

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

Summary results of the  
Purebred Dog Health Survey  
for Shetland Sheepdogs

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%.

## Shetland Sheepdogs

A total of 917 forms were sent out and 207 were returned, representing 694 live dogs. This breed had a 20.6% response rate (207/917) and it represented 1.51% of all returns (207/13,741).

### **Mortality data**

A total of 364 deaths were reported and this represents 2.29% of all deaths reported in the survey (364/15,881). The median age at death for Shetland Sheepdogs was 12 years and 6 months (min = 2 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 Shetland Sheepdogs. Age at death is presented for the most common causes of death (Figure 2).

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

Cause of death	N	%	Most common specific causes in descending order
1 Cancer	81	22.3	Type unspecified (mammary, mouth)
2 Urologic	63	17.3	Kidney failure (chronic>acute); glomerulonephritis
3 Old age	54	14.8	Old age
4 Cardiac	28	7.7	Heart failure; heart attack; heart disease unspecified
5 Neurologic	19	5.2	Seizures; IVDD; spinal paralysis
6 Cerebral vascular	16	4.4	Stroke or cerebral vascular accident
7 Gastrointestinal	16	4.4	Pancreatitis; gastroenteritis; colitis; unspecified
8 Combinations	14	3.8	
9 Hepatic	12	3.3	Liver failure; liver disease unspecified; hepatitis
10 Other	9	2.5	Uncodeable
11 Trauma	9	2.5	Unspecified; road traffic accident; spinal injury
12 Endocrine	7	1.9	Cushings disease; diabetes mellitus; hypothyroidism
13 Musculoskeletal	7	1.9	CLR; hip dysplasia; muscular dystrophy
14 Unknown	7	1.9	
15 Poisoning	5	1.4	
16 Reproductive	4	1.1	Pyometra; prostatic disease
17 Immune mediated	3	0.8	Unspecified; haemolytic anaemia
18 Perioperative	2	0.5	Perioperative; postoperative
19 Respiratory	2	0.5	Chronic bronchitis; emphysema
20 Portosystemic shunt (PSS)	1	0.3	
21 Collapse	1	0.3	
22 Dermatologic	1	0.3	Unspecified
23 Internal bleeding	1	0.3	
24 Pining	1	0.3	
25 Senility	1	0.3	
Total	364	100.0	

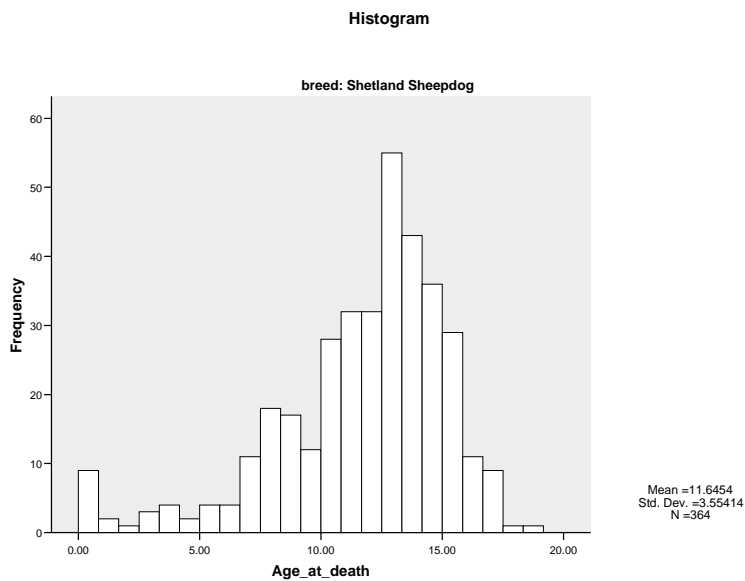


Figure 1. Histogram showing the frequency (as number of dogs) of age at death (in years) for the 364 Shetland Sheepdog deaths with age at death reported.

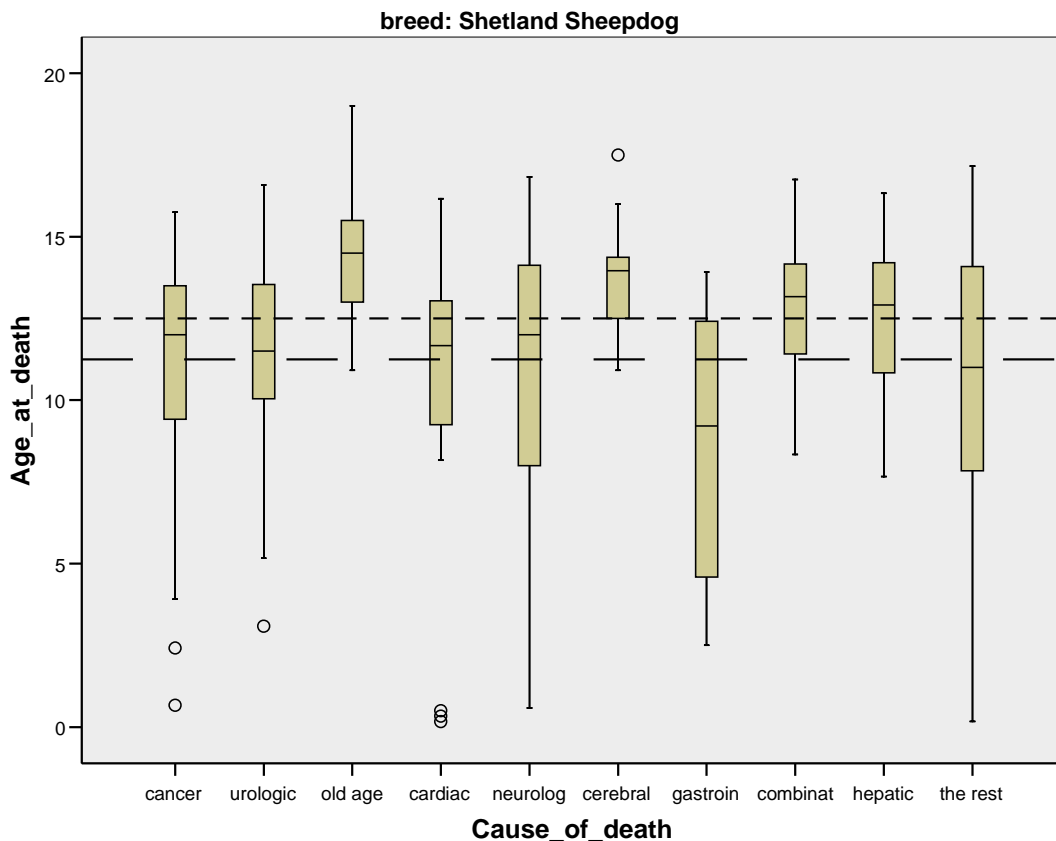


Figure 2. Box and whisker plot of age at death in years for the most common causes of death in Shetland Sheepdogs (N=364). The dashed line (---) is the overall median age at death for all dogs in the survey and the dotted line (----) is the overall median age of death for Shetland Sheepdogs. The solid line within each grey box represents the median age at death from the condition.

**Morbidity data**

The median current age of the 694 live dogs with a reported age was 5 years and 11 months (min=2 months, max=18 years and 9 months, Figure 3). Health information was reported for 694 live dogs of which 413 (60%) were healthy and 281 (40%) had at least one reported health condition, resulting in a total of 500 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=413) was 4 years and 6 months (min=2 months, max=18 years and 7 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=270) was 8 years and 4 months (min=4 months, max=18 years and 9 months). The median age at diagnosis for all disease occurrences with a reported age at diagnosis (N=472) was 4 years (min= 2 months, max= 14 years and 11 months, Figure 4). Table 3 shows the disease conditions for Shetland Sheepdogs. Age at diagnosis is presented for the most common disease conditions (Figure 5).

Table 2. Distribution of gender and neuter status for 685 Shetland Sheepdogs with reported gender and neuter status.

Gender	Neuter status		Totals
	Intact	Neutered	
Female	295	163	458 (67%)
Male	168	59	227 (33%)
Totals	463 (68%)	222 (32%)	685 (100%)

Significantly more females were neutered (P=0.0115).

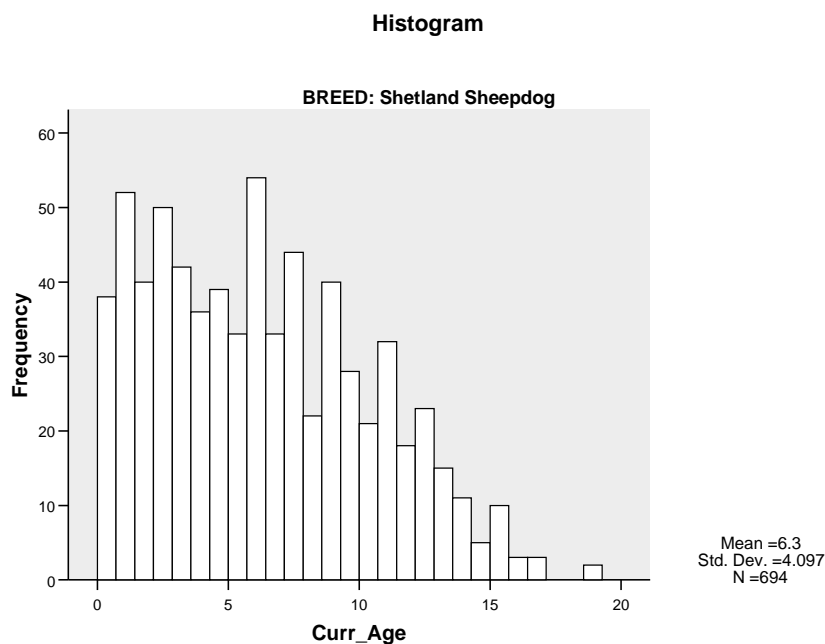


Figure 3. Histogram showing frequency of current age in years for the 694 live Shetland Sheepdogs with age reported.

### Histogram

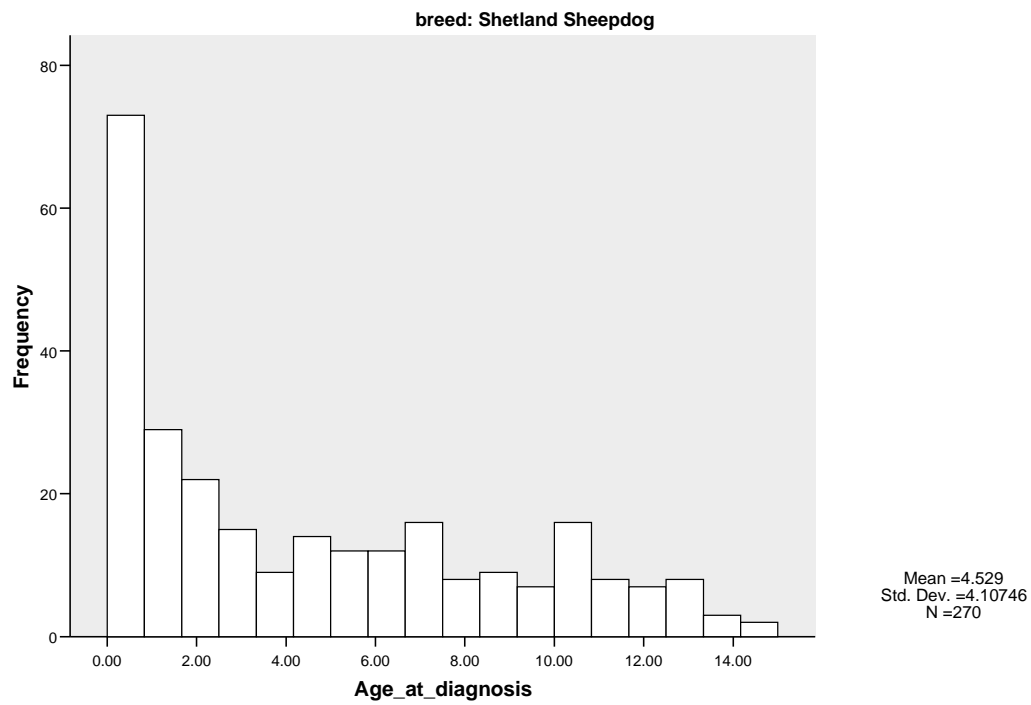


Figure 4. Histogram showing frequency of age at diagnosis for the 270 Shetland Sheepdogs with one or more disease conditions, using the youngest age at which a disease condition was first reported for those dogs with more than one disease condition or episode.

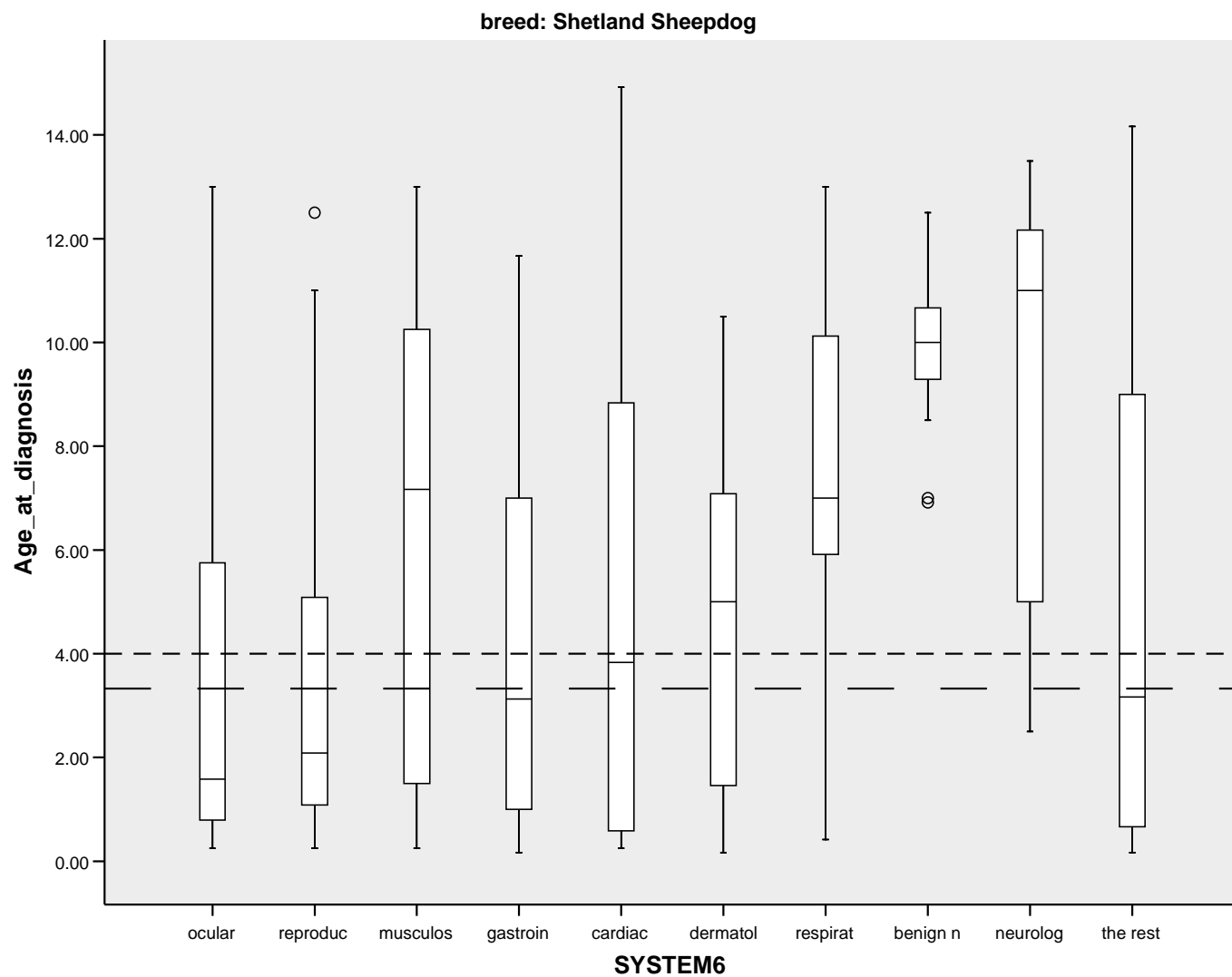


Figure 5. Box and whisker plot of age at diagnosis in years for the most common disease conditions in descending order for Shetland Sheepdogs (N=270 dogs with 472 conditions with age reported). The dashed line (---) is the overall median age at diagnosis for all dogs in the survey and the dotted line (----) is the overall median age at diagnosis for Shetland Sheepdogs. 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 Shetland Sheepdogs.

Disease condition	All conditions		Most common specific conditions in descending order
	N	%	
1 Ocular	85	17.0	CEA; distichiasis; epiphora; blocked tear ducts; cataracts; entropion; trichiasis
2 Reproductive	63	12.6	Cryptorchid; pyometra; dystochia (physical blockage>uterine inertia); caesarean section
3 Musculoskeletal	61	12.2	Arthritis (unspecified>elbows=forelimb>hips=shoulder>rest); CLR; patellar luxation
4 Gastrointestinal	45	9.0	Colitis; pancreatitis; vomiting; diarrhoea; campylobacter; gastroenteritis (unspec>chronic)
5 Dental	41	8.2	Retained puppy teeth; dental disease; defect other than extra teeth
6 Cardiac	33	6.6	Heart murmur (unspec>grade 2>rest); CHF; arrhythmia; heart valve condition (unspec.)
7 Dermatologic	33	6.6	Mites (cheyletiella>sarcoptes>demodex); dermatitis; alopecia; puppy pyoderma
8 Respiratory	25	5.0	Kennel cough; coughing; bronchitis; rhinitis; tracheal collapse; other (unspecified)
9 Benign neoplasia	16	3.2	Lipoma; unspecified
10 Urologic	16	3.2	Incontinence (unspecified>after spay); cystitis; protein losing nephropathy (PLN)
11 Immune mediated	13	2.6	Food allergy; gluten-sensitive enteropathy; dust mite allergy; flea allergy
12 Neurologic	13	2.6	Deafness; seizures; IVDD; vestibular disease
13 Unknown	12	2.4	Unknown; undiagnosed liver disease
14 Endocrine	10	2.0	Hypothyroidism; diabetes insipidus; hyperthyroidism; weight gain (unspecified)
15 Cancer	7	1.4	Type unspecified; carcinoma (mammary); liposarcoma (skin); sertoli cell tumour
16 Trauma	6	1.2	Hindlimb; brain; female reproductive organs; forelimb; spine
17 Cerebrovascular	5	1.0	Stroke or cerebral vascular accident
18 Hepatic	5	1.0	Portosystemic shunt (PSS); acute liver failure; bile duct blockage; hepatitis
19 Cardiopulmonary	4	0.8	Coughing
20 Other	4	0.8	Uncodeable
21 Anal gland	2	0.4	Anal sacculitis
22 Aural	1	0.2	Otitis externa
Total	500	100.0	