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## **Cystitis**

*Bladder inflammation*

### **Affected Animals:**

Dogs, cats, and other mammals

### **Overview:**

There are many causes of cystitis, which is an inflammation of the urinary bladder. More common causes include a bacterial infection of the urinary tract, bladder stones, polyps, tumors, and an anatomical defect called a diverticulum, which is a tiny pocket in the bladder wall that retains urine.

Cystitis causes a wide range of problems with urination. Some dogs may strain to urinate, urinate more frequently, or become incontinent. Blood also may appear in the urine. Depending on the cause of the inflammation, the cystitis may be treated through a variety of methods. Often, dogs will recover from the disease, but animals that develop cystitis because of a tumor carry a guarded prognosis.

### **Clinical Signs:**

Hematuria, pollakiuria, dysuria, stranguria, licking the genitalia, and occasional incontinence.

### **Symptoms:**

Blood in the urine, difficulty urinating, straining to urinate, licking the genitalia, and occasionally leaking urine.

### **Description:**

Cystitis is an inflammation of the urinary bladder. Bladder stones, bacterial infections of the urinary tract, polyps, tumors, and anatomical defects of the bladder are all common causes of cystitis. Dogs with this disease may have a number of problems related to urinating, including straining or difficulty urinating, blood in the urine, frequent urination, and incontinence.

### **Diagnosis:**

A diagnosis commonly is made by a thorough physical exam, a urinalysis, and a urine culture. Bladder stones, a common cause of cystitis, sometimes can be felt within the bladder or within the urethra during the physical exam. A urinalysis evaluates for problems such as the presence of blood, bacteria, mineral crystals, cancer cells, protein, and inflammatory cells.

Many times a culture of the urine is needed to determine accurately if bacteria are present and if so, which antibiotics will be effective in treating them. Abdominal x-rays, and sometimes x-rays illuminated by contrast material are helpful to visualize the bladder structure and determine if any stones are present. Another diagnostic tool that can be

helpful is an ultrasound of the bladder and its contents. This procedure also will allow measurement of the bladder wall thickness.

**Prognosis:**

Depending on the cause of the cystitis, the prognosis varies. A bacterial infection carries a good prognosis for recovery with appropriate antibiotic therapy. Surgical correction of benign polyps and diverticula also carries a good prognosis. Bladder stones can be removed surgically or dissolved medically, but they can recur. Malignant tumors, or cancers, of the bladder carry a guarded prognosis.

**Transmission or Cause:**

There are many causes of cystitis in dogs. The most common cause is a bacterial urinary tract infection. Other causes include bladder stones, which rub the bladder wall and cause damage, bleeding, and even partial blockage of urine flow. Polyps are masses of tissue that can grow in the bladder and cause inflammation. Tumors also can cause problems with the bladder, including bleeding and sometimes partial blockage of urine flow.

A diverticulum, another cause of cystitis, is an anatomical defect within the bladder in which a pocket forms in the bladder wall. These defects can be microscopic or large enough to see on an x-ray. Growth of bacteria can occur within the urine that collects in these pockets, resulting in a urinary tract infection.

**Treatment:**

Treatment depends on the cause of the cystitis. Bacterial cystitis requires treatment with an appropriate antibiotic, which can be indicated by a urinary culture. Treatment for bladder stones depends on the stone type. Some stones can be dissolved medically with diet and medication, while others have to be removed surgically. Polyps and diverticula also require a surgical correction. Tumors sometimes can be removed surgically and submitted to a pathologist for identification of the tumor type; this information is important in determining the best treatment options for that type of tumor.

**Prevention:**

Many causes of cystitis cannot be prevented. If chronic urinary tract infections result from a skin disorder such as infection around the vulva, meticulous cleaning of the area and treatment of the skin disease may prevent recurrences. Some types of bladder stones can be prevented with certain diets and medications.