Life Span Study of the Irish Water Spaniel in American

By Sharon Moreland
on behalf of the Irish Water Spaniel Club of America's Health and Genetics Committee

Introduction

In 2006, the Breeders Committee of the Irish Water Spaniel Club of America (IWSCA) decided to do an informal survey, among the members of the committee, of the life spans and causes of death of the dogs of the members. The survey was done to gain an initial impression of the life-span and the causes of death of Irish Water Spaniels in the US, and to determine if a larger study might be more informative.

Methods

Information on the dogs that died between 1995 and 2005 were submitted to Elizabeth Weaver, of the Breeders Committee. She received information on 62 dogs. After tabulating the data and removing all identifying material, Ms. Weaver wrote a summary report (see Appendix A).

In 2008 Sharon Moreland, acting for the Health and Genetic Committee of the IWSCA, asked for data on dogs that had died between 2005 and 2008. She received information on 14 more dogs. She also removed identifying data, combined the new data with the former data bringing the total to 76 dogs. She interpreted some data from provided information; if the breeder said "probable" or "possible" as a cause, it was take to be the correct cause. Deaths reported as "old age" and "unknown" were taken to be natural causes.

Then the author did some further analysis, including some comparisons with data from British Irish Water Spaniels.

Results

1. Causes of Death

Causes of death were reported by breeders as well as ages-at-death. Below is a list of the reported causes. The author has chosen to group all "avoidable" deaths under the category of "accidental". This decision was based on the understanding that the Breeders were primarily interested in natural causes of death and the natural life-span of their dogs, so avoidable deaths would not be of particular interest. In some subsequent analyses, these "accidental" causes were removed from the data.

Natural Causes	**Subtotals**	**Totals**	**Percent**
Cancer		35	46%
Cardiac		8	11%
Unknown		5	7%
Old Age		3	4%
Cardio/Vascular		3	4%
“Stroke”	3		
Skeleto/Muscular		2	3%
Arthritis	2		
Gastro Intestinal		2	3%
GI Bleed	1		
Spleen rupture	1		
Respiratory		2	3%
Canine Influenza	2		
Combination		2	3%
Cancer/IMHA	1		
Megesophagus/Thyroid	1		
Hepatic		1	1%
Lymes’ nephritis	1		
Reproductive		1	1%
Pyometria	1		
Neurological		1	1%
Seizures	1		
Accidental Causes		11	15%
Poisoning	2		
Hit by Car	2		
Surgery complications	2		
Sulfa Drugs	2		
Choked	2		
Accident	1		
Total		76	

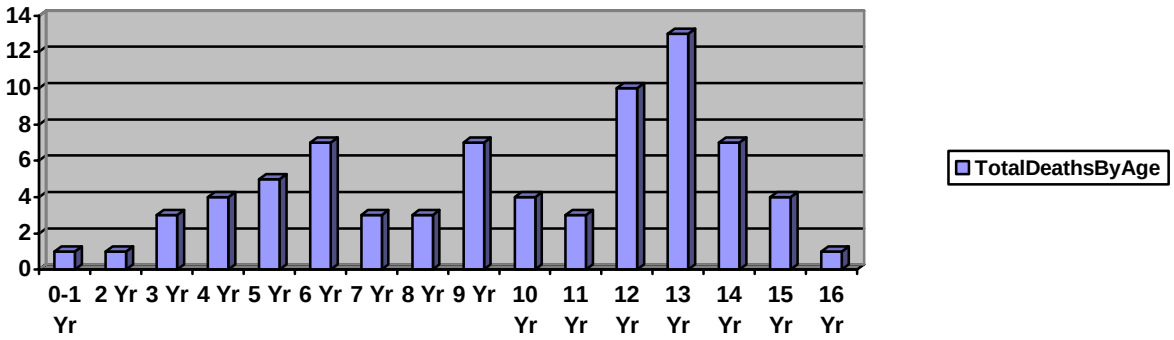
Cancer Causes of Death. Some respondents reported cancer deaths by type and others reported by organ affected. Below are the reported cancers:

Cancer (no other info)	9
Lymphoma	4
Cancer-Brain	3
Melanoma	3
Cancer-Liver	3
Cancer-Synovial	2
Mast cell	1
Hemangiosarcoma	1
Adenocarcinoma	1
Leukemia	1
Cancer-Lung	1
Cancer-Toe	1
Cancer-Pancreas	1
Cancer-Spleen	1
Cancer-Breast	1
Cancer-Stomach	1
Cancer-Bone	1
Total	35

Ages of Death – All Causes

The median age at death from all causes was 10.5 years. The median is the number separating the higher half of a sample from the lower half. The median is more indicative of the mid-range of death than the average would be, because the average can be severely distorted by one very young death.

The following is a table of the ages of death from all causes, including accidental causes.



A table of deaths, such as this, normally shows a smooth curve to a peak and then a sudden decline. This table, with its three peaks, may indicate that much more data is needed to clearly understand the life-span of U.S. Irish Water Spaniels. However, a similar study of British Irish Water Spaniels showed a similar pattern, with peaks at 5, 7 and 12 years; see entire study at (http://www.thekennelclub.org.uk/download/1576/hsirishwaterspaniel.pdf).

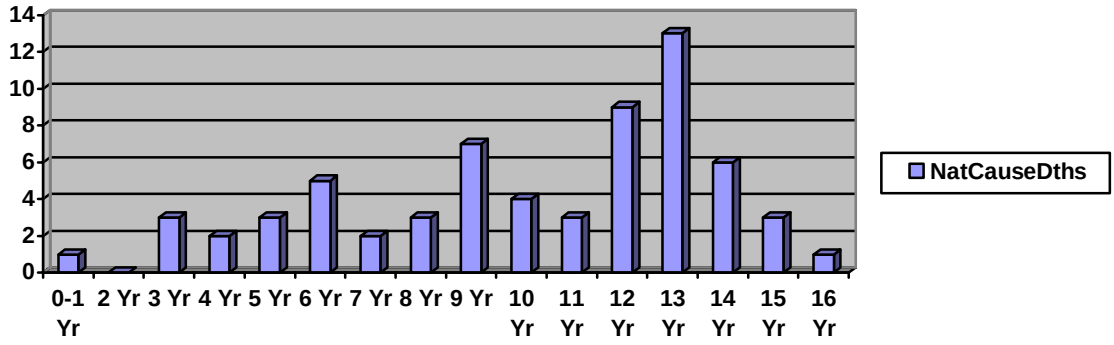
This may, again, reflect a small study size, but might also represent some innate characteristic of the breed.

American` (N=76)	**British (N=95)**
Median age death = 10.5 years	Median age death = 9 years
Average age death = 9.64 yrs.	Average age death = 8.95 yrs.

3. Ages of Death – Natural Causes

This section studies natural causes, using only the data that remained after the 11 "accidental" deaths were removed. Deaths reported as "unknown" and "old age" were included as natural causes.

The following table shows the deaths by age from natural causes. Again it shows the unusual three peaked curve.



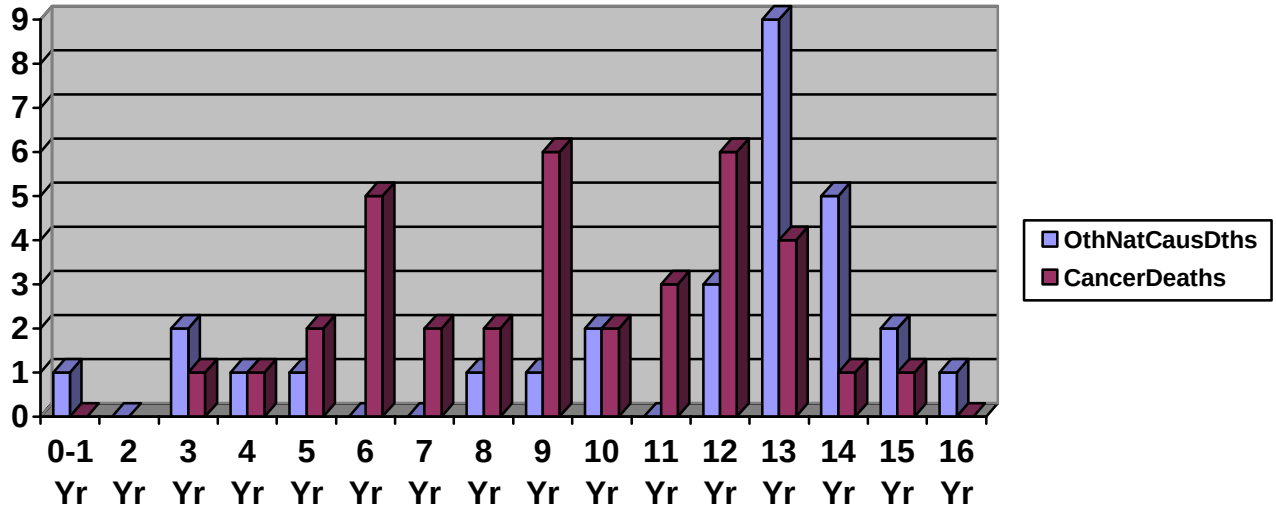
Natural-Causes Deaths by Age (Deaths from accident, surgery and sulfa drugs removed) N=65

The median age of death from natural causes was 11.5 years. The longest-lived dog in this study died at 16.

4. Cancer as a Major Cause of Death

Cancer is a major natural cause of death in Irish Water Spaniels, as is the case in most dogs.

The following table shows cancer deaths and other natural causes by age.



N =65

It is interesting to note that the oldest dogs die of other causes more frequently than of cancer. Heart problems and "stroke" are the leading causes of death of 13-year olds.

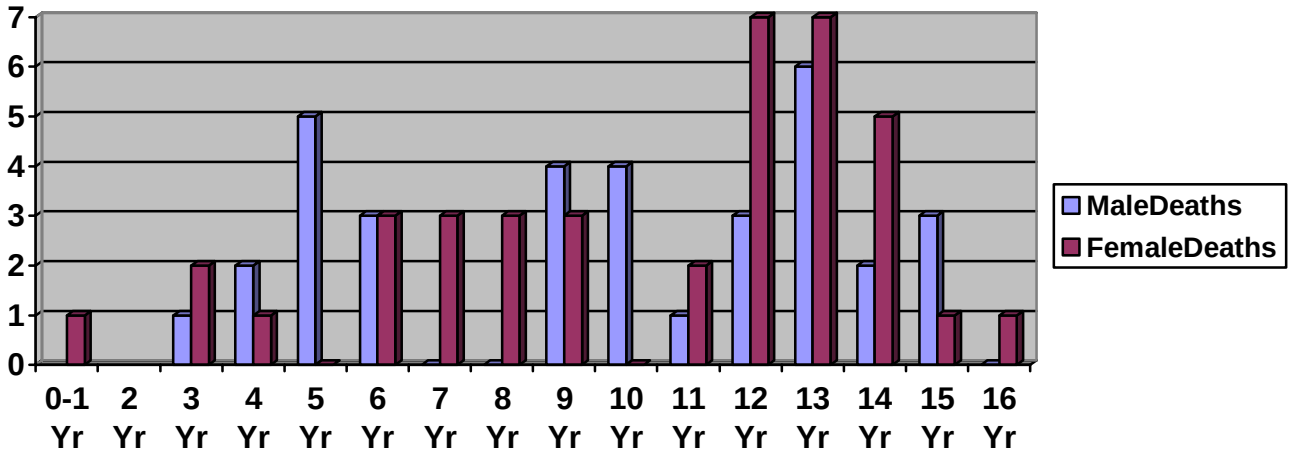
5. Gender Differences in Age of Death – All Causes

Humans show a distinct difference in average age of death between the genders. Much study has been done to attempt to separate the natural difference, and differences caused by dangerous occupations by human males. But it is widely believed that there is an intrinsic difference.

Most domestic animals do not live out a natural life-span, so little information is available about their average age of death. Wild animals typically die of trauma so natural ages of death are not well known.

However, it is known that in domestic dogs, there is a difference in life span between the genders; see citation at http://www.associatedcontent.com/article/440098.

While gender was not requested for this study, all but one dogs had information on gender included. Following is a table for the IWS of this study using all the data, including "accidental" deaths, but excluding the one dog for which no gender was given.



Males:
Average age of death from all causes = 9.3 years
Average age of death from nat/causes = 9.9
Median age of death from all causes = 10
Median age of death from nat/causes = 10

Females:
Average age of death from all causes = 10.5
Average age of death from nat/causes = 10.6
Median age of death from all causes = 12
Median age of death from nat/causes = 12

6. Conclusion

The small size and non-random nature of this study means that it is not possible to make any firm conclusions from the data.

The major weakness of the study is with the causes of death and especially with the cancer causes of death. Had those causes been reported in some systematized manner (e.g. all cancers by type rather than by organ effected), we would have better insight into what is killing our dogs, and perhaps which types are prevalent at what ages. This information might help with breeding decisions and would certainly help the Club with assigning health funds to certain research projects.

Overall it is obvious that a larger, more systemized survey would allow more certain conclusions; and a repeated survey at a later day would allow a comparison to track the health trajectory of the breed.

Appendix A

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Lifespan Report

We had great response to this with 62 dogs reported for the period from 1995 – 2005. The average (straight arithmetic) age of death for all dogs was 9.5 years. The most common age at death was 13. 30.65% of dogs died at 12 to 13, a percent that is almost twice as large as any of the other age breakdowns.

I ended up separating the dogs into three groups – Group 1 – Natural Causes, Group 2 – Other and Group 3 – Accidental Deaths. I had originally intended to only have group 1 & 3 but the dogs in Group 2 died from outside forces that were not accidental in nature and, I felt, didn't belong in either group. I had to make choices about how to group the dogs and someone else might make different choices but this was what made sense to me. I didn't use any of the sex information as I did not have information on spay-neuter on all dogs and was not even positive of the sex in some cases. I had not originally asked for that information but it might be worth pursuing another time.

As would be expected, Group 1 – Natural Causes was by far the largest group (49) with cancer accounting for ½ of the deaths. The average age of death for this group was 10.37. The most common age of death for this group was also 13. 36.73% of dogs died at 12 to 13, again almost twice as large as any of the other age breakdowns.

Group 2 only had 6 dogs. The average age of death was 4.0 which was also the most common age of death.

Group 3 was also small with 7 dogs. The big surprise here was that almost half of the deaths were dogs of 12 and over. My mindset was that accidents tend to happen to younger dogs. The average age of death was 8.14 with the most common age being 5.

I was disappointed that the average date of death in Group 1 was only just over 10 years until I realized that in ages it is much easier to pull the average down than up. If you take a group of 5 dogs that all died at 13, obviously the average age at death would be 13. If instead, one of them died at the very young age of 3, that pulls the average age of death all the way down to 11 years. But if instead of dying young, that dog died at the advanced age of 15, the average only goes up to 13.4. There is a large range downward but only a small range upward from the most common age. To pull upward to the same degree we would need a dog that lived to 23. Nice, but not too likely. After I realized that I started looking at what is the most common age for death. Overall and in Group 1 (the group that I would think most likely to be affected by genetics) that was a very respectable 13.

The unwelcome news in this to me was that while my experience has been that IWS very rarely die of cancer before 10 or even more likely 12+, slightly more than half of the cancer deaths were to dogs who did not reach 10. Since cancer is by far the leading cause of death in the dogs reported that would explain why all of us seem to have different ideas on the average life span of the breed.

Elizabeth Weaver, Ltd.