Kidneys: The Kings of Filtration for Your Pet

By Dr. Laura Hady

ew people know what kidneys do. At the most basic level, they act as filters and recyclers of blood, eliminating waste in the form of urine through the body's plumbing system -ureters, bladder, and urethra. However, the kidneys also work in association with many body systems, including the cardiovascular and endocrine (hormones) systems. Kidneys even help to keep electrolyte values normal (sodium, potassium, chloride and calcium). All of the blood that your pet has passes through the kidneys about 40 times a day. When kidneys work normally, our pets stay healthy. The following are some symptoms associated with kidneys that are not functioning properly.

1) Increased water intake and urination. Pets with kidney disease can no longer concentrate their urine properly, so excess urine is lost. Due to a loss in volume, your pet has hormones that will make them thirstier to compensate for the loss in urine. Dogs may drink more out of the toilet, and cats may try to drink out of faucets. Other diseases that can cause increased drinking and urination include diabetes mellitus and an overactive adrenal gland (hyperadrenocorticism). Please let your family veterinarian know if you notice these symptoms in your pet.

2) Decreased appetite and weight loss. Since diseased kidneys cannot filter ammonia toxins such as urea and creatinine, your pet may have elevated levels in the blood. Your pet may experience nausea and gastric ulcers. Your veterinarian may prescribe an anti-acid, antinausea medicines, and/or a solution to bind excess phosphorous in your pet's blood. Since the kidneys make a protein to stimulate red blood cell production, pets with diseased kidneys may be anemic (low red blood cell percentage) causing them to be weak and have a decreased appetite.

3) High blood pressure. Sixty to 90 percent of pets with chronic kidney disease have high blood pressure.

While you may not see obvious signs of high blood pressure, damage to the eyes, brain, heart, and blood vessels can be affected. High blood pressure will continue to decrease the already impaired kidney function. Your veterinarian can check your pet's blood pressure and prescribe medication to safely lower it.

4) Changes in the urine. Damaged kidneys are not able to keep large molecules, such as proteins, in the blood. Instead, the proteins will be found in the urine, filtered out of the body. Low protein in the body results in diarrhea, weight loss, and decreased energy. Kidney disease often results in more dilute urine, which contains less urea, a substance that keeps bacteria, such as E. Coli, from setting up an infection in the urinary system. Your veterinarian will likely collect urine and blood on a regular basis from your aging pet to check for changes.

While the diagnosis of acute or chronic kidney disease in your pet may sound overwhelming, there are



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changes that you can make early on to help slow the progression of the disease. The first is to change to a diet with lower protein and certain minerals. Hill's Science Diet, Royal Canin, and Purina all have specialty kidney formulas that make these adjustments. These diets may also have increased omega-3 fatty acids and probiotics that help to decrease inflammation, prevent weight loss and increase appetite. Increasing fluids either by providing more sources of fresh water, using hydration formulas (Purina Hydra Care or Solid Gold Bone broth), or giving your pet fluids under the skin are all options to help your pet feel better. Your best resource is your family veterinary staff as they can guide you through the changes in your pet's clinical signs and bloodwork.



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