# HEREDITY NEPHRITIS IN THE BULL TERRIER

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There are many causes of renal disease in the dog. Some result in acute failure, some in chronic failure. Hereditary nephritis (HN) in bull terriers is chronic, progressive and terminal.

I am writing this article to share the current published research on this problem in our dogs. The majority of the work has been done in Australia and New Zealand. We are currently working on documentation with faculty at the University of Minnesota, Veterinary Teaching Hospital and medical school. Our findings concur with those already published. We believe the breed in North America shares the same disease.

One dilemma is the age of presentation. Our youngest dog was nine months old, our eldest was 5 1/2. Clinical disease usually presents with one or more of the following: anorexia, increased drinking and urination, vomiting, weight loss, lethargy, dehydration, back pain, stomach pain, oral ulcers and pale mucous membranes. The clinical progression of the disease is variable. In the few cases we have seen, the advanced stage of the disease progression has been ultimately fatal. Whether the progression of the disease can be decreased is one thing that we are trying to determine.

The current research has shown that *protein-uria (protein in the urine) is the most reliable indicator of early renal disease in the bull terrier*. There is a direct correlation between the amount of protein present and the degree of renal damage. The most accurate tests used to evaluate the urine protein to urine creatinine ratio (UP/C) proteinuria are the 24-hour protein excretion and run with the concurrent urinalysis. To date, we do not know if all proteinuric dogs progress to end-stage failure. We do consider proteinuric dogs affected.

Australian studies have demonstrated the following:

1. When possible, to test the parents a. affected dogs had at least one affected parent b. there have been no cases of affected animals being produced by normal parents
2. There is an absence of generation skipping
3. There is an equal male:female ratio.

This strongly supports an autosomal dominant mode of inheritance assuming a fully penetrant, single, major gene locus.

This information offers us some valuable tools as breeders. The UP/C testing does not guarantee that the dogs will never develop the disease. They may still be pre-clinical, affected and capable of genetic transmission. It is currently the best screening method we have and for the future welfare of the breed, we propose the following:

1. Work up and document any renal disease in your dogs. Kidney biopsies and/or post mortem kidney evaluation may be required for HN diagnosis.

2. Screen all bull terriers using the UP/C test and urinalysis. We recommend every six months in breeding animals or animals genetically related to affected animals.
3. **DO NOT BREED** proteinuric dogs or dogs clinically suspect.
4. Request all stud dogs and brood bitches be screened, and at least two years old before service.
5. Where possible, screen parents, grandparents, siblings and offspring of all affected dogs. Keep accurate records.

We need to establish a national database and work together. Continued work at the University of Minnesota needs data, dogs and funding. Pointing a finger at "Jackandaddy" will not help your next litter. Neither will leaving the work to someone else.

UP/C screening is no more difficult than screening for patellar luxation. The results of not screening may be far more lethal.

Don't wait until you lose one of your own. If we do nothing, the genetic odds are not in our favor.