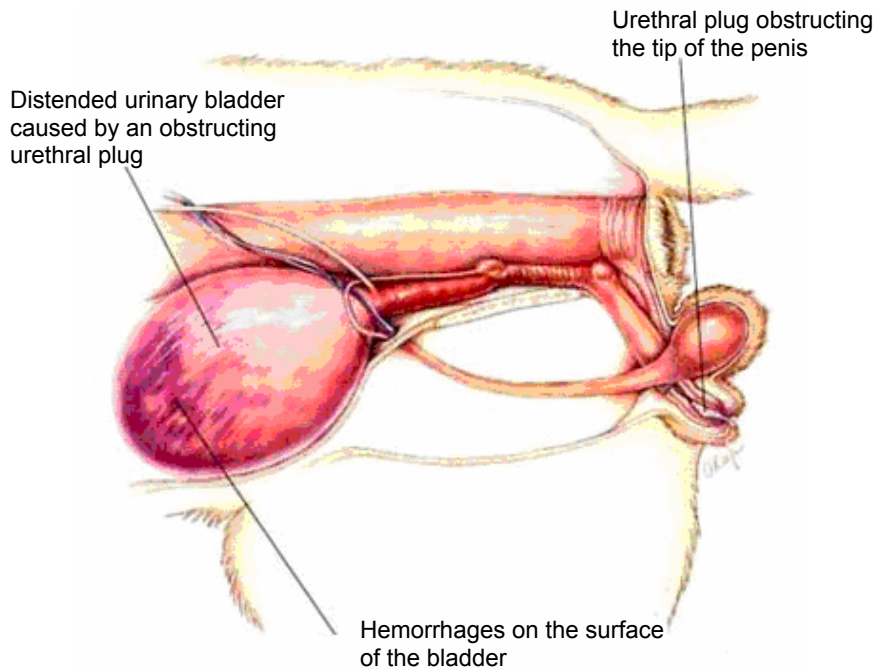




# Feline Lower Urinary Tract Disease



## Feline Lower Urinary Tract Disease

### Diagnostic Plan

History  
Physical examination  
Abdominal palpation  
Urethral palpation  
Urinalysis  
Urine culture  
X-rays of the urinary tract  
Blood work

### Therapeutic Plan

Emptying of the bladder  
Fluid therapy  
Removal of the urinary obstruction

### Nutritional Plan

For dissolution, the proper calculolytic food  
To aid in prevention or recurrence, nutrition that allows the body to produce the appropriate urine pH and avoids excesses of the urolith's precursors  
If surgery is necessary, nutrition adequate for tissue repair

## Feline Lower Urinary Tract Disease (FLUTD)

Your cat has lower urinary tract disease, often referred to as feline lower urinary tract disease (FLUTD). FLUTD is a life-threatening blockage and inflammation of the urinary tract characterized by the frequent, painful passage of bloody urine. Most FLUTD cases respond to relief of urinary tract obstruction, fluid therapy, and proper nutrition. This client education sheet will help you learn more about FLUTD and will review your veterinarian's instructions for your pet's care at home, as well as follow-up with the veterinary health care team.

## What You Should Know About Feline Lower Urinary Tract Disease

Up to 10% of all cats admitted to veterinary hospitals are affected with FLUTD. The most common finding is irritation and inflammation of the lining of the bladder and urethra (the tube that carries urine from the bladder to the outside) associated with the formation of crystals. Crystals form when the urine is too acidic or too alkaline. Building blocks for various crystal types include magnesium, ammonium, calcium, oxalate, urate, and phosphate. Crystals (most often struvite) may imbed in an inflammatory protein matrix, much as bricks are embedded in mortar. The number of male and female cats affected with FLUTD is equal, but the disease is much more serious in male cats because they have a longer, narrower urethra. The protein matrix/struvite crystal complex or calcium oxalate formations may partially or completely obstruct the urethra in male cats. This obstruction makes urination impossible. As a result, wastes that are normally passed in the urine build up in the cat's body causing life-threatening changes.

### Causes

Although there is no single cause of FLUTD, various risk factors have been identified that predispose cats to the disease. Among these are urine that is too alkaline or too acid, obesity, high urine concentrations of magnesium, and foods with excess protein and vitamin D. Factors that cause high urine levels of magnesium include high magnesium content in the food, infrequent urination caused by a dirty litter pan, and reduced water intake caused by unavailable or poor-quality water and dry food. Factors that contribute to an alkaline urine pH include the size and frequency of meals, the type of food eaten, and bacterial infections of the bladder.

### Signs

FLUTD is a serious condition that can be fatal if untreated therefore it is important to recognize its signs in your cat. Signs include; prolonged squatting and straining to urinate, more frequent urination, urination outside the litter box, bloody urine or a painful abdomen.

## Diagnosis

Your veterinarian will palpate (examination by touching) your cat's abdomen to see if the bladder is enlarged and painful. Another important part of the physical examination will be an inspection of a male cat's penis. Obstructions may be apparent, or a drop of bloody urine may be present. Other tests that may need to be performed by your veterinarian include examination of urine with the aid of a microscope to reveal the presence of crystals, urine culture, x-rays, and blood tests.

## Treatment and Home Care

If your cat's urinary tract is blocked your veterinarian will remove the blockage and empty your cat's bladder. Many veterinarians will insert a catheter into the bladder and hospitalize the cat until it is urinating normally. Fluid therapy is often necessary to correct dehydration, restore normal electrolyte balance, and hasten the removal of urinary wastes from the blood stream.

Once you've taken your cat home, you'll need to follow your veterinarian's instructions carefully and monitor your cat to reduce the likelihood of recurrence. You should provide access to fresh, clean water and give all prescribed medications. Provide a clean litter pan for each cat in the household. Encourage your cat to exercise by planning daily play sessions. Return to the hospital for all follow-up lab tests.

## Nutritional Plan

If your cat has FLUTD, your veterinarian may give you special feeding instructions. Many FLUTD patients benefit from foods that reduce minerals in the urine (the building blocks of struvite such as magnesium and phosphorus) and allow a more acid urine. Such foods include Hill's® Prescription Diet® Feline s/d®. In cats fed this special food exclusively, signs associated with FLUTD will normally cease within the first five to seven days. Feline s/d® is usually fed for 30 to 60 days to dissolve struvite crystals.

If your cat has calcium oxalate crystals your veterinarian may recommend a food that has reduced oxalate and protein to reduce the acidity of the urine. Hill's® Prescription Diet® Feline x/d™ is an example of such a food.

Because foods that produce an alkaline urine and have a high magnesium content are risk factors for FLUTD, many cats will have a recurrence of FLUTD if they resume eating their regular food. Your veterinarian may recommend a special food to help control these nutritional risks. Such foods include Hill's® Prescription Diet® Feline c/d®, which has a reduced magnesium content and allows for the maintenance of a normal acid urine. Feline c/d® can be fed to help prevent struvite crystals from forming after your cat has completed the 30 to 60 day course of Feline s/d® therapy for dissolving struvite crystals already present in the urinary tract.

## Transitioning Food

Unless recommended otherwise by your veterinarian, gradually introduce any new food over a seven-day period. Mix the new food with your pet's former food, gradually increasing its proportion until only the new food is fed.

If your pet is one of the few that doesn't readily accept a new food, try warming the canned food to body temperature, or hand feeding for the first few days. Do not add water to your cat's food though. Feed only the recommended food. Do not feed additional salt or any snacks that may contain sodium. Be patient but firm with your pet. This is important because the success or failure of treatment depends to a large degree on strict adherence to the new food.

---

*Presented as an educational service by*

---



## Home Care Instructions

Client's Name: \_\_\_\_\_

Patient's Name: \_\_\_\_\_

Medication(s): \_\_\_\_\_

Nutritional Recommendation: \_\_\_\_\_

Follow-Up Appointment: \_\_\_\_\_

(Hospital Stamp Area Above)

REGULAR VISITS WILL HELP OUR VETERINARY HEALTH CARE TEAM PROVIDE FOR YOUR PET'S BEST INTEREST.