

# Biomarker could provide early warning of kidney disease in cats

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Angelou, a 13-year-old rescue cat, is a senior feline who could benefit from early identification of chronic kidney disease, one of the leading causes of cat death. Credit: Theresa Hogue, courtesy Oregon State University

Researchers from Oregon State University and other institutions have developed a new biomarker called "SDMA" that can provide earlier identification of chronic kidney disease in cats, which is one of the leading causes of their death.

A new test based on this biomarker, when commercialized, should help pet owners and their veterinarians watch for this problem through periodic checkups, and treat it with diet or other therapies to help add months or years to their pet's life.

Special diets have been shown to slow the progression of this disease once it's identified.

The findings were made in a controlled study of 32 healthy, but older [cats](#), and have been published in *The Veterinary Journal* by researchers from OSU and IDEXX Laboratories. They demonstrated the efficacy of a biomarker that could form the basis for a new diagnostic test.

"Chronic [kidney disease](#) is common in geriatric cats and often causes their death," said Jean Hall, a small animal medical expert and professor in the OSU College of Veterinary Medicine. "Damage from it is irreversible, but this is an important advance, in that we should be able to identify the problem earlier and use special diets to slow the disease."

Many of these same health issues also relate to older dogs, and in continued research scientists believe they may make similar findings.

Renal decline is normal in most cats, experts say, as they reach 12-18 years of age, and along with issues such as cancer and [gastrointestinal disease](#) is one of the more common causes of death. But studies have shown that the problem can also be managed with special foods that reduce protein and phosphorus, while adding fish oil, antioxidants, L-carnitine and medium-chain triglycerides.

This biomarker was able to identify the onset of kidney disease in cats on average 17 months earlier than any existing approach, and in at least one case four years earlier. With special diets and care, some cats have lived several years after the disease was diagnosed.

The only existing test for the disease, which has been used for decades, is a blood test that checks creatinine levels, a marker of the breakdown of muscle protein. However, cats lose [lean body](#) mass as they age, so creatinine levels may be normal. SDMA is not influenced by lean body mass and thus more accurately diagnoses the loss of kidney function, even if lean [body mass](#) has decreased.

The early symptoms of this disease are fairly non-specific, such as loss of appetite, weight loss, or vomiting.

The cats in this research were housed at the Science and Technology Center of Hill's Pet Nutrition Inc. The company provided data and samples for analysis in order to better understand the dietary needs of cats with early renal disease, and initiated the study to investigate how best to lengthen and enrich the lives of cats with the condition.

Provided by Oregon State University

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