



Kidney disease

Kidney disease is one of the most common diseases in dogs and cats. Some forms of kidney disease occur suddenly (acute onset) while other forms progress gradually and are chronic. There are many causes of kidney disease. Acute kidney disease is most often caused by genetic predisposition or kidney malformation (dysplasia), infections, toxins, mechanical obstruction of the urinary tract, stones, and cancer. Chronic kidney disease is usually due to degenerative changes and genetic predisposition plays a role in onset and progression as well. Age, breed and genetics, lifestyle, exposure to infectious diseases and toxins are key pieces of information that can indicate the underlying cause of kidney disease.

Infections from severe bladder infections can ascend to the kidneys and cause kidney failure. Other often under-recognized causes of kidney disease are tickborne diseases such as Lyme disease, Ehrlichia and Anaplasma infection.

Certain toxins can cause sudden and fatal kidney failure. Common toxins in dogs are raisins, grapes and antifreeze ingestion. In cats, lilies are highly toxic.

Inability to urinate is a common cause of kidney failure. Urinary tract blockage can occur from obstruction of urine exit by stones, mucus plugs, tumors and neurologic causes. Urinary blockage in male cats is common. Signs of urinary blockage include frequent attempts to urinate, production of small amounts-no urine, straining, vocalizing, lethargy, pain. *This is a life-threatening emergency.*

Chronic kidney disease is one of the top 3 chronic diseases seen in cats and dogs. The early symptoms of chronic kidney disease often go unrecognized until it has reached advanced stages. The most common symptoms of kidney disease are increases in drinking and urinating and dilute urine. Kidney disease eventually leads to weight loss, chronic dehydration, decline in skin and coat quality, lethargy, anemia, decreased appetite, vomiting, and increased risk for urinary tract infections. Even the most sensitive laboratory test can detect kidney damage only after there has already been 25-40% loss in kidney function. Measurably diluted urine concentration occurs when there has been 60-67% loss of kidney function. Other changes in kidney parameters on labwork occur when 75% of function has been lost. In this way, chronic kidney disease is insidious and once detected, many cases are fairly advanced.

It is also for this reason that routine and regular labwork is critical in catching kidney disease at the earliest stage possible.

The kidneys have many jobs in the body, so the consequences of kidney failure are multifaceted, as is the treatment.

Treatment

Acute kidney disease should be treated as an emergency. This usually involves hospitalization and immediately addressing the underlying cause whether it is infection, urinary tract blockage, or other cause.

Chronic kidney disease can be managed through multiple supportive measures. While there is no cure for kidney disease, there is much we can do to support the kidneys and regain function to damaged kidney tissue. Many dogs and cats live for years with chronic kidney disease where we provide supportive care and regular monitoring and tailoring of treatment. The foundations of kidney disease treatment are through specific diet recommendations, kidney health supplements, hydration support, and regular monitoring. Prescription kidney diets are comprised of nutrients to support the kidneys and restriction of ingredients that stress the kidneys. A canned food diet and extra fluid support may be recommended.

The kidneys also have many important jobs in the body including regulating blood pressure, red blood cell production and maintaining body electrolyte and pH balance and hydration. Part of treating and monitoring for progression of kidney disease involves regular labwork to assess these areas for:

- High blood pressure
- Anemia
- Electrolyte imbalances
- High Phosphorus
- Dehydration
- Acidosis
- Infection

Additional medications and therapies are needed to manage these aspects of advanced kidney disease.