

Prevalence of Microalbuminuria in Veterinary Clinic Staff-Owned Dogs

SUMMARY:

- ▲ 3041 staff-owned dogs were tested in over 350 veterinary clinics.
- ▲ Overall, 24.7% of dogs tested positive with the E.R.D.-HealthScreen™ Canine Urine Test.
- ▲ A statistically significant correlation ($P < 0.0001$) was found between increasing age and positive test results.
- ▲ The increasing prevalence of microalbuminuria in middle-aged and older dogs supports early routine screening to identify and treat potential causes of glomerular damage.

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Urine samples from staff-owned dogs were analyzed using Heska's E.R.D.-HealthScreen™ Urine Test in veterinary clinics across the United States. Results from 3041 dogs obtained from over 350 clinics were used to evaluate the relationship between age and the E.R.D.-HealthScreen test result. Average age of the population tested was 7.5 years. The population contained representatives of over 250 different breeds or breed crosses with the 4 most common being Labrador retrievers, golden retrievers, Labrador retriever crosses and mixed breed dogs. Of the 3041 dogs, 751 (24.7%) had positive test results with the E.R.D.-HealthScreen test.

For statistical analysis, the ages were rounded up to full years and dogs greater than 15 years of age were pooled into one age group. The relationship between age and the E.R.D.-HealthScreen test result was evaluated using logistic regression analysis. A statistically significant correlation ($P < 0.0001$) was identified between increasing age and positive E.R.D.-HealthScreen test results. The relationship is a logarithmic function with both prevalence and incidence increasing with age [See Figure 1]. The clinical consequence of the positive correlation is best illustrated by comparing the prevalence of microalbuminuria in different age groups [See Table]. 7.4% of dogs <3 years of age tested positive, 8.6% of dogs ages 3-5 tested positive, 20.0% of dogs ages 6-8 tested positive, 36.0% of dogs ages 9-11 tested positive, and 49.1% of the dogs 12 years of age or older tested positive. The rapid increase in prevalence in older dogs is analogous to other geriatric conditions in which incidence of disease increases with age.

The striking age correlation that was observed could be due to many factors. For instance, periodontal disease in dogs has been associated with histologic lesions in the kidney (DeBowes, et. al., 1996. *J Vet Dent* 13: 57-60) and the prevalence of periodontal disease in dogs increases with age. In addition, the prevalence of other inflammatory or metabolic disease conditions that could give rise to glomerular damage may increase with age as well. The increase in prevalence with age [See Table] indicates that dogs should be screened routinely by at least 6 years of age for microalbuminuria. Early identification and treatment of underlying causes of microalbuminuria may reduce the long-term impact of kidney damage.

Table: Prevalence of microalbuminuria in selected age groups

Age Group	# of Positives	Total # of Dogs	Percent Positive	Increase in Prevalence
<3	22	298	7.4%	—
3 - 5	54	625	8.6%	1.2%
6 - 8	189	943	20.0%	11.4%
9 - 11	250	694	36.0%	16.0%
>12	236	481	49.1%	13.1%

Figure 1

