

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

Summary results of the  
Purebred Dog Health Survey  
for Keeshonds

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%.

## Keeshonds

A total of 275 forms were sent out and 78 were returned, representing 194 live dogs. This breed had a 28.4% response rate (78/275) and it represented 0.57% of all returns (78/13,741).

### Mortality data

A total of 104 deaths were reported and this represents 0.65% of all deaths reported in the survey (104/15,881). The median age at death for Keeshonds was 12 years and 2 months (min = 1 year and 10 months, max = 16 years and 1 month) and this was higher than the overall median of 11 years and 3 months (Figure 1). Table 1 shows the causes of death for Keeshonds. Age at death is presented for the most common causes of death (Figure 2).

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

Cause of death	N	%	Most common specific causes in descending order
1 Cancer	33	31.7	Type unspecified (liver, brain tumour) carcinoma
2 Old age	27	26.0	Old age
3 Urologic	7	6.7	Kidney failure (chronic > acute)
4 Cardiac	6	5.8	Failure; cardiomegaly; attack; defect (unspecified)
5 Combinations	4	3.8	
6 Other	4	3.8	Uncodeable
7 Unknown	4	3.8	
8 Cerebral vascular	3	2.9	Stroke or cerebral vascular accident
9 Endocrine	3	2.9	Cushings disease; diabetes mellitus
10 Hepatic	2	1.9	Chronic liver failure
11 Neurologic	2	1.9	Seizures; unspecified spinal disease
12 Senility	2	1.9	
13 Behaviour	1	1.0	Aggression
14 Dermatologic	1	1.0	Skin disease unspecified
15 Gastrointestinal	1	1.0	Parvo virus
16 Musculoskeletal	1	1.0	Arthritis
17 Respiratory	1	1.0	Laryngeal paralysis
18 Systemic	1	1.0	Allergy or insect bite or sting or snake bite
19 Trauma	1	1.0	Unspecified
Total	104	100.0	

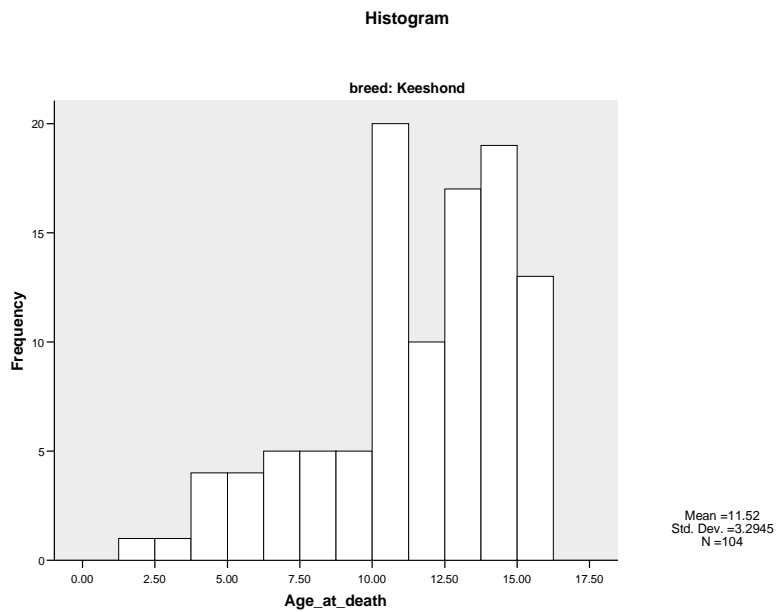


Figure 1. Histogram showing the frequency (as number of dogs) of age at death (in years) for the 104 Keeshond deaths with age at death reported.

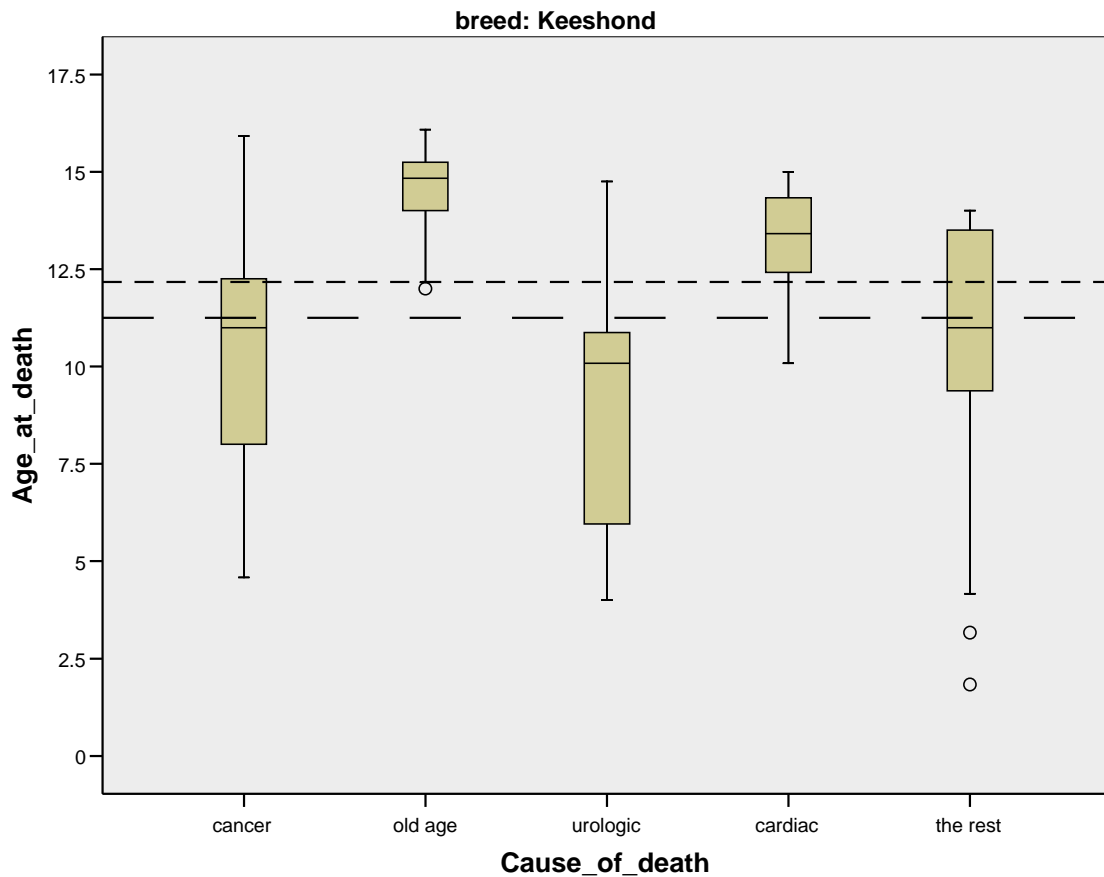


Figure 2. Box and whisker plot of age at death in years for the most common causes of death in Keeshonds (N=104). The dashed line (---) is the overall median age at death for all dogs in the survey and the dotted line (----) is the overall median age of death for Keeshonds. The solid line within each grey box represents the median age at death from the condition.

**Morbidity data**

The median current age of the 194 live dogs with a reported age was 5 years and 9 months (min=3 months, max=19 years, Figure 3). Health information was reported for 194 live dogs of which 125 (64%) were healthy and 69 (36%) had at least one reported health condition, resulting in a total of 105 reported conditions with a median of 1 condition/dog (min=1, max=8).

The median current age of all healthy dogs with a reported age (N=125) was 4 years and 10 months (min=3 months, max=19 years). 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=66) was 7 years and 5 months (min=1 year and 8 months, max=13 years and 5 months). The median age at diagnosis for all disease occurrences with a reported age at diagnosis (N=102) was 3 years and 11 months (min= 1 month, max= 13 years and 4 months, Figure 4). Table 3 shows the disease conditions for Keeshonds. Age at diagnosis is presented for the most common disease conditions (Figure 5).

Table 2. Distribution of gender and neuter status for 186 Keeshonds with reported gender and neuter status.

Gender	Neuter status		Totals
	Intact	Neutered	
Female	45	49	94 (51%)
Male	72	20	92 (49%)
Totals	117 (63%)	69 (37%)	186 (100%)

Significantly more females were neutered (P<0.0001).

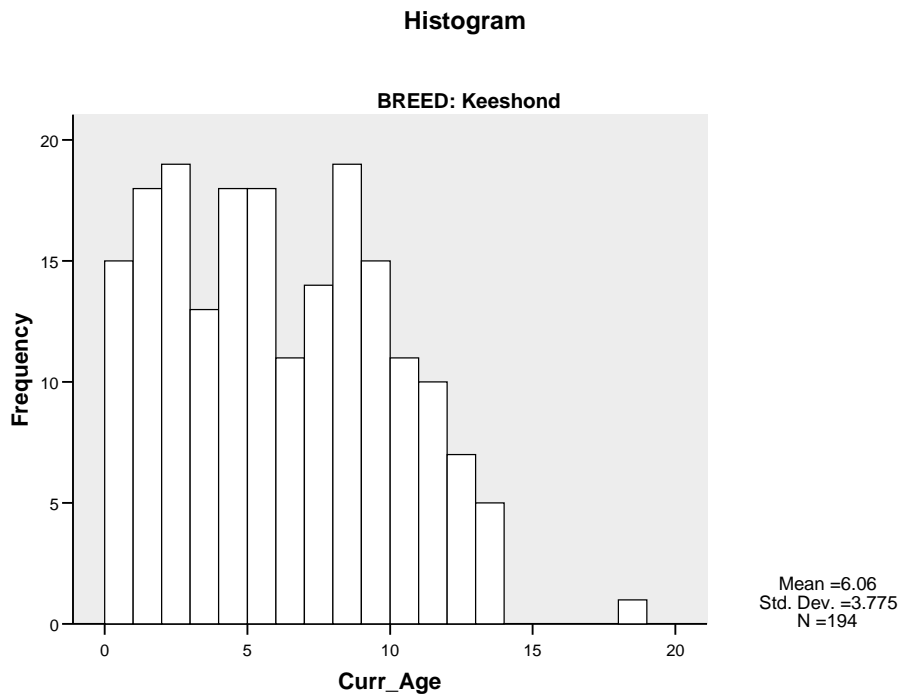


Figure 3. Histogram showing frequency of current age in years for the 194 live Keeshonds with age reported.

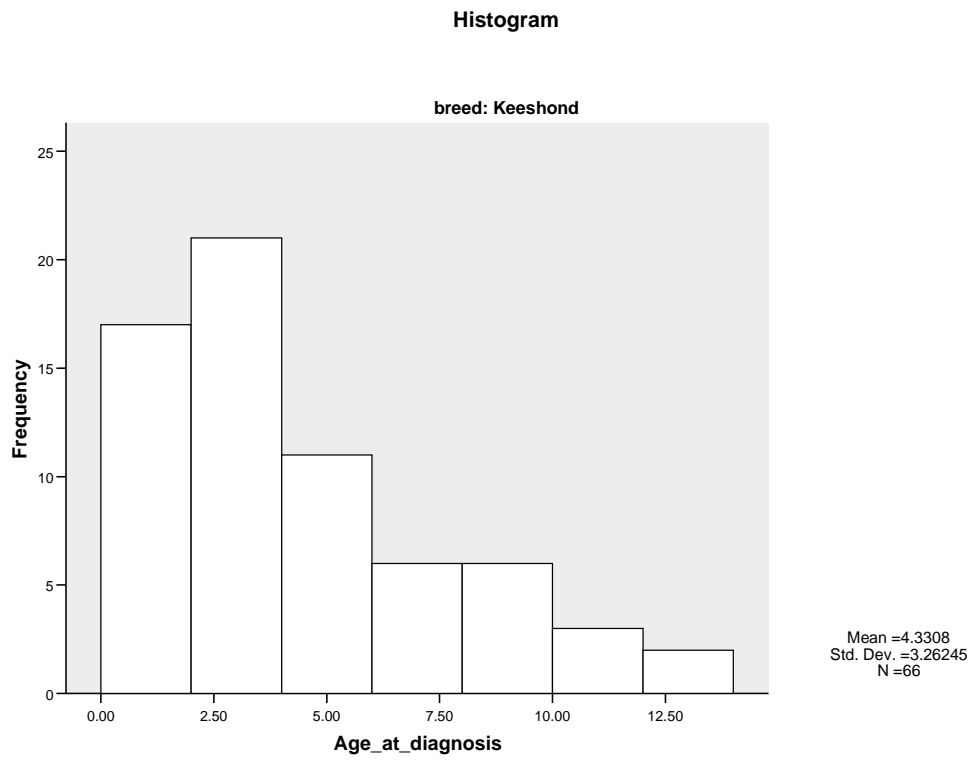


Figure 4. Histogram showing frequency of age at diagnosis for the 66 Keeshonds with one or more disease conditions, using the youngest age at which a disease condition was first reported for those dogs with more than one disease condition or episode.

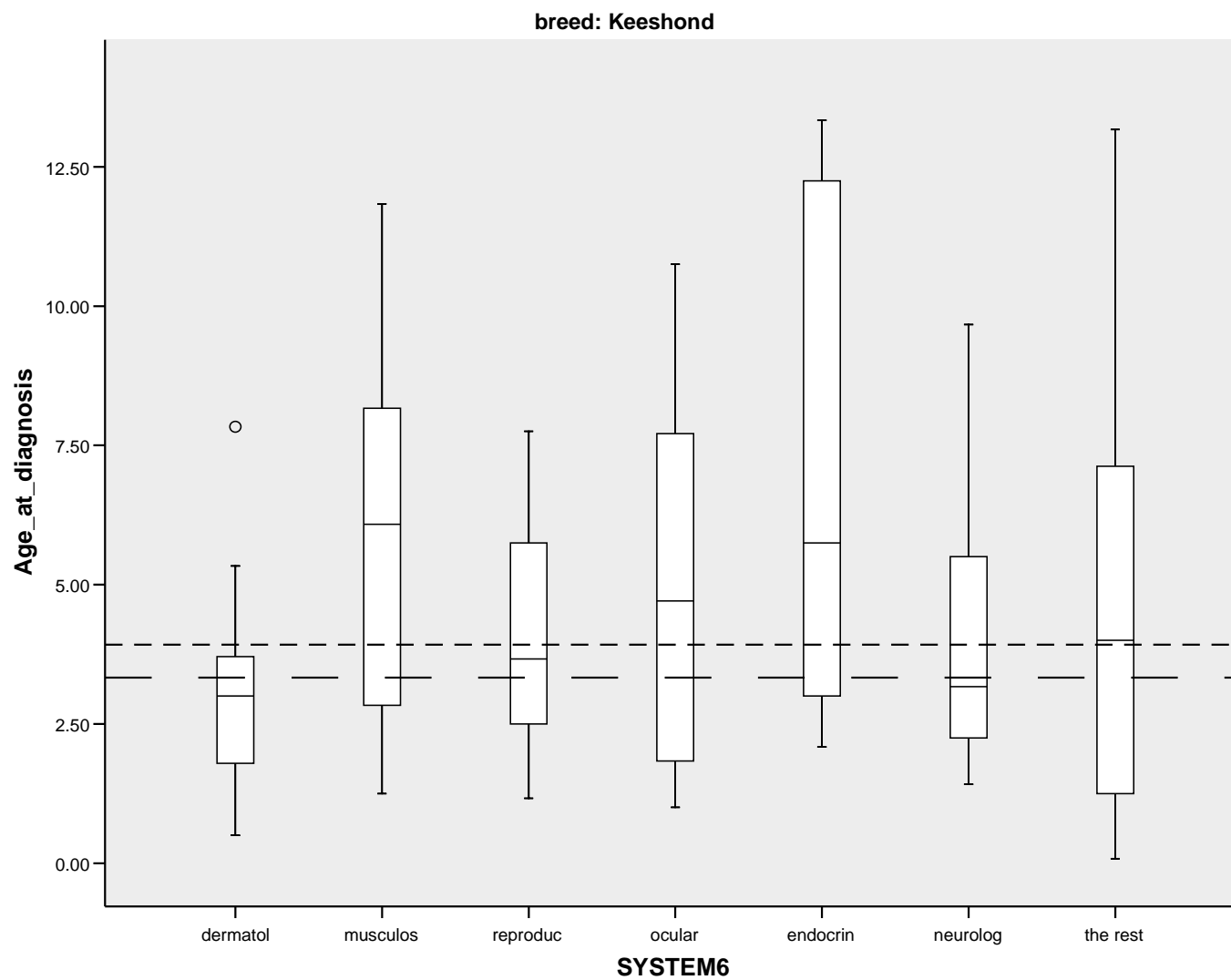


Figure 5. Box and whisker plot of age at diagnosis in years for the most common disease conditions in descending order for Keeshonds (N=66 dogs with 102 conditions with age reported). The dashed line (---) is the overall median age at diagnosis for all dogs in the survey and the dotted line (----) is the overall median age at diagnosis for Keeshonds. 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 Keeshonds.

Disease condition	All conditions		Most common specific conditions in descending order
	N	%	
1 Dermatologic	19	18.1	Alopecia; recurrent pyoderma; dermatitis
2 Musculoskeletal	17	16.2	Arthritis (forelimb>hindlimb>stifle); CLR; CHD; coxofemoral luxation; lameness (hindlimb)
3 Reproductive	13	12.4	Pyometra; metritis
4 Ocular	12	11.4	Cataracts; epiphora; corneal ulcer
5 Endocrine	10	9.5	Hypothyroidism; hyperparathyroidism (unspecified>primary); Cushings disease
6 Neurologic	8	7.6	Seizures; IVDD (cervical); rage syndrome
7 Immune mediated	6	5.7	Atopy; allergy (unspecified); gluten-sensitive enteropathy; skin disease unspecified
8 Gastrointestinal	4	3.8	Diarrhoea; colitis; regurgitation
9 Respiratory	3	2.9	Bronchitis; long soft palate; noisy breathing
10 Urologic	3	2.9	Cystitis; incontinence (after spay)
11 Benign neoplasia	2	1.9	Lipoma
12 Cardiac	2	1.9	Coughing; heart murmur (unspecified)
13 Aural	1	1.0	Otitis externa
14 Behaviour	1	1.0	Unspecified
15 Cancer	1	1.0	Type unspecified (skin)
16 Dental	1	1.0	Retained puppy teeth
17 Other	1	1.0	Unspecified
18 Unknown	1	1.0	Undiagnosed skin disease
Total	105	100.0	