

Detecting Westie Health Problems with Raman Molecular Urinalysis (RMU)

An update on progress – June 2025

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Detecting health problems and providing effective treatment for these problems is a top concern for all Westie owners. A multiyear project, aimed at developing a new method for health screening and disease management is underway, sponsored by the Westie Foundation of America.

This project is led by Dr. John Robertson, one of the original authors of the Westie Health E-Book and a lifelong advocate for Westie health. When he recently retired from Virginia Tech, he founded a company, Rametrix Technologies Inc. (www.rametrixtech.com) that focuses on developing a urine-based screen for detecting health problems and seeing if treatments are working.



The screen is called Raman Molecular Urinalysis (RMU). RMU has been applied not only to cancer detection in dogs and people, but to other health problems, including kidney failure and diabetes. RMU works by detecting the molecular composition of urine (thousands of different molecules) using Raman spectroscopy and spectral pattern recognition ('fingerprinting'). Urine samples can be analyzed within 15 minutes of collection. Spectral patterns ('fingerprints') can be compared to thousands of other fingerprints in the sample database of urine from clinically healthy dogs and dogs with health problems.

Scientific papers describing RMU use can be found at (<https://rametrixtech.com/resources/>).

In order to detect health problems, it is critically important to have many (hundreds) of urine specimens from clinically healthy dogs. Kay McGuire and Bebe Pinter, working with members of John's Team, have collected over 100 urine samples from healthy dogs and dozens of urine specimens from Westies with health problems. We collectively know we need to hit a 'magic number' (for computational analysis) of urine samples from 250 clinically healthy dogs and at least 250 dogs with health problems (any health problem – cancer, allergy/atopy, IPF, etc.) to validate the test for Westies. John already has secured samples from clinically healthy Bernese Mountain Dogs (a breed with a huge cancer problem – soft tissue sarcoma, lymphoma) and Golden Retrievers (another breed with huge cancer problems – lymphoma, hemangiosarcoma) for comparison with Westies and samples from other breeds.

Working with members of the WFA, John and his Rametrix Team would like to collect urine from more Westies. John developed a mail-in kit for owners that was available by late July 2025. WFA is sponsoring the collection of the first 250 clinically healthy dog screens and 250 screens for dogs with health problems – so there will be no cost to owners submitting samples on the current project. Once fully validated, WFA and Rametrix Technologies Inc. have an agreement to provide screening for dogs at a minimal cost (about the cost of a standard urinalysis at a veterinary clinic).

Reach out to Kay McGuire and John (robertsonj@rametrixtech.com) if you have questions and would like to be involved.