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Ernie has more than 20 years of experience in the veterinary industry and is a well-known veterinarian, media personality and author. He is also a founding member of IDEXX's Pet Health Network team.

Bloody and discolored <u>urine</u> is a common reason cat guardians seek <u>veterinary</u> help. It's incredibly upsetting to see drops of <u>blood</u> in a <u>litter box</u>, on bedding, or on the floor. Sometimes you can't see the blood until the urine is examined with a microscope or detected on urinalysis. Fortunately, many <u>cats</u> experiencing blood in their urine have signs that resolve quickly with relatively simple treatments. The two major causes of blood in a cat's urine are cystitis and <u>feline lower urinary tract disorder or FLUTD</u>.

What is hematuria?

Blood in the urine is called hematuria. Hematuria can be identified by the presence of pink, red, brown or black urine or by the microscopic presence of blood cells. A urinalysis is used to help determine if the blood is from urinary tract disease or the result of a condition affecting coagulation or bleeding. Blood tests are usually needed to verify or exclude a bleeding or clotting disorder. The most common, general diagnosis for hematuria in cats is cystitis.

What is cystitis?

Cystitis is a general term referring to inflammation in the urinary bladder. The term cystitis does not imply a specific cause. In cats, diseases of the lower urinary tract, the bladder and urethra, are often categorized by the term feline lower urinary tract disease or FLUTD. We use these broad medical terms because it can be challenging to distinguish between the various diseases of the bladder and urethra, and many conditions affect the entire lower urinary tract. If your veterinarian eliminates all of the specific diagnoses for hematuria, the condition is called Feline Idiopathic Lower Urinary Tract Disease (iFLUTD). Some vets may use Feline Idiopathic Cystitis (FIC) to describe this condition. Idiopathic is a term that means the exact cause is unknown.

What are the symptoms of cystitis?

The typical symptoms of cystitis or FLUTD in cats are associated with inflammation and irritation of the lower urinary tract. The common clinical signs are:

- Increased frequency of urination called pollakiuria
- <u>Difficulty urinating</u> or dysuria. (Affected cats often spend a long time straining in the litter box while passing only small volumes of urine. Many cat owners confuse this with <u>constipation</u>.)
- The presence of bloody, foul-smelling, or discolored urine.
- Urinating in unusual places such as on furniture, floors, and corners, called periuria.
- Excessive grooming or licking of the genital region.
- Inability to urinate. These cats strain to urinate producing a few drops or no urine. If you suspect your cat is obstructed and not able to adequately pass urine, this is an immediate medical emergency. Urethral blockage, which is more common in male cats because of their narrow urethra ("the plumbing"), can be a lifethreatening complication if untreated even for a few hours.

What are the causes of cystitis?

Blood in a cat's urine can have many potential causes. Cystitis and FLUTD can cause severe inflammation of the bladder and/or urethra leading to hematuria. While many young cats, under 10 years of age, will have bladder inflammation that is not explained, some of the specific causes of cystitis blood in a cat's urine include:

- Trauma or physical injury
- Coagulation or bleeding disorder
- Urinary calculi or <u>bladder stones</u> (approximately 20% of all cases in cats under age 10)
- <u>Bacterial infections</u> (primary bacterial infections are rare in cats, although secondary infections can occur as complicating factors) – more common in cats over 10 years of age – many older cats will have both bladder stones and a bacterial infection present
- Neoplasia (bladder or lower urinary tract <u>tumor</u>)
 more common in older cats
- Anatomical abnormalities especially in younger cats with chronic or persistent urinary











tract issues

 Urethral plugs - blockage of urethra with a mixture of crystals or small calculi (stones) and inflammatory material

How will blood in your cat's urine be diagnosed?

The initial diagnosis for a cat suffering from hematuria is based on the presence of symptoms consistent with lower urinary tract inflammation. A complete urinalysis with sediment exam is the most common diagnostic test used to confirm the presence of urinary tract inflammation or infection, and is often performed in the practice, real time. Other diagnostic tests for blood in the urine include:

- Laboratory analysis of a urine sample
- Bacterial culture and susceptiblity of the urine
- Blood tests to search for other evidence of urinary tract disease, such as <u>kidney disease</u>, or bleeding disorders
- Radiographs (x-rays) and/or ultrasound examination of the bladder and urethra

Treating blood in your cat's urine

Treatment for feline hematuria is based on the underlying cause. Some common treatments for blood in the urine, cystitis and FLUTD are:

- Bacterial infections of the lower urinary tract typically respond well to antibiotic therapy for two to four weeks.
- For sterile or idiopathic cystitis other treatments such as dietary changes, anti-inflammatory drugs, environmental changes, encouraging more water intake, and others may be recommended.
- If a cat develops a blocked urethra, emergency treatment is required to remove the blockage. In most cases, the cat will be given a short-acting general <u>anesthetic</u> and the urethra will be flushed or catheterized. Urethral obstruction occurs almost exclusively in male cats. Other treatment options may be recommended based on your cat's specific blockage.
- If bladder stones (uroliths) are present, they

need to be removed. Depending on the type of bladder stone, they may be able to be dissolved using a special <u>diet</u> or dietary additive, or they may require surgical removal. In some cases, an initial treatment can be determined by the results of a urinalysis.

There is no universal treatment for hematuria, cystitis, or FLUTD. Each case has to be diagnosed and the treatment tailored to the individual cat. Not uncommonly, despite appropriate tests and treatment, clinical signs and hematuria may recur, requiring further therapy and diagnostic testing. Successfully treating lower urinary tract disease in cats often requires patience and perseverance.

Keeping blood out of your cat's urine

I'm always searching for ways to prevent conditions such as hematuria from happening. Unfortunately, it's impossible to completely prevent diseases of the lower urinary tract in cats. We know that FLUTD/FIC appears to be more common in felines that have low water consumption and are inactive or obese. These factors may partially influence the frequency of a cat's urination. Weight control and encouraging exercise and water consumption may provide some benefit in preventing cystitis and FLUTD. Having an enriched environment, with clean and accessible litter boxes also may help. If bladder stones or crystals are the cause of blood in the urine, special therapeutic diets may help prevent relapse. If you suspect your cat may have blood in its urine, please have it examined by your veterinarian immediately. The faster you obtain a diagnosis and proper treatment, the guicker your cat can return to a healthy and pain-free life.

If you have any questions or concerns, you should always visit or call your veterinarian -- they are your best resource to ensure the health and well-being of your pets.









