

## Kidney Disease No.1 And No. 2

It is a fact of nature. You take into your body food and drink, the body processes it, and lo and behold the body releases the by-products( use your imagination). The organs which finally handle these end products are the kidneys, bladder and colon. Pathologic conditions affecting these structures are very common and make up a good portion of veterinary practice.

Kidney disease may affect many cats and dogs as they get older. The kidneys can be affected by toxins, bacteria, metabolic, congenital disorders, autoimmune disease as well as simply old age. Young animals may have a number of rare conditions that will alter kidney functions. We are often asked why we recommend blood testing before performing procedures on young animals. Anesthetic drugs, in many cases, need the kidneys to be in working in order to remove their by-products which at high levels can result in damage to the heart and brain. Doing pre-anesthetic blood work which shows abnormal kidney functions may save a life. Lack of a kidney, multiple cysts which decrease functioning kidney tissue can be seen in rare cases. Many older animals have periodontal disease. What do gums have to do with things that affect internal organs? When tarter builds up on the teeth it starts to work its way under the gums. The gums get red and bleed (gingivitis) and then become infected by mouth bacteria. These bacteria can then enter the blood stream and can get filtered out in the kidney and liver. Many older dogs and cats die of kidney failure and I believe that the constant bombarding of functioning units of the kidney with bacteria causes scar tissue to build up and affect the ability to filter poisons from the blood. These same bacteria can then move from the kidney into the bladder and cause cystitis, a bladder infection. Besides infection, which is probably the most common bladder disease, we see a significant number of cases of bladder stones and bladder cancer. The symptoms for all of these are straining to urinate, frequent urination, and possibly blood in the urine. Bladder stones are formed when the minerals precipitate out of the urine and form stones from marble to golf ball size. In a male dog sometimes the small stones will get stuck behind the penis and cause an obstruction. Surgery is required to remove the stones and diet changes will help to prevent reoccurrence. Bladder cancer usually occurs near the out flow tract and can make it difficult for urine to pass. We can treat cancer with drugs because it is often difficult to remove tumors surgically.

The last organ to talk about is the colon. The job of the colon is to remove fluid from the feces passing through so that the bowel movement will be formed and come out easily. Diseases of the colon include colitis, parasitism, cancer and neural logical conditions which impair the ability to push fecal thru. There are certain intestinal worms which cause inflammation in the colon(whip worms in particular). The symptom is diarrhea, usually with blood. Dogs who eat foreign material (such as grass, paper, plaster, wood, leaves, etc) may get a colitis as these materials will not be digested and will rub the colon wall causing inflammation. When irritated the lining of the colon wall will separate large amounts of mucus and if blood vessels are abraded blood will be present as well. Dogs and Cats also get inflammatory bowel disease, which is an autoimmune process. The body perceives the bowel lining as foreign and attacks it, causing

inflammation. Most of these conditions are treatable with a combination of diet and medication.