

# Confidential survey of Otterhound health 2015 Report 

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Part 2: Health, husbandry and breeding


# Confidential survey of Otterhound health: Health, husbandry and breeding 

## Introduction

In 2009 a very successful international survey of Otterhound health and disease was undertaken in collaboration with the Otterhound Club and the Otterhound Club of America. In an attempt to follow the Otterhounds who took part in the survey forward through their lives, and also to try to pick up new participants who did not take part in the 2009 survey, perhaps because they had not yet been born, an ongoing survey of Otterhound health and mortality was launched in February 2011. A report on survey forms received since that date was produced in 2012. This latest report covers forms received between 2012 and the end of 2014.

## Methods

The Confidential Survey of Otterhound Health and Mortality was launched in February 2011 on the Animal Health Trust (AHT) website. A letter was sent to the Otterhound Club and the Otterhound Club of America explaining the aims of the survey and how to participate, and this was distributed to members of these clubs. On arrival at the main survey page (http://www.aht.org.uk/otterhound.html), owners were directed either to a page for hounds who were part of the 2009 survey or to a page for hounds who were not part of the 2009 survey.

The page for existing survey participants had links to several downloadable forms:

1. A form for owner and vet contact details
2. A form for new test results or health diagnoses since the 2009 survey
3. A form to indicate if the hound has been neutered or had any litters since the 2009 survey.
4. A form to indicate if their hound had sadly died since the 2009 survey (this section of the survey is reported in part 1 of this report).
A glossary of some terms was also available to download. Owners were asked either to scan in and email the completed forms to the AHT or to post paper copies - they could also request paper copies to complete if they preferred.

The page for new survey participants also had links to several downloadable forms:

1. A form for owner and vet contact details
2. A form for details of the health, husbandry and breeding history of the Otterhound in question (this was the same form as the main survey form in the 2009 survey)
3. A form to indicate if a hound which was not part of the 2009 survey had sadly died (this section of the survey is reported in part 1 of this report).
All other aspects were the same as for existing participants.
The main survey form was split into 5 sections: general information, breeding history, health testing and temperament, health problems and comments - the update forms for existing participants allowed new information to be added in terms of breeding history,

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health testing and health problems. For those Otterhounds for which update forms had been submitted, all other un-updated aspects of their management, health and breeding were assumed to be unchanged from the 2009 survey. A small number of owners submitted update forms for some of the Otterhounds they had reported owning in the 2009 survey or in 2012 but not for some of their others - if mortality forms had not been received relating to these hounds it was assumed that they were still alive and all information was as reported in 2009. This was checked if contact information had been supplied. Returned questionnaires were entered into an Excel ${ }^{\circledR}$ (Microsoft) spreadsheet for analysis.

For those closed-ended questions that had a list of possibly responses that the respondents chose one or more choices from, the results are reported as frequency ( N ) of responses reported as is appropriate for categorical variables. Where descriptive statistics are used to report the 'average' and 'range' of values for questions with continuous responses such as age at neutering, we have reported mean (arithmetic average), minimum and maximum as appropriate for normally distributed results and as median (minimum - maximum) as appropriate for skewed results. The median value is the value where $50 \%$ of the values are above it and $50 \%$ are below it, and it is a better representation of the 'average', particularly when the data are skewed. This occurs when the majority of responses are clustered closer to one end of the range and there are a few outlying responses at the other end of the range and this pulls the mean value towards these outliers (extreme values); the median is less dependent on extreme values. With a symmetrical distribution of responses, the median would be the same as the mean.

The survey results are presented for the 35 questions in 4 sections. For some of the tables, N refers to the number of responses recorded and the numbers in one column will add up to more than the total number of respondents who answered the question when multiple responses were allowed. In these situations, the total $\%$ of responses will also add up to more than $100 \%$ and are not reported. Where N is the number of respondents, the totals will add up to 54 respondents.

## Results

## Section A. General information

Forms were received for 30 new Otterhounds. An additional 10 update forms relating to Otterhounds which had been part of the 2009 World Health Survey were received, 8 forms relating to Otterhounds which had been part of the 2012 survey update and 6 Otterhounds which were assumed to still be alive belonging to owners reporting on other hounds, to give a total of 54 Otterhounds. Considering the 30 Otterhounds which had not been part of the previous surveys, 22 belonged to owners which had not taken part in the 2009 survey with the remaining 8 hounds belonging to owners who had participated in the 2009 survey with other Otterhounds. The 54 Otterhounds in the survey at this point belong to 31 owners.

Looking back at the 2009 World Health Survey, forms were received about 347 live hounds. Since then, 49 of these Otterhounds have been reported to have died, updates were received for 18 hounds (since 2012) and 6 were assumed to be alive. This means that the current status of 274 ( $79 \%$ ) of hounds which were part of the 2009 World Health Survey is unknown.

Q4. Registered with...

| Registered with | N | $\%$ |
| :--- | ---: | ---: |
| AKC | 24 | 44.4 |
| UK KC | 23 | 42.6 |
| UK KC \& Dutch KC | 2 | 3.7 |
| Blank | 5 | 9.3 |
| Total | 54 | 100 |

## Q6. How old is this hound?

The median age of the live hounds was 3 years and 11 months (minimum 4 months maximum 11 years and 8 months).


Figure 1: Histogram showing frequency (number of hounds) of age in years for the 54 live Otterhounds

## Q6c. How long have you owned this hound?

Data regarding how long the hound had been owned were available for 53 hounds. The median time was 2 years and 5 months ( 2 months -11 years 4 months).


Figure 2: Histogram showing frequency (number of hounds) of length of ownership (in years) for the 53 live Otterhounds with this reported.

## Q7. What is this hound's coat colour?

| Coat colour | N | $\%$ |
| :--- | ---: | ---: |
| Black \& tan | 37 | 68.5 |
| Liver \& tan | 5 | 9.3 |
| Red grizzle | 5 | 9.3 |
| Particolour | 3 | 5.6 |
| Brown \& grizzle | 2 | 3.7 |
| Grizzle | 1 | 1.9 |
| Tan \& white | 1 | 1.9 |
| Total | 54 | 100 |

Q8. Where was this hound born?

| Location born | N | $\%$ |
| :--- | ---: | ---: |
| USA | 24 | 44.4 |
| UK | 19 | 35.2 |
| Germany | 4 | 7.4 |
| The Netherlands | 3 | 5.6 |
| Czech Republic | 3 | 5.6 |
| Finland | 1 | 1.9 |
| Total | 54 | 100 |

Q9. Where does this hound live now?

| Location lives | N | $\%$ |
| :--- | ---: | ---: |
| USA | 23 | 42.6 |
| UK | 16 | 29.6 |
| Germany | 6 | 11.1 |
| France | 4 | 7.4 |
| Sweden | 3 | 5.6 |
| Austria | 1 | 1.9 |
| Canada | 1 | 1.9 |
| Total | 54 | 100 |

Some 16 hounds ( $30 \%$ ) were reported to live in a country other than that of their birth. Three hounds born in The Netherlands had been exported to the UK. Three hounds born in the Czech Republic had been exported to France. Three hounds from the UK had also been exported, with two going to Germany and one to the USA. Four hounds born in the UK had been exported, with two going to Sweden and two to Germany. In addition one hound born in the USA had been exported to Canada, one born in Germany had been exported to Austria and one hounds born in Finland had been exported to Germany.

## Q10. Is your hound involved in the following activities?

| Activities | N | $\%$ |
| :--- | ---: | ---: |
| Other combinations | 21 | 38.9 |
| Pet, showing | 12 | 22.2 |
| Pet | 11 | 20.4 |
| Pet, breeding, showing | 6 | 11.1 |
| Pet, showing, tracking | 3 | 5.6 |
| Not specified | 1 | 1.9 |
| Total number of dogs | 54 | 100 |


| Activity | N | \% of hounds with activity reported |
| :--- | ---: | ---: |
| Pet | 45 | 83.3 |
| Showing | 34 | 63,0 |
| Breeding | 16 | 29.6 |
| Tracking | 9 | 16.7 |
| Agility | 7 | 13.0 |
| Working | 6 | 11.1 |
| Obedience | 4 | 7.4 |
| Search \& rescue | 4 | 7.4 |
| Therapy | 3 | 5.6 |
| Rally | 2 | 3.7 |
| Other activity (hunting, scent detection) | 2 | 3.7 |
| Total responses for 54 dogs | 132 |  |

## Q11. Where does this hound spend the majority of its time?

In order to deal with the multiple answers provided, the answers were recoded into new categories.

| Time spent | N | $\%$ |
| :--- | ---: | ---: |
| Inside free | 25 | 46.3 |
| Inside \& outside | 16 | 29.6 |
| Outside in kennel for sleep | 5 | 9.3 |
| Inside room | 3 | 5.6 |
| Run | 3 | 5.6 |
| In pack kennels | 1 | 1.85 |
| Inside free or at work with owner | 1 | 1.85 |
| Total | 54 | 100 |

## Q12. At what age did you stop feeding puppy food?

The age at which the owner stopped feeding the hound puppy food was provided for 46 hounds ( $85 \%$ ). The median age was 10 months ( 2 months -18 months), but interestingly the distribution is bimodal - that is to say that there are 2 "peaks", with the majority of owners either stopping puppy food at 6 months or at 1 year. The question was left blank for one hound. Of the remaining hounds, one was still being fed puppy food and six had not been owned by the current owner when they were young.


Figure 4: Histogram showing frequency (number of hounds) of age at which the owner stopped feeding puppy food (in months) for the 46 Otterhounds with this reported.

## Q13. What kind of food do you currently feed this hound?

Just over a quarter of owners reported feeding dry dog food only and 89\% reported feeding dry dog food in combination with other food.

| Type of food | N | $\%$ |
| :--- | ---: | ---: |
| Dry | 48 | 88.9 |
| Wet (tins/pouches) | 23 | 40.3 |
| Raw | 15 | 27.8 |
| Other ${ }^{1}$ | 10 | 18.5 |
| Table scraps | 9 | 16.7 |
| Home-prepared | 1 | 1.9 |
| Total number of responses for 54 hounds | 106 |  |

[^0]| Type of food fed | N | $\%$ |
| :--- | ---: | ---: |
| Dry dog food | 14 | 25.9 |
| Dry + wet dog food | 10 | 18.5 |
| Dry + wet + table scraps | 6 | 11.1 |
| Raw meat | 4 | 7.4 |
| Dry + other type of food | 3 | 5.6 |
| Dry + raw meat | 3 | 5.6 |
| Dry + raw meat + other type of food | 3 | 5.6 |
| Dry + wet dog food + raw meat | 3 | 5.6 |
| Dry + wet dog food + other type of food | 3 | 5.6 |
| Dry + home prepared food | 1 | 1.9 |
| Dry + table scraps | 1 | 1.9 |
| Dry + table scraps + raw meat + other type of food | 1 | 1.9 |
| Raw meat + other food | 1 | 1.9 |
| Wet dog food + raw meat | 1 | 1.9 |
| Total | 54 | 100 |

## Q14. How frequently do you feed this hound?

The majority of hounds were reported to be fed twice a day.

| Feeding frequency | N | $\%$ |
| :--- | ---: | ---: |
| Once a day | 4 | 7.4 |
| Twice a day | 47 | 87.0 |
| Three times a day | 3 | 5.6 |
| Total | 54 | 100 |

## Q15. Please body condition score this hound:

The majority of hounds were reported to have an ideal body condition score, and no hounds were reported to be very overweight or obese.

| Body Condition Score | N | $\%$ |
| :--- | ---: | ---: |
| 1 - very thin or emaciated | 1 | 1.9 |
| 2 - thin | 7 | 13.0 |
| - ideal | 44 | 81.5 |
| 4 - overweight | 2 | 3.7 |
| 5 - very overweight or obese | 0 | 0 |
| Total | 54 | 100 |

## Q16. Has this hound ever shown coprophagia (stool eating)?

| Coprophagia | N | $\%$ |
| :--- | ---: | ---: |
| No | 24 | 44.4 |
| Yes, their own | 6 | 11.1 |
| Yes, their own \& other dogs' | 2 | 3.7 |
| Yes, their own \& other species' | 7 | 13.0 |
| Yes, their own \& other dogs' \& other species' | 7 | 13.0 |
| Yes, other dogs' | 4 | 7.4 |
| Yes, other species' | 4 | 7.4 |
| Total | 72 | 100 |

More than half of hounds were reported to show coprophagia.

## Q17. How many Otterhounds do you own including this hound?

The median number of Otterhounds per owner was 2 (1-6).

## Q18. How many dogs other than Otterhounds do you own?

The median number of dogs of other breeds owned was $0(0-7)$.


Photo courtesy Mr. \& Mrs. M. Gordon

Section B. Breeding history

## Q19. What sex is this hound?

More than half (61\%) of the Otterhounds were male (33) and 39\% were female (21).

## Q20. Is this hound neutered? (spayed or castrated)

A total of 50 hounds were intact, 22 had been neutered; similar proportions of females (29\%) and males (21\%) had been neutered.

| Gender | Intact | Neutered | Unspecified | Total |
| :---: | :---: | :---: | :---: | :---: |
| Female | 15 | 6 | 0 | 21 (38.9\%) |
| Male | 26 | 7 | 0 | 33 (61.1\%) |
| Total | 41 (75.9\%) | 13 (24.1\%) | 0 | 54 (100\%) |

## Q21. How old was this hound at neutering?

Median age at neutering was 2 years and 5 months (minimum 4 months, maximum 11 years 4 months).

## Q22. Why was this hound neutered?

| Reason for neutering | N | $\%$ |
| :--- | ---: | ---: |
| Finished breeding | 4 | 30.8 |
| Cryptorchid | 3 | 23.1 |
| Didn't want puppies | 2 | 15.4 |
| False pregnancies | 1 | 7.7 |
| Vet recommended | 1 | 7.7 |
| Pulmonic stenosis | 1 | 7.7 |
| Infertile | 1 | 7.7 |
| Adoption policy | 1 | 7.7 |
| Total responses for 22 neutered dogs | 13 | 100 |

Q23. If female, how old was this bitch at first season?
The age at first season was provided for 20 bitches with a median age at first season of 1 year and 1 month ( 9 months - 1 year and 7 months). One owner had not owned their hound when young so did not know.


Figure 8: Histogram showing frequency (number of bitches) of age at first season (in years) for 20 Otterhounds with age at first season reported.

Q24. Has this hound been bred?

| Breeding status | N | $\%$ |
| :--- | :--- | :--- |
| No | 39 | 72.2 |
| Yes | 15 | 27.8 |
| Total | 54 | 100 |

## Q25. How many litters has this hound sired or given birth to?

Ten bitches (48\%) and five dogs (15\%) had been bred. Considering the 13 bitches which had been bred, seven (70\%) had only had one litter of puppies and three (30\%) bitches had had two litters. In comparison, one (20\%) dog had sired one litter of puppies, three dogs (60\%) had sired two litters and one (20\%) dog had sired three litters of puppies.

| Number of litters | N | $\%$ |
| :--- | :--- | :--- |
| 1 | 8 | 53.3 |
| 2 | 6 | 40.0 |
| 3 | 1 | 6.7 |
| Total | 15 | 100 |

## Q26. Please complete the following table as fully as possible for the litters this hound has had.

A total of 15 litters were reported, born to 10 bitches. Litters reported as sired were excluded from the analysis to avoid counting the same litter more than once. Median number of pups per litter was 7 (1-12), and these figures were the same for the number of pups successfully reared per litter. Three litters (26\%) were delivered (in whole or in part) by caesarean section.

|  | Total pups born | Total pups successfully reared | Number of puppies born naturally |  |  |  | Number of puppies born by caesarean section |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Dead | Alive | Died in $1^{\text {st }}$ 24 <br> hours | Died in $1^{\text {st }} 4$ weeks | Dead | Alive | $\begin{aligned} & \text { Died } \\ & \text { in } 1^{\text {st }} \\ & 24 \\ & \text { hours } \\ & \hline \end{aligned}$ | Died in $1^{\text {st }} 4$ weeks |
| Minimum | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maximum | 12 | 12 | 1 | 11 | 2 | 0 | 0 | 10 | 0 | 0 |
| Median | 7 | 7 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 100 | 96 | 2 | 72 | 2 | 0 | 0 | 24 | 0 | 0 |



Figure 9: Histogram showing frequency (number of litters) of litter size for 19 litters of Otterhounds

## Section C. Health testing and temperament

## Q27. Has this hound ever had any health screening tests?

A total of $32(59.3 \%)$ hounds were reported to have had health screening tests, 21 (38.9\%) hounds were reported not to have had any health screening tests and the owner of one hound did not know if they had had health tests or not.

## Hip scores

Some 31 hounds (57\%) had had their hips scored - 15 in the US, 14 in the UK, one in Canada and one in Sweden.

Canada - one hound was reported to have been tested and was described as clear. Sweden - 1 hound was reported to have been tested, but the result was not given.

US hip scores:
All of hounds in the US were evaluated by the Orthopedic Foundation for Animals (OFA). They categorize the radiographic appearance of hip joints as normal (excellent, good, fair), borderline, and dysplastic (mild, moderate, and severe). None of the hounds' hips were categorized as excellent or severe.

| Hip grade | N | $\%$ |
| :--- | ---: | ---: |
| OFA - good | 6 | 40.0 |
| OFA - fair | 6 | 40.0 |
| OFA - mild | 2 | 13.3 |
| OFA - moderate | 1 | 6.7 |
| Total | 15 | 100 |

UK hip scores:
UK British Veterinary Association/Kennel Club (BVA/KC) hip scores: the minimum hip score is 0 , the maximum is 106 ( 53 for each hip) - the lower the score the less the degree of hip dysplasia present. Thirteen hip scores were provided, one owner was awaiting results. Median scores were: left hip 11, right hip 14, total 26 (OFA mild).

| Total hip score | OFA equivalent* | FCI equivalent | N | $\%$ |
| ---: | ---: | ---: | ---: | ---: |
| $0-4$ | Excellent | A1 | 0 | 0 |
| $5-10$ | Good | A2 | 1 | 7.7 |
| $11-18$ | Fair | B1 | 3 | 23.1 |
| $19-25$ | Borderline | B2 | 2 | 15.4 |
| $26-35$ | Mild | C | 3 | 23.1 |
| $36-50$ | Moderate | D | 0 | 0 |
| $51-106$ | Severe | E | 4 | 30.8 |
| Total |  |  | 13 | 100 |

[^1]
## Elbow scores

Twenty one hounds (39\%) had had their elbows scored - 14 in the UK, five in the US, one in Canada and one in Sweden.

Canada - the one hound which had been elbow scored in Canada was reported to have received a score of minor for each elbow, with the left elbow being less affected.

Sweden - the one hound which had been elbow scored in Sweden was reported to have received a score of zero for both elbows.

US elbow scores:

According to the OFA elbow grading system there are no grades for a normal elbow joint. Dysplastic elbows are graded as 1-3 depending on the severity of the dysplasia. All five hounds which had had their elbows scored in the US were categorized as having normal elbows.

UK elbow scores:
The UK BVA/KC elbow scoring system is similar to the OFA system. A score of zero indicates a normal elbow joint, while scores of 1-3 indicate elbow dysplasia of increasing severity. The highest grade of the two elbows is taken as the elbow score for that dog. Fourteen dogs had been elbow scored, but one owner was awaiting the results. The median left and right elbow scores were both zero for hounds tested in the UK.

UK elbow scores:

| Elbow score |  |  |  |
| :---: | :---: | :---: | :---: |
| Left | Right | N | \% |
| 0 | 0 | 6 | 46.2 |
| 0 | 1 | 5 | 38.5 |
| 1 | 0 | 1 | 7.7 |
| 2 | 2 | 1 | 7.7 |
|  | Total | 13 | 100 |

## Bleeding disorder

In the US, seven hounds were reported to have had a DNA test for thrombasthenic thrombopathia (Glanzmann's thrombasthenia). In addition, 8 hounds were reported as "clear by parentage".

| Test result | N | $\%$ |  |
| :--- | :--- | ---: | ---: |
| Clear | 5 | 71.4 |  |
| Carrier | 2 | 28.6 |  |
| Total | 7 | 100 |  |

## Other tests

Two hounds had undergone other health tests. Both hounds had undergone the Kennel Club/British Veterinary Association/International Sheep Dog Society Eye Examination Scheme test in the UK, and their eyes were categorized as normal.

Q29. In new situations this hound will usually...

| In new situations this hound will usually... | N | $\%$ |
| :--- | ---: | ---: |
| ..investigate readily | 35 | 64.8 |
| ...be reserved but will investigate with time or encouragement | 17 | 31.5 |
| _.be timid and prefer to stay with owner and not investigate | 3 | 3.7 |
| Total | 54 | 100 |

Nearly two thirds of the hounds were reported to investigate new situations readily.

Q30. When startled by an unfamiliar object or a change in its environment this hound will usually...

| When startled, this hound will... | N | $\%$ |
| :--- | ---: | ---: |
| ..shy away and then recover quickly and investigate | 40 | 74.0 |
| ..shy away and remain uncertain for up to a month | 3 | 5.6 |
| This hound rarely startles | 11 | 20.4 |
| Total | 54 | 100 |

When faced with an unfamiliar object or a change in its environment, $94 \%$ of hounds were reported to either rarely be startled or to shy away and then recover quickly and investigate.

## Q31. Please indicate this hound's general activity level on a scale from 1 (lethargic) to 10 (hyperactive).

The median reported activity level was 6 (1-9).


Figure 10: Histogram showing frequency (number of hounds) of activity level for 54 Otterhounds.
Q32. How long does this hound sleep, on average, in a $\mathbf{2 4}$ hour period?
The median number of hours slept was 11 (5.5-17). This question was left blank on 1 form.


Figure 11: Histogram showing frequency (number of hounds) of number of hours slept per day for 53 Otterhounds with this reported

## Section D. Health problems

A total of 15 (27.8\%) hounds were reported to have no health conditions, one of these had two "unsure" response. The median number of health conditions reported per hound was 1 (0-9). The most frequently reported health conditions were sebaceous cysts ( 27 cases), ear infections (12 cases) and hip dysplasia (7 cases). (Fig. 12, table D1a \& b).


Figure 12: Bar chart showing the top 14 health conditions reported in order of prevalence (\%)

Table D1a: All reported health conditions for 54 Otterhounds, with age at onset (where available).
Age at onset

| Health condition | Yes | No | Unsure | Median | Max | Min |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EYES* |  |  |  |  |  |  |
| Ectropion | 0 | 53 | 1 |  |  |  |
| Entropion | 0 | 54 | 5 |  |  |  |
| Progressive retinal atrophy | 0 | 54 | 0 |  |  |  |
| Cataracts | 1 | 54 | 0 | 5.5 |  |  |
| Other ocular condition ${ }^{1}$ | 2 | 52 | 0 | 1.79 | 3.5 | 0.08 |
| EARS* |  |  |  |  |  |  |
| Ear infections | 12 | 42 | 0 | 2.32 | 11 | 0.33 |
| Deafness | 0 | 54 | 0 |  |  |  |
| Other ear condition ${ }^{2}$ | 1 | 53 | 0 | 7.33 |  |  |
| ORAL \& DENTAL* |  |  |  |  |  |  |
| Undershot jaw | 4 | 50 | 0 |  |  |  |
| Overshot jaw | 0 | 54 | 0 |  |  |  |
| Wry jaw | 1 | 53 | 0 |  |  |  |
| Missing teeth | 0 | 54 | 0 |  |  |  |
| Other oral condition ${ }^{3}$ | 4 | 50 | 0 | 4.73 | 8.5 | 0 |
| DIGESTIVE* |  |  |  |  |  |  |
| Bloat/GDV | 0 | 54 | 0 |  |  |  |
| Gastroenteritis | 2 | 52 | 5 | 1.92 | 3.66 | 0.17 |
| Colitis | 2 | 52 | 6 | 5.75 | 10.33 | 3.17 |
| Inflammatory bowel disease | 0 | 54 | 0 |  |  |  |
| Pancreatitis | 0 | 54 | 0 |  |  |  |
| Other GI condition ${ }^{4}$ | 4 | 50 | 0 | 9 |  |  |
| CARDIOVASCULAR* |  |  |  |  |  |  |
| Heart disease ${ }^{5}$ | 2 | 52 | 0 |  |  |  |
| Thrombasthenic thrombopathia | 0 | 54 | 0 |  |  |  |
| Von Willebrand's disease | 0 | 54 | 0 |  |  |  |
| RESPIRATORY* |  |  |  |  |  |  |
| Respiratory disease | 0 | 54 | 0 |  |  |  |
| ANAL GLANDS* |  |  |  |  |  |  |
| Anal gland condition ${ }^{6}$ | 2 | 52 | 0 | 4.25 | 5 | 3.5 |
| AUTOIMMUNE |  |  |  |  |  |  |
| Autoimmune condition | 0 | 54 | 0 |  |  |  |
| ${ }^{1}$ allergy, Horner's syndrome |  |  |  |  |  |  |
| ${ }^{2}$ aural haematoma |  |  |  |  |  |  |
| ${ }^{3} 2$ gingival hyperplasia, cleft palate, gum cyst |  |  |  |  |  |  |
| ${ }^{4} 2$ loose stools \& gas, Giardia, bleeding ulcer |  |  |  |  |  |  |
| ${ }^{5} 2$ pulmonic stenosis |  |  |  |  |  |  |
| ${ }^{6}$ unspecified, over full |  |  |  |  |  |  |

## Table D1b

| Health condition | Yes | No | Unsure | Age at onset |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Median | Max | Min |
| REPRODUCTIVE |  |  |  |  |  |  |
| Cryptorchidism (male only, 33) | 4 | 29 | 0 |  |  |  |
| Pyometra (female only, 21) | 1 | 20 | 0 |  |  |  |
| Infertility | 1 | 51 | 2 | 2.5 |  |  |
| Vaginitis (female only, 21) | 1 | 20 | 0 |  |  |  |
| Other reproductive condition ${ }^{7}$ | 2 | 52 | 0 | 3 |  |  |
| NEUROLOGICAL |  |  |  |  |  |  |
| Epilepsy (seizures) | 0 | 54 | 0 |  |  |  |
| Other neurological condition | 0 | 54 | 0 |  |  |  |
| RENAL |  |  |  |  |  |  |
| Renal or urinary condition ${ }^{8}$ | 1 | 53 | 0 | 0.92 |  |  |
| ENDOCRINE |  |  |  |  |  |  |
| Diabetes mellitus | 0 | 54 | 0 |  |  |  |
| Hypothyroidism | 2 | 67 | 0 | 3.66 | 4.82 | 2.5 |
| Addison's disease | 0 | 54 | 0 |  |  |  |
| Cushing's disease | 0 | 54 | 0 |  |  |  |
| Other endocrine condition | 0 | 54 | 0 |  |  |  |
| ORTHOPAEDIC |  |  |  |  |  |  |
| Arthritis/degenerative joint disease | 1 | 53 | 0 | 2.66 |  |  |
| Intervertebral disc disease | 0 | 54 | 0 |  |  |  |
| Hip dysplasia | 7 | 40 | 3 | 1.93 | 2.92 | 1 |
| Fragmented coronoid process | 0 | 54 | 0 |  |  |  |
| Osteochondrosis dissecans | 0 | 54 | 0 |  |  |  |
| Ununited anconeal process | 1 | 53 | 0 | 1 |  |  |
| Panosteitis | 3 | 51 | 0 | 0.72 | 1 | 0.5 |
| Other musculoskeletal condition | 0 | 54 | 0 |  |  |  |
| SKIN |  |  |  |  |  |  |
| Sebaceous cysts | 27 | 27 | 0 | 2.5 | 8.58 | 1.17 |
| Atopy/allergies | 6 | 48 | 0 | 1.92 | 2.5 | 1.33 |
| Bacterial infections | 2 | 52 | 0 | 0.33 |  |  |
| Fungal infections | 1 | 53 | 0 | 3.17 |  |  |
| Frequent hot spots | 0 | 53 | 1 |  |  |  |
| Alopecia | 1 | 53 | 0 | 4.82 |  |  |
| Other skin condition ${ }^{9}$ | 3 | 51 | 0 | 6.63 | 10.25 | 3 |
| LIVER |  |  |  |  |  |  |
| Liver disease | 0 | 54 | 0 |  |  |  |
| CANCER |  |  |  |  |  |  |
| Cancer ${ }^{10}$ | 3 | 51 | 0 | 9.63 | 10.5 | 8.75 |
| ${ }^{7}$ vaginal stricture, benign prostatic hyperplasia or prostatitis |  |  |  |  |  |  |
| ${ }^{8}$ minor urinary tract infection |  |  |  |  |  |  |
| ${ }^{9}$ calcinosis circumscripta, skin lump, self-trauma |  |  |  |  |  |  |
|  | Il, malig | nt tumour on | toe pad |  |  |  |

Q34. Which health problem do you consider to be most serious in this hound?
The top 5 conditions listed as being among the most serious affecting the individual Otterhound:

| Condition | N | $\%$ |
| :--- | ---: | ---: |
| None | 29 | 53.7 |
| Ear infections | 3 | 5.6 |
| Sebaceous cysts | 2 | 3.7 |
| Allergies | 2 | 3.7 |
| Pulmonic stenosis | 2 | 3.7 |

For a full list of all the responses, refer to the appendix.

## Q35. Which health problem do you perceive to be the most serious in Otterhounds?

The top 5 conditions listed as being among the most serious conditions in the Otterhound as a breed:

| Condition | N | $\%$ |  |
| :--- | ---: | ---: | :---: |
| Epilepsy | 37 | 68.5 |  |
| Blank | 12 | 22.2 |  |
| Cancer | 9 | 16.7 |  |
| Hip dysplasia | 6 | 11.1 |  |
| Elbow dysplasia | 5 | 9.3 |  |

For a full list of all the responses, refer to the appendix.


Photo courtesy of Mrs. J. Ashworth

## Discussion

These results show strong similarities in terms of health conditions affecting Otterhounds to those in previous surveys including the 2009 Otterhound World Health Survey and the 2012 survey update, as shown in Table D2. Sebaceous cysts and ear infections remain by far the most commonly reported health conditions in the present survey.

Table D2. Comparison of these results with 2009 Otterhound World Health Survey and 2012 survey update:

| Reported results | 2015 survey |  | 2012 survey |  | 2009 update |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | N | \% | N | \% | N | \% |
| Number of live hounds | 54 |  | 72 |  | 347 |  |
| Median age | 3.92 |  | 4.17 |  | 4.5 |  |
| 2015 Top 22 health conditions |  |  |  |  |  |  |
| Health condition | N | \% | N | \% | N | \% |
| Sebaceous cysts | 27 | 50.0 | 30 | 41.7 | 113 | 32.6 |
| Ear infections | 12 | 22.2 | 20 | 27.8 | 106 | 30.5 |
| Hip dysplasia | 7 | 13.0 | 15 | 20.8 | 45 | 13.0 |
| Atopy/allergies | 6 | 11.1 | 5 | 6.9 | 27 | 7.8 |
| Cryptorchidism | 4 | 12.1 | 2 | 6.9 | 11 | 6.9 |
| Undershot jaw | 4 | 7.4 | 4 | 5.6 | 19 | 5.5 |
| Cancer | 3 | 5.6 | 3 | 4.2 | 16 | 4.6 |
| Panosteitis | 3 | 5.6 | 2 | 2.8 | 15 | 4.3 |
| Anal gland condition | 2 | 3.7 | 6 | 8.3 | 30 | 8.6 |
| Hypothyroidism | 2 | 3.7 | 5 | 6.9 | 13 | 3.7 |
| Gastroenteritis | 2 | 3.7 | 2 | 2.8 | 11 | 3.2 |
| Colitis | 2 | 3.7 | 2 | 2.8 | 6 | 1.7 |
| Loose stools \& gas | 2 | 3.7 | 2 | 2.8 | 0 | 0 |
| Heart condition | 2 | 3.7 | 2 | 2.8 | 7 | 2.0 |
| Bacterial skin infections | 2 | 3.7 | 2 | 2.8 | 23 | 6.6 |
| Arthritis | 1 | 1.9 | 5 | 6.9 | 27 | 7.8 |
| Pyometra | 1 | 4.8 | 2 | 4.7 | 8 | 4.3 |
| Vaginal stricture | 1 | 4.8 | 2 | 4.7 | 4 | 2.1 |
| Cataracts | 1 | 1.9 | 2 | 2.8 | 12 | 3.5 |
| Wry jaw | 1 | 1.9 | 2 | 2.8 | 1 | 0.3 |
| Epilepsy (seizures) | 0 | 0 | 5 | 6.9 | 10 | 2.9 |

Hip dysplasia remains a significant problem in the breed. However, in most of the 15 dogs reported to have hip dysplasia in this survey it was picked up when screening radiographs were taken and was not currently reported to be causing clinical signs or disability. Hip dysplasia often leads to secondary osteoarthritis, a reduction in joint function, and pain, but many dogs with hip dysplasia do not show signs of lameness or discomfort until later in life (Dennis, 2012). In the 2009 Otterhound World Health Survey, 91Otterhounds had had their hips scored by the OFA in America - 58.2\% were considered dysplastic. In the 2012 update, 26 Otterhounds had OFA hip scores - the proportion which was considered dysplastic was lower at 30.8\%. In this latest update, 15 Otterhounds had OFA hip scores with $20 \%$ being considered dysplastic, which may indicate that the OFA is right that the percentage of Otterhounds with dysplastic hips appears to be decreasing in America (although the numbers in this survey are small). The Otterhound in the UK has a breed mean hip score (BMS) of 46.5 (based on 130 dogs scored in the last 15 years), which is currently the highest of all breeds (The Kennel Club, 2014). The BVA/KC state that "breeders wishing to reduce the risk of hip dysplasia should choose stock with scores WELL below the breed mean scores" (BVA, 2010). Obviously "WELL below" is rather vague and open to interpretation, but if we combine this recommendation with that of the OFA (that only dogs with normal (excellent, good, fair) hips should be used for breeding) and the approximation of BVA/KC scores to OFA grades then only hounds with a total hip score of 18 or below should be used for breeding (OFA, 2007). Unfortunately only 4 of the 13 (30.8\%) UK hounds which had been scored in the present survey fall into this category. Of the four hounds with the worst reported hip scores, three have already been used for breeding and one will be in future despite their scores being considerably worse than the breed mean score. However, as discussed in the 2009 Otterhound World Health Survey report and the 2012 update, in a breed with low numbers overall adhering to recommendations about the use of screening test results can be difficult as many different factors influence the decisions to use a particular individual for breeding. The picture for elbow dysplasia is rather more positive (although fewer hounds had been elbow scored) with only one of the 21 hounds with elbow scores being considered severely affected.

The level of concern about epilepsy in the breed remains remarkable. More than two thirds of respondents listed epilepsy as either their main or among their main concern in the breed. This compares with nearly two thirds of respondents in 2012 and a quarter of respondents in 2009. None of the Otterhounds in this survey report were actually affected by epilepsy, however the small numbers involved mean it cannot be said that the prevalence has dropped compared to a reported prevalence of 7\% in 2012 and 3\% in 2009.

A pleasing number of people have chosen to take part in this ongoing survey since it was launched at the beginning of 2011. Unfortunately due to a change in my circumstances it is not possible for me to continue running the survey and this will be my final report. Discussions are ongoing between The Otterhound Club and The Otterhound Club of America as to future survey plans.

## Acknowledgments

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## Appendix

Q34. Which health problem do you consider to be most serious in this hound?

| Hound serious condition | N | $\%$ |
| :--- | ---: | ---: |
| Sebaceous cysts | 2 | 3.7 |
| Allergies | 2 | 3.7 |
| Ear infections | 2 | 3.7 |
| Pulmonic stenosis | 2 | 3.7 |
| Ear infections + irregular heats | 1 | 1.9 |
| Difficult seasons | 1 | 1.9 |
| Thrombasthenic thrombopathia carrier | 1 | 1.9 |
| Mast cell tumour | 1 | 1.9 |
| Old age | 1 | 1.9 |
| Panosteitis | 1 | 1.9 |
| Pyoderma + dog aggression | 1 | 1.9 |
| Side effects of cleft palate | 1 | 1.9 |
| Sterility | 1 | 1.9 |
| Tumours | 1 | 1.9 |
| None | 29 | 53.7 |
| Blank | 7 | 13.0 |
| Total | 54 | 100 |

## Q35. Which health problem do you perceive to be the most serious in Otterhounds?

| Otterhounds serious condition | N | $\%$ |
| :--- | ---: | ---: |
| Epilepsy | 23 | 42.6 |
| Epilepsy + cancer | 7 | 13.0 |
| Epilepsy + hip dysplasia | 2 | 3.7 |
| Epilepsy + hip dysplasia + elbow dysplasia + reproductive issues | 2 | 3.7 |
| Atopy/allergies | 1 | 1.9 |
| Atopy/allergies + skin lumps being assumed to be sebaceous cysts \& not | 1 | 1.9 |
| investigated thoroughly | 1 | 1.9 |
| Epilepsy + GDV + cancer | 1 | 1.9 |
| Epilepsy + hip dysplasia + elbow dysplasia | 1 | 1.9 |
| Epilepsy + hip dysplasia + elbow dysplasia + cancer | 1 | 1.9 |
| Heart conditions | 1 | 1.9 |
| Sebaceous cysts, ears \& intestinal problems in Europe, maybe seizures in USA | 1 | 1.9 |
| Too small a gene pool / inbreeding | 12 | 22.2 |
| Blank | 54 | 100 |
| Total |  | 1 |


[^0]:    ${ }^{1}$ Other: Wholemeal biscuit 3, omega 3 supplement 2, protein topping 2, training treats 1, pasta/rice/potatoes 1 , vitamins 1 , yoghurt 1

[^1]:    * after OFA, 2007

