



THE KENNEL CLUB

1-5 Clarges Street, Piccadilly, London W1J 8AB

Memo to Breed Club Secretaries

Here are the results of the health survey for your breed carried out by the KC/BSAVA Scientific Committee, together with similar results for all of the breeds in the survey, for comparison. The analysis has been done by the Epidemiology Group at the Animal Health Trust and these summaries have been passed to the KC for distribution to breed clubs. All summaries will appear on the Health pages of the KC website in due course. (The website is currently being re-vamped and survey results will appear when the new site is ready)

For your convenience, we have also included a glossary of terms used in the report (below).

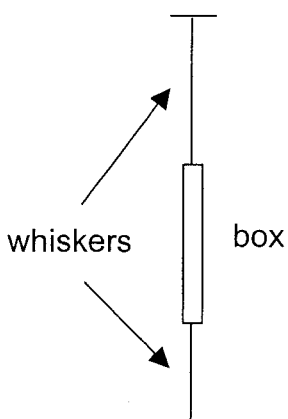
You will see that the results are usually presented in one of three formats

- A table
- A histogram
- A box and whisker plot.

Tables are pretty self-explanatory, but the other two formats may not be as straightforward. Therefore, again, for your convenience, an explanation is provided below:

Histograms are commonly used to display data. If you look at Figure 1 in the 'All Breeds' summary, you will see how these are interpreted. Along the bottom (the x-axis) are the ages at which dogs died (to the nearest year) for all of the deaths reported in the survey. So you have dogs that died between birth and 1 year, between 1 and 2 years and so on. The numbers up the other axis (the y-axis) relate to the actual numbers of dogs that died at that age, so in this figure 1 you will see that in the survey around 200 dogs died between birth and their first birthday, about 375 between their first and second year and so on. The most number of dogs died between 12 and 13 years of age.

Box and whisker plots will almost certainly be unfamiliar to you, but they are used throughout the survey as a nice method to display data. The legend to these box and whisker plots does in fact explain how to interpret the data. Again using a box and whisker from the 'All breeds' summary (Figure 2), along the bottom are the 10 most common causes of death reported from the whole survey, representing 15,881 (N) reported deaths. The other axis represents the ages at which dogs died of various conditions. So, if you look at the deaths from cancer: The box represents 50% of all cancer deaths reported. Thus you can infer from this that 50%



Telephone: 0870 6066750

Insurance: 01296 390617 Library: 020 7518 1009 Fax: 020 7518 1058
email: info@the-kennel-club.org.uk internet: www.the-kennel-club.org.uk

of the dogs that died from cancer actually died between 10 years of age and just over 14 years of age. What about the other 50% of cancer deaths? These are represented by the whiskers either side of the box. The horizontal lines at the top of the top whisker and the bottom of the bottom whisker represent the age range into which 95% of cancer deaths fell; so in this figure 95% of all cancer deaths occurred between 6 years of age and 17.5 years of age. The horizontal line in the middle of the box represents the median age for all cancer deaths (which in this figure is just under 13 years of age). The dotted line represents the median age for all deaths, irrespective of cause.

We hope that this helps you to interpret the result for your breed and compare it with all breeds.

Glossary of Terms

Epidemiology - is the study of epidemic disease and embraces many aspects, including occurrence of disease within a population, the way a disease spreads and the factors involved in an individual's susceptibility.

Mortality - The incidence of death in a population in a given period of time.

Morbidity - The incidence of clinical cases of a disease in a given population.

Longevity - Length of life.

Median - Mean, median and mode are all different kinds of average for a set of values.

Mean is one kind of average. It is computed by summing the values and then dividing by the number of values. Two other common forms of averages are the mode and the median. The mode is the most frequently occurring value in a set. The median is the middle value of the set when they are ordered by rank.

Standard deviation - This is a statistical value to describe how different individual values within a set of values are from the mean of these values. It is a mark of the 'quality' of the data.

For those who want to know more (!), if you have ten different numbers ($n_1, n_2, n_3, n_4, n_5, n_6, n_7, n_8, n_9, n_{10}$), then the mean of these numbers (m) will be the sum ($n_1+n_2+n_3+n_4+n_5+n_6+n_7+n_8+n_9+n_{10}$) divided by 10. For each number (n_1 to n_{10}) you can work out how much each varies (v) from this mean ($v_1 = m - n_1; v_2 = m - n_2$ etc). You can now square these v values (v_1^2, v_2^2, v_3^2 etc). The standard deviation is the square root of the mean of these v^2 values.

Outliers - Values that lie well outside the range of the rest of values in a set of values

Prevalence - A general term describing how common a disease or condition is in a group of animals.

Report from the Kennel Club/
British Small Animal Veterinary Association
Scientific Committee

Summary results of the
Purebred Dog Health Survey
for Dachshunds

Warning: The results of this survey and particularly the breed-specific analyses should be interpreted with caution. The overall response rate was only 24% with breed-specific response rates from 4.5% to 64.7%. While we had hoped to achieve an overall response rate of at least 40% we have, due to the high level of interest expressed, agreed to produce breed-specific summary reports for those breeds where the individual breed response rate was greater than or equal to 15%.

Dachshunds

A total of 810 forms were sent out and 155 were returned, representing 509 live dogs. This breed had a 19.1% response rate (155/810) and it represented 1.13% of all returns (155/13,741).

Mortality data

A total of 245 deaths were reported and this represents 1.54% of all deaths reported in the survey (245/15,881). The median age at death for Dachshunds was 12 years and 8 months (min = 4 months, max = 19 years) and this was higher than the overall median of 11 years and 3 months (Figure 1). Table 1 shows the causes of death for Dachshunds. Age at death is presented for the most common causes of death (Figure 2).

Table 1. Causes of death by organ system/category for Dachshunds.

Cause of death	N	%	Most common specific causes in descending order
1 Old age	53	21.6	Old age
2 Cancer	41	16.7	Unspecified; mammary; lung (both type unspecified)
3 Cardiac	35	14.3	Heart failure; disease unspecified; heart failure
4 Neurologic	27	11.0	IVDD; seizures; unspecified spinal disease
5 Combinations	14	5.7	
6 Urologic	12	4.9	Kidney failure (chronic>acute); incontinence
7 Endocrine	10	4.1	Diabetes mellitus; Cushings
8 Cerebral vascular	8	3.3	Stroke or cerebral vascular accident
9 Gastrointestinal	8	3.3	GDV; foreign body; gastroenteritis; HGE
10 Perioperative	6	2.4	
11 Other	5	2.0	Uncodeable
12 Respiratory	5	2.0	Pneumonia; unspecified
13 Trauma	4	1.6	Road traffic accident; unspecified
14 Unknown	4	1.6	
15 Senility	3	1.2	
16 Hepatic	2	0.8	Liver failure
17 Ocular	2	0.8	Blindness
18 Behaviour	1	0.4	Aggression
19 Died	1	0.4	Natural causes
20 Immune mediated	1	0.4	Unspecified
21 Internal bleeding	1	0.4	
22 Musculoskeletal	1	0.4	Arthritis
23 Sudden death	1	0.4	
Total	245	100.0	

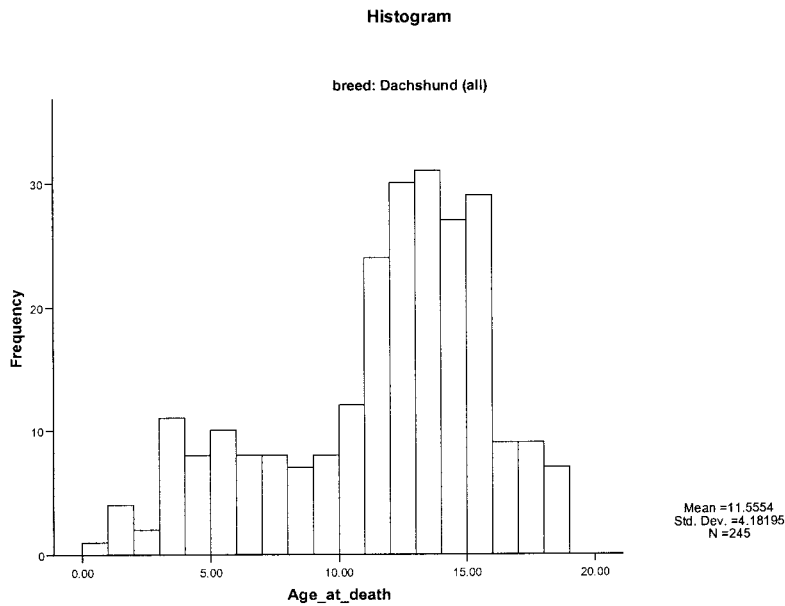


Figure 1. Histogram showing the frequency (as number of dogs) of age at death (in years) for the 245 Dachshund deaths with age at death reported.

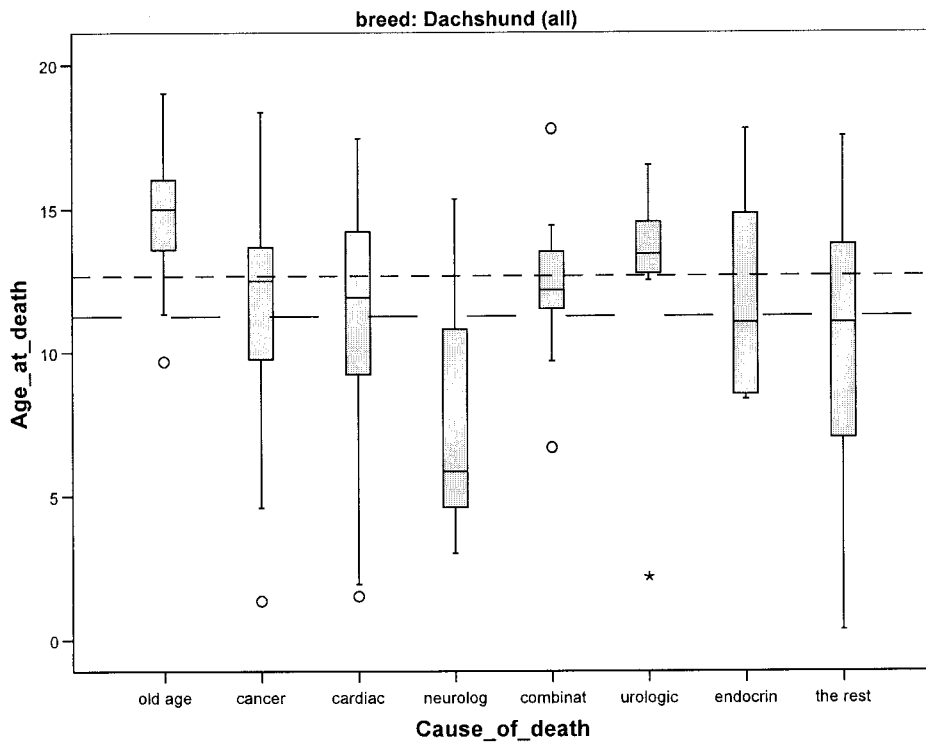


Figure 2. Box and whisker plot of age at death in years for the most common causes of death in Dachshunds (N=245). The dashed line (---) is the overall median age at death for all dogs in the survey and the dotted line (----) is the overall median age of death for Dachshunds. The solid line within each grey box represents the median age at death from the condition.

Morbidity data

The median current age of the 508 live dogs with a reported age was 4 years and 12 months (min=1 month, max=16 years and 11 months, Figure 3). Health information was reported for 509 live dogs of which 322 (63%) were healthy and 187 (37%) had at least one reported health condition, resulting in a total of 294 reported conditions with a median of 1 condition/dog (min=1, max=7).

The median current age of all healthy dogs with a reported age (N=322) was 3 years and 7 months (min=1 month, max=16 years and 9 months). The distribution of gender and neuter status is shown in Table 2.

The median current age of all dogs with one or more disease conditions and a reported age (N=187) was 7 years and 4 months (min=8 months, max=16 years and 11 months). The median age at diagnosis for all disease occurrences with a reported age at diagnosis (N=281) was 4 years (min= 3 months, max= 16 years, Figure 4). Table 3 shows the disease conditions for Dachshunds. Age at diagnosis is presented for the most common disease conditions (Figure 5).

Table 2. Distribution of gender and neuter status for 504 Dachshunds with reported gender and neuter status.

Gender	Neuter status		Totals
	Intact	Neutered	
Female	251	95	346 (69%)
Male	124	34	158 (31%)
Totals	375 (74%)	129 (26%)	504 (100%)

There was no association between gender and neuter status (P=0.1565).

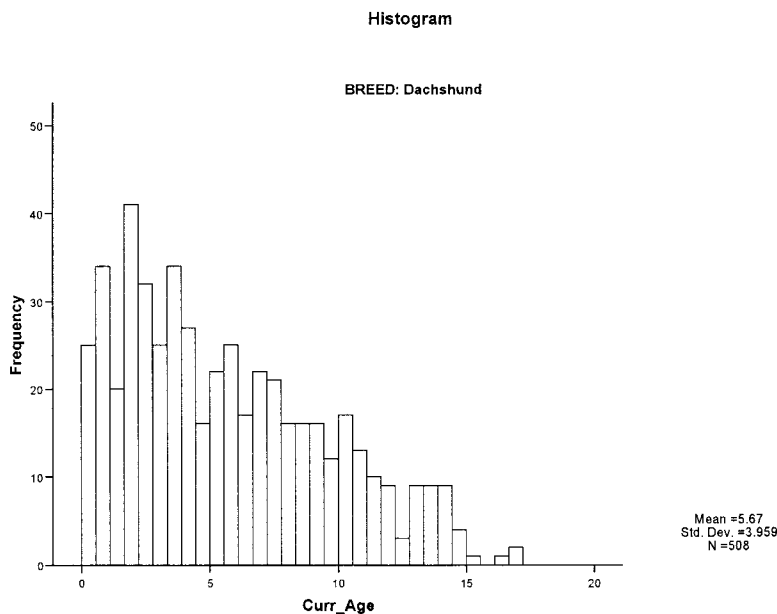


Figure 3. Histogram showing frequency of current age in years for the 508 live Dachshunds with age reported.

Histogram

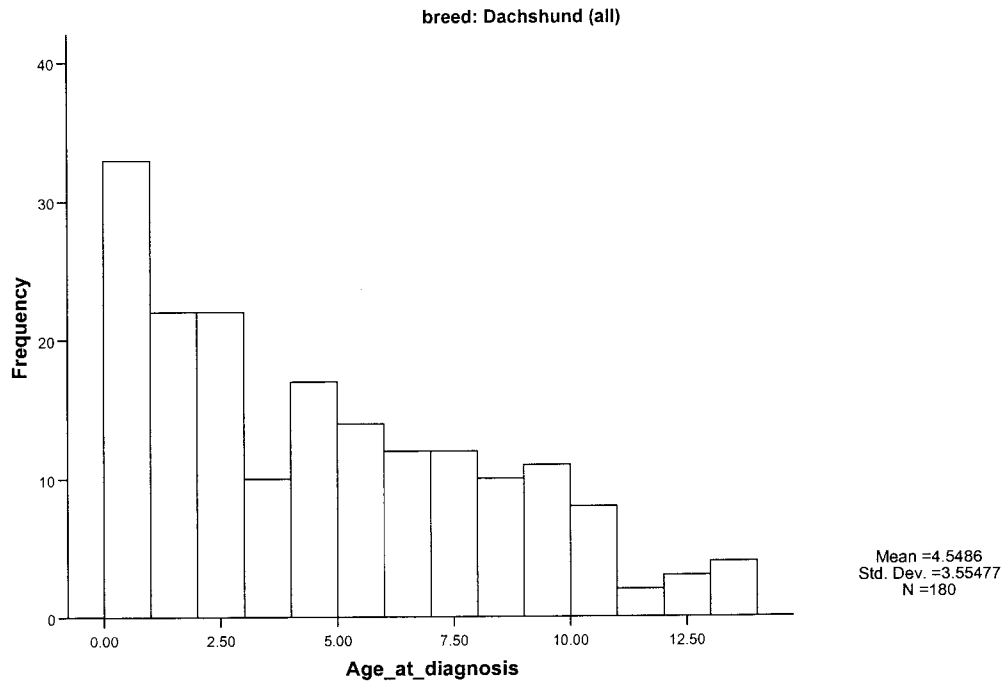


Figure 4. Histogram showing frequency of age at diagnosis for the 180 Dachshunds with one or more disease conditions, using the youngest age at which a disease condition was first reported for those dogs with more than one disease condition or episode.

breed: Dachshund (all)

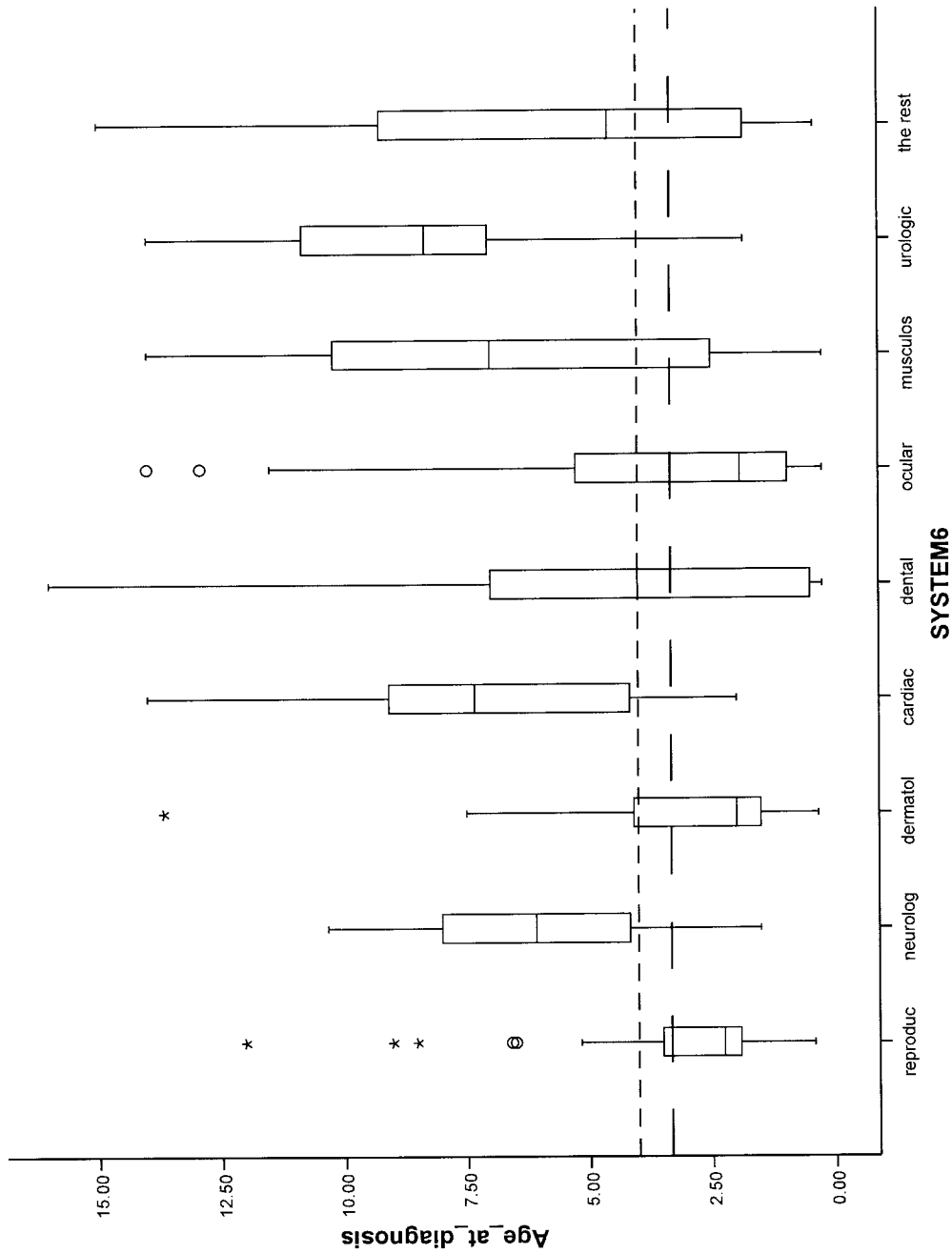


Figure 5. Box and whisker plot of age at diagnosis in years for the most common disease conditions in descending order for Dachshunds (N=187 dogs with 281 conditions with age reported). The dashed line (---) is the overall median age at diagnosis for all dogs in the survey and the dotted line (....) is the overall median age at diagnosis for Dachshunds. The solid line within each grey box represents the median age at diagnosis from the condition.

Table 3. Disease conditions by organ system/category for Dachshunds.

Disease condition	All conditions		Most common specific conditions in descending order
	N	%	
1 Reproductive	58	19.7	Dystochia (uterine inertia>physical blockage); false pregnancy; eclampsia; infertility
2 Neurologic	35	11.9	IVDD (unspecified>lumbar>thoracic); seizures; glycoproteinosis; deafness
3 Dermatologic	31	10.5	Alopecia; dermatitis; loss of nose pigment; recurrent pyoderma
4 Cardiac	26	8.8	Heart murmur (unspecified>grade 2>other); coughing; MVD; heart rhythm disorder
5 Dental	26	8.8	Dental disease; retained puppy teeth
6 Ocular	24	8.2	Distichiasis; blocked tear duct; cataracts; blindness; epiphora
7 Musculoskeletal	20	6.8	Arthritis; lameness (hindlimb); patellar luxation; stiff joints; compressed vertebrae
8 Respiratory	15	5.1	Kennel cough; upper respiratory tract infection; bronchitis; noisy breathing
9 Urologic	11	3.7	Cystitis; cystouroliths (unspecified); haematuria; incontinence (unspecified)
10 Gastrointestinal	10	3.4	Colitis; diarrhoea; IB; vomiting; weight loss
11 Endocrine	9	3.1	Diabetes mellitus; Cushing's disease; hypothyroidism; diabetes insipidus
12 Unknown	8	2.7	Undiagnosed illness
13 Immune mediated	6	2.0	Gluten-sensitive enteropathy; flea allergy; atopy
14 Benign neoplasia	4	1.4	Lipoma; histiocytoma
15 Cancer	4	1.4	Unspecified (skin>mammary)
16 Behaviour	2	0.7	Aggression
17 Hepatic	2	0.7	Hepatitis; chronic liver disease
18 Aural	1	0.3	Otitis externa
19 Trauma	1	0.3	Unspecified
20 Other	1	0.3	Uncodeable
Total	294	100.0	