

During 2020 a breed health survey was launched for Wire Fox Terriers (WFTs). The main aim of this survey was to gain a good overall view of the current health status of WFTs. The survey was deliberately very broad in the hope any specific areas of concern could be identified to help improve breed health in the future. Potential ways this information can be utilised for positive influence in the future include:

- Identification of areas where more detailed surveys are needed to further our understanding of risk factors for specific conditions.
- Targeted health articles to raise awareness of specific issues within WFTs.
- Articles/information on management strategies to minimise the risk of WFTs developing specific conditions.

The survey gained enormous support from all around the world with an incredible total of 1,070 WFTs included within the survey. Many thanks to all those individuals who took the time to complete the survey which is probably the largest and most comprehensive health survey ever undertaken for the breed. A brief summary of how many health reports were submitted by country/region is shown in the table below.

<b>Country/Region</b>	<b>Number of WFT health reports submitted</b>
<b>Countries with &gt;10 health reports submitted</b>	
UK	814
USA	125
Canada	30
South Africa	18
Republic of Ireland	13
<b>Other regions not separately listed</b>	
Europe	46
Rest of the world	24
<b>TOTAL RESPONSES</b>	<b>1,070</b>

The health survey was completed for 944 live and 126 deceased WFTs. From the deceased WFTs, an average age of death/euthanasia was calculated as 11.3 years (with an age range from 2 – 18 years of age). This average age estimate is lower than most figures quoted on the internet for WFTs. This may be a true finding; however, it is also possible this finding may be due to a reporting bias, with those individuals with dogs that died of significant health complications perhaps over-represented within a health survey. 51.8% of WFTs in the survey were male and 48.2% female.

The remainder of this report covers the responses to the questions within the health survey and any relevant points relating to those questions. More extensive analysis and interpretation has been performed for the areas where a greater number of conditions/issues has been reported.

## **WFT top causes of death/euthanasia reported by owners**

<b>Top 3 causes of death given for WFTs <u>OVER</u> 11.3 years old (63 dogs)</b>	<b>Percentage (%) of WFT deaths reported due to given condition</b>
Tumour/cancer	28.6% <i>(no specific tumour type/location appeared more common)</i>
Old age	22.2%
Degenerative myelopathy (DM)	12.7%

<b>Top 3 causes of death given for WFTs <u>UNDER</u> 11.3 years old (63 dogs)</b>	<b>Percentage (%) of WFT deaths reported due to given condition</b>
Tumour/cancer	49.2% <i>(most frequently reported tumour location was bladder - 6/31)</i>
Degenerative myelopathy (DM)	11.1%
Kidney failure	7.9%

### **Relevant points regarding causes of death/euthanasia reported by owners**

Tumours/cancer was reported as the leading cause of death/euthanasia for WFTs both above and below the calculated average lifespan calculated from this data set. There were a large number of different locations of tumours given. The only tumour which was reported with a higher frequency than any other was bladder tumours in the dogs under 11.3 years of age. WFTs may be particularly predisposed to tumours/cancer and in the breed may be at particular risk of bladder tumours. However, it is very difficult to draw breed specific conclusions from this with the absence of a database to compare these results to other breeds.

It seems concerning to note the number of dogs with DM as a reported cause of death/euthanasia. As discussed in a previous breed health article, there is a genetic test available for DM. However, as the vast majority of WFTs carry 2 copies of the 'at-risk' sequence for DM it leaves little or no practical breeding strategies to reduce the frequency of the gene with this sequence. Further research is needed on the development of DM to better understand why only some dogs with the at-risk sequence go on to develop DM. In the absence of this much needed research it seems very difficult to see a way to radically alter the prevalence of DM within WFTs.

## **Has the dog been vaccinated annually?**

<b>Yes</b>	<b>89.2%</b>
<b>No</b>	<b>10.4%</b>
<b>Not Sure</b>	<b>0.4%</b>

The phrasing of this particular question was a little challenging to get the most meaningful response. The vast majority of dogs included in this survey have been vaccinated annually. Of the dogs not vaccinated annually most are (or have been) vaccinated but not always as frequently as annually. Responses from this question highlighted some interesting points for discussion. It's well beyond the scope of this health report to critically evaluate all of the pro's and con's of vaccinations but some relevant points are mentioned.

### **Reasons given for NOT vaccinating annually included:**

- Only vaccinate puppies
- Stopped vaccinating senior dogs
- Dogs only vaccinated every 2 or 3 years (annual vaccinations not required)
- Unable to vaccinate dog in 2020 due to COVID-19 restrictions
- Dog(s) are titre tested and then only vaccinated if antibody levels are low
- Dog has autoimmune disorder and so opted to avoid further vaccinations
- Dog(s) not leaving home, so owner considered risk of contracting disease low/negligible

### **Relevant points regarding vaccinations**

It must be noted that for some countries annual vaccinations are not indicated. Protocols for various countries/regions will not be discussed. Additionally, it is not the purpose of this report to be making specific recommendations on which dogs should be vaccinated and how frequently this should be done. If owners have questions regarding vaccinations, then speaking with your own vet is strongly advised. Dave Hughes (breed health rep. and Veterinary Surgeon) is also happy to discuss more specific advice for individual circumstances.

In the UK there appears to be some misunderstanding regarding vaccinations (highlighted through this survey). Some stated that annual vaccinations are not required or indicated. This is true for parvovirus, distemper and hepatitis (with vaccinations for these diseases now being recommended every 3 years). However, this is NOT the case for leptospirosis or kennel cough. **Leptospirosis vaccinations are still recommended annually** and are considered a 'core vaccination' in the UK. In some other countries leptospirosis is not considered a core vaccination. Kennel cough is not considered a core vaccination in the UK but may still be indicated depending on individual circumstances.

Some WFT owners are now opting to titre test their dogs (for parvovirus, distemper and hepatitis) and only vaccinate when antibody levels fall below a given threshold. For the owners opting to titre test it is important to realise there is no such test available for

leptospirosis or kennel cough. This is because antibodies play little part in the immune response against these particular diseases.

For those interested in more detailed vaccination information, the 'World Small Animal Veterinary Association' have produced a very comprehensive guide which can be found online at the following web address:

<https://wsava.org/wpcontent/uploads/2020/01/WSAVA-Vaccination-Guidelines-2015.pdf>

### **Is your dog spayed/neutered?**

<b>Yes</b>	<b>67.6%</b>
<b>No</b>	<b>32.2%</b>
<b>Not Sure</b>	<b>0.2%</b>

The vast majority of dogs (67.6%) included in this survey were spayed.

#### **Reasons given for spaying/neutering:**

- Prevention of unwanted pregnancy
- Following veterinary advice
- Health reasons (preventative and as treatment)
- Prevent unwanted behaviors

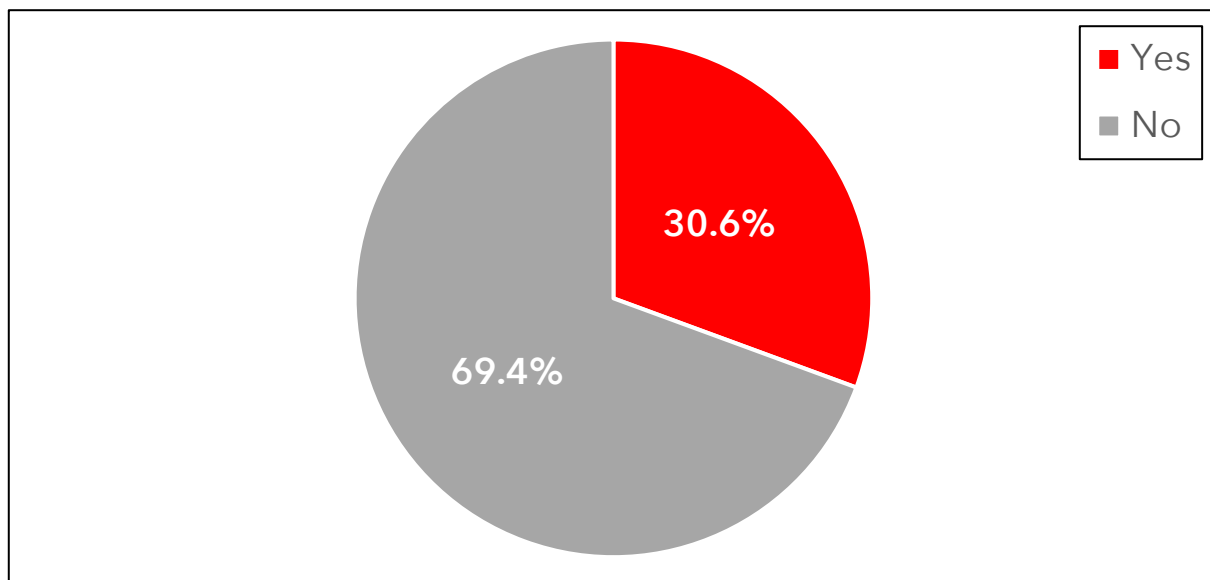
#### **Relevant points regarding spaying/neutering**

In many situations spaying/neutering is considered part of responsible dog ownership, particularly with respect to preventing unwanted pregnancies. There are also a whole range of health and behavioural pro's and con's associated with spaying/neutering - these are best discussed with your own veterinary surgeon.

WFTs are a numerically small breed and It seems prudent to mention genetic diversity. With so many WFTs sterilised it does further reduce the genetic diversity available within the breed. Obviously, there are a number of other requirements for a suitable breeding WFT (good health, good temperament, sufficient merit etc.) and breeding should not be undertaken without due care and consideration of a whole range of factors. However, for those WFTs with suitable traits for breeding perhaps we shouldn't always be so hasty to spay/neuter these dogs.

For male WFTs we also have another attractive option for preserving genetic diversity. The option to collect and store frozen semen is becoming more common place in the world of dog breeding. Obviously, dogs need to reach sexual maturity prior to semen production and there are notable collection and storage charges associated with this. However, under some circumstances this does give the possibility of semen collection prior to castration for suitable male WFTs with the option of storing valuable genetic material indefinitely.

**Has your dog ever suffered from a serious or persistent SKIN, COAT or EAR Condition?**



**Skin, coat and ear** conditions were by far the **most reported health issue** within this survey with **30.6%** of WFTs reported as suffering from one or more problem within this category.

**Of those WFTs reported as having a skin, coat or ear condition the following conditions were given:**

1. Allergic skin disease (74.3%)
2. Ear disease (23.9%)
3. Condition other than allergic skin disease or ear disease (6.1%; results included *fungal infection, bacterial infection, Cushing's related skin disease, hypothyroid related skin disease, borrelioses, specific parasites, infected hair follicles, chemical burn*)

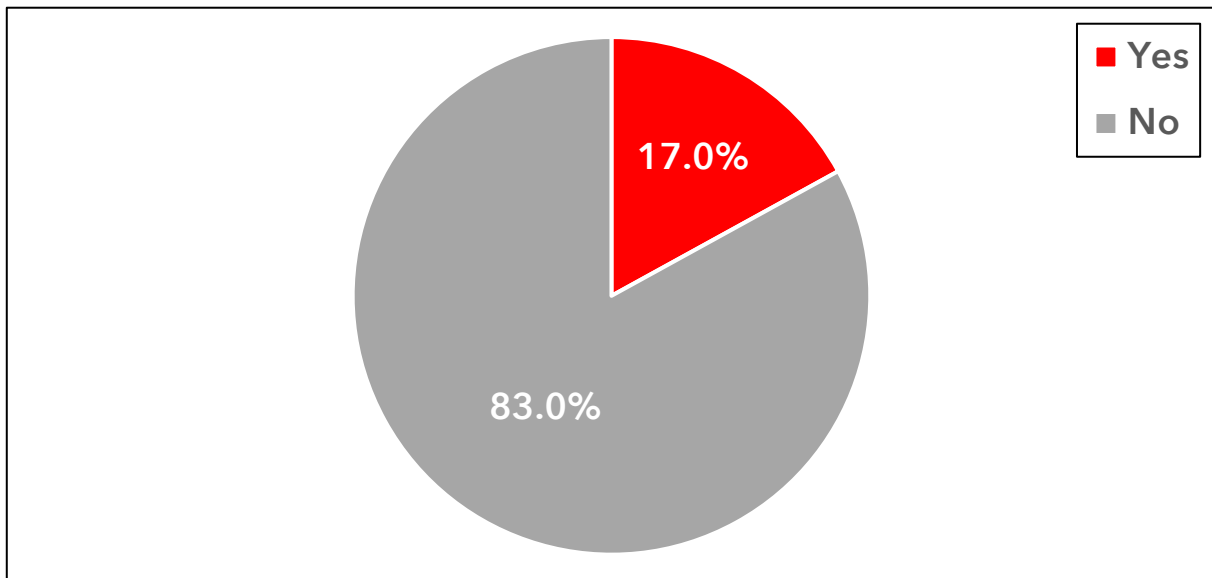
**Notes:**

- **11.6% of dogs were reported with both skin and ear conditions**
- **For 7.6% of dogs there was insufficient information given to determine a specific condition**

**Relevant points regarding skin, coat and ear conditions**

For many involved with WFTs it will come as no surprise that allergic skin disease and ear disease are of notable concern for the breed. It is however somewhat alarming to see just how frequently these conditions have been reported in this survey. At present, much of the advice given to owners to help prevent skin and ear diseases is based on anecdotal evidence at best. Going forward it seems sensible to do a further targeted health survey in these areas to try to identify some of the risk factors which may increase the likelihood of these conditions occurring.

## **Has the dog ever had any abnormal GROWTHS/TUMOURS?**



**Abnormal growths/tumours** were the 2<sup>nd</sup> most reported condition in this health survey (17%).

**Of those WFTs reported as having an abnormal growth/tumour the most common locations were:**

1. Skin (54.9%)
2. Mammary (12.6%)
3. Bladder (6.7%)
4. Mouth (5.5%)

### **Notes:**

- 4.4% of dogs were reported as having tumours in multiple locations/organs
- For 6.6% of dogs there was insufficient information given to determine a specific tumour location

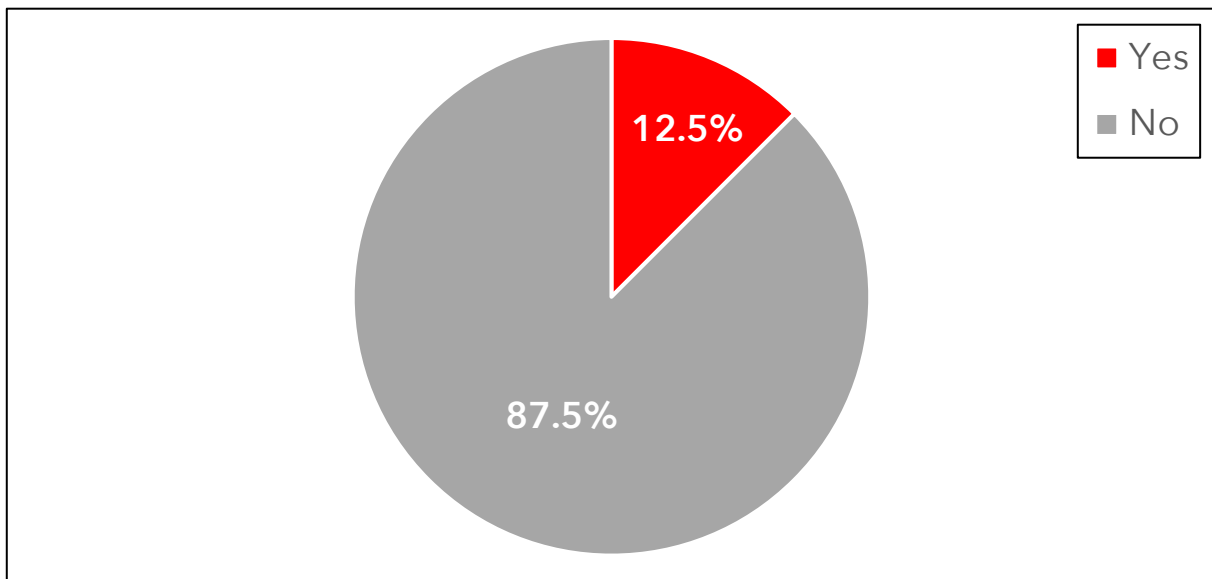
### **Relevant points growth/tumours**

There was insufficient information received to report meaningful results on the number of benign vs malignant (cancerous) tumours received, this is perhaps unsurprising in an owner reported survey. In most instances it would require some guess work to categorise tumours as benign/malignant and guessing is not likely to produce helpful results.

By far the most reported tumour location was skin. However, making direct comparisons by region from these results should be done with caution. It is likely that specific internal tumours are underrepresented as these will only be found through specific work ups by vets, yet skin and mammary tumours are often easily identified by owners.

The relatively high reporting of tumours in WFTs may represent a particular susceptibility of the breed to tumour development.

**Has the dog ever suffered from a serious or persistent DIGESTIVE system condition?**



**Digestive** conditions were the 3<sup>rd</sup> most reported health issue (**12.5%**).

**Of the WFTs reported as having a digestive issue the most common conditions were:**

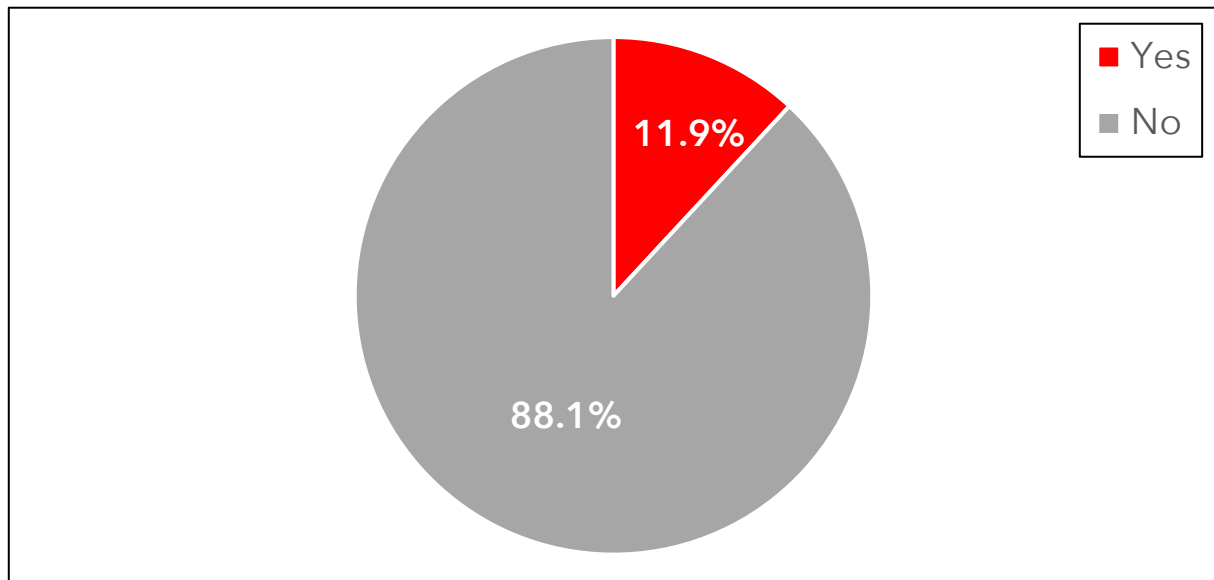
1. Food intolerance (38.8%)
2. Pancreatitis 16.4%)

**Relevant points on digestive conditions**

For many of the dogs included in this survey it was difficult to categorise them as having a specific digestive condition. There were many reports of clinical signs (such as vomiting and diarrhoea) with insufficient information to determine a specific condition. Clearly in such cases there is something going on but conclusions could not be drawn from the information provided.

It is not surprising food intolerance is the most reported digestive condition in WFTs as there seems to be an association with this and allergic skin disease. The high numbers of pancreatitis cases reported are perhaps a concern. A known risk factor for pancreatitis is the feeding of high fat diets. Therefore, it seems sensible to suggest avoiding high fat foods with this breed. Furthermore, obesity is a significant risk factor for the development of pancreatitis, emphasising the importance of maintaining a healthy bodyweight in this breed.

## **Has the dog ever suffered from a serious or persistent EYE condition?**



**Eye** conditions were reported in **11.9%** of WFTs.

**Of the WFTs reported as having an eye condition the most common clinical signs/conditions were:**

1. Tear production issues, drainage issues and signs of inflammation of the surface of the eye and surrounding tissues (e.g. conjunctivitis, red eye, hayfever like symptoms) (42.5%)
2. Cataracts (18.1%)
3. Blue/cloudy discolouration of eye (8.7%)
4. Blindness (7.1%)
5. Ingrowing eye lashes (3.9%)
6. Glaucoma (3.9%)
7. Lens luxation (1.6%)

### **Relevant points for eye conditions**

From the owner reports it was very difficult to further separate out many of the conditions so a whole range of potential conditions are grouped above under 'tear production issues, drainage issues and signs of inflammation of the surface of the eye and surrounding tissues'.

Quite a significant proportion of the dogs with eye issues were reported as having cataracts. However, this should be interpreted with caution. Many owners will assume a blue discolouration of the eye is a cataract. While a cataract will cause a blue discolouration, it is not the only cause. Another common cause of blue discolouration to the eye in older dogs is nuclear sclerosis. Nuclear sclerosis is considered a normal age-related change and though appearance is similar this is not a cataract. It's not clear from

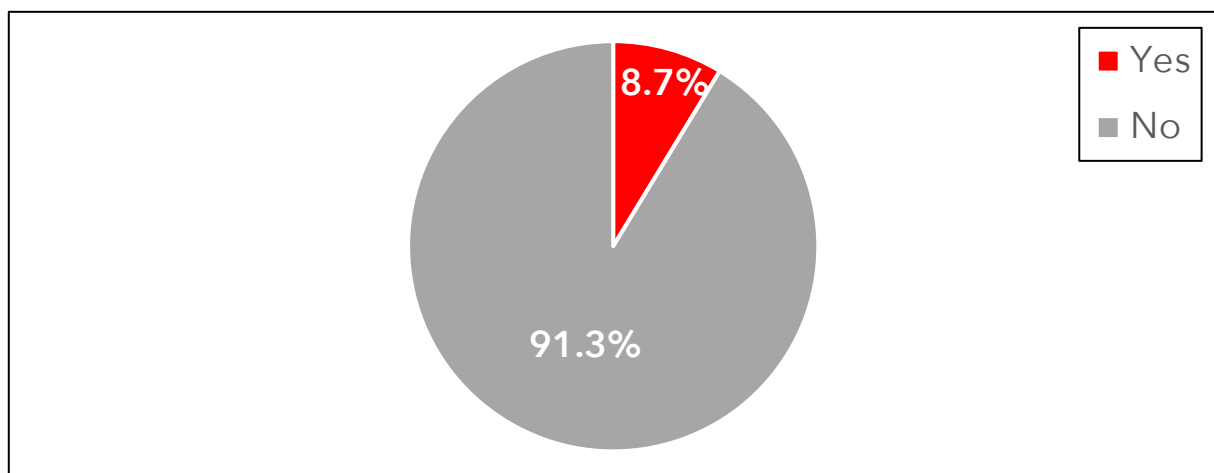


the survey how many dogs had cataracts diagnosed by a vet and how many were owner reported cataracts without a veterinary diagnosis.

Interestingly only 2/127 dogs with reported eye conditions had lens luxation. Primary lens luxation (PLL) is on the mandatory testing list for assured breeders within the UK. However, both of the reported lens luxation cases occurred following cataracts and therefore are likely to be secondary to this condition rather than primary.

From the owner reports above, it seems rational that we should be recommending WFTs have their eyes screened by qualified veterinary ophthalmologists but with more focus on other conditions such as cataracts and ingrowing eye lashes (rather than PLL). Where more severe eye disorders are diagnosed it would be prudent to be mindful of these conditions when making breeding plans. In the future there may be genetic tests developed to screen for specific conditions. However, in the absence of genetic tests breeders should be encouraged to avoid breeding from WFTs known to pass on specific eye conditions, particularly if multiple offspring are identified as suffering the same conditions.

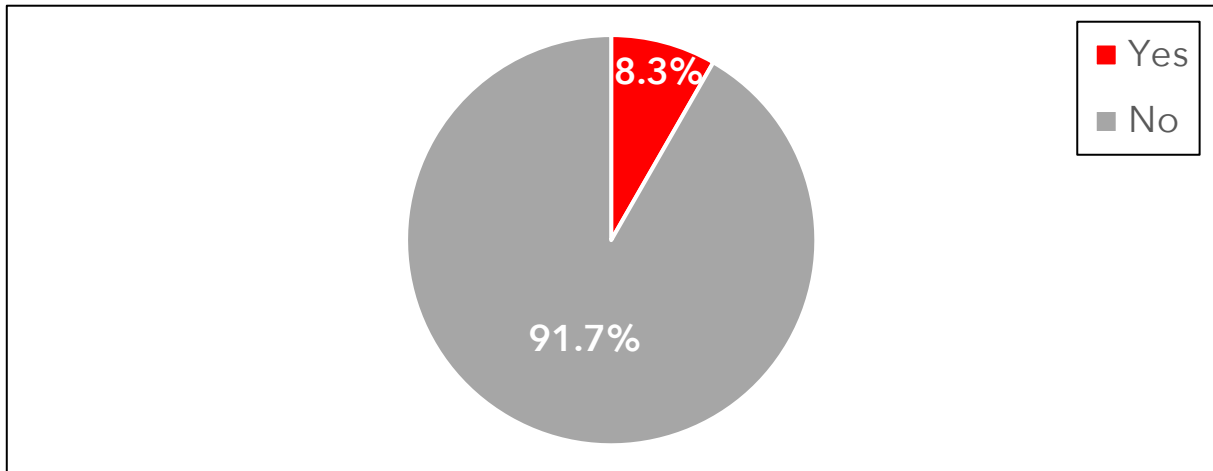
### **Has the dog ever suffered from a serious or persistent condition affecting BONES, MUSCLES or JOINTS (including the jaws)?**



**Of the WFTs reported as having bone, muscle or joint issues the most common conditions were:**

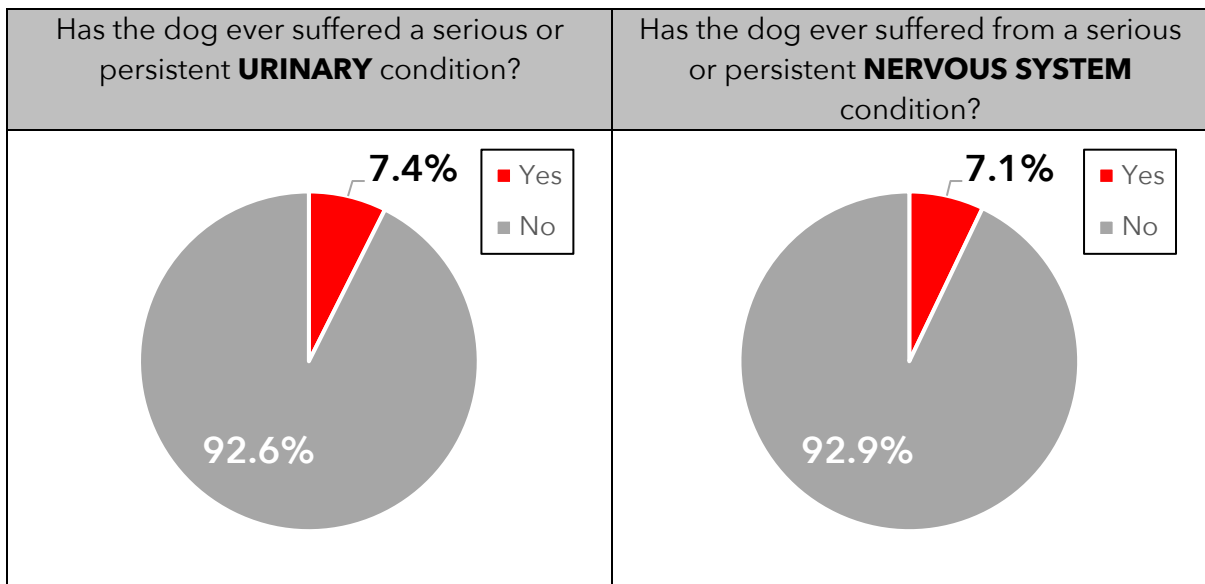
1. Arthritis (18.2%)
2. Luxating patella (15.0%)
3. Non-specified lameness/stiffness (9.7%)
4. DM (9.7%)
5. Cruciate ligament rupture (7.5%)
6. Legg-Calve-Perthes disease (4.3%)

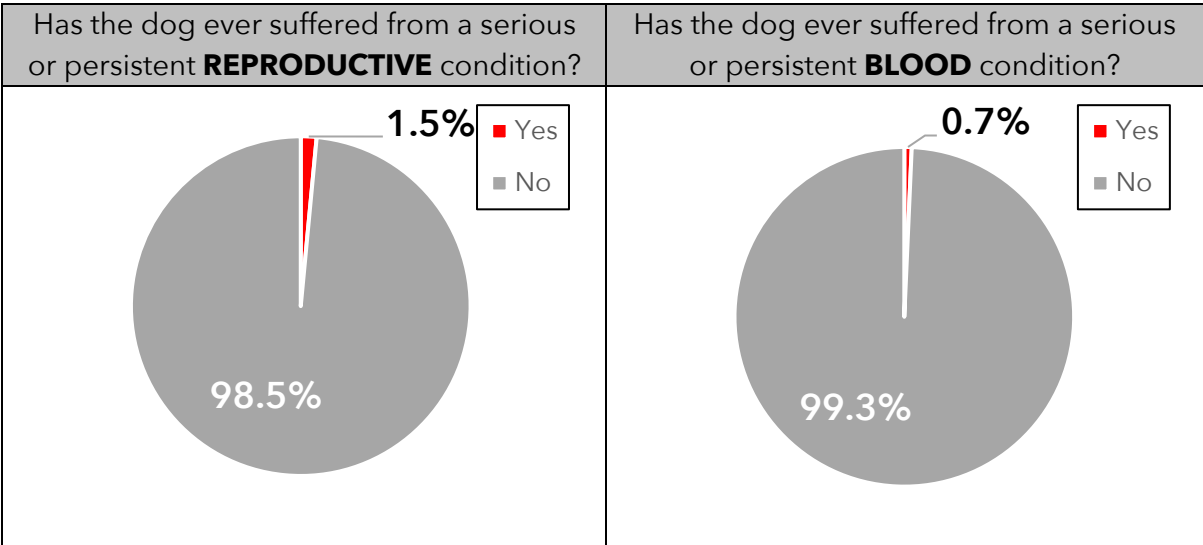
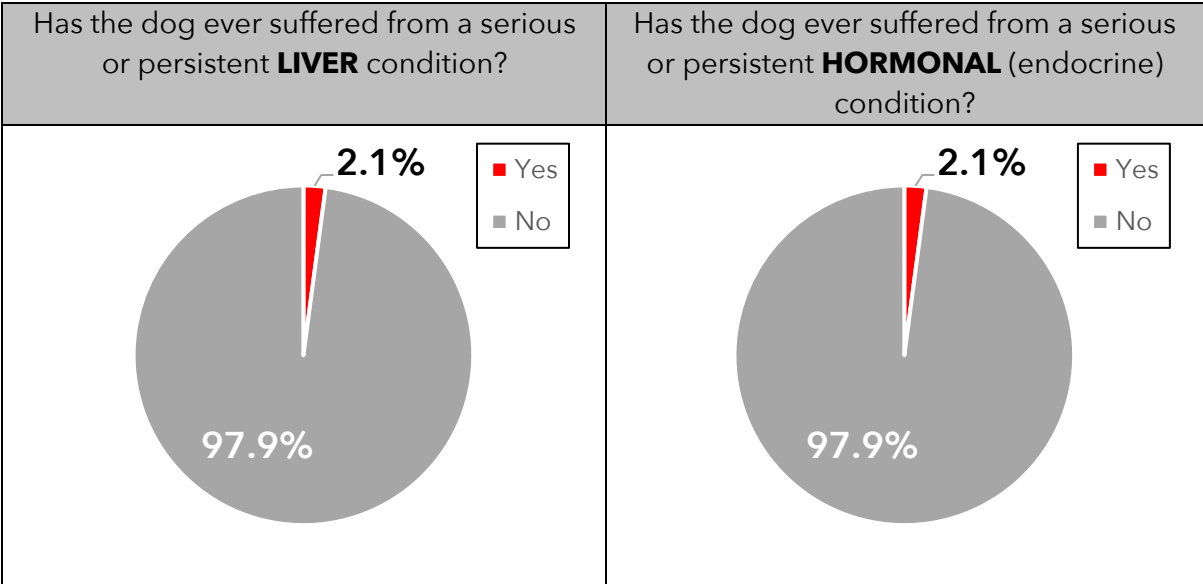
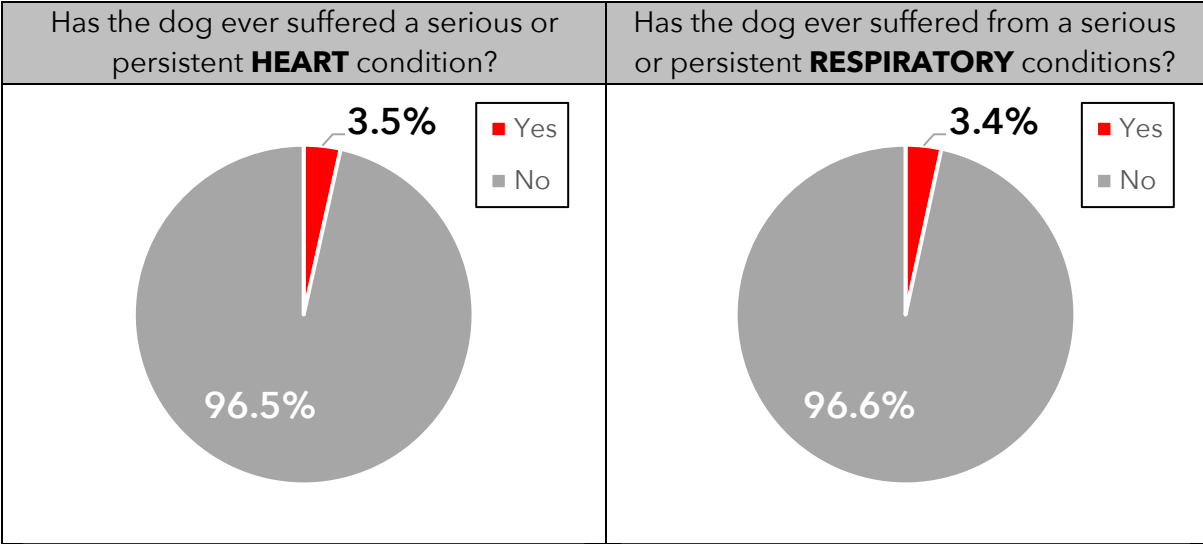
**Has the dog ever suffered from a  
DENTAL disorder?**



**Of the WFTs reported as having a dental issue the most common conditions were:**

1. Malocclusions (26.1%) (overshot 15 dogs; undershot 5 dogs; inverted canines 3 dogs)
2. Gum disease (26.1%)
3. Teeth decay, tartar/plaque build-up (12.5%)





## **THE SHORT SUMMARY**

- Health survey results were collected for **1,070** WFTs from **all around the world**
- An **average life expectancy of 11.3 years of age** was calculated from the deceased/euthanised dogs included in this study
- **Various tumours** and **degenerative myelopathy** appear to be significant causes of death/reasons for euthanasia
- **Over 30%** of WFTs were reported as **having ear, skin or coat conditions** with **allergic skin disease** being the most commonly reported issue. In future a **more specific survey** will be developed for **ear disease** and **allergic skin disease** to try to identify any risk and management factors involved
- **Food intolerance** and **pancreatitis** appear to be significant **digestive disorders** with a relatively high prevalence in WFTs. **Fatty diets** and **obesity** should be **strongly discouraged** for WFTs
- There seems to be **quite a high frequency** of **various eye related diseases** reported so perhaps we should be more proactive about getting WFTs tested by qualified veterinary ophthalmologists. **Selective breeding** could be utilised to reduce the frequency of known eye conditions within the breed

David Hughes, MRCVS  
Breed Health Co-Ordinator Wires