Health and Conservation Plans which have been collated by the Kennel Club. Our Breed Health and Conservation Plan describes the evidence-base for our priorities in addressing the breed's improvement challenges. This annual report does not repeat the information in the BHCP (which is available at <u>www.dachshundhealth.org.uk/health-plans</u>).

Our health priorities during 2024 were:

- Reduce the risk of IVDD by promoting the use of screening and by educating owners about lifestyle risk factors
- Increase buyer and breeder awareness of the breed to influence responsible buying/breeding decisions

Intervertebral Disc Disease (IVDD)

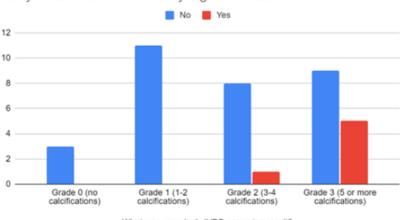
This remains the single most significant health issue facing the breed, albeit with different prevalence across the 6 UK varieties. The data below are from our 2015, 2018 and 2021 Breed Surveys.



Dachshund IVDD Prevalence from 3 breed surveys



The main tool we currently have to help breeders make informed decisions is x-ray screening. This is based on several decades of research carried out, mostly in the Nordic countries. There is clear evidence that dogs with fewer calcifications in their spine have a lower risk of herniation. Our own screening results also confirm these findings.



Has your Dachshund had any signs of IVDD?

We found that dogs aged 7 or older with a screening Grade 3 result were 12 times more likely to have had an IVDD incident than dogs with Grades 0, 1 or 2. This was statistically significant even with the relatively small number of dogs screened here in the UK.

Our most recent surveys (2022-23) have also identified some interesting lifestyle factors which are relevant to Dachshund owners:

- There was a statistically significantly higher proportion of Dachshunds with IVDD who had been neutered under 2 years of age than those who were left entire
- In the 2 surveys, Dachshunds that wore a harness were twice as likely to be affected by IVDD than those walked in collars
- When comparing behavioural issues, it was noted that there was an increased number of behavioural issues with dogs that went on to suffer with IVDD

Conservative Treatment of IVDD

DHUK provided funding for a study at Cambridge Vet School into the use of conservative treatment of IVDD. The results were published during 2024. Here are the key findings:

1. Recovery Rates:

- 96% of dogs who still had feeling in their back legs (DPP) regained the ability to walk within 12 weeks.

- 48% of dogs who had lost feeling in their back legs (DPN) also regained the ability to walk.

2. Time to Recovery:

What was your dog's IVDD screening result?



- DPP dogs took a median of 11 days to start walking again.

- DPN dogs took a median of 25 days to start walking again.
- 3. Spinal Cord Compression:

- Over the 12-week period, the amount of pressure on the spinal cord decreased in most dogs.

- Interestingly, this decrease in pressure wasn't necessarily related to whether the dog recovered or not.

These findings are significant for several reasons:

1. Hope for Non-Surgical Cases:

Many vets have long believed that surgery is the best or only option for dogs who can't walk due to IVDD. This study shows that conservative management can be successful in many cases, especially if the dog still has feeling in its back legs.

2. Time Frame for Recovery:

The study gives us a clearer picture of how long recovery might take. While some dogs recovered quickly, others took several weeks. This information can help owners and vets make more informed decisions about treatment and prognosis.

3. Understanding Spinal Cord Compression:

The finding that recovery isn't necessarily linked to the reduction in spinal cord compression is intriguing. It suggests that other factors, such as the initial severity of the injury or the body's healing processes, may play a more significant role in recovery than previously thought.

4. Options for Those Unable to Pursue Surgery:

For many Dachshund owners, the cost of spinal surgery can be prohibitive. This study offers hope that with proper care and time, many dogs can recover without surgery.

Ref: https://onlinelibrary.wiley.com/doi/pdf/10.1111/jvim.17149

The Genetics of IVDD

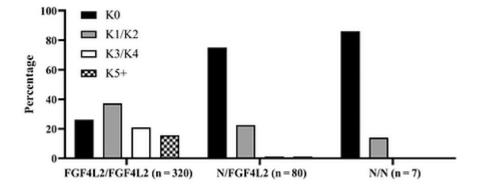
We have known for some time that a retrogene on Chromosome 12 is associated with increased risk of IVDD. Over the past couple of years, several of the Nordic countries have been collecting data on the genotype of Dachshunds to understand the frequency of the CDDY mutation in their breed populations. At the end of 2024, an <u>important study</u> (Sullivan et al) reported the relationship between disc calcification (measured by K-number/K-n from x-ray screening) and the FGF4L2 gene in Dachshunds. Here are the key findings from the analysis of a sample of Norwegian and Finnish Dachshunds:



Genetics and Disc Health:

- Dachshunds with one normal copy of the gene (N/FGF4L2) have significantly better spinal health than those with two copies of FGF4L2

- 75% of dogs with one normal copy had the best possible score (K0)
- 98% of dogs with at least one normal copy had low-risk scores (K0-K2)
- Only 1% of dogs with one normal copy had high-risk scores (K5+)



Distribution of K-number and genotype (Fig. 1 from the paper)

Practical Implications:

- Breeding dogs with one normal copy (N/FGF4L2) is likely to produce puppies with better spinal health

- Both K-number and FGF4L2 status should be considered when choosing breeding stock

- Given the gene's high frequency in Dachshunds, aiming for one normal copy is more practical than trying to breed for two normal copies

Risk Levels:

- K0: ~7% risk of disc disease
- K1/2: ~12% risk
- K3/4: ~23% risk
- K5+: ~69% risk

Spinal x-ray screening is listed as a "Good Practice" for all 6 varieties of Dachshund in the Kennel Club's (new) Health Standard.

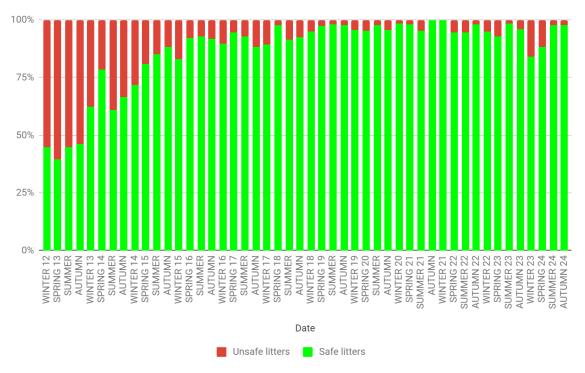


The researchers recommended developing breeding strategies that prioritise dogs with at least one normal copy of the gene, while using K-number scores to help select among dogs with two copies of FGF4L2.

DHUK is currently supporting further research into the genetics of IVDD with another project at Cambridge Vet School. This work is also being supported by the Canine Genetics Centre at Cambridge and Wisdom Panel. Dachshund owners whose dogs have been x-ray screened have been asked to provide DNA swab samples as part of this research.

Lafora Disease

We continue to monitor the use of the DNA test for Lafora Disease and are grateful to Mandy Dance (WHDC Chair) for collating the results from the KC Breed Records Supplement each quarter. The most recent results are for Q3 2024:



Mini Wire Dachshund Lafora Safe and Unsafe Litters

On a 12-month moving average, 92% of litters are "safe", with no risk of affected puppies.

DNA testing for Lafora Disease is listed as a "Good Practice" for Mini Wire Dachshunds in the Kennel Club's (new) Health Standard.



Eye Disease

DHUK has been subsidising KC/BVA eye screening sessions for several years now. These tests have also been subsidised by the Dachshund Club, meaning DC members only paid £13 per dog in 2024 (compared with the standard cost of £63). We are grateful to Daphne Graham who organises these sessions and to Professor Peter Bedford (ophthalmologist). The good news is that Peter invariably reports that the dogs he screens have healthy eyes.

DNA testing for cord1 PRA is listed as a "Best Practice" for all 3 varieties of Miniature Dachshund in the Kennel Club's (new) Health Standard. This follows a review by the KC's Health Standard Advisory Panel who discussed the discordance of the RPGRIP1 mutation and PRA(cord1). The KC advised as follows:

There was a lengthy discussion on this and the difficulties we have with breeders being under the impression that the test is definitive for clinical outcome, and as such it was recommended by the group that we change the way in which we record results for this, and switch to these being risk based, given that the mutation has some association with the disease but is not definitive. Dr Mellersh was part of the discussion and suggested that whilst the MAP9 modifier is not available for purchase, and is unlikely to be anytime in the future, the RPGRIP1 mutation may have use in reducing the likelihood of dogs being bred that carry both mutant genes, given that both are needed to influence the more severe clinical outcome. However, given that we know there is discordance here and the test has limited use it was agreed by the group that it be re-categorised as a category 2 (Best Practice) test for the Dachshund varieties.

Longevity

	Age of death (Mean)	Age of Diagnosis (Mean)
Cancers	9.6	9
Cardiac	10.3	7.9
Epilepsy	8.7	3.3
Gastric Lymphoma	7.5	7.3
IVDD	5.6	5.4
Lafora	9.4	7.4
Old Age	15.3	
Skin Conditions		3.1

As part of our ongoing health monitoring survey, we also collect information on causes and age of death. Based on 15 years of reports:



In general, heart disease and cancers are conditions of old age in our breed, although there are clusters of cases of lymphomas in Mini Longs that occur at a younger age. Epilepsy cases tend to be early onset but, interestingly, Lafora cases appear to be being diagnosed much later than has previously been reported.

Genetic Diversity

As with all breeds with closed stud books, the loss of genetic diversity is a key issue and threat to future health and viability of a breed. It is well-known that inbred populations have a higher risk of deleterious genetic mutations causing health problems as well as lower fertility and smaller litter sizes.

Towards the end of 2024, the KC provided updated genetic diversity reports to Breed Health Coordinators. At the time of writing, BHCs are in the process of sharing these reports for initial feedback. Unsurprisingly, the key issues highlighted (not just for Dachshunds) are:

- The potential negative impact of the use of Popular Sires
- An increasing trend of imported dogs and for these to be more widely used in breeding programmes
- Reduced litter sizes associated with increases in the Coefficient of Inbreeding (COI)
- An increasing proportion of litters from dogs that do not have a Stud Book qualification (i.e. more "pet litters")
- A general reduction in breed average COI, largely associated with increasing numbers of imported dogs

Education and Communication

We continue to grow our reach across our social media channels.

Our DHUK Facebook page has over 2,100 followers. Our DHUK website and blog had nearly 150,000 unique visitors in 2024. The most visited blog (news) posts were:

- How to teach a Dachshund to stop barking at the front door
- Dilute colours know the health risks
- <u>Collars vs. harnesses some research insights</u>

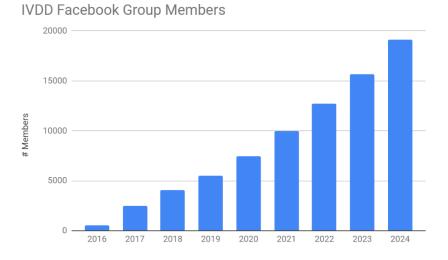
The Top 3 most visited pages on the website were:

- Body condition and weight
- <u>The bitch's cycle</u>
- <u>Colour dilutes</u>

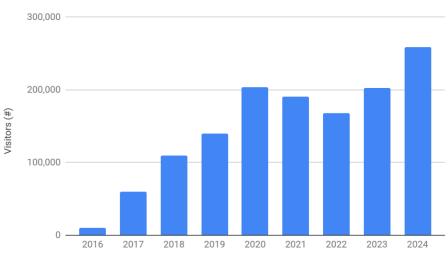


5,300 people visited our "<u>Tips for new owners</u>" page and 2600 visited our "<u>Advice for buyers</u>" page.

Our IVDD Facebook Support Group now has over 19,000 members:



Our IVDD website had 259,000 visitors in 2024, up from 203,000 in 2023:



IVDD Website Visitors

The most visited pages on the IVDD website were:

- Advice on neutering
- What is IVDD?
- Advice on jumping and stairs

We also have nearly 2,100 followers of our Instagram page (@dachshundhealthuk) which is managed by Chrstine Bessio, a Dachshund owner in the USA.



Fundraising

Dachshund Health UK is a registered charity that raises funds to support education, research, and health improvement projects. We are grateful to the many Breed Clubs and individuals who have run fundraising events or have made donations from the sale of products (e.g. books and cards). Details of how to raise funds or to donate can be found at: https://www.dachshundhealth.org.uk/health-fund

DHUK's priority projects where grants were made during 2024 were:

- Cambridge University Vet School IVDD research
- UK IVDD screening programme subsidies to participants
- Eye screening subsidies at the Dachshund Club championship show

Our audited accounts are available on the Charity Commission's website but key figures from our most recent report (year-ending December 2023) are shown below:

INCOME:	£
Restricted – IVDD	2050
Unrestricted	6343
Total Income	8393
EXPENDITURE:	
Cambridge IVDD Research	8908
IVDD Screening	2500
Eye Screening	1275
Operating Expenses	506
Total Expenditure	13189
Net Surplus/(Deficit)	-4796

Towards the end of 2024 we were pleased to be informed of a legacy donation made by the late Christine Gibson to DHUK. Christine was a well-liked breeder/owner/exhibitor of Wirehaired Dachshunds who sadly passed way because of cancer. Her memory will live on in the work we are able to do for Dachshunds, though her generous legacy donation.



Dachshund Health UK Trustees

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Katherine Herrington (Treasurer)

Gill Key

Anne Moore

Daniel Roberts

Roger Sainsbury

lan Seath (Chairman & Secretary)

Breed Health Coordinator

Dr. Bryony Fossett

Pet Advisors

Charlotte Baldwin

Aimee Thomas