

Could This Be the Best Test Yet for Detecting Kidney Disease?

About half of all cats over 10 suffer from chronic kidney disease, but when detected early and managed proactively, many live full and happy lives. This newly discovered biomarker can identify the onset of disease about 17 months earlier than the test we use today.

Reviewed by Dr. Becker

STORY AT-A-GLANCE

- A study shows that a newly discovered biomarker called SDMA can provide earlier detection of chronic kidney disease than tests that measure serum creatinine levels
- When a new commercial test using SDMA becomes available, it should help pet guardians and veterinarians better monitor kidney function in older kitties, since half of all cats over 10 acquire kidney disease
- There are a number of potential causes of chronic kidney disease (CKD) in felines, including an underlying condition (hypertension, immune system disorders), infectious diseases, feline distemper vaccines, and dry food diets
- Feeding species-appropriate nutrition (a fresh, balanced, moisture-dense homemade or commercial diet made with human grade ingredients) from the time a kitten is weaned is one of the best ways to keep the kidneys functioning normally throughout a cat's life
- Making your cat's environment as stress-free as possible is also really important. And most important of all in the prevention or management of kidney disease is vigilant monitoring of organ systems

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According to a study of 32 healthy, senior cats performed by researchers at Oregon State University and IDEXX Laboratories, a newly discovered biomarker can provide earlier detection of chronic kidney disease.¹

The study showed that the biomarker, called SDMA (symmetric dimethylarginine), is a better measure of renal function in older cats than creatinine. The new biomarker identified the onset of kidney disease on average 17 months earlier than the standard test for the condition, which measures serum creatinine levels.

Creatinine is a marker for the breakdown of muscle protein, but since most kitties lose lean body mass as they age, their creatinine levels may be normal. SDMA isn't influenced by lean body mass, so it's a more accurate measure of loss of kidney function.

When a new test using the SDMA biomarker becomes available, it may help pet owners and veterinarians better monitor kidney function in cats and make dietary and other lifestyle adjustments as necessary to improve both the quality and quantity of life for kitties with kidney disease.

Causes of Feline Kidney Disease

Sadly, about half of all pet cats over the age of 10 suffer from chronic kidney disease, and there are a number of causes for the condition.

Underlying diseases that can cause kidney failure include high blood pressure, immune system disorders, exposure to toxins, an acute kidney episode that damages the organs and leads to a chronic problem, chronic obstruction of the urinary tract, and certain drugs including NSAIDs and nephrotoxic antibiotics.

Some infectious diseases, including FIV and feline leukemia, can damage kidneys, as can heavy metal exposure, abdominal trauma, and possibly diabetes.

Research has also established a link between feline distemper vaccines and immune-mediated inflammation of the kidneys, which is a cause of chronic kidney disease (CKD). Panleukopenia (feline distemper) is a life-threatening disease, and kittens should receive their initial vaccine series, since unvaccinated cats may be at risk. But adult cats who were successfully immunized as kittens do not need repeated boosters, and cats with kidney disease should not be vaccinated at all.

Feeding cats an exclusively dry food diet is also associated with development of CKD. Kitties are designed to meet most or all of their body's water requirements through their diet, not at the water bowl, so they don't have the thirst drive of other species. Kibble provides a very small percentage of the water a canned or raw diet provides. Cats eating only kibble suffer chronic mild dehydration that causes significant stress to the kidneys over time.

Symptoms and Treatment of CKD

Symptoms of failing kidneys in your cat can include increased thirst and urination, leaking urine (especially at night), vomiting, diarrhea, lack of appetite, weight loss, depression, anemia, and overall body weakness.

Other less common signs are fractures resulting from weakened bones, high blood pressure that can lead to sudden blindness, itchy skin, bleeding into the stomach, bruising of the skin, and oral ulcers.

Treatment of kidney disease focuses on controlling uremia (the buildup of nitrogenous waste products in the blood), delaying the progression of the disease, and maintaining the kitty's quality of life for as long as possible.

Fluid therapy is usually recommended initially to deal with dehydration, anorexia, and vomiting, and to flush away circulating waste products. Depending on your pet's condition, fluid therapy may be administered in the hospital intravenously, and once the cat is stable and rehydrated, most owners want to learn how to give subcutaneous (sub-Q) fluids at home.

The Right Nutrition for Kitties with Kidney Disease

A diet high in excellent quality protein and lower than normal amounts of sodium and phosphorous is recommended. Controlling phosphorus intake has proven to be very important in slowing the progression of kidney disease.

Many veterinarians still insist that a renal diet should be low in protein, despite studies that show aging pets — including those with kidney disease — need more protein, not less.² But it has to be very high-quality protein.

If your cat is addicted to a poor-quality food that is difficult to digest and process, reduce the amount of toxic protein in the diet. However, if your cat is eating human-grade (preferably antibiotic- and hormone-free) protein, then protein restriction is counterproductive and can actually exacerbate weight loss and muscle wasting — two common health issues for cats with failing kidneys.

Many veterinarians will suggest a prescription dry food diet for kidney disease, but this isn't recommended, unless it's a human grade, fresh food diet formulated for kidney disease like Darwin's Intelligent Design. Unless your cat absolutely refuses to eat anything else, don't feed them prescription dry kidney diets.

Cats with renal disease do best eating high-quality, human grade canned food or a fresh, balanced homemade or commercial raw food diet. Cats with the disease still eating kibble should be transitioned if at all possible to a diet that provides much more moisture to help nourish the kidneys.

Most importantly, cats with kidney disease must continue to eat. Unlimited access to fresh water should always be provided.

Additional Recommendations

Vitamins and minerals can sometimes be beneficial for kitties with CKD. B-vitamins can help with anemia, improve a cat's overall feeling of well-being, and also alleviate nausea.

Krill oil, antioxidants, L-carnitine, and medium-chain triglycerides (coconut oil) can also be beneficial. And since anemia can be a problem for pets with kidney disease, adding a source of blood-building supergreens, such as chlorophyll or chlorella, can help fight a low red cell count. Add detoxification support, such as dandelion and SOD (Superoxide Dismutase), if your pet will consume it.

Probiotics that contain specific kidney supportive strains such as Lactobacillus acidophilus, casei, and plantarum, Streptococcus thermophilus, and Bifidobacterium longum can also be extremely beneficial. These strains, which support healthy urea metabolism, are available in “kidney specific” products, as well as OTC probiotics, so read labels well. Standard Process Feline Renal Support can also be very helpful, as well as phosphorus binders and sodium bicarbonate, if appropriate. Your veterinarian will help you decide if these are indicated based on your pet's specific situation.

Making your cat's environment as stress-free as possible is also really important. And most important of all in the prevention or management of kidney disease is vigilant monitoring of organ systems. The goal should be to identify risks and subtle changes long before kidney failure occurs.

Many cats live full and very happy lives when this disease is identified early and managed very proactively.

Sources and References

[Phys.org November 20, 2014](#)

¹ [The Veterinary Journal, Volume 202, Issue 3, December 2014, Pages 588-596](#)

² [AJVR, Vol 59, No. 5, May 1998 \(Archived\)](#)
