

Cat Straining to Urinate-Causes, Symptoms & Treatment

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At a glance:



About: A cat straining to urinate due to a urinary obstruction is a life-threatening medical condition caused by the partial or complete blockage in the bladder or urethra. As a result, toxins build up in the bloodstream which poison the cat and damage to the kidneys develops. Male cats are at greater risk.



Causes: There are a number of causes including urinary crystals or stones, tumours, and blood clots.



Symptoms: Frequent trips to the litter tray which may produce a small amount of no urine, if there is urine, it may contain blood. Other symptoms include frequent genital licking, crying, painful abdomen, lethargy, vomiting and excessive thirst.



Diagnosis: Thorough physical examination along with presenting symptoms, urinalysis which may reveal crystals in the urine, x-ray, ultrasound and intravenous pyelogram



Treatment: Immediate treatment to remove urine from the bladder by manually expressing it or inserting a needle into the bladder and extracting it. Fluids to treat electrolyte imbalances and promote urination. Prescription diet to dissolve stones or crystals, surgery to remove bladder stones or tumours.

About:

Have you noticed your cat going to the litter box more often than usual? Is he digging around in the litter tray, crying, straining, licking his genitals? You may have a cat with either a partial or a full urinary blockage (medically known as *ischuria*). If he is urinating, you may notice the urine is pink, which means it contains blood (hematuria). Pet owners often mistake the symptoms for constipation, however, a blockage is far more serious.

Please do not delay taking your cat to a veterinarian as a urinary blockage can quickly lead to death. Even if you are not sure if your cat is constipated, a medical evaluation is absolutely vital at this time. If your cat can't urinate, waste products quickly build up in his bloodstream leading to uremic poisoning, which is life-threatening.

Causes:

The cause may be urinary crystals, bladder stones, and bladder tumours, which may extend to the urethra, causing a blockage. Males are more at risk of a blockage than females due to their longer and thinner urethra, which is the tube connecting the bladder to the genitals.

Crystalluria

Microscopic urinary crystals can develop if the urine becomes too concentrated. Over time small crystals form in the urine. It has been speculated that the trend in feeding a diet made up of predominantly dry food is contributing to the problem. Many cats aren't big water drinkers, in the wild, they would obtain a larger amount of moisture through their prey (the average animal is made up of around 70% water), however dry food only contains 10% water and many cats don't make up this shortfall, leading to the urine becoming supersaturated. Urinary stones are made up of struvite, oxalate or urate.

Cystitis

Inflammation or infection of the bladder. This can lead to a feeling of urgency to urinate. Cystitis is more commonly seen in females than males.

Bladder stones

Also called *calculi* or *uroliths*, bladder stones are rock-like substances formed in the bladder. They are the result of urinary crystals which clump together to form larger stones.

Bladder cancer

Bladder cancers are rare in cats, the tumour can potentially cause a blockage of the urinary tract.

Matrix plug

If crystals are present along with inflammation, a matrix or urethral plug can potentially form, this is comprised of inflammatory cells, crystals, urinary tract cells and mucoid material. Combined, this matrix forms a plug, blocking the urethra.

Hypercalcemia

High blood calcium levels can cause increased calcium levels in the urine, leading to the formation of calcium oxalate crystals.

Blood clots

Due to bleeding within the urinary tract and have the potential to cause a urinary blockage in the urethra.

Other predisposing factors include a multiple cat household with shared litter trays, especially when there aren't enough, or they're not cleaned as often as required. Obesity and stress also play a role.

Types of crystals in cat urine:

Crystals are more likely to form in either acidic or alkaline urine. Struvite is the most common type of crystal, calcium oxalate is the second most common type.

Struvite crystals can form in alkaline urine, so cat food manufacturers tried to combat this by lowering magnesium. This made urine more acidic, which leads to an increase in oxalate crystals. Other types of crystals include cystine, ammonium biurate, and bilirubin.

Type	Composition	Cause
Struvite crystals	Magnesium, ammonium, phosphate	Alkaline urine
Oxalate crystals	Calcium oxalate	Acidic urine
Urate crystals	Calcium urate	Acidic urine

Symptoms:

- Frequent visits to the litter tray
- Passing small amounts of urine, which may contain blood
- Crying when in the litter tray
- Pain in the abdomen, discomfort when touched or sitting hunched over
- Abdominal swelling
- Licking the genitals
- Urinating (if he is able to pass any) outside the litter tray
- Lethargy (a friend who lost a cat to a urinary blockage initially thought his cat had been bitten by a paralysis tick)
- Vomiting
- Excessive thirst

Once the bladder becomes full, the kidneys can no longer remove wastes from the blood, resulting in them building up in the blood, this can quickly affect organ systems.

Diagnosis:

Your veterinarian will perform a complete physical examination of your cat including palpating the abdomen where he will feel a firm, full bladder. Other tests he may want to perform include:

- Biochemical profile to evaluate organ function.
- Urinalysis to look for crystals in the urine, tumour cells and/or signs of infection.
- Urine culture and sensitivity to identify the type of bacteria present in the urine if an infection is present.
- X-ray or ultrasound to look for the presence of stones or crystals in the bladder and assess urinary bladder size and wall thickness.
- Evaluation of stones or crystals to determine what kind they are. This can help your veterinarian tailor the treatment plan.
- Intravenous Pyelogram (IVP/excretory urography): To see very small or radiolucent (transparent to x-ray) stones may require contrast radiography. A contrast medium (dye) is injected into a vein which the kidneys excrete via the urine. This enables the technician to view the structures of the urinary tract.

Treatment:

Treatment depends on the severity of the blockage. Your veterinarian may be able to manually express the bladder by palpating the urethra. If this is not possible, he will insert a catheter (a thin tube) via the penis/urethra or urethra in females and into the bladder. This allows urine to drain out of the bladder.

- Finding the cause of the blockage, which is usually due to crystals or stones, and treat accordingly, which may include a prescription diet to dissolve the stones and change the pH of the urine.
- Increasing water consumption by switching him to a wet food diet and/or encouraging more water consumption.
- Administer fluids to correct metabolic and electrolyte imbalances. Your cat will receive fluids over several days to flush out the toxins via the urine (diuresis).
- Antibiotics to treat bacterial infections.
- Surgery to remove bladder stones or tumours.
- Antispasmodic medications, to relax the urethra.
- It may be necessary to perform a urethrostomy to increase the size of the urethral opening if the cat continues to block.

Prevention:

Be aware that once your cat has had a blockage once, he is at greater risk of developing another one. Particularly as it is possible for scar tissue to develop along the urethra, narrowing it further.

Increase water consumption:

For crystals and bladder stones, changing your cat's diet to include more wet foods is important. The more moisture, the more dilute the urine will be.

Avoid stress:

Stressful situations can also result in a recurrence of a urethral blockage. This is because a stressed cat will often hold onto his urine for longer than he should, once again, resulting in supersaturated urine which is the perfect environment for crystals to develop.

