

NEW DATA: Identification of Underlying Disease in Dogs that Test Positive with the E.R.D.-HealthScreen™ Canine Urine Test

SUMMARY:

- ⚠ Clinicians provided presumptive diagnoses of **572 dogs** that **tested positive** with the E.R.D.-HealthScreen Canine Urine Test.
- ⚠ Underlying inflammatory, infectious, and metabolic disease conditions were identified in **56%** of microalbuminuric dogs.
- ⚠ These results may guide the expectations of identifying underlying disease conditions in dogs with positive E.R.D.-HealthScreen test results and support testing mature and older dogs.

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In a previous study, urine samples from staff-owned dogs were analyzed using Heska's E.R.D.-HealthScreen™ Canine Urine Test in veterinary clinics across the United States and results from 3041 dogs were reported. When a positive test result is obtained, diagnostic testing is recommended to identify common causes of kidney damage. To better understand the outcome of such diagnostic testing, we surveyed clinics that had reported positive test results in the staff-owned dog study. Clinics were contacted and asked to provide presumptive diagnoses of inflammatory, infectious, metabolic or other diseases for dogs that tested positive with the E.R.D.-HealthScreen test. **244 clinics** responded and provided follow-up information on **572 dogs**.

Presumptive diagnoses by broad disease category are shown in **Table 1**. **322 of the 572 dogs** with microalbuminuria (**56.3% of total responses**) were diagnosed with inflammatory, infectious, metabolic, or other diseases. These results are consistent with a previous study demonstrating that approximately 50% of the dogs with histologic evidence of glomerular disease had underlying medical disease conditions (A.K. Cook, et. al., 1996. *J Am Anim Hosp Assoc* 32:313-322). Likewise, in a study of dogs presented to Colorado State University for urinalysis, 56% of dogs with microalbuminuria had underlying infectious, inflammatory, or neoplastic diseases that have been previously associated with proteinuria

(J.C. Whittemore, et. al., 2003. *J Vet Int Med* 17:437). The identification of disease conditions in outwardly healthy dogs establishes the utility of E.R.D.-HealthScreen as a routine test for mature and older dogs.

Table 1: Diagnoses by Disease Category

Disease Category	# of Dogs Diagnosed	% of Total
Underlying Disease Identified		
Inflammatory Diseases	113	19.8 %
Infectious Diseases	104	18.2 %
Neoplasia/Other Diseases	41	7.2 %
Metabolic Diseases	28	4.9 %
Multiple Diagnoses	36	6.3 %
Subtotal	322	56.3 %
No Underlying Disease Identified		
No Diagnosis Provided	69	12.1 %
Presumptive renal disease	177	30.9 %
Miscellaneous	4	0.7 %
Subtotal	250	43.7 %
Totals	572	100%

Both inflammatory and infectious diseases were commonly diagnosed in dogs that scored positive with the E.R.D.-HealthScreen test (19.8% and 18.2% of responses, respectively). Given the demonstrated ability of antigen-antibody complexes to cause glomerular damage (G.F. Grauer. *Kirks's Current Veterinary Therapy XIII*, pp. 851-853), common diagnosis of infection and inflammation is not surprising. Neoplasia/other diseases and metabolic diseases were less commonly diagnosed in dogs with

microalbuminuria (7.2% and 4.9% of the responses, respectively). However, the identification and management of conditions such as neoplasia, hypertension, cardiac disease, Cushing's disease or diabetes could have a significant impact on the health and quality of life of these dogs. Note that 36 dogs were diagnosed with multiple conditions (6.3% of the total responses).

No underlying disease was identified in 250 (43.7%) of the dogs that scored positive with the E.R.D.-HealthScreen™ test. A response of "no diagnosis" was returned for 69 dogs (12.1% of the total responses). These responses could reflect an inability to identify an underlying disease condition or an inability to provide follow-up information for that dog. **A presumptive diagnosis of "primary renal disease" was listed for 177 dogs (30.9% of the total responses). These responses must be interpreted with caution** because "primary renal disease" may have been selected in the absence of identifying an underlying condition. While dogs with persistent microalbuminuria can be managed as "at risk" of developing end-stage renal disease, not all microalbuminuria positive dogs will progress to end-stage renal disease.

Disease diagnoses that clinicians reported in five or more dogs are presented in Table 2. Urinary tract inflammation and dental disease were the most common underlying diseases identified in dogs with microalbuminuria. In this survey, clinicians were not asked to examine dogs without microalbuminuria. Thus, this survey does not address any direct relationship between a positive E.R.D.-HealthScreen test result and the identified disease condition. Studies are ongoing to examine the association of microalbuminuria with many of the conditions listed and to determine the effects of treatment of the underlying disease on the magnitude and persistence of microalbuminuria.

Table 2: Specific Underlying Disease Diagnoses

Disease	% of Total
Urinary Tract Inflammation	15.4 %
Dental Disease	12.4 %
Dermatitis	3.5 %
Neoplasia	3.3 %
Cushing's Disease	2.4 %
Diabetes mellitus	2.3 %
Pancreatitis	1.7 %
Autoimmune Disease	1.4 %
Hypertension	1.2 %
Cardiac Disease	1.2 %
Heartworm Disease	1.0 %
Lyme Disease	0.9 %

These results provide information regarding the underlying disease conditions found in dogs with positive E.R.D.-HealthScreen results. The survey data presented here may help veterinarians focus and prioritize their diagnostic examinations of dogs with microalbuminuria. **Together with the age-related prevalence data reported earlier, the survey data demonstrate the value of using the E.R.D.-HealthScreen test to detect underlying disease conditions in mature and older dogs.** A positive test result provides motivation for the veterinarian and the client to identify and treat underlying disease conditions in otherwise healthy dogs.

Share your clinic's success by submitting a case report. Call 1-800-GO HESKA or email us at: market@heska.com. Case reports chosen for publication will receive a free box of E.R.D.-HealthScreen Canine Urine Tests and printed copies of the case report.

