

Two Innocent Mistakes That Could Set the Stage for Kidney Disease

Chronic kidney disease has a myriad of causes, many of which you can't control. But make these 2 innocent mistakes, and you're tempting fate, setting kitty up for trouble. As common as CKD is, don't add insult to injury. Avoid these 2 goofs like the plague.

Analysis by Dr. Karen Shaw Becker

STORY AT-A-GLANCE

- Chronic kidney disease (CKD) is an all-too-common problem in cats over the age of 10
- The kidneys have their own very efficient backup system, which is why by the time symptoms appear, the disease is typically in an advanced stage
- There are many symptoms of failing kidneys. Usually the first and most common is increased thirst and urination
- An accurate diagnosis of CKD is imperative, and many of its symptoms are also seen with other diseases
- Treatment of kidney failure in cats includes fluid therapy and a diet high in excellent-quality protein and reduced levels of sodium and phosphorous

Editor's Note: This article is a reprint. It was originally published June 14, 2016.

It's estimated that over half of all pet cats over the age of 10 suffer from chronic kidney disease (CKD), which is also often referred to as chronic renal disease or chronic renal failure.

In fact, the condition is so common I try to keep it top-of-mind here at Mercola Healthy Pets so I can help cat guardians be on the lookout for signs of the disease, and take steps to prevent or effectively manage it.

Causes of Kidney Damage

Causes of chronic kidney disease are wide-ranging and include:

- Malformation of the kidneys at birth
- Exposure to toxins
- Congenital polycystic kidney disease
- Acute injury to the kidneys that leads to chronic disease
- Bacterial infections of the kidneys
- Chronic urinary tract obstruction
- High blood pressure

- Certain drugs, especially nonsteroidal anti-inflammatories (NSAIDs)
- Immune system disorders such as systemic lupus
- Infectious diseases such as feline immunodeficiency virus (FIV) and feline leukemia (FeLV)
- Heavy metal exposure
- Abdominal trauma

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.

Panleukopenia (feline distemper) is a life-threatening disease, and at-risk kittens should receive their **initial vaccine series**, since unvaccinated, exposed cats are at risk.

Many indoor-only cats are never at risk and can healthfully go their whole lives without being immunized. Your integrative veterinarian can help you assess your cat's risk of disease.

But remember, 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.

The quality of protein in most dry cat foods is terrible; there's a HUGE difference between "feed grade" and "food grade" (human grade).¹ I believe rendered protein is harder to digest and process. Fed consistently, it can cause organ stress to the liver and kidneys.

Additionally, kibble provides a very small percentage of the water a canned or raw diet offers. Cats fed only kibble suffer chronic mild dehydration that causes significant stress to the kidneys over time.

How the Kidneys Fail

The kidneys are made up of thousands of tiny tubes called nephrons that filter and reabsorb fluids. In young healthy cats, there are so many nephrons available that some are held in reserve.

As a result of the aging process or damage to the kidneys, some nephrons stop functioning and reserve nephrons take over. At some point in the life of most kitties, all of the nephrons that can function are functioning, and there are none left in reserve.

With no backup nephrons, as damage to the kidneys progresses, signs of chronic kidney disease start to appear. It's the system of reserve nephrons that masks signs of kidney insufficiency until the damage is truly significant.

When two-thirds of the nephrons are lost, the kidneys will no longer be able to conserve water, and the cat will pass larger amounts of dilute urine. By the time creatinine levels are elevated on bloodwork, 75% of nephrons in both kidneys are gone.

Your Cat's Kidneys Have a Lot of Jobs to Do

As blood travels through the kidneys, they perform a complex filtering process that removes waste materials and keeps beneficial substances like serum proteins in the bloodstream.

The kidneys also regulate the amount of water in the blood, and help to maintain healthy blood pressure by regulating sodium. They regulate calcium and vitamin D. These hardworking little organs also secrete a hormone called erythropoietin that stimulates bone marrow to produce red blood cells.

So as you can see, when the kidneys aren't functioning at full capacity, there are many organ and body systems that can be affected.

Kidney Disease Symptoms

Because the kidneys have so many jobs to do, there are many symptoms of kidney dysfunction, and they vary from one cat to the next. Signs of a problem can be subtle and progress slowly, or they can be sudden and severe.

Symptoms of failing kidneys can include:

- Increased thirst and urination
- Anemia
- Urine leakage (especially at night)
- Generalized weakness
- Vomiting
- Bone fractures
- Diarrhea
- Hypertension that can lead to sudden blindness
- Loss of appetite
- Itchy skin or bruising of the skin
- Weight loss
- Bleeding into the stomach
- Depression
- Oral ulcers

Arriving at an Accurate Diagnosis

Most of the symptoms of kidney failure are also common in other diseases, which makes accurate diagnosis really important. Routine blood work can detect a chronic kidney problem at an early stage. For cats 7 and older, tests for kidney function should be performed at least annually. I recommend every six months for my own patients.

It's amazing the number of cats who have notable changes in their organ function over a short six-month period. A lot can change in a few months, and catching failing kidneys early is critical.

Blood chemistry profiles will show if there are elevated levels of circulating waste products, which is a sign of declining kidney function. Routine bloodwork will also pick up anemia, which is common with CKD. A full blood panel can also detect other diseases like diabetes and hyperthyroidism.

A new test that measures a biomarker called SDMA (symmetric dimethylarginine) is, according to IDEXX Laboratories, a better measure of renal function in older cats than creatinine. IDEXX claims the SDMA biomarker can identify the onset of kidney disease on average 17 months earlier than the standard test for the condition, which measures serum creatinine levels.²

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 presumably a more accurate measure of loss of kidney function.

A urinalysis is really important in providing critical information about kidney function. It can pick up a urinary tract infection, and more importantly, it can quantify the concentration of your cat's urine and detect if microprotein is being excreted. These are two of the most common, earliest recognizable signs that kidney dysfunction is occurring. Your veterinarian may also want to run a UPC (urine protein to creatinine ratio) test if there is protein found in your cat's urine.

Cats with kidney disease tend to drink a lot of water, and they urinate a lot, as the body tries to work around the kidney insufficiency by flushing extra waste products out of the system. Reduced kidney function affects the kidneys' ability to concentrate urine, so very dilute urine is a common problem.

It's important to check thyroid function in any kitty suspected of having kidney disease, especially if the cat is older. Hyperthyroidism often exists alone or in conjunction with kidney failure, and its presence can change the way the conditions are treated.

Blood pressure should also be checked since many cats with kidney disease also have hypertension or high blood pressure. Sometimes an additional abdominal ultrasound or other diagnostics are performed to take a more in-depth look at what's going on inside the kidneys with a three-dimensional picture.

Kidney Disease Staging

CKD is staged depending on the severity, which is estimated based on the level of waste products in the blood and abnormalities in the urine. The International Renal Interest Society (IRIS) developed a method to gauge the severity of the disease in four stages. Stage 1 is the least severe and Stage 4 is the most severe. Staging the disease is useful for treatment and monitoring of patients.

- Stage 1 is characterized by creatinine levels in the blood that are less than 1.6 milligrams per deciliter. Presence of waste products in the blood is unremarkable at this stage, but there can be other kidney abnormalities, including inadequate urine concentration, or kidneys that feel different when palpated, or appear abnormal on x-rays.
- Stage 2 is when creatinine levels are between 1.6 and 2.8 milligrams per deciliter.
- In Stage 3, creatinine levels in the blood reach 2.9 to 5 milligrams per deciliter. There is moderate renal azotemia (accumulation of waste products in the blood) as measured by blood urea nitrogen (BUN) levels.

- Stage 4 is characterized by creatinine over 5 milligrams per deciliter, severe azotemia (elevated BUN), and the presence of multiple additional symptoms.

The amount of protein passed in urine and the presence of elevated blood pressure are also factored into the staging process.

Treating CKD

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 cat'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. Once kitty is stable and rehydrated, most owners want to learn how to give subcutaneous (sub-Q) fluids at home. Sub-Q fluids are injected under the skin, usually in the scruff of the neck between the shoulder blades. Cats tend to handle the procedure pretty well — better than their humans, initially! The frequency of injections depends on the severity of disease.

A diet high in excellent-quality (human grade) protein and lower than normal amounts of sodium and phosphorous is recommended for CKD kitties. Controlling phosphorus intake has proven to be very important in slowing the progression of the 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.³ 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, I recommend you 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 prior to stage 3 CKD is often counterproductive and can actually exacerbate weight loss and muscle wasting — two common health issues for cats with failing kidneys.

Ideally, if your cat is eating poor-quality food, the goal is to wean him off it and onto a better-quality food so that adequate protein intake can be continued.

Many veterinarians will suggest a "prescription food" for kidney disease, but I recommend against this as well, unless it's a human grade, fresh food diet formulated for kidney disease like Darwin's Intelligent Design. Darwin's has created the only excellent-quality, fresh food diet specifically formulated for cats with CKD. It can be fed lightly cooked or raw. Unless your cat absolutely refuses to eat anything else, I don't recommend feeding prescription dry kidney diets.

Additional Help for Failing Kidneys

Vitamins and minerals can sometimes be beneficial for kitties with CKD. I often add a variety of the B-vitamins to a cat's sub-Q fluids. B-vitamins can help with anemia, relieve nausea, and improve a cat's overall feeling of well-being.

Antioxidants, L-carnitine, and medium-chain triglycerides (coconut oil) can also be beneficial. Adding a source of blood-building supergreens, such as chlorophyll or chlorella, can help fight a low red cell count. I also recommend adding detoxification support, such as dandelion and SOD (superoxide dismutase), if your kitty 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 carefully.

Feline Renal Support by Standard Process 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 cat’s specific situation.

Making your kitty’s environment as stress-free as possible is also extremely 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 long full lives when kidney disease is identified early and managed proactively.

Sources and References

[Capital Gazette March 15, 2016](#)

¹ [Truth About Pet Food](#)

² [IDEXX](#)

³ [Finko DR, et al. Protein and calorie effects on progression of induced chronic renal failure in cats. Mousabilities.com \(Archived\).](#)
