



Cats Protection's inappropriate urination/FIC guidance for vets

Cat presents with evidence of abnormal urination including haematuria, stranguria, pollakuria, etc.

Gain a history and perform a full physical examination. Perform a cystocentesis if a urine sample has not been provided. If not possible, provide Katkor for urine collection at centre/carer's.

If suspected urethral obstruction perform emergency treatment. Contact FVO/Vet team to discuss case.

Perform urinalysis as soon as possible. To include: dipstick and urine specific gravity initially +/- sediment exam.

If physical examination and urinalysis are normal, but inappropriate urination is reported, suspect behavioural element and consult the Behaviour team.

If history of PU/PD, and urine specific gravity is reduced (<1.035) or glucosuria/ketonuria present, perform a biochemistry profile. Investigate systemic disease and manage any underlying conditions such as Chronic Kidney Disease or Diabetes Mellitus (where appropriate). Perform a bacterial culture and sensitivity only when felt appropriate to the case, and await results before starting any antibiotics.

Urinalysis is suggestive of inflammation: haematuria, proteinuria and USG >1.035. Bladder may be small on palpation.

Initiate treatment with only non-steroidal anti-inflammatories where appropriate for 1-2 weeks and a standard wet food diet only. Please do not start a prescription urinary diet at this stage. We don't routinely recommend the use of GAG supplements but where absolutely needed please refer to the commonly ordered product list. Please ensure steps to reduce stress are being followed (see FIC guidance for employees and volunteers document) as well as any specific behavioural modification plan, if suggested by Cat Protection's Behaviour team. You may need to consider other medications if underlying systemic disease is present or there is evidence of a bacterial infection. Consider the age of the cat.

If the first episode in care **responds well** to just non-steroidal anti-inflammatories, then consider Feline Idiopathic Cystitis (FIC) as a diagnosis.

Request a repeat urine sample/ perform cystocentesis after the 1-2 weeks; if haematuria has resolved and other parameters are within normal limits, consider making the cat 'fit to home' where appropriate. Declare FIC on medical summary and advise possibility for recurrence. Keep cat on wet food while in care. Home with the Veterinary Essential Guide on FIC.

If symptoms **not** resolved after 1-2 weeks of treatment or recurrence occurs after initial episode, perform further investigation including assessment for FeLV/FIV and repeat urinalysis, including sediment examination if not already carried out. Perform a bacterial culture and sensitivity only when felt appropriate to the case, and await results before starting any antibiotics. Rule out the presence of uroliths, ureteroliths or renoliths (via ultrasound and radiography).

If a diagnosis of recurrent FIC is made, please consider euthanasia for those cases with regular episodes of FIC which we are unable to resolve or control.

Where uroliths are present, perform a cystotomy and send off urolith for analysis. This can be sent either to Finn Pathologists or to Hill's Veterinary Urolith Service, the latter will analyse for free but an answer may take longer. If using the Hill's service, don't hold a cat back from homing while awaiting results – these can be communicated to the owner at a later stage. Continue on a wet food until results are back; at this point specific prescription urinary diets may be indicated.

Declare on medical summary and advise possibility for reoccurrence. Where ureteroliths or renoliths are present please contact the FVO/Vet team for further advice.



Feline Idiopathic Cystitis (FIC) guidance for centre employees and Cats Protection volunteers

Introduction

If a cat in your care has been diagnosed with Feline Idiopathic Cystitis (FIC), it is worth familiarising yourself with this condition. This is a complicated condition with an unknown specific cause, making treatment difficult. There are thought to be many factors contributing to the development of FIC, including stress. It is important to make sure that any cat suffering from FIC in Cats Protection care has the appropriate behavioural enrichment for that individual (see The Behaviour Guide).

What are the symptoms of FIC?

- Increased frequency of urination
- Passing only small volumes of urine
- The urine may be visibly bloody
- Straining before/during/after urination
- Vocalisation while urinating
- Urination in places other than the litter tray
- Moving in/out the litter tray more often than normal
- Inability to pass any urine – this is an emergency so you must contact your veterinary surgeon straight away. An inability to pass urine indicates an obstructive form of FIC, with involvement of the urethra (the tube from the bladder to the outside)
- Overgrooming of the tummy over the bladder, causing hair loss or irritated skin. Repeated licking around the prepuce/vulva
- Behavioural changes other than those related to urination. These may include hiding away, decreased interaction with their Cats Protection fosterer/carer, reduced activity levels, lower tolerance of handling and less tolerance of other cats (if not housed individually)

What causes FIC?

As mentioned previously, there isn't a definitive cause for this condition and it is thought that it is a result of complex interactions of the urinary, endocrine (hormone system) and nervous system. It is possible that there is a genetic component involved as well, relating to how cats respond to stress. Many factors lead to FIC development; this explains why there isn't one specific treatment and instead it's important to look at several areas to achieve good management of these cases. It will not be possible to 'cure' cats of this disease, but instead 'manage' their symptoms and lower the risk of recurrent episodes while in the shelter environment.





Risk factors contributing to FIC

A cat may be at increased risk of FIC (and recurrent episodes of FIC) due to the following factors:

- low activity levels – this can be a problem while the cat is in care
- a low water intake eg a dry food diet
- a high body condition score (meaning the cat is overweight)
- a recent change in environment, which unfortunately is unavoidable when a cat comes into care
- seeing other cats (due to the stress this can cause)
- being male, long-haired or a pedigree may be risk factors

Management of FIC cases

1) Reduction of stress levels in the cat

This is a huge area of discussion and the approach will need to be very much tailored to the cat in Cats Protection care (there will be additional things an owner could do if the cat was in a home environment). It is important to review the cat's environment and potential everyday stressors which might seem insignificant to us. Things to consider are:

- **environmental enrichment** – an enriched environment can help reduce stress levels and plays an important role in the management of FIC. Ideas to consider:

- placement of beds high up so the cat feels safer while at rest

- regular short bursts of active play with the cat (five mins in length, if the cat wishes to). This will help with any hunting frustrations and also encourages higher activity levels

- ensure there are hiding places eg a Hide & Sleep® in the pen

- consider enrichment feeding puzzles/games – this helps to manage frustration/boredom, increases activity levels and allows for controlled feeding

- regular grooming of the cat (if they enjoy this). This can help manage stress levels

- **litter trays** – this is a very complicated area for cats and it is essential to get it right. It's important to ensure cats feel safe to use their litter trays, in order to encourage the frequent passing of urine

- Reassess the location of the cat's litter trays. While limited in the pen environment as to where litter trays can be placed, in a single room environment there is more scope to vary the location of the trays and have more than one tray in the room. Further discussion about the positioning of trays and resources with the Behaviour team may be helpful (behaviour@cats.org.uk)

- The litter trays should not be placed near the food and water resources. Due to domestic cats' ancestry they often do not like to toilet near their other resources due to the risk of contamination that could occur (this behaviour originates from their ancestor the African wildcat)

- Consider if the litter substrate is right for the cat. Some cats can be very particular with which litter they will use, for example some may prefer clay, wood, sand-based versus soil etc. Scented litter must not be used as this can be very potent to cats and put them off using their trays. Where possible, use the cat profile questionnaire to find out which litter substrate the cat is most used to using





- Make sure the litter tray is cleaned out very regularly. Again, cats can be very particular about the cleanliness of their tray

- Consider how much litter is being placed in the tray – some cats like a deep layer so they can dig and bury, whereas this may not be so important to others. Cats Protection generally recommends using 3cm of litter

- **inter-cat relations** – seeing, hearing and smelling unfamiliar cats can all contribute towards stress in the shelter environment. Try and make sure the cat can't see any other cats in the surrounding area of their pen for example by placing a towel or blanket over the door of the pen. If there is a particularly loud cat in the same section of the centre, then consider moving the cat to a quieter section. Likewise, if there is an entire tomcat nearby, the smell could also be a stress factor to the cat with FIC. In a foster situation, cats with FIC should be housed individually rather than with other cats (even if the cats are from the same multi-cat household). The only exception to this would be if there was definitive evidence of social bonding such as mutual grooming and mutual rubbing (see pages 46-49 of The Behaviour Guide)

- **use of a pheromone diffuser** – use of pheromone products (eg Feliway) has been shown to help in cases of cats with FIC. Please ensure that, whether using a spray or diffuser, the instructions on the packaging are followed as incorrect use of these products can render them completely redundant

If you need further information or advice about behavioural enrichment for cats with FIC, please contact the Behaviour team as soon as possible. They can be contacted by email at behaviour@cats.org.uk or by phoning 01825 741 991.

2) Dietary adjustment

The cat's diet should be adjusted to maximise their water intake:

- ideally feed the cat a wet food-based diet only. It has been shown that cats consuming a wet food diet will have an increased water intake compared to those fed a dry biscuit-based diet only. It is not necessary to feed a prescription urinary diet
- it can be helpful to add additional water to the cat's food (wet and dry) and this is essential if the cat really won't eat wet food. This way, the cat will be getting some additional water intake, even if they will only eat the biscuits

Other tricks to increase the cat's water intake include:

- increasing access to fresh water
- trying bowls made of different materials (ceramic vs plastic vs metal) and of different shapes (a shallower, wider bowl vs a deeper bowl)
- trying distilled water
- using a water fountain (this won't be possible in a lot of the pen environments but may be possible in a single-room foster environment)
- making a broth – mixing water with a few drops of low sodium chicken broth or a small amount of wet food to flavour it

More information can also be found on page 39 of The Welfare Guide.

3) Weight management

If the cat is overweight, it is likely that the veterinary surgeon will advise some weight loss. This is achievable by lowering the daily calorie intake and increasing the cat's activity (this is sometimes easier said than done, especially in the pen environment!). As discussed previously, increased play time with the cat (especially with fishing rod toys) will help burn extra calories, and enrichment feeding puzzles (easier with dry food, but is possible with wet) will encourage slower eating patterns and also increase the cat's movement. Please see The Behaviour Guide for further detail on this.

Reducing the cat's daily calorie intake is important; removing treats will help with this, alongside tighter portion control. If you think a weight-loss diet is needed, then please speak to your vet before purchasing this. No changes in diet type, other than those aimed at increasing the cat's water intake, should be started until the cat's FIC episode has resolved. >



4) Specific drug therapy

Unfortunately, due to the multifactorial nature of FIC, there is no 'one' special medication which will result in resolution of the cat's symptoms. It is thought that the FIC symptoms can spontaneously resolve in a lot of cases within a few days (3-7 days) irrespective of specific medical interventions. Potential medications the vet may recommend trying are:

- **pain relief:** cystitis is a painful condition and causes a lot of discomfort to the cat. Providing pain relief aims to relieve the cat of this. Common medications include Meloxicam (Metacam, Loxicom etc) which has anti-inflammatory properties as well as giving pain relief. This dual action is useful with FIC as the bladder lining is inflamed and sore. This medication has to be prescribed by the vet and strict guidance needs to be followed when using it. Not all cats are suitable candidates for this medication, and so the vet may prescribe an opioid-based pain relief (such as Buprenorphine). Special precautions with administration and storage need to be adhered to with this medication as it is a controlled drug. The vet should be able to advise you further
- **supplements:** these can be added to the food. Glycosaminoglycans (GAGs) have been found to have inconsistent results in cats with FIC. There is limited evidence that GAGs lead to a significant improvement in FIC and for this reason Cats Protection doesn't generally recommend their use. The vet may recommend them if the cat is non-responsive to other methods of FIC control, but a long trial period is required and they shouldn't be routinely used in the shelter setting. If the vet wishes to use them, please refer them to the Cats Protection commonly ordered products list and order from our veterinary wholesaler
- **anti-spasmodics:** if the cat has presented with an obstructive form of FIC (whereby they haven't been able to pass urine), the vet may prescribe anti-spasmodic drugs. These act by relaxing the muscles in the urethra, in order to let urine flow out more easily

Complications of FIC

- FIC can be a very complicated and frustrating condition to try and manage in the shelter setting. This is due to the multifactorial nature of the disease and the fact that stress plays a major role in its development. FIC, and the complications associated with it, can have a significant impact on a cat's welfare and this needs to be taken into consideration when deciding how these cats are managed in Cats Protection care
- If a cat has a history of recurrent FIC or has had a blocked bladder then it's important to consider whether coming into a rescue environment, with all the inherent stress involved, is going to be the best thing for that cat. Coming into care is unavoidably stressful and these cats could be at risk of repeat episodes which can be difficult to manage in the shelter environment. Each case is different and it's important to assess each individual cat and their circumstance when deciding whether to bring them into care. Please contact your FVO/the Vet team if you would like advice on individual cases
- The obstructive form of FIC (blocked bladder) doesn't happen too often in Cats Protection care. When it does occur it is a genuine emergency so it's important to be aware of the symptoms. Warning signs to look out for are:
 - more commonly seen in male cats than females
 - unproductive straining – no urine being produced (or very little)
 - frequent visits to the litter tray but no urine found
 - vomiting/anorexia/lethargy/collapse
 - vocalisation – this may be associated with attempts to urinate

If you have any concerns about a cat, please contact your branch or centre veterinary surgeon ASAP.





If a cat in care has previously had a history of a blocked bladder (be that in the home environment or in Cats Protection care) and has a second episode while in care, then serious consideration to the welfare of that individual cat needs to be given. Having a blocked bladder is extremely painful; these cats are in a great deal of distress and will have severely compromised welfare. Management of an obstruction is often intensive, sometimes requiring in-dwelling urinary catheters and a prolonged period of hospitalisation which in itself will be stressful for the cat. Even if the obstruction can be easily relieved, these cats will often suffer recurrent episodes throughout their lives. The cat's current and future welfare should be considered at all times and it may be that euthanasia is actually the kinder option for these cats with recurrent obstructions. Sometimes, an operation called a perineal urethrostomy is offered as a treatment option for cats who have recurrent blockages. This procedure involves amputation of the cat's penis and construction of a new hole through which urine can be passed. It isn't always successful and can result in lots of complications including recurrent or chronic low-grade cystitis. As a result, it isn't a procedure that is generally recommended for Cats Protection cats.

- Cats Protection may be approached to take in a cat that requires immediate veterinary treatment for a blocked bladder, for example if this condition is diagnosed and an owner is unable to afford the required treatment, they may approach Cats Protection to sign the cat over to us. Branches and centres shouldn't feel obliged to take on cats in this situation; as discussed above, these cases can be complicated to manage and often involve significant compromise to the cat's welfare. Euthanasia is a reasonable option for these cases so as to relieve suffering. If such a situation arises, please contact your FVO/Vet team who will be able to advise you further
- If a cat suffers from repeated episodes of non-obstructive FIC, with chronic cystitis-like symptoms while in care, again the cat's quality of life needs to be considered. Cystitis is a very uncomfortable and painful condition which impacts greatly on a cat's welfare. If we are unable to resolve these symptoms for a reasonable length of time in order to make the cat 'fit to home', then euthanasia should be considered on welfare grounds
- If a cat's clinical symptoms are found to be due to the presence of a stone/stones in the bladder then a procedure called a cystotomy may be carried out. This operation involves opening the abdomen, and then opening the bladder to remove the stones. These can then be sent away to an external lab to find out the composition of the stones, and then guide decisions about whether a specific urinary diet is required
- If a cat's clinical symptoms are found to be due to the presence of a stone/stones in the kidney or the ureter (the tube connecting the kidney to the bladder), then please discuss this case with your FVO/Vet team. These stones can sometimes cause acute kidney failure if they obstruct all urine flow to the bladder, and this condition comes with a grave prognosis. This is quite a rare presentation but often causes un-resolving blood in the urine without the other typical signs of cystitis

How to collect a urine sample for your vet

It is always helpful when presenting a cat to a veterinary surgeon to have a fresh urine sample to hand. This speeds up the process of starting the cat on medication and making the cat feel more comfortable. If a cat is being taken to the vet for suspected urinary issues, please try and take a fresh urine sample to the consultation (if a sample is collected a few hours prior to the consultation, please keep refrigerated until the time of the appointment).

The use of 'Katkor' (or similar products) is a useful way to obtain a sample without the urine being absorbed into the cat litter. Not all cats will feel comfortable using the tray when Katkor is present, so we need to be aware of this as we don't want to discourage the cat from urinating. If the cat urinates, be sure to place the collected urine into a clean, ideally sterile tube. Avoid using jam jars or other food containers, as residual products can affect the results. Katkor usually comes with a pipette and sterile tube for urine collection and storage.

It is important that the urine sample is not contaminated with faeces either, as this can also affect the results. If the urine in the litter tray is contaminated with faeces then this is not a suitable sample.





It is important to get the cat seen by the veterinary surgeon as soon as possible. Don't delay this by trying to get a urine sample. Your vet may be able to carry out a simple procedure called a cystocentesis which involves taking urine directly from the bladder with a needle and syringe.

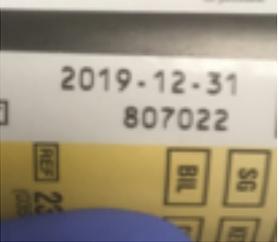
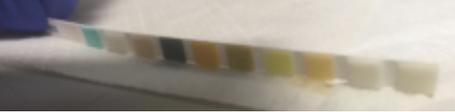
A new product produced by Royal Canin called 'Blucare litter granules' has recently come onto the veterinary market. This product is designed to enable early detection of blood in a cat's urine and is mixed in with standard cat litter. The granules turn from white to blue when they come into contact with blood in the urine. While useful in some circumstances, for example monitoring a cat after an episode of FIC, the information gained by using this product is very limited and doesn't replace a full urinalysis. As a new product, it is currently financially prohibitive to use it routinely for cats in Cats Protection care. It could, however, be useful for post-treatment monitoring if a cat is very reluctant to use Katkor litter (or similar products). Please contact your FVO/Vet team if you have a case where you would like to use 'Blucare litter granules' and, if appropriate, this can be ordered in for you.

For those centres that run some basic urine analysis, be sure to relay the results as soon as possible to your veterinary surgeon, so the results can be interpreted by your vet and a decision on treatment made. It is essential that no interpretation of the urinary results is made by centre employees, only the veterinary surgeon once they have received them. Please see Appendix 1 below for guidance on running basic urine analysis.



Cats Protection guidance sheet for using the dipsticks for urine analysis

Before starting, check that the urine sample has not been contaminated with faeces. Make sure the sample is clearly labelled with the cat's name and number.

	Instruction	Image
1	Assemble all the necessary equipment – urine sample, gloves, 1ml syringe or pipette, test sticks, timing device, pen and urine recording form. Cover the work surface with paper towel.	 
2	<p>Check the expiry date on the dipsticks. Check the name and number of the cat is recorded on the sample.</p> <p>Wash hands and put on disposable gloves.</p> <p>Remove a dipstick from the tub, making sure you don't touch the test pads.</p>	 
3	Lay the stick on the paper towel and using the syringe add a drop to each test pad.	
4	Tip the test strip to remove excess urine, keeping the strip level to avoid cross contamination.	
5	Read the test strip starting from the handle end, after 30 seconds. The final reading should be taken at around two minutes, but exact timings are not vital.	 

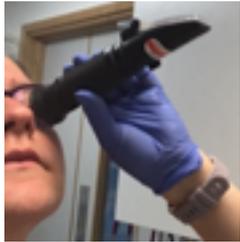
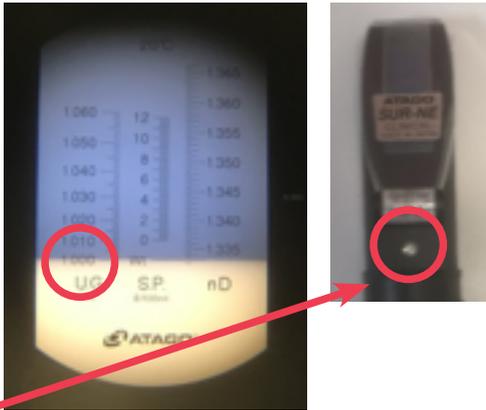


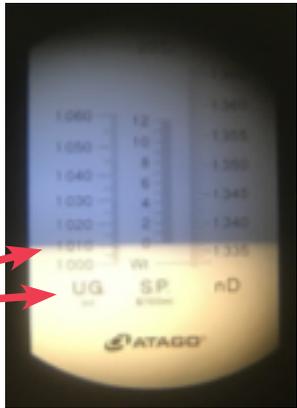


	Instruction	Image
6	Record the results. It is also a good idea to take a picture so it is available to show the vet if needed.	
7	Dispose of the test stick, gloves and paper towel in the clinical waste bin and wash your hands.	
8	Keep the urine sample in case your vet needs it for further tests. Send the results through to your vet even if you think they are normal.	

Cats Protection guidance sheet for using the refractometer for urine analysis

Before starting, check that the urine sample has not been contaminated with faeces. Make sure the sample is clearly labelled with the cat's name and number.

	Instruction	Image
1	Ensure you have all the necessary equipment – refractometer, distilled water, 2X 1ml syringe or pipette, gloves, urine sample, paper towel, urine recording form and pen.	
2	Wash hands and put on disposable gloves.	
3	It is important to calibrate the refractometer before each use. Lift the lid and place 1-2 drops of distilled water on the glass.	
4	Close the flap and look through the eye piece towards an area of natural light.	
5	<p>Look for where the contrast line (the line where light and dark meet) crosses the scale.</p> <p>It should be at 1.000. If not then twist the metal screw above the eye piece until it is.</p> <p>Twist this screw if not seeing the image on the left when calibrating</p>	

	Instruction	Image
6	Once calibrated, wipe the glass dry on the refractometer to avoid diluting the urine sample.	
7	Invert the urine tube gently to ensure the urine is mixed.	
8	Lift the flap and place one drop of urine on the glass using a new syringe.	
9	Once again, close the flap and look towards an area of natural light.	
10	<p>Read off where the contrast line is. There is often more than one scale, the one you need for urine is on the right labelled UG, SG or USG.</p> <p>Reading from the UG scale, this result is 1.010 (where the contrast line sits on the UG scale)</p>	
11	Record the reading on the sheet and wipe clean the glass.	
12	Dispose of the syringe/pipette, gloves and paper towel in the clinical waste bin. Wash your hands (or keep gloves on to continue to perform a urine dipstick test).	
13	Keep the urine sample in case your vet needs it for further tests. Send the results through to your vet even if you think they are normal.	

Troubleshooting

If the line is blurry it may be that there is insufficient urine on the glass. Try pushing down on the lid, or apply another drop of urine.



← You can focus the refractometer by twisting the eye piece