

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

Summary results of the  
Purebred Dog Health Survey  
for the Large Munsterlander breed

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%.

## The Large Munsterlander breed

A total of 220 forms were sent out and 99 were returned, representing 180 live dogs. This breed had a 45.0% response rate (99/220) and it represented 0.72% of all returns (99/13,741).

### Mortality data

A total of 69 deaths were reported and this represents 0.43% of all deaths reported in the survey (69/15,881). The median age at death for the Large Munsterlander breed was 11 years and 4 months (min = 1 year and 6 months, max = 16 years and 7 months) and this was higher than the overall median of 11 years and 3 months (Figure 1). Table 1 shows the causes of death for the Large Munsterlander breed. Age at death is presented for the most common causes of death (Figure 2).

Table 1. Causes of death by organ system/category for the Large Munsterlander breed.

Cause of death	N	%	Most common specific causes in descending order
1 Cancer	17	24.6	Lymphoma; unspecified; brain tumour
2 Old age	8	11.6	Old age
3 Neurologic	7	10.1	Seizures; CDRM; spinal paralysis
4 Trauma	6	8.7	Road traffic accident; spinal injury; head trauma
5 Cardiac	4	5.8	Heart attack; heart failure; mitral valve disease (MVD)
6 Musculoskeletal	4	5.8	Hip dysplasia; arthritis
7 Unknown	4	5.8	
8 Gastrointestinal	3	4.3	Gastric dilatation/volvulus
9 Hepatic	3	4.3	Chronic liver failure; liver disease unspecified
10 Cerebral vascular	2	2.9	Stroke or cerebral vascular accident
11 Combinations	2	2.9	Seizures & paresis
12 Immune mediated	2	2.9	Unspecified
13 Senility	2	2.9	
14 Behaviour	1	1.4	Aggression
15 Endocrine	1	1.4	Cushings
16 Other	1	1.4	Uncodeable
17 Respiratory	1	1.4	Respiratory failure (unspecified)
18 Urologic	1	1.4	Chronic kidney failure
Total	69	100.0	

CDRM=chronic degenerative radiculomyelopathy

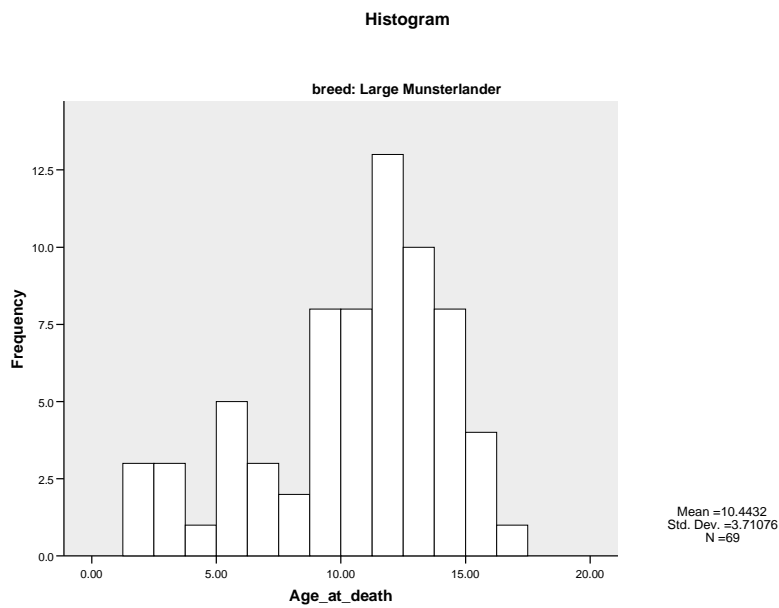


Figure 1. Histogram showing the frequency (as number of dogs) of age at death (in years) for the 69 Large Munsterlander deaths with age at death reported.

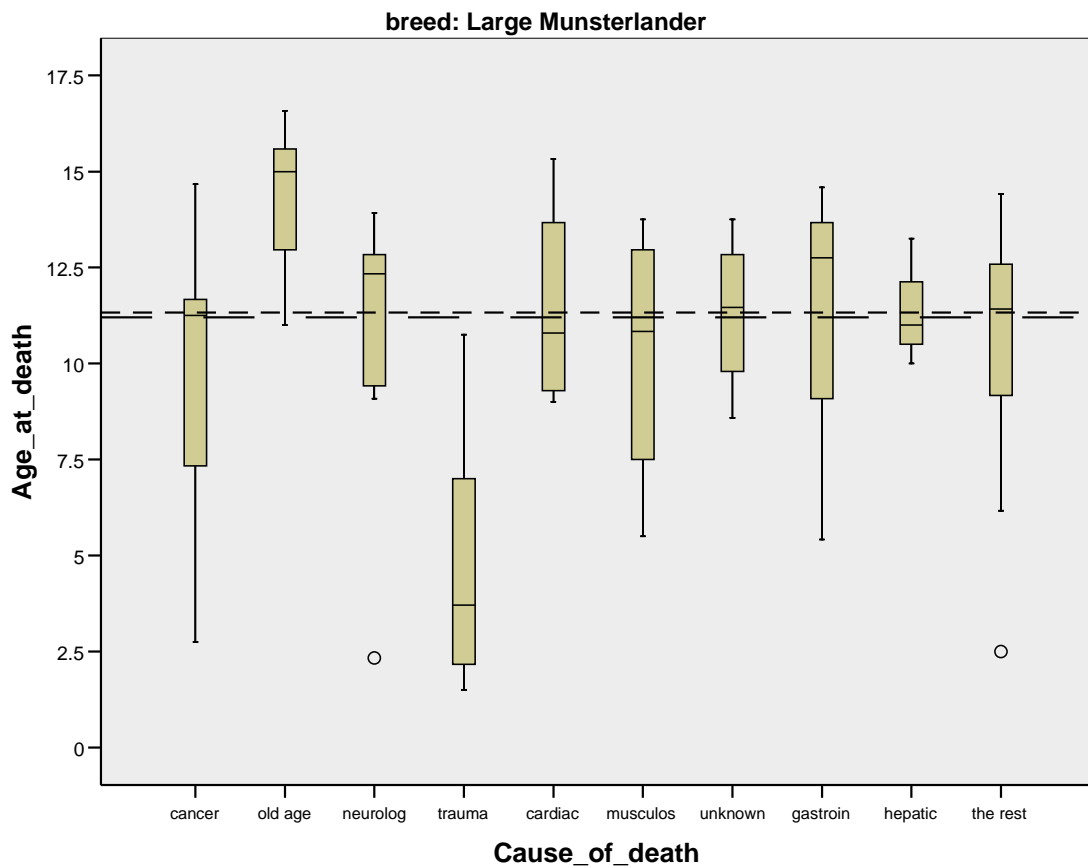


Figure 2. Box and whisker plot of age at death in years for the most common causes of death in the Large Munsterlander breed (N=69). The dashed line (---) is the overall median age at death for all dogs in the survey and the dotted line (----) is the overall median age of death for the Large Munsterlander breed. The solid line within each grey box represents the median age at death from the condition.

**Morbidity data**

The median current age of the 180 live dogs with a reported age was 4 years and 7 months (min=3 months, max=18 years and 1 month, Figure 3). Health information was reported for 180 live dogs of which 105 (58%) were healthy and 75 (42%) 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=7).

The median current age of all healthy dogs with a reported age (N=105) was 3 years and 4 months (min=3 months, max=13 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=73) was 6 years and 10 months (min=9 months, max=18 years and 1 month). The median age at diagnosis for all disease occurrences with a reported age at diagnosis (N=102) was 2 years and 7 months (min= 2 months, max= 12 years and 6 months, Figure 4). Table 3 shows the disease conditions for the Large Munsterlander breed. Age at diagnosis is presented for the most common disease conditions (Figure 5).

Table 2. Distribution of gender and neuter status for the 180 Large Munsterlander breed with reported gender and neuter status.

Gender	Neuter status		Totals
	Intact	Neutered	
Female	47	54	101 (56%)
Male	56	23	79 (44%)
Totals	103 (57%)	77 (43%)	180 (100%)

Significantly more females were neutered (P=0.0010).

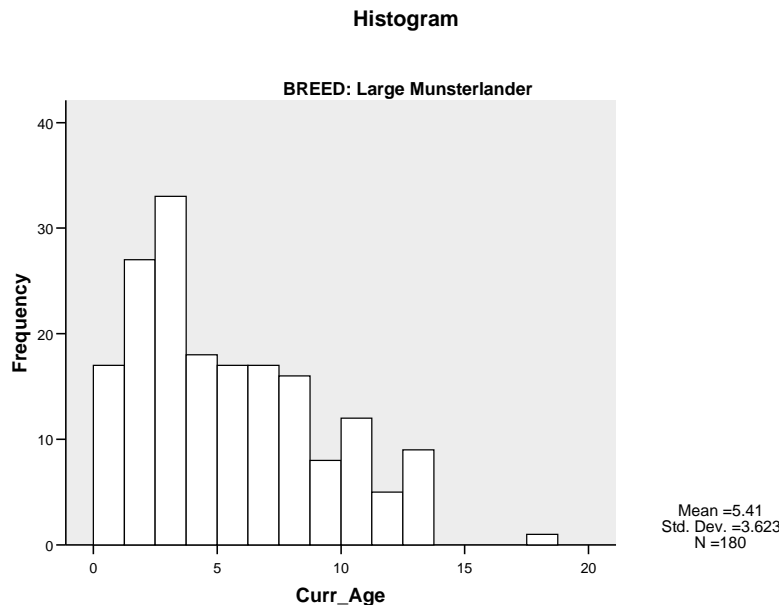


Figure 3. Histogram showing frequency of current age in years for the 180 live Large Munsterlander breed with age reported.

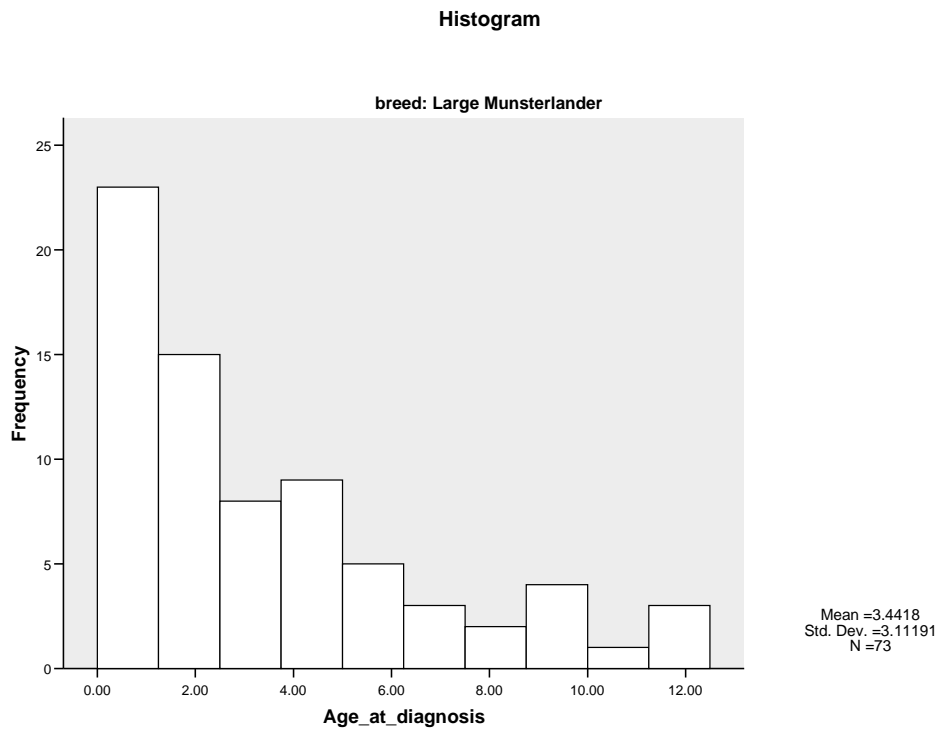


Figure 4. Histogram showing frequency of age at diagnosis for the 73 Large Munsterlander breed with one or more disease conditions, using the youngest age at which a disease condition was first reported for those dogs with more than one disease condition or episode.

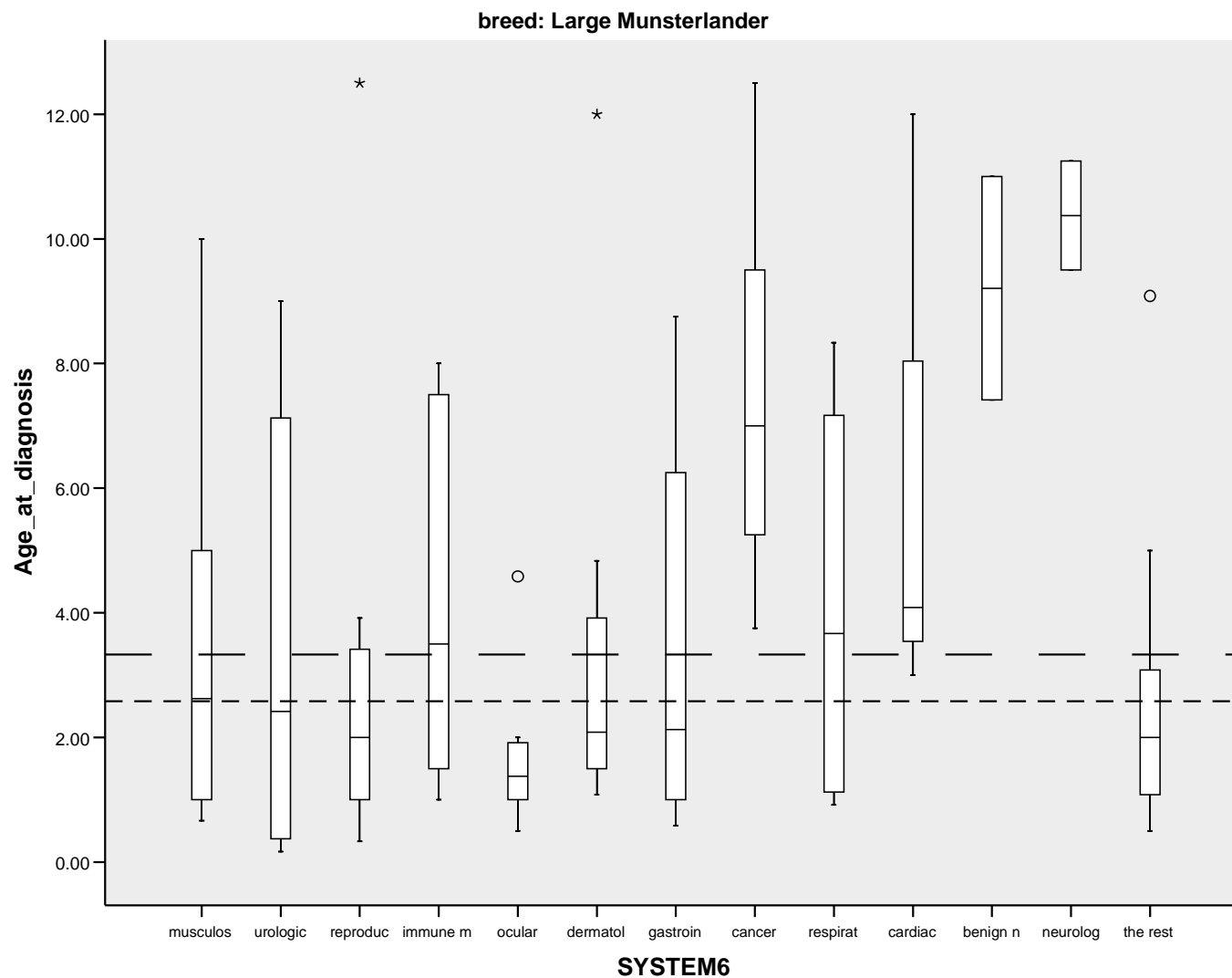


Figure 5. Box and whisker plot of age at diagnosis in years for the most common disease conditions in descending order for the Large Munsterlander breed (N=73 dogs with 102 conditions with age reported). The dashed line (---) is the overall median age at diagnosis for all dogs in the survey and the dotted line (----) is the overall median age at diagnosis for the Large Munsterlander breed. 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 the Large Munsterlander breed.

Disease condition	All conditions		Most common specific conditions in descending order
	N	%	
1 Musculoskeletal	19	18.1	CLR; CHD; lameness (forelimb); arthritis (elbows; hips; shoulders)
2 Urologic	12	11.4	Cystitis; incontinence (unspecified=OHE); PLN; haematuria
3 Reproductive	11	10.5	False pregnancy; pyometra
4 Immune mediated	9	8.6	Flea allergy; atopy; ALHA; masticatory muscle myositis (MMM); systemic lupus erythematosus (SLE)
5 Ocular	8	7.6	KCS; cataracts (unspecified=congenital); conjunctivitis; red eye; distichiasis
6 Dermatologic	7	6.7	Dermatitis; interdigital cysts; paronychia; mites (sarcoptes)
7 Gastrointestinal	7	6.7	Colitis; foreign body obstruction; gastric dilatation/volvulus (GDV); diarrhoea; inappetance
8 Cancer	5	4.8	Type unspecified (mammary>neck=foot); sarcoma
9 Trauma	5	4.8	Dermatologic; musculoskeletal (forelimb; forepaw); ocular
10 Respiratory	4	3.8	Kennel cough; rhinitis; pneumonia; upper respiratory tract infection
11 Aural	3	2.9	Otitis externa; excessive ear wax
12 Cardiac	3	2.9	Heart murmur (unspecified>without clinical signs)
13 Benign neoplasia	2	1.9	Lipoma
14 Dental	2	1.9	Defect other than extra teeth; dental disease
15 Endocrine	2	1.9	Hyperthyroidism; unspecified
16 Neurologic	2	1.9	IVDD (unspecified); vestibular disease
17 Other	2	1.9	Uncodeable
18 Behaviour	1	1.0	Unspecified
19 Unknown	1	1.0	Undiagnosed illness
Total	105	100.0	