Cystitis in Dogs

The term "cystitis" means inflammation of the urinary bladder, and there are many causes of this inflammation.

Clinical Signs
The most common sign seen by most owners is haematuria (blood in the urine). In addition, many dogs have discomfort when urinating; they will spend several minutes straining to pass only a small amount of urine, and they may urinate more frequently than normal.

The signs will be determined by the specific cause of cystitis. **Bacterial infections** usually cause haematuria and dysuria (straining to urinate.) **Bladder stones** are often very rough; they cause irritation to the bladder as they rub against the bladder wall also creating haematuria. Obstruction can cause dysuria. **Tumours or polyps** are usually not highly irritating to the dog’s bladder, but they can cause bleeding and mild straining to urinate. A **diverticulum** is a small pouch in the wall of the bladder that usually causes haematuria and dysuria secondary to the chronic bacterial infection that occurs. Bacteria often reside deep in the diverticulum and are nearly impossible to remove without surgery.

Diagnosis
1. The first group of tests includes urinalysis, urine culture, and bladder palpation (feeling with the fingers).

A **urinalysis** consists of several tests to detect abnormalities in the urine, including abnormalities in the urine sediment. These are generally adequate to confirm cystitis, but they are usually not adequate to determine the exact cause. A **urine culture** determines if bacteria are present and what antibiotics are likely to be effective in killing them. This is appropriate because most cases of cystitis are caused by bacteria that may be eliminated easily with antibiotics. A sample of urine will be sent to the Lab, and results are usually available within 2-3 days. **Bladder palpation** is the first "test" for bladder stones, since many are large enough to be felt by experienced fingers.

About 20% of the time the culture will be negative for bacteria and stones cannot be felt. When this happens, it is important that more tests be performed so that a diagnosis can be achieved.

2. **Plain radiographs** (x-rays) are taken because many (but not all) types of stones can be seen with this technique. Plain radiographs are usually not able to visualise bladder tumours, polyps, or diverticula. A plain radiograph can be made without sedation or anaesthesia in a cooperative dog.

3. An **ultrasound** examination is also useful in evaluating the bladder. This technique uses sound waves to visualise stones and some tumours and polyps. It may also identify other abnormalities of the bladder wall, including wall thickening. It, too, can be performed without sedation or anaesthesia in a cooperative dog.

4. **Contrast radiographs** are taken when plain radiographs and an ultrasound examination do not render the diagnosis. The bladder is filled with a negative contrast material (usually air), and a positive contrast material (a special radiographic dye). This procedure permits visualisation of otherwise unseen bladder stones, tumours and polyps, diverticula, and wall thickening. It is necessary to pass a catheter into the bladder and to distend it with the contrast materials; therefore, general anaesthesia is required.

5. Dogs showing other signs of illness, such as fever, poor appetite, or lethargy, should also be evaluated for systemic diseases and bleeding disorders that may be causing haematuria. A **chemistry profile** and complete blood count (CBC) should be performed. If a clotting problem is suspected, a bleeding profile is appropriate.

Treatment
Treatment depends on the cause. Bacterial infections are generally treated rather easily with antibiotics. Some bladder stones can be dissolved with special diets; others require surgical removal. Benign bladder polyps can usually be surgically removed, but malignant bladder tumours are difficult to treat successfully. A bladder diverticulum should be removed surgically.