Dach-Facts:
Information for Veterinary Surgeons

DACHSHUND HEALTH INFORMATION

The information within this fact sheet identifies diseases that are particularly prevalent in Dachshunds of the UK as a breed, whilst also highlighting any possible differences between individual varieties of Dachshunds.

Key points of information to discuss with owners are highlighted in green.

Breed Priorities

These key priorities are based upon the most recent Breed Health and Conservation Plan (BHCP) for each of the 6 varieties of dachshunds, made in co-operation with The Kennel Club. Further literature and information surrounding other conditions commonly found in Dachshunds is available in our BHCP found on The Kennel Club website or via the following link:
https://www.dachshundhealth.org.uk/health-plans

1. **Intervertebral Disc Disease (IVDD) which can affect around 1 in 4 Dachshunds and its impact on welfare ranges from mild pain to life-changing paralysis. A UK Screening programme exists for breeders.**
2. **Lafora Disease (a form of myoclonic epilepsy) in Miniature Wirehaired Dachshunds, for which a DNA test exists.**
3. **Eye disease including Progressive Retinal Atrophy (PRA) and Distichiasis. We recommend all breeding animals are screened using the BVA/KC Eye Scheme.**
4. **Colour Dilution Alopecia (CDA) is a concern in Dachshunds with "dilute" colour genetics (Blue, Isabella/Lilac).**
5. **Pes Varus in the Miniature varieties.**

About the breed

There are six varieties of Dachshunds registered with the UK Kennel Club – Miniature (11lb/5Kg or less) and Standard which should be up to 26 lb - but often may be larger. These are guideline weights, mentioned in The Kennel Club breed standard. Both sizes can have Smooth, Long or Wire haired coats. (The Kennel Club, 2022).

Miniature Dachshunds are amongst the longer-lived of dogs; one study found dogs of these breeds to average over 13 years old when they died (O'Neill et al, 2013). The median age of death in The Kennel Club's 2004 Health Survey was just under 12 years. (The Kennel Club, 2004)

Neurological Conditions:

Intervertebral disc disease (IVDD): Dachshunds have long been known to be predisposed to IVDD. A full review of the literature relating to IVDD in the breed is beyond the scope of this document; however, some key points and recent highlights are described here.
A study of 90,004 dogs from January 1995 to 1st January 2010 found the Dachshund to be the most frequently affected breed with IVDD, with a breed-specific prevalence of 34.92% compared to a mixed breed-prevalence of 4.43% (Bellumori et al, 2013). This is further supported in our recent DachsLife 2021 survey, demonstrating that 1 in 4 Dachshunds could have IVDD at least once in their lifetime.

A study of 61 Danish dogs of the breed found that Dachshunds with less than three calcified intervertebral discs at 24 months of age were less likely to develop, and had less severe, IVDD than dogs with several disc calcifications (Jensen et al, 2008).

In Finland, Denmark and Norway screening spinal radiography for intervertebral disc calcification (IDC) has been used for more than 15 years. A study of the 1553 dogs screened up to 1st May 2015 reported that the number of calcified discs was highest in the Miniature Smooth Haired and lowest in the Miniature Long Haired and standard Long-Haired variants (Lappalainen et al, 2015). The authors estimated a heritability of 53.4% for the number of calcified discs, suggesting that phenotypic selection against the number of calcified discs should be possible and effective, but that estimated breeding values (EBVs) for the trait would enable faster genetic progress to be made.
In 2017, an American study identified a *FGF4* retrogene insertion on chromosome 12 which segregates with the chondrodystrophoid phenotype including limb length and Hansen's Type I IVDD and the authors suggested that this presented an opportunity for genetic testing over time to eliminate Type I IVDD (Brown et al, 2017). However, more recent studies suggest that, because the mutation appears to be fixed in the Dachshund population (at least in the UK), this test is unlikely to be of much use. Additional information and UK prevalence estimates can be found in breed-specific health surveys.

It has also been shown that there is an association between early neutering and increased risk of IVDD so we recommend only neutering dachshunds once they reach 12 months of age (Dorn and Seath, 2018) (DachsLife Survey, 2018)

The Breed Council's advice is that dogs and bitches should be fully mature before considering neutering, ideally over 1 year-old, unless there is a clinical reason for doing so at a younger age.

There is a UK IVDD screening programme, with an examination costing ~£300. Dogs being screened need to be between two – four years old, and the results give an indication of risk for developing the disease in the future. The Kennel Club and Dachshund Health UK (registered charity) are currently subsidising the cost of this to make it more accessible for owners.

Ongoing research is currently being carried out at The University of Cambridge to look at treating high grade cases of IVDD with conservative treatment alone and the results so far

are positive showing great improvement in neurological function without surgical treatment (DachsLife survey, 2021).

Clients should be advised to screen their Dachshunds if they wish to breed from them, as this is a starting point for decreasing the prevalence of IVDD.

Dachshund Health UK has an IVDD website www.dachshund-ivdd.uk with up-to-date information on diagnosis, treatment and prognosis.

Lafora disease: This myoclonic form of epilepsy is an autosomal recessive disorder occurring in the Miniature Wirehaired variety and, prior to the availability of a DNA test, was estimated to have a prevalence of around 10%. Age of onset can be as young as 5 but is quite variable, through to older age. The breed has seen a dramatic drop in prevalence due to the uptake of the DNA test for the condition.

Anyone breeding from a Miniature Wirehaired Dachshund should use the DNA test that's been available for the past 10 years, it is the most accessible tool for clinical diagnosis of suspected cases.

Ocular Conditions:

Progressive retinal atrophy (PRA): PRA is the collective name for a group of inherited and progressive retinal diseases characterised by gradual retinal degeneration resulting in initial night blindness and progressing to total vision loss. A DNA test for the mutation, designated PRA (cord1) is available and recommended in all Miniature varieties, despite some evidence claiming that there are more mutations causing visual deficits so not all cases will be picked up with this test.

It has been agreed that PRA (cord1) is no longer a concern for Miniature Wirehaired Dachshunds and there could be potential to request this is removed from the Assured Breeder Scheme requirements if this continues to be the case. However, it was agreed it would be prudent to continue testing of imported dogs.

A **DNA test for Cord1 PRA exists and is recommended for all the Miniature varieties, prior to breeding.**

A DNA test for the less common NPHP4 PRA found in Standard and Miniature Wires is also available, useful for dachshunds with Scandinavian breeding.

Distichiasis: In the Mini Longs and, to a lesser extent, the Standard Longs, *Distichiasis* is a condition of concern. Prevalence in our 2018 survey was 2.5% and 1% respectively. In our 2013-14 clinical surveys, this was a condition of clinical concern in 13% of Mini Longs.

BVA/KC eye screening is recommended for all breeding animals in all 6 varieties.

Dermatological Conditions:

Colour dilution alopecia: There is particular concern for the apparent rise in dogs affected by colour dilution alopecia (CDA), with many owners reporting this condition on social media, specifically in dilute blues, isabella's and chocolate coats. Dogs are born with normal coat and skin, with gradual hair thinning starting typically between 3 and 12 months. The hair loss is the primary symptom of CDA and does not cause itching or skin lesions, however, the alopecic skin can become dry and scaly, with increased risk for secondary bacterial and fungal infections, which can subsequently lead to pruritus. This appears to be on the increase due to the rising popularity in rare colours, with main concerns that there is no current way to identify lines carrying the condition.

Merle: Dappling in Dachshunds (named merle in other breeds) is a recognised colour pattern for the breed but can cause health problems where two dapples are bred together, such as deafness, blindness, and severe ocular abnormalities (Ballif et al, 2021).

We strongly advise potential owners not to buy dilute coloured Dachshunds.

We also strongly advise owners to not breed two dapple coated Dachshunds together.

Musculoskeletal Conditions:

Pes varus: The cause for this angulation deformity of the tibia is not yet fully known, however is thought to be due to a premature closure of the distal tibial physis (Chau and Wilson, 2021). If left untreated, dogs may suffer with joint instability, cartilage degeneration, osteoarthritis and lameness. The incidence of this disorder in the breed has not been published to date, but it is suggested that the condition may have an autosomal recessive mode of inheritance.

Neoplastic conditions:

Lymphoma: A Japanese study determined that Miniature Dachshunds were predisposed to lymphoma, with onset at a younger age, and a longer survival time than compared breeds (Rimpo et al, 2021). The most common type of lymphoma was gastrointestinal (52 of 108), followed by multicentric (n=33), and cutaneous (n=11), with Miniature Dachshunds being significantly more likely to be affected by a gastrointestinal lymphoma than the other breeds included. The age of onset in Miniature Dachshunds showed a peak in dogs under 4 years of age, and another over 10 years, with the authors suggesting that a genetic influence may have a role to play. Again, the relatively recent explosion in popularity may account for the breed's over-representation, as well as the younger age of onset and longer survival time.

In the UK 2018 DachsLife survey, the median age for diagnosis of cancers and tumours was nine so, in general, this is a condition of older age. However, during the past three years there has been a cluster of early-onset lymphomas reported in Miniature Longhaired Dachshunds and this is being monitored by the Breed Council to support this Japanese study above.

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Further Information

For more information, please e-mail: info@dachshundhealth.org.uk or visit our website: www.dachshundhealth.org.uk where you will also find advice for buyers and new owners.

Find links below to our recent online seminars in conjunction with The Kennel Club covering the topics of CDA and IVDD:
https://www.youtube.com/watch?v=EUFzcBRgheY

https://www.youtube.com/watch?v=WLw_enoRLYo