

Results of the Norwich Terrier Breed Health Survey 2022

Introduction

Welcome to the results of the Norwich Terrier Breed Health Survey 2022. This was the first Survey of its kind for the breed, and its aim is to monitor the general health of the breed within the UK. For this reason, the results only include dogs who were bred and live (or lived) in the UK.

Before we get into the details of the responses received, I would like to take the chance to say a big thank you to all who participated in the Survey this year. As the purpose of this Survey was to provide insights into the overall health of the breed, and to identify any potential conditions of concern such that the Club could investigate further as necessary, a good rate of participation is essential to the quality of the results. We did actually have to extend the deadline on responses, not because we were short of data, but because there were still several owners keen to include their dogs in the results who had not yet taken the chance to do so at the original closing date.

With well over 200 responses, from the owners and breeders of more than 450 Norwich Terriers, the results give a good indication of how the breed is doing in the UK at the current time. As a breed with relatively low numbers (there were just over 1300 registered in the last decade in the UK), this means we have details for approximately one-third of all the UK-registered Norwich Terriers.

The Norwich Terrier, like its close cousin the Norfolk Terrier (until 1964 considered variations of the same breed), is known as a hardy breed, and I'm pleased to say overall the results support this. Although there are a couple of conditions with relatively high prevalence within the breed, the numbers are sometimes slightly inflated because the same dog has been treated for the same condition on more than one occasion (especially the dental disease requiring an anaesthetic, along with the caesarian section numbers).

Other conditions which are standard features on most breed health surveys happily saw no incidences in the Norwich Terriers included in this survey. Others were much less frequent than in other breeds, including one set of conditions that are a concern in the Norfolk Terrier.

Overall, the breed appears to suffer low rates of disease across the lifespan. There are issues for the Club to investigate and monitor, but thankfully the overall prevalence of these is relatively low.

Results

The most interesting result for me, having run the 2 most recent Norfolk Terrier Breed Health Surveys¹, is the apparent lack of heart conditions. While the various categories of heart conditions are higher in the Norfolk Terrier, they are generally in line with other terrier breeds in general. In this Survey, it appears heart conditions in the Norwich Terrier are very unusual, and certainly well below the prevalence found in the Norfolk Terrier.

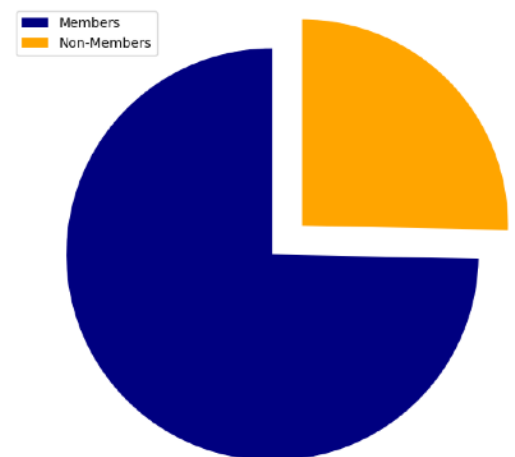
As mentioned in the introduction, the main standout condition in the Norwich Terrier is dental disease, specifically that requiring an anaesthetic to treat. This ranges from a simple scale and polish (as we ourselves often have performed at the dentist, but sadly our canine companions are less willing to allow this to happen whilst they're conscious), up to more intricate dental surgery with everything in between. Numbers-wise, although we saw 109 reports of dental disease, several of these were repeat treatments for the same dog(s), so it doesn't quite represent the one-in-four Terriers it may at first glance appear to.

Most other conditions saw fairly low prevalence, with several reaching around 30 reports (<7%) amongst the respondents' dogs. Caesarian sections, respiratory issues (mostly upper) and digestive tract issues were the most common of these, with benign lumps and bumps, epilepsy and old-age cataracts following behind.

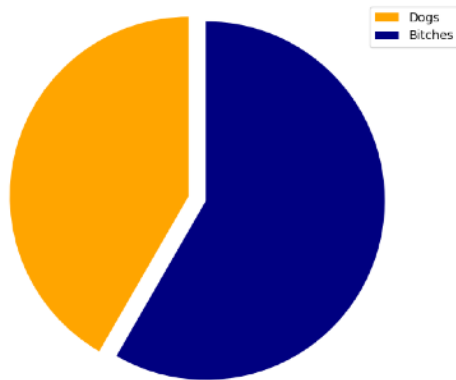
A handful of conditions saw no reported diagnoses across the last five years: Addison's disease; cataracts developed in early years; early onset heart conditions, and those in later life leading to rapid deterioration; luxated lenses; spinal degeneration and slipped discs. A few of you may be reading this and thinking you entered information in one or more of these boxes, but with the additional information provided, they actually fit better in an alternative condition - for example, a heart murmur diagnosed before age 5 (which didn't require any treatment at that stage) is covered in the 'Heart murmur - no treatment' condition, so was moved to that box instead.

Membership

It was heartening to see owners both from within and without the Norwich Terrier Club cared enough about the breed to take the time to complete the Survey. With any statistics, more data is always better as it makes the results and conclusions more complete and accurate so again, thank you. Almost three-quarters of the responses were from members, which is unsurprising as details of the Survey were circulated several times among the membership, but we also reached over 50 non-members (some were previous members who sadly no longer own a Norwich, but they all still retain a great interest in the breed).



Dog/Bitch split



The responses received represented 266 bitches and 190 dogs. With the relatively low prevalence of most diseases and conditions reported, this won't give us too many clues as to sex-specific susceptibility but is still interesting to know, and useful information for the Club to keep track of, especially for the genetic diversity of the breed.

Number of Norwich Terriers Owned

Although of little relevance to the state of health of the breed and conclusions but again is interesting to know.

Of all the responses, just over 100 owners had (or had recently had) multiple Norwich Terriers. The highest number for one owner was 24 (16 bitches, 8 dogs), and in the majority of cases of multi-Norwich households, the numbers were either evenly balanced or heavily in favour of the females. Given many of these are members, it likely represents breeders and breeding households and as such the higher number of bitches makes sense.

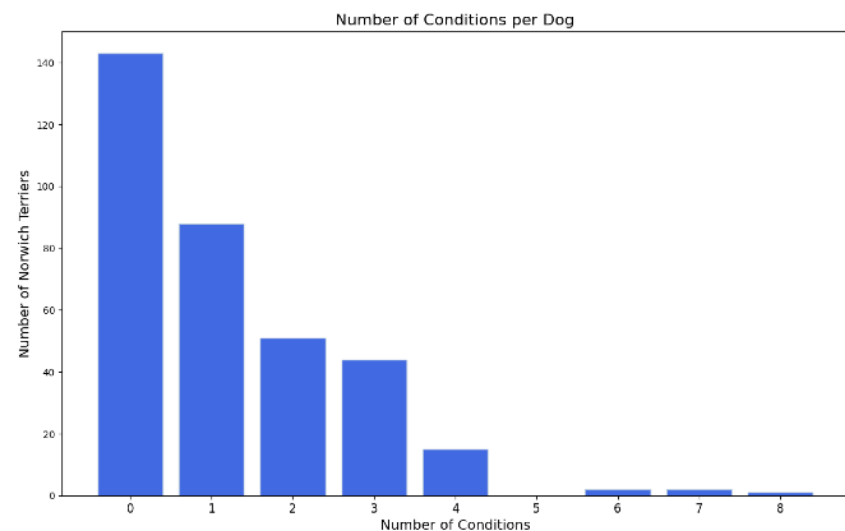
Of the all-male households, there was 1 respondent who owned 2 males, and 2 who owned 3 but this was the highest number of male Norwiches under any single owner, other than the 24-Norwich household mentioned above.

Number of Conditions

The most positive result of the Survey concerns the number of conditions found in each Norwich Terrier: in 143 cases (31% of all dogs accounted for), there were none of the listed conditions present or diagnosed.

Overall, the average number of conditions

reported was 1.27 each (so for every 4 Norwich Terriers, we can expect to see 5 of the listed conditions), with one unlucky dog having encountered or been diagnosed with no fewer than 8 conditions.



There is little to suggest any links between the various conditions in the Survey, but should any links be suspected in future, the Club can look back at the data as needed.

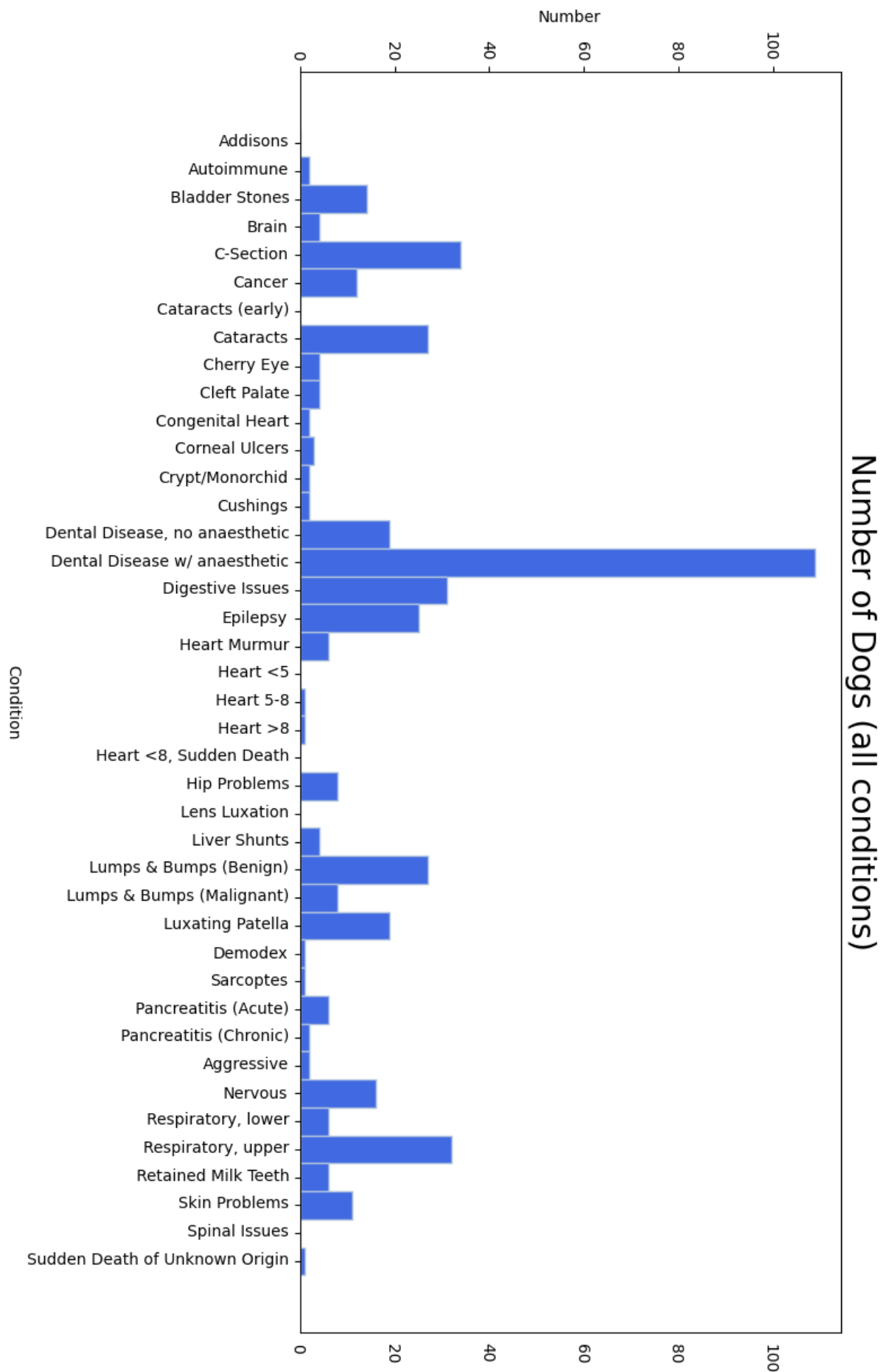


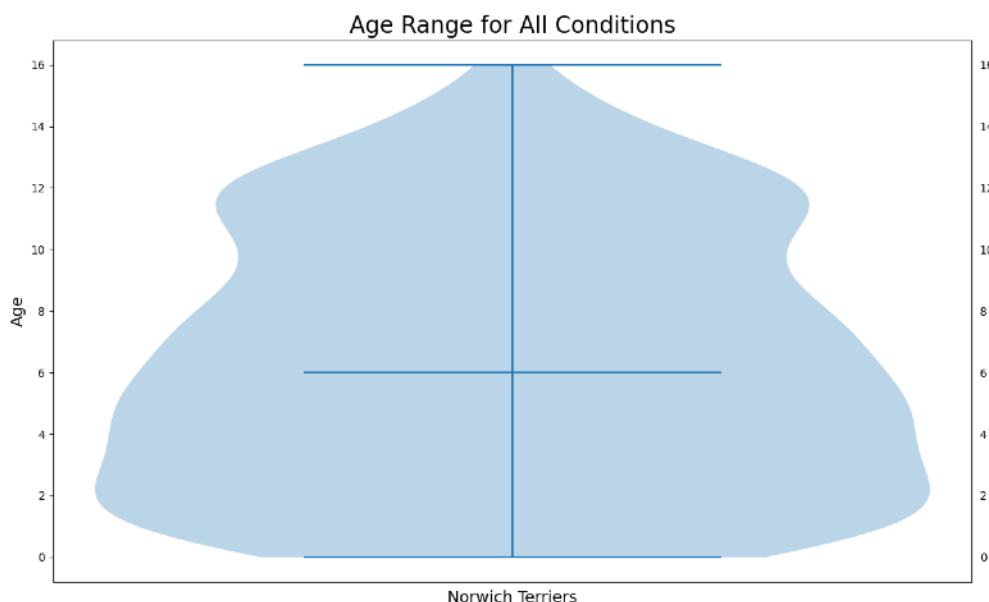
Figure 1: A bar chart showing the prevalence of all listed conditions in the Survey. Larger bars indicate more cases; more details are available in Appendix 1

Ages for Conditions

One other piece of information we can glean from the Survey results, is the ages each condition is most likely, the most common ages to encounter issues, and the likelihood of developing issues in a given lifestage.

Overall, we saw 43 conditions reported in puppies (those under 1 year of age), 236 conditions in adult dogs aged between 1 and 7, and 166 conditions in those aged 8 or over.

The graph to the right shows the prevalence of any of the listed issues and conditions at a given age. We can see, for instance, that the most common age to encounter an issue is 2 years old, although except for dips around ages



9-10 and over 14, the likelihood of developing some form of ailment seems fairly consistent throughout the lifespan. The median age for developing any of the listed conditions is represented by the line in the middle, at just under 6 years of age.

Lower prevalence in early years and towards the upper end of the range is to be expected, but the definite dip in cases in the middle is curious.

Splitting the results by individual condition, as in *Fig. 2* on the following page, gives us a better idea of which conditions are most likely at each point in the Norwich Terrier's lifespan. You may note that some conditions don't have a graph associated with them - this is because they saw no reports within the Survey. Others have just a single line or a very small block, indicating a small number of cases, all closely grouped in age at diagnosis (e.g. Autoimmune conditions).

Of those with a wider age spread, some were evenly spread across the spectrum (aggressive behaviour), while others were more heavily weighted to the younger (digestive issues) or elder (malignant lumps & bumps) end of the scale.

We can see, for instance, that conditions like cancer and corneal ulcers occur almost exclusively between 2 ages, and are fairly consistently diagnosed across that range.

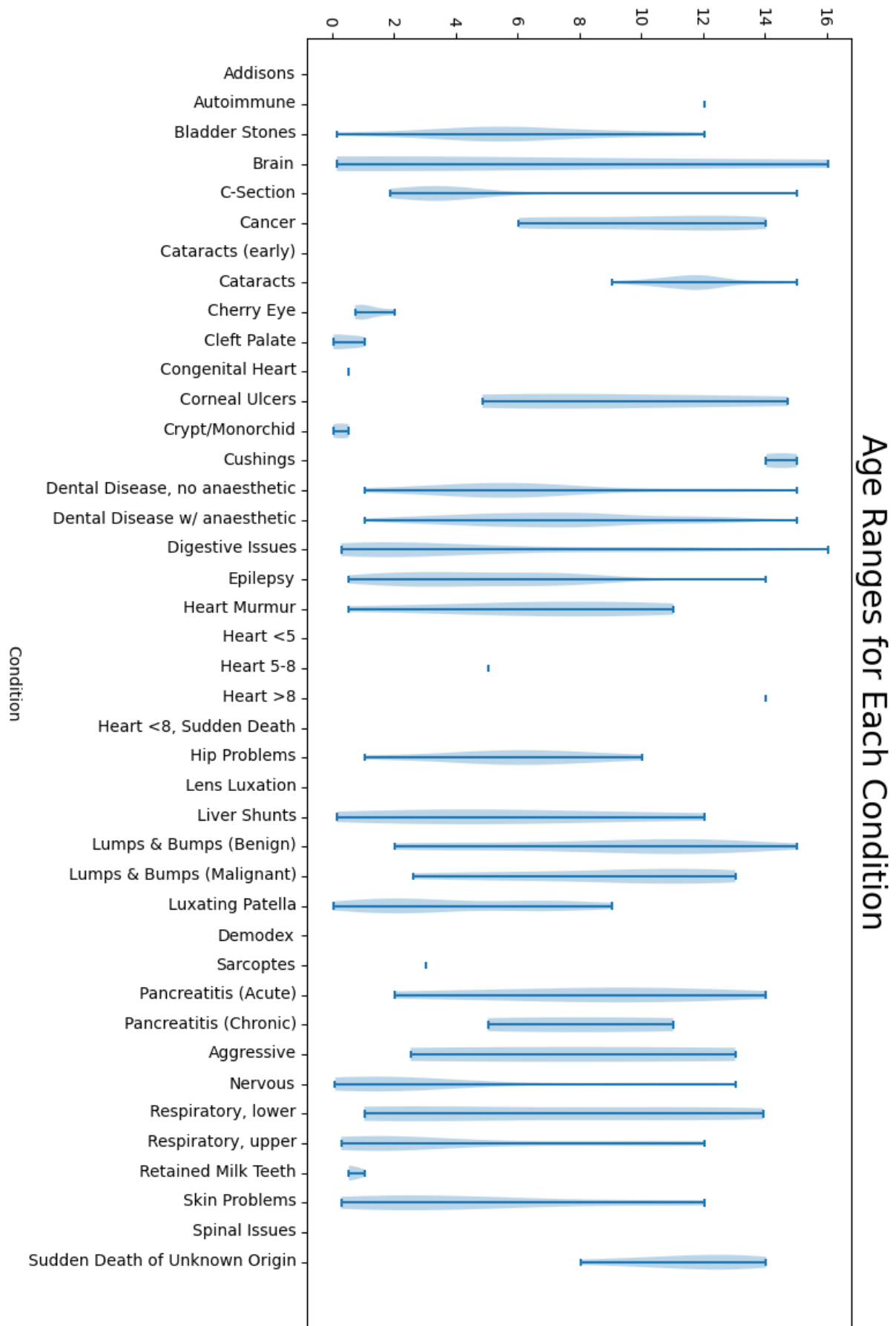


Figure 2: Violin graph showing the age spread of every condition in the Survey: the lines top and bottom show the upper and lower age limits, the middle shows the median age, and the shaded area indicates the spread - wider areas indicate more cases

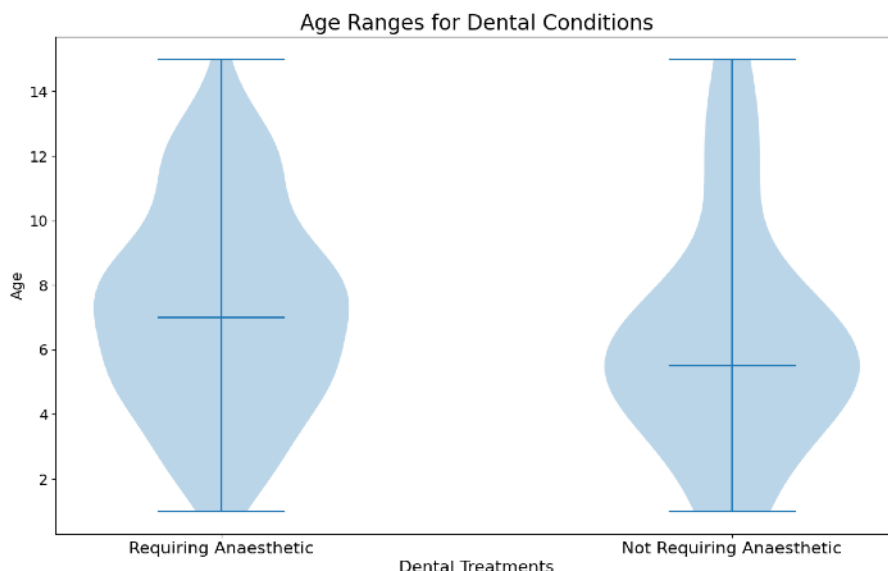
Conditions of Concern

According to the Kennel Club's Norwich Terrier Breed Health Evidence Base², there are 2 major conditions affecting the Norwich Terrier: Norwich Terrier Upper Airways Syndrome (UAS); and Canine Epileptic Cramping Syndrome (CECS). As a result, we might expect to see these two conditions appear more often than any others, however a quick glance at the graph in *Fig.1* shows that this isn't the case. In order of prevalence, the most common conditions we found were: dental treatment requiring an anaesthetic; caesarian-sections; upper respiratory tract conditions; digestive tract issues; cataracts; benign lumps and bumps; and then epilepsy. These were the only 7 conditions to affect more than 5% (or one-in-twenty) of the Norwich Terriers included in the Survey.

Dental treatment requiring an anaesthetic to treat

As mentioned a few times already, by far and away the most common condition reported was dental issues that required an anaesthetic to treat, with 109 cases affecting 94 dogs in total (15 cases were repeat treatments).

The average age for needing dental treatment was 7 years and 3 months old, with the youngest being just 1 year old (unfortunately, no further information was provided as to what treatment was needed), and the eldest 15. The graph to the right shows that dental issues appear less common in the first 3 years of life, though they are still present, and it seems that from age 6 onwards dental problems are more likely to need an anaesthetic to treat.

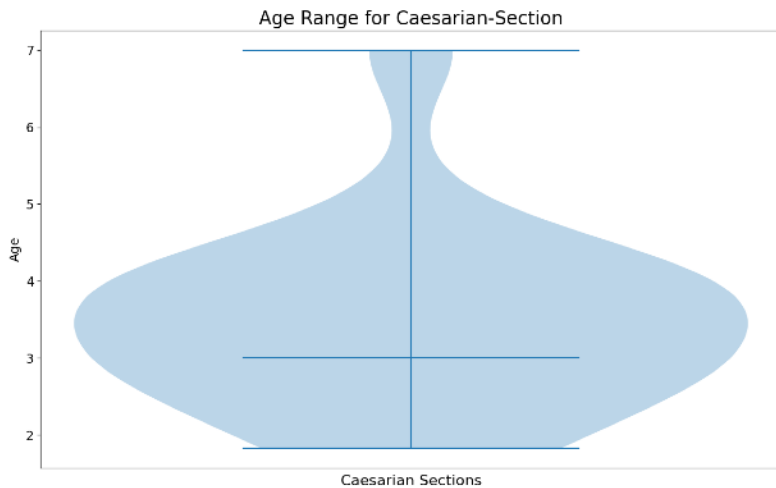


Caesarian-Section

Although there were 34 caesarians reported, this included a couple of repeat operations on the same bitches, making it level in terms of affected dogs with upper respiratory tract conditions. Of the reported reasons, the most common was large puppies, leading to puppies getting stuck in the process of the mother giving birth.

32 of the 266 females in the survey needing caesarian section(s) doesn't necessarily tell the whole story, with a reasonable portion of the population likely to be pets and therefore not bred. Given the most common reason was puppy size not allowing for natural births, this may be something for the Club to discuss going forward.

The average age for caesarian was 3 years and 10 months, with the youngest being just under 2, and the eldest 7 years of age. One respondent gave an age



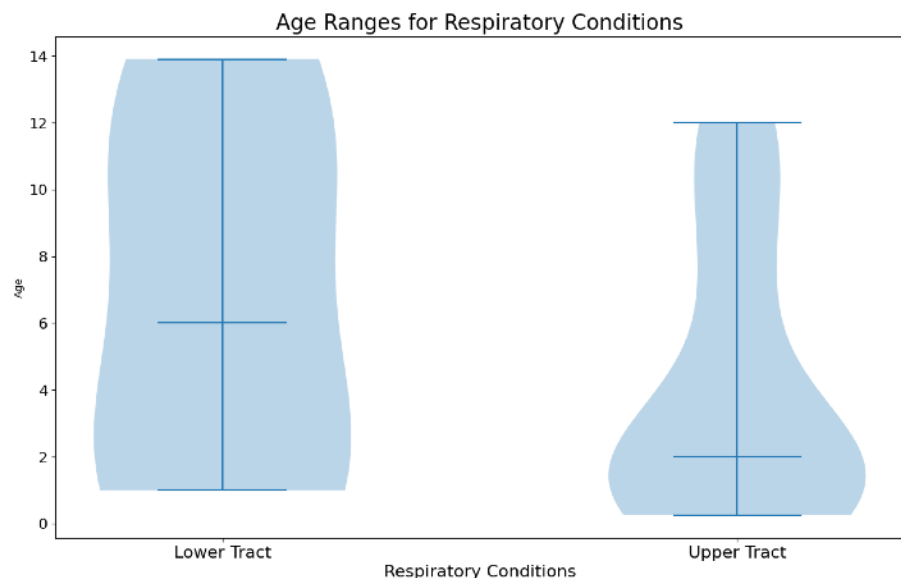
of 15, but with no further details this seems unlikely to be correct so has been excluded. As we can see from the graph to the left, the vast majority of caesarians are between the ages of 2 and 5, with far fewer after this age. As this range represents the prime breeding age, this is in line with expectations.

Conditions of the upper respiratory tract

The joint second-most common condition in our study was the relatively broad 'Conditions of the upper respiratory tract', with 32 reported cases, meaning it affected approximately 7% of the dogs in the survey.

The most reported issue specifically named in the responses was collapsing trachea, but this was still only 4 Norwiches (<1%), followed by 'upper airways syndrome' and 'Norwich Terrier upper airways syndrome' with a total of 3.

A further 9 responses described symptoms which

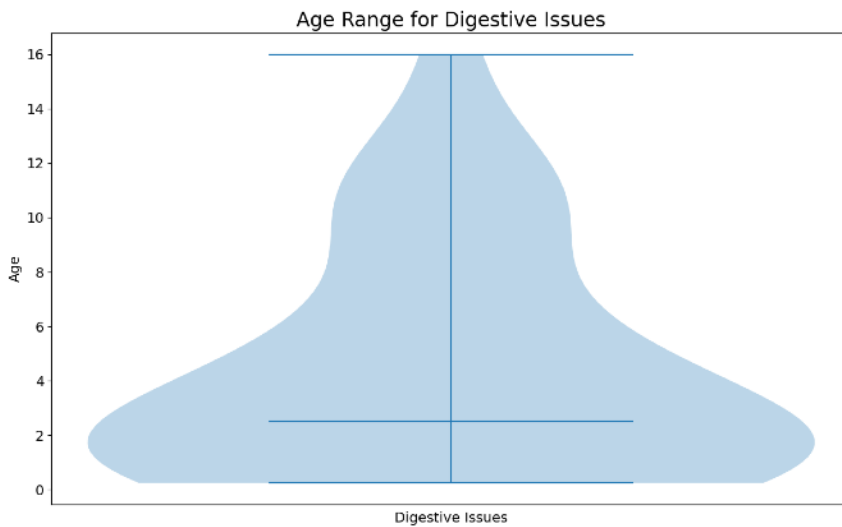


could conceivably fall under this umbrella - although similar to brachycephalic obstructive airways syndrome (BOAS) found in breeds like the Bulldog and French Bulldog, UAS is currently considered a unique condition found only in the Norwich Terrier (as of 2021³), but given it was only recently designated a breed-specific condition this may explain the current low number of diagnoses. With the Kennel Club highlighting this as a particular problem area within the breed (requesting show judges pay special attention to 'dogs showing respiratory distress including difficulty in breathing or laboured breathing'⁴), this remains a condition of concern, but we would perhaps have expected to find more diagnoses of UAS. Even including all of those who described symptoms similar but who were not specifically diagnosed with UAS, this still only takes the total to 12 out of 456 Terriers in the survey, or 2.6%.

The age of the affected dogs ranged from just 3 months of age up to 12 years, with a mean of 4 years 3 months. Diagnoses of UAS were all made by the age of 3, with the earliest confirmed diagnosis being made at 1 year old.

Digestive Tract Issues

One of a range of conditions requested to be included by the Club's Health Coordinator, this has proved a relatively common issue for Norwich Terriers over the Survey period.

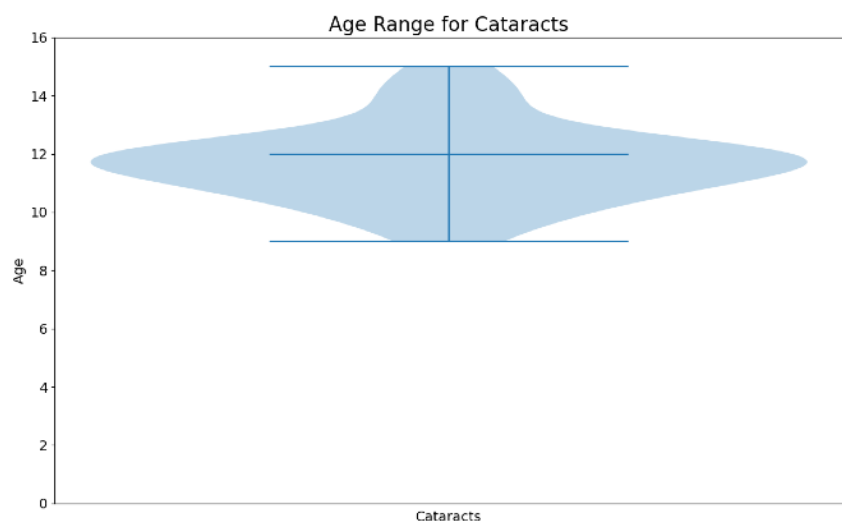


The common theme was gastroenteritis or frequent 'upset stomachs', with a couple having been diagnosed with IBS (irritable bowel syndrome) and several having specific intolerances to medications or treatments rather than day-to-day digestive issues.

The difficult part, from the Club's perspective, is that although digestive conditions can be caused by genetic factors, there are a wide range of other possible causes, ranging from environmental to diet and for some dogs (of all breeds), an unquenchable need to scavenge anything and everything they can get their mouths around. With this in mind, while the numbers involved may warrant further investigation, there may be little the Club can do beyond monitoring the situation and perhaps offering guidance and advice to new and inexperienced owners. The majority of cases being diagnosed in the first 3 years suggests that once diagnosed, these issues are better controlled, be that through medication or owner education.

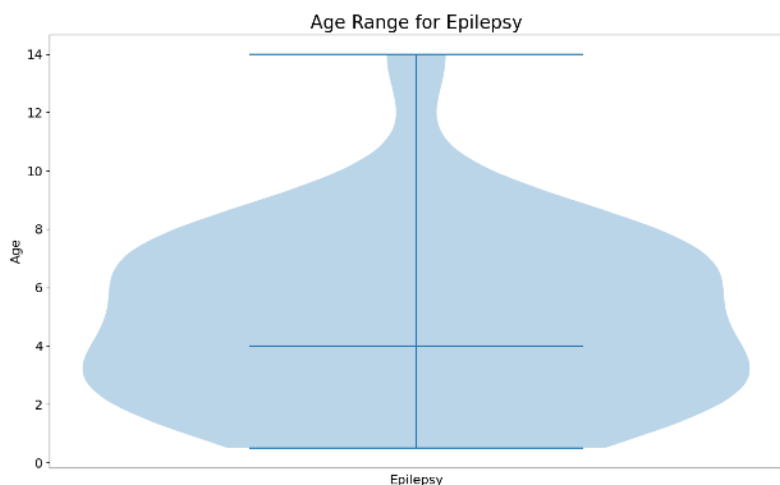
Cataracts

In a close fifth position on the list is cataracts: the good news is there were no reports of early-age cataracts, and the average age of the more usual older-age cataracts was 11 years and 8 months of age, with the youngest being aged 9 and the oldest 15, with a concentration around age 12. In total, there were 27 cases reported, representing 5.9% (or about 1 in 16) of all of the dogs in the Survey.



Epilepsy

As previously mentioned, epilepsy (or more specifically, Canine Epileptiform Cramping Syndrome (CECS) also sometimes called paroxysmal dyskinesia) is considered a major concern within the breed, second only to Upper Airways



Syndrome. In terms of severity, this may well be the case, but in terms of pure numbers, it's less prevalent than a host of other conditions. We saw 25 reported cases, representing just 5.5% of those in the Survey, putting Epilepsy as a whole as the 7th most common ailment overall. Curiously, 3 respondents said their Terrier had experienced a small number of seizures but

had not been diagnosed by their vet as being epileptic, so did not tick yes on the Survey. 4 further had no official diagnosis but ticked yes. One other did say yes, and then provided further information to say the diagnosis was incorrect. Breaking the results down, it appears 9 had CECS (6 diagnosed by a vet, 3 others suspected by owners based on symptoms); 1 suspected reaction to ingestion of toxic substance; 1 case of idiopathic epilepsy (i.e. the cause is unknown); and the rest range from an occasional seizure to several, more regular seizures.

As can be seen, age at diagnosis ranges from puppies to 14 years of age, with most cases coming between ages 1 and 8, and an average age of just under 5.

Conditions with No Reported Cases

Having sifted through the data to find all of the above results, it is pleasing to see that there were also several conditions which did not appear at all in the responses to the Survey: Addison's Disease; early age cataracts (as can be seen from the cataracts graph, all of the cases were from age 9 onwards); heart conditions before the age of 5; heart conditions diagnosed after the age of 8 leading to sudden death; lens luxation; and spinal conditions.

Conditions with Few Reported Cases

Not completely absent, but present only in very rare cases, the following conditions are of least concern within the breed, according to this Survey: Autoimmune conditions, congenital heart conditions, cryptorchid/monorchidism, Cushing's disease, and aggressive temperament saw 2 reports each; while heart conditions between 5 & 8, heart conditions over the age of 8, both forms of mange (demodectic and sarcoptic), and sudden death of unknown origin each saw a single reported case.

Comparisons with the Norfolk Terrier

With little previous breed-specific data to directly compare to, the most obvious benchmark is the closely-related Norfolk Terrier.

Until relatively recently (in breed terms) being classed as a single breed, the expectation would be that both breeds would show similar prevalence in the various diseases and conditions. As has already been mentioned, curiously, this doesn't appear to be the case.

More common in the Norfolk Terrier

Shown in light blue on the following graph (*Fig. 3*) are the conditions included in this Survey which proved more common in the Norfolk Terrier, according to the results of the Norfolk Terrier Club Health Survey 2020¹. As can be seen, there are 21 such conditions, precisely half of all listed conditions

Heart conditions appeared top of the list in both recent Norfolk Terrier surveys (2015 and 2020), but are conspicuous by their (almost complete) absence in this Survey. With fairly similar numbers responding to both this Survey and the 2020 Norfolk equivalent, we would certainly expect to see at least some resemblance in the numbers.

Considering all heart conditions as a single unit, only 8 Norwich Terriers - representing just 1.7%, or approximately 1 in 60 - were reported as having been diagnosed, in contrast to 21.5% (144 dogs total, more than 1 in 5) Norfolk Terriers at last check.

Cancer is also more common (by about 3.5% of the total respondents) in the Norfolk Terrier, while the less-specific 'lumps & bumps' saw relatively similar (and equally low) numbers.

Corneal Ulcers were more common by a factor of 5, but this still represented only 3.4% of all the Norfolk Terriers involved.

More common in the Norwich Terrier

Shown on *Fig. 3* on the following page in dark blue, these conditions were more common in the Norwich Terrier than in the Norfolk Terrier. Of the total 42 conditions listed, this accounts for 9 (there are a further 12 which were essentially equally prevalent in both breeds, including those with no cases in either)

Dental Disease (combining both those requiring anaesthetic and those treated without, as these were not separated in the Norfolk Terrier Survey) showed a difference of over 10%, with just over a quarter of all Norwich Terriers affected compared to approximately one-in-six Norfolk Terriers.

Epilepsy was the next biggest difference, with approximately 5% of Norwich Terriers being diagnosed, against just over 1% of Norfolk Terriers.

The obvious question is why the difference? Unfortunately, the data we've collected through this survey doesn't give any clues to the answer. We can say only what conditions are and aren't currently affecting the breed as a whole, and while we could make guesses as to the reasons they would only be based on assumptions and generalisations. Perhaps not overly helpful, but certainly something the 2 Clubs may consider investigating further to help ensure the health of both breeds going forward.

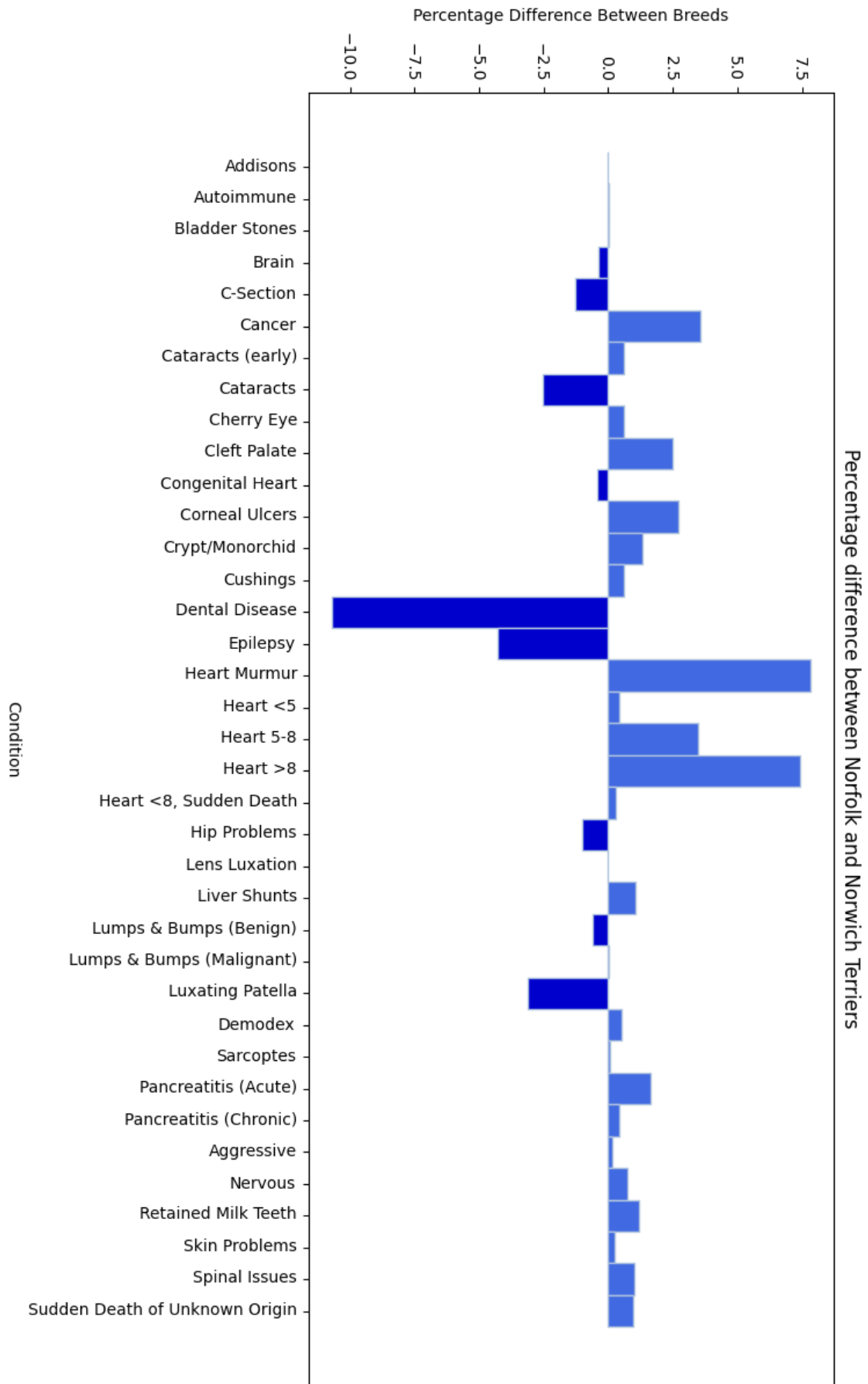


Figure 3: A bar chart showing the differences in prevalence between the Norwich Terrier and its close relative the Norfolk Terrier. Positive values indicate the condition is more common in the Norfolk Terrier, while negative values indicate the condition is more common in the Norwich Terrier

Conclusions

Again, I would first like to say a big thank you to all who took part, including those who sadly no longer have Norwich Terriers in their households, and those breeders with numerous Terriers who provided details of each and every one; every response we received helped provide a more accurate set of data.

As a relatively uncommon breed, the Survey is likely to draw a fairly representative picture of the general health, but beyond this we can't infer too much. Given the numbers in the Survey, hard and fast conclusions are difficult to draw, and the reasons and causes behind the various conditions (or lack of) cannot unfortunately be surmised, but the main purpose behind the Survey is to highlight common issues and point the way for any further investigation or research, and from this aspect it has proved very useful and interesting.

As mentioned earlier in this report, the overall trend of the Survey results is that the Norwich Terrier as a breed is healthy and generally unaffected by many of the most common canine diseases and conditions. There are areas of slight concern, especially the dental and digestive issues, and conditions worth monitoring such as the respiratory tract conditions but none appear to be of immediate concern based on the responses received. It is likely the Survey will be repeated in the future (the Norfolk Terrier Survey runs every 5 years at current), at which point the Club can use the data gathered this time around to form a basis for the next set of responses.

Perhaps frustratingly for owners and breeders, there is no single age where conditions become more prevalent than another, and there appears to be a number of conditions relatively common at any given age. There is the curious dip in conditions diagnosed between 9 and 10 years of age, but this may just be a quirk of the data rather than any specific trend.

The most interesting takeaway was the relative lack of heart conditions when compared with the close cousin, the Norfolk Terrier. Until the middle of last century considered two variations of the same breed, somewhere in the deviation a handful of conditions have snuck in. Further, much more in-depth and technical, research would be necessary to determine how much of this is genetic, and whether comparing and contrasting the two breeds' genes could help improve the overall health of either, but this Survey is nonetheless useful in identifying potential trends.

The Survey also provided information on conditions that don't appear to affect the breed, and as such allow the Club to focus their attention and effort on investigating the conditions that saw more reports.

It was a pleasure to analyse the data on behalf of the Club, and I hope the information collected will help to maintain the overall health, as well as the reputation of the breed.

Richard Harle BSc(Hons)

References

¹The Norfolk Terrier Club of Great Britain Health Survey 2019/20, <https://www.norfolkterrierclub.co.uk/Survey1920>

²The Kennel Club Dog Health Breed Health & Conservation, Norwich Terrier Evidence Base, <https://www.norwichterrierclub.co.uk/wp-content/uploads/2022/04/The-Kennel-Club-Dog-Health-Breed-Health-and-Conservation-Plan-Norwich-Terrier.pdf>

³Johnson et al., 2021, Results of owner questionnaires describing long-term outcome in Norwich terriers with upper airway syndrome: 2011- 2018. *Journal of Veterinary Internal Medicine*: 1-7

⁴The Kennel Club Breed Watch, <https://www.thekennelclub.org.uk/events-and-activities/dog-showing/judging-dog-shows/breed-watch/norwich-terrier-category-2/>

Appendix 1

Prevalence of all conditions in the 2022 Norwich Terrier Health Survey UK, conditions affecting 5% or more of those in the survey highlighted in pale red

Condition	Number Affected /Diagnosed	Percentage of Respondents
Addison's	0	0.00%
Autoimmune	2	0.44%
Bladder Stones	12	2.63%
Brain Diseases	3	0.66%
C-Section	34	7.46%
Cancer	12	2.63%
Cataracts (Early)	0	0.00%
Cataracts	27	5.92%
Cherry Eye	4	0.88%
Cleft Palate	4	0.88%
Congenital Heart	2	0.44%
Corneal Ulcers	3	0.66%
Crypt/Monorchid	2	0.44%
Cushing's	2	0.44%
Dental Disease, no anaesthetic	19	4.17%
Dental Disease, anaesthetic req'd	109	23.90%
Digestive Tract Issues	31	6.80%
Epilepsy	25	5.48%
Murmur	6	1.32%
Heart <5	0	0.00%
Heart 5-8	1	0.22%
Heart >8	1	0.22%
Heart <8, Sudden Death	0	0.00%
Hip Problems	8	1.75%
Lens Luxation	0	0.00%
Liver Shunts	4	0.88%
Lumps & Bumps (Benign)	27	5.92%
Lumps & Bumps (Malignant)	8	1.75%
Luxating Patella	19	4.17%
Mange (Demodex)	1	0.22%
Mange (Sarcoptes)	1	0.22%
Pancreatitis (Acute)	6	1.32%
Pancreatitis (Chronic)	2	0.44%
Respiratory Conditions (Lower)	6	1.32%
Respiratory Conditions (Upper)	32	7.02%
Aggressive	2	0.44%
Nervous	16	3.51%
Milk Teeth	6	1.32%
Skin	11	2.41%
Spinal	0	0.00%
SDUO	1	0.22%