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Dog Breeds: What you need to know (heart disease)

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Staying up to date with common, let alone rare, health risks in susceptible dog breeds can be difficult. In this regular feature, our Educational Partner, [International Partnership for Dogs \(IPFD\)](#) signposts resources on a particular breed and highlights breed-specific diseases.

Breed statistics for heart disease — clinicians' perception of risk.

Breed (top 21 for death due to 'heart' Swedish insurance data 2011-16)	Median Age @ Death	Deaths/ 10,000 years-at-risk	Relative Risk (/ALL)	Approx. incidence %	%all heart deaths	Years at Risk (YAR)
Dobermann	7	156	14.4	1.6%	4.1%	<5,000
Dogue de Bordeaux	8	153	14.0	1.5%	1.5%	<2,000
St. Bernards	6*	135	12.4	1.3%	1.2%	<2,000
Cavalier King Charles Spaniel	9	104	9.6	1.0%	19.9%	>20,000
Irish Wolfhound	5*	88	8.1	0.9%	1.2%	<5,000
Great Dane	6*	75	6.9	0.8%	2.1%	<5,000
Irish Red Setter	9	32	2.9	0.3%	0.7%	<5,000
Flat Coated Retriever	8	30	2.8	0.3%	2.9%	10-20,000
Chinese Crested	10	29	2.6	0.3%	2.9%	10-20,000
Leonberger	6*	27	2.5	0.3%	0.7%	<5,000
Boxer	7	26	2.4	0.3%	1.4%	5-10,000
Dalmatian	7	26	2.4	0.3%	1.1%	<5,000
Finnish Hound	8	24	2.2	0.2%	1.2%	5-10,000
Chihuahuas	10	21	1.9	0.2%	4.6%	>20,000
Münsterländer Small	10	20	1.8	0.2%	0.7%	<5,000
Pomeranian	8	19	1.8	0.2%	0.7%	<5,000
Cocker Spaniel	6*	17	1.5	0.2%	2.2%	10-20,000
Shih Tzu	11	17	1.6	0.2%	0.8%	5-10,000
Papillon	11	14	1.3	0.1%	0.9%	5-10,000
Dachshunds Standard	9	12	1.1	0.1%	3.4%	>30,000



Agria 
Djurförsäkring



Practitioners gain an experiential perception of breed risk that is useful but can be misleading. Common breeds in the population may create an impression of exaggerated risk. Using death due to heart disease as an example, and Swedish Insurance Data from 2011-2016 on >1 million years-at risk, let's look at how a practitioner's perception of breed risk might be influenced. These

insurance data include close to 40% of dogs in Sweden, diagnoses come from veterinarians using a standard diagnostic registry; many refereed publications have used Agria data. The breeds at the top of the chart in the bolded box have the highest rates of heart deaths based on the population at risk, with relative risks ranging from almost 7 to over 14 times higher than the risk in All Breeds, combined.

For example, a veterinarian might perceive a similar level of death due to heart conditions in Dobermanns, Chihuahuas and Standard Dachshunds (4.1, 4.6 and 3.4% of all heart deaths, respectively). However, the rate based on the population at risk (not just the proportion of dead dogs) in Chihuahuas is 4 times and for Dobermanns over 13 times higher than the rate in Standard Dachshunds. This apparent paradox is because of very differing numbers/ popularity of breeds in the underlying population (see 'Years at Risk' in table).



Doberman Pinscher



Cavalier — King Charles Spaniel

Most notably, although in this 6-year period approx. 1% of all insured Cavaliers died of heart disease, they accounted for almost 20% of all heart-related deaths (they are both common and high risk). In this situation, the veterinarian would correctly identify this breed as being at high risk but over-estimate the number affected. In these data, the entire base population is known, allowing calculation of actual incidence rates whereas many studies provide only proportions of sick or dead dogs attending a hospital(s). Unfortunately, some clinical studies might incorrectly report this proportion (i.e. the 20%) as 'prevalence'. When discussing breed-risk, the data, analysis, and interpretation is key.

See [Cardiac Disease - Breeds, Screening and Genetic Testing — It's complicated!](#) for more information on breed risks of general and specific heart conditions and links to breed-specific statistics.

The International Partnership for Dogs (IPFD) is a non-profit working for dog health, well-being, and welfare. This article has been prepared by its CEO, Dr Brenda Bonnett, DVM PhD



More resources to help you:

- Egenvall A, Nødtvedt A, Penell J, Gunnarsson L, Bonnett BN. Insurance data for research in companion animals: benefits and limitations. Acta Vet Scand. 2009;51(1):42. Published 2009 Oct 29. doi:10.1186/1751-0147-51-42; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2777155/>
- Mattin, M.J., et al., Prevalence of and risk factors for degenerative mitral valve disease in dogs attending primary-care veterinary practices in England. Journal of Veterinary Internal Medicine, 2015. 29(3): p. 847-854. <https://pubmed.ncbi.nlm.nih.gov/25857638/>