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*Your cat has been diagnosed as having Feline Urologic Syndrome (FUS). This brochure is provided to help you learn about this disease and to care for your pet at home.*

## Feline Urologic Syndrome

FUS is the clinical condition that occurs as a result of cystitis and/or urethritis (inflammation of the urethra). It is characterized by the frequent passing of often-times bloody urine, or partial to complete obstruction of the urinary tract.

### Signs of Feline Urologic Syndrome

Because FUS is a very serious disease that can be fatal to a cat if left untreated, you need to be aware if any of its signs occur in your pet.

Most signs of FUS result from irritation of the urinary tract. Be suspicious if your cat shows prolonged squatting and straining when urinating, attempts to urinate more frequently than normal, urinates in unusual locations, has a painful abdomen if touched, or has bloody urine.

FUS can also cause your pet to lose its appetite, act sluggish, or begin vomiting, especially if urine flow is blocked.

### Important Factors

Up to 10% of all cats admitted to veterinary hospitals are affected with FUS. There is no single cause of FUS, but there are a number of important factors your veterinarian will take into consideration. They are:

**Age:** Although FUS can occur in any age cat, the disease is most commonly seen in those over one year of age.

**Sex:** FUS occurs with equal frequency in both sexes of cats. However, since the anatomy of the male increases the danger of obstruction, this disease is often more serious in male cats.

**Obesity:** FUS occurs with greater frequency in obese cats due to mechanical interference with voiding of urine.

**Diet:** FUS is caused by crystals, which result in inflammation of the urinary tract. Many additional, interacting factors can contribute to the development of these crystals, resulting in FUS. Two factors of primary importance are a high concentration of the mineral magnesium in the urine and urine with an alkaline PH.

**Magnesium:** The increased concentration of magnesium in the urine is caused by many factors: high levels of magnesium in the diet, infrequent urination caused by a dirty or not easily reached litter box, reduced physical activity, and reduced water intake caused by unavailable or poor quality water.

**Urine pH:** The increased urine alkalinity contribution to FUS is affected by the size and frequency of meals and the type of food eaten, and by secondary bacterial infections.

### Diagnosis of Feline Urologic Syndrome

If your veterinarian suspects your cat may have FUS he or she may perform some, most or all of these diagnostic test: *abdominal palpation*, to feel stones present in the urinary bladder; *urinalysis*, to determine the types of crystals present; *urine culture* with antibiotic sensitivity to

determine if bacteria is present in the urinary tract and choose the appropriate antibiotic with which to treat these bacteria; and *radiographic examination* (possibly with contrast media), to see stones present in the urinary tract.

To evaluate how well your pet is responding to therapy, your veterinarian will periodically repeat some of these lab tests. Therefore, you will need to bring your pet in for rechecks as directed by your veterinarian.

### **Treatment/Management**

If your cat's urinary tract is blocked, your veterinarian will immediately empty the urinary bladder. Then, your cat will be given a detailed examination to determine the appropriate therapy. Immediate treatment may include fluid therapy to relieve dehydration and rebalance the blood chemistry, removal of any mineral crystals obstructing urine flow, insertion of a urinary catheter, and hospitalization until your cat can urinate normally.

Special diets help by reducing the minerals in the urine that form the stones. These diets also affect the urine pH and increase urination to help flush the urinary tract.

Struvite urinary crystals can be dissolved in your cat's urinary bladder and tract by feeding Prescription Diet Feline s/d dietary pet food, a special diet that is low in magnesium and aids in maintaining a normal acid urine. In cats fed this special diet exclusively, signs associated with FUS will normally cease within the first 5-7 days. To completely dissolve the struvite crystals or stones, the diet is usually fed 2-3 months.

### **Feeding Directions**

Follow the directions your veterinarian when feeding any Prescription Diet dietary pet food. These diets are highly palatable and are readily accepted by most pets.

Unless recommended otherwise by your veterinarian, gradually introduce any new diet over a 10 day period. Mix the new diet with your pet's former food, increasing its proportions until only the new diet is fed.

If your pet is one of the few that doesn't readily accept a new diet in two days, try warming the canned diet or hand feeding the new diet for the first few days.

Feed only the prescribed diet. Do not feed fish, shellfish, cheese, vitamin-mineral supplements, foods containing bone or table scraps, as this will upset the magnesium and urine pH balance of the diet causing it not to work properly.

Be patient, but firm with your pet. This is important because the success or failure of the treatment depends to large degree on strict adherence to the new diet.

For those crystals or stones that consist of non-struvite components, surgery may be necessary and the diet of choice is Prescription Diet Feline k/d.

### **Home Management**

Once home, your pet needs attention and care. It is very important that you provide free access to fresh, clean water. You should also provide a clean litter box for each cat in your household.

Follow instructions carefully if your cat has a prescribed medication. (See: How to Medicate Your Cat.)

During and immediately following the dissolution process, your veterinarian may ask you to monitor your cat's urine pH at home or bring in a urine sample for follow-up urinalysis. (See: How to Collect and Test Urine.)

Encourage your cat to exercise. You may want to plan daily play sessions with your cat to provide exercise on a regular schedule.

You should also control the amount of food your cat eats on a daily basis to help avoid obesity. Prescription Diets are available to assist you in this endeavor.

Remember, give no other food or vitamin mineral supplements while your pet is receiving the special crystal dissolving diet. Call your veterinarian if any questions or problems arise. Watch your cat for bloody urine, staining, urinating in unusual places, excessive licking of the vaginal or penile areas, vomiting, diarrhea, lack of appetite, or depression. If any of these signs occur, please contact your veterinarian.

### **Diet and Prevention**

Many cats once affected with FUS will have a recurrence of FUS if they resume eating their regular diet. To prevent FUS from recurring, your veterinarian may recommend your cat be fed a special food. Prescription Diets Feline c/d, w/d, and r/d are designed to help prevent FUS.

These special diets can be fed after your cat has completed the 2-3 month course of Feline s/d for dissolving the struvite crystals already present in the urinary tract.

Prescription Diet feline products help prevent this common yet dangerous disease from recurring by reducing magnesium in the diet and allowing the maintenance of a normal acidic urine. These diets provide excellent nutrition and are recommended as a permanent diet for adult non-reproducing cats.

For cats that have never experienced FUS, Prescription Diets Feline c/d, Feline w/d, and Feline r/d are an inexpensive way to protect your cat by helping to avoid the occurrence of this disease.

### **How to Medicate Your Cat**

1. You may have to give your cat medication in either the liquid or tablet form. If your cat doesn't like this idea, remember it's for your pet's own good. Start by wrapping your cat's body and legs tightly in a towel, leaving only its head sticking out from the towel.
2. If you cradle your cat in one arm, and place your thumb and forefinger on either side of its face, you can force the mouth open by applying gentle pressure at the space between the teeth.
3. This will allow you to deposit a pill in your cat's mouth.
4. Next, massage or rub your cat's throat until he or she swallows.

5. If you have to give your cat a liquid medication, use the above procedure but insert the dropper between the cheek and teeth and, while tilting the chin upward, slowly dispense the medication.

### **How to Collect and Test Urine**

1. If your veterinarian asks you to collect a urine sample, replace your normal litter with an insert substance (styrofoam packing) or Nosorb, a polypropylene litter. Another alternative is to use aquarium gravel in the litter pan. This gravel doesn't absorb urine and can be washed between samples.
2. After your cat has voided, pour the urine from the litter pan into a small, clean container.
3. After you have collected the urine sample, you may have to test it for urine pH, however usually you will bring it in to your veterinarian to test. However if your veterinarian wants you to test at home, they will send home some laboratory test strips with you.
4. Just moisten a strip in urine and gently tap the strip to remove any excess urine. Then compare the color of the patch to the bar chart provided with the strips. It is best to do this as soon after collection as possible.
5. If you must collect a urine sample so your veterinarian can make a more detailed examination, transfer it to another container provided or suggested by your veterinarian. A small clean plastic or glass container with lid is usually adequate. This sample should be transported to your veterinarian as soon as possible.
6. If it's necessary to store the sample temporarily, place it in the refrigerator. For best results, a sample should be checked within a half an hour and certainly within two hours. The fresher the sample, the more accurate the results.

### **Diet and Prevention**

Although Prescription Diets may appear at first to cost more than grocery store pet foods, you can be sure these are the best foods available for your pet. When you consider the cost of medical treatment of a disease that may be avoided through dietary management and add the fact that you may be sparing your pet unnecessary pain and suffering, there is no cost comparison.

Furthermore, Prescription Diets actually cost less on a cost-per-day basis than many of the grocery store cat foods while providing a much healthier diet.