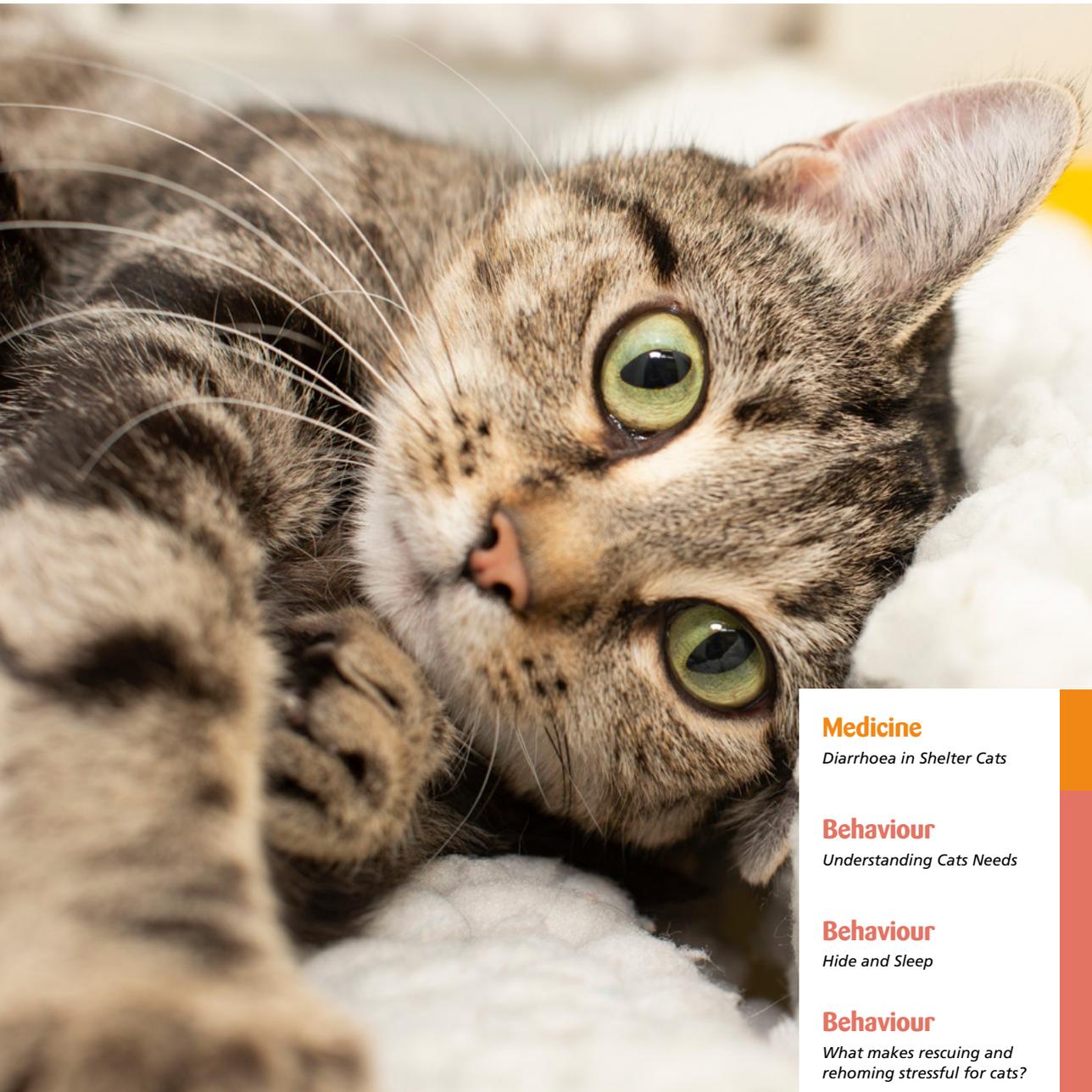


CP/Clinic

The Feline Magazine for Veterinary Professionals / Issue 2 / 2019



Medicine

Diarrhoea in Shelter Cats

Behaviour

Understanding Cats Needs

Behaviour

Hide and Sleep

Behaviour

What makes rescuing and rehoming stressful for cats?

Causes and management of diarrhoea in shelter cats - read more on page 4



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Contacts

For all editorial enquiries:

Editor: Sandra Milburn, CP Clinic,
National Cat Centre, Chelwood Gate,
Sussex, RH17 7TT

Email: cpclinic@cats.org.uk

Tel: 01825 741 991

(Veterinary and CP Clinic calls only)

General public enquiries: 03000 12 12 12

Sub Editor: Francesca Watson

Designer: Deborah Waters

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Meet the team

Emma Lane BSc (Hons)

How long have you worked for CP? I have been with CP now for nearly 11 years.

What did you do before working for CP? I was in pet retail and veterinary nursing.

What is your role within CP?

As the Welfare Support

Supervisor, I am part of the fabulous Veterinary team based at the National Cat Centre in Chelwood Gate.

I support and advise on veterinary and cat welfare related queries for the charity. I am the cat welfare champion for the department which is a fantastic volunteer role helping improve cat welfare both within CP and externally.

What do you like most about your job? I feel very passionately about cat welfare, and even though my role isn't hands on, I still feel like I am making a big difference.

What is your most memorable CP moment? I still remember being offered the role at CP, I was over the moon!

Do you/did you have a pet/pets? Currently we have two cats, who are brothers and a bonded pair called Blaze and Noodle (the children named them)

What are your hobbies/other interests? I am a mum of three boys so they keep me pretty busy. I do like sewing and spending time with family and friends.

Where is your favourite place to visit? Anywhere by the sea really, we do spend time camping in the New Forest.

If I wasn't doing this, I'd probably... A midwife or an interior designer!



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Diarrhoea in shelter cats

Dr Mark Westman This article focuses on the causes and management of acute diarrhoea in shelter cats

Diarrhoea in shelters can be one of the most common and frustrating conditions to treat, particularly when multiple animals are involved and financial limitations exist. Frequently the cause of diarrhoea is the sudden dietary change that occurs following admission to the shelter, compounded by the stress due to being co-housed with other animals. In these cases, a complex diagnostic work-up is usually not required and simple husbandry changes are often sufficient to resolve the diarrhoea. However, intestinal parasites can also be present, particularly in younger animals and when animals arrive at the shelter from crowded and/or unsanitary conditions, such as poor breeding facilities and animal hoarding situations. In this article I will review the most common parasitic causes of diarrhoea in cats, and suggest how best to approach diarrhoea in the shelter setting. It is important to remember that often two or more pathogens may be present. In one UK study involving samples submitted from pet cats with diarrhoea, a co-infection rate of 62.5% was reported (Paris *et al* 2014).

1. Coccidiosis

Coccidiosis is caused by *Cystoisospora* spp. (called *Isospora* spp. in older literature), and although relatively uncommon in privately-owned pets, is commonly detected in shelter animals. Coccidiosis is so common in Australia, where I trained and worked as a shelter veterinarian, that many rehoming organisations routinely administer toltrazuril to all cats prior to adoption. In some unpublished work I performed on shelter animals presenting mainly without diarrhoea, I identified *Cystoisospora* spp. in 10% of samples, similar to results from a published Australian study of shelter cats (Palmer *et al* 2008).

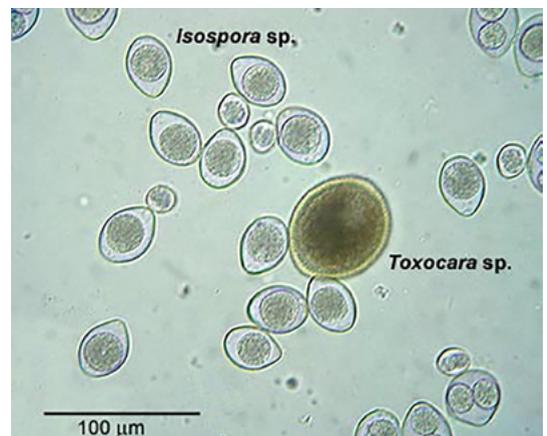
To my knowledge, no peer-reviewed studies reporting the prevalence of intestinal parasites in shelter cats in the UK have been performed to date.

The two most important things to remember about coccidiosis are (i) currently available commercial multiplex PCR panels do not test for *Cystoisospora* spp. (eg Feline Diarrhoea RealPCR™ Panel, offered by IDEXX Laboratories); and (ii) routine anthelmintic treatment is not effective against *Cystoisospora* spp.

Cystoisospora organisms are easily seen with routine saturated salt flotation and microscopy. Look for organisms about half the size of nematode eggs; some may appear in the distinctive sporozoite stage (two nuclei contained within the one sporocyst wall; red arrow in Figure 1).

First line treatment for coccidiosis in the UK is with sulfadimethoxine or trimethoprim/sulphonamide. My

Figures 1 Multiple *Cystoisospora felis* organisms surrounding a single *Toxocara* sp. egg, seen with routine faecal flotation (x400).



treatment choice for coccidiosis in Australia, which is off-license in the UK but can be used in refractory cases, is toltrazuril (ponazuril in the United States). Toltrazuril comes in a formulation for piglets or chickens called BaycoxTM (Bayer Animal Health; pig formulation seems more palatable than the chicken formulation). In confirmed cases of *Cystoisospora* infection, administer a one-off dose of 20mg/kg for both cats and kittens (50mg/kg for ponazuril). Some people give this dose every day for three days, to ensure adequate dosing, and some veterinarians recommend re-treatment after three weeks to cover re-infection via acquisition of oocysts in the environment. I recommend treating any in-contact animals, and bathing animals using a pH-neutral shampoo after treatment to remove contaminated faeces stuck to the fur, and then placing the animal in a disinfected cage to prevent re-infection.

Key point: Always remember to perform faecal flotation (simple, quick and inexpensive) to look for *Cystoisospora* spp., before deciding to perform expensive PCR testing!

2. Giardiasis

In my investigation of intestinal parasites in shelter animals in Australia, *Giardia* was the second most common organism identified, with 3% of shelter cats sampled infected. Similar figures are not available in the UK, but a study of dogs sampled within one day of entering a central London rescue shelter between October 2006 and March 2007 found that 10% were infected with *Giardia* spp. (Upjohn *et al* 2010). In this study, there was no correlation between positivity for *Giardia* and faecal consistency, highlighting that giardiasis is often asymptomatic. Sometimes, however, infection with *Giardia* spp. can cause significant small and/or large bowel diarrhoea (sometimes haemorrhagic) in cats and dogs, both acute and chronic, and sometimes clinical signs can be severe.

The additional challenge with giardiasis is the potential public health risk for staff and new owners. Most cases of *Giardia* infection involve non-zoonotic assemblages (F for cats, C and D for dogs), but reports in the literature exist for potentially zoonotic infections of both cats and dogs (assemblages A and B). Since determining the assemblage can be challenging and expensive, I recommend treating all cases of giardiasis in companion animals at least once (ie irrespective of whether the animal has diarrhoea

or not; some people will disagree with me on this!).

Giardia organisms are very difficult to detect with routine saturated salt faecal flotation and microscopy. Adding a drop of iodine to the slide will assist the identification of *Giardia* cysts, and scanning at high power (i.e. 40x objective) is essential (Figure 2). Alternatively, using a faecal antigen point-of-care kit is easier and more accurate to diagnose giardiasis in-clinic. Multiplex faecal PCR panels do include *Giardia* spp. and are another way to detect infection. PCR testing is less sensitive than faecal flotation and antigen testing; one study found 41% of *Giardia*-positive samples tested false-negative (Hascall *et al* 2016). Testing on several different occasions may be necessary (again, some people may disagree), since shedding of *Giardia* cysts can be intermittent, making diagnosis even more difficult.

First line treatment for giardiasis is with fenbendazole (50 mg/kg SID for five consecutive days). Treatment with febantel (56.5 mg/kg SID x 5d), in combination with 37.8 mg/kg praziquantel and 11.3 mg/kg pyrantel pamoate, is another treatment option in cats. Fenbendazole and febantel have been shown to not disrupt the faecal microbiome. Although registered as an alternative treatment, I don't recommend metronidazole as monotherapy for treatment of giardiasis since the dosage required to clear *Giardia* (25mg/kg BID x 7 days) has the potential to cause neurotoxicity, and metronidazole does disrupt the faecal microbiome. Metronidazole administered at a conventional dosage (10-15 mg/kg BID) given in combination with fenbendazole, may be useful as a treatment for the dysbiosis and intestinal inflammation that can occur with giardiasis.

An alternative, off-license treatment for cats not amenable to fenbendazole treatment is with a single dose of secnidazole (from a compounding

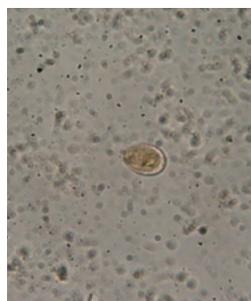


Figure 2: *Giardia* cyst visualised with zinc sulphate faecal flotation testing and counterstained with iodine (x400). Image courtesy of James McGoldrick, University of Glasgow.

pharmacy) at a dosage of 30 mg/kg, and repeated three weeks later. I've used this successfully in several *Giardia*-infected cats. Some cases are refractory to treatment, whether fenbendazole, febantel or secnidazole is administered, and re-infection (particularly in a shelter environment) is possible, meaning it is ideal to re-test *Giardia*-infected animals after treatment has finished to ensure that the infection has resolved. If the persistently *Giardia*-infected animal is clinically normal (ie has no diarrhoea), I do not recommend re-treatment since infections with zoonotic assemblages of *Giardia* are very rare. If a symptomatic, *Giardia*-infected animal is not responsive to treatment, infection with *Cryptosporidium* spp. should be considered, since dual infection occurs in cats (and dogs). Diagnosis of cryptosporidiosis is by multiplex PCR testing or antigen visualisation at a diagnostic laboratory using a fluorescent microscope. First line treatment is with the antibiotic tylosin (10-15mg/kg BID x 7d).

3. *Tritrichomonas foetus*

Giardia spp. and *Tritrichomonas foetus* co-infection is common in some parts of the world. Studies from UK shelters are lacking! In the UK study of samples submitted from pet cats with diarrhoea (Paris *et al* 2014), 21% were positive for *Giardia* spp., 19% were positive for *T. foetus*, and there was greater occurrence of *Giardia* spp./*T. foetus* co-infection than of other co-infections. In an American study of cats sampled at an international cat show, over one-third of cats infected with *T. foetus* were co-infected with *Giardia* (Gookin *et al* 2004). Fortunately, *T.foetus* is included in most multiplex faecal PCR panels, along with *Giardia* spp., so co-infections will be identified if using PCR testing. Diagnosis of *T. foetus* infection is also possible via wet preparation of very fresh faeces (very quick and easy, but not that sensitive), and by culture (InPouchTM; similar accuracy to PCR testing).

T. foetus is resistant to most traditionally used anti-protozoal drugs such as fenbendazole and metronidazole, and I don't recommend treatment with these. Resolution of infection with *T. foetus* usually requires off-license treatment with ronidazole, a bitter medication licensed for use in pigeons. Ronidazole has been associated with serious neurological side-effects in some cats and therefore should be used with caution. Care should be taken by staff handling ronidazole since it appears to be teratogenic, and gloves should always be worn,

especially by women of reproductive age. Current dosage recommendations are 20-30 mg/kg SID for 14 days in cats and 10mg/kg SID for 14 days in kittens. For cats co-infected with *Giardia* and *T. foetus*, I recommend first clearing the *Giardia* infection with a single dose of secnidazole, waiting a few days, then commencing ronidazole therapy. If treatment with ronidazole is unsuccessful, like for non-responsive *Giardia*-infected animals, cryptosporidiosis should be considered as a confounding factor. Second line treatment of *T. foetus* infection is with a quinolone, either enrofloxacin (5mg/kg SID x 7d) or pradofloxacin (7.5mg/kg SID x 7d).

4. Helminth infections

Infection with roundworm (*Toxocara cati* and *Toxascaris leonina*) and hookworm (*Ancylostoma* spp. and *Uncinaria stenocephala*) remain common causes of diarrhoea, and should always be considered. In the Australian study of shelter cats sampled with and without diarrhoea, roundworm and hookworm were identified in 5% and 3% of samples, respectively (Palmer *et al* 2008). Routine treatment with an anthelmintic usually resolves these infections (I prefer fenbendazole 50mg/kg SID for three to five days). Treatment failures can occur and a faecal flotation should ideally be repeated at the end of treatment to ensure successful resolution of the infection.

5. Recommendations for treatment of acute diarrhoea in healthy shelter cats

Management changes

Feed a bland, highly digestible diet. I don't advocate withholding food in these cases, and prefer to 'feed through' the diarrhoea. Prebiotics and probiotics (but not antibiotics) often have a place in management of these cases. Avoid the routine use of antibiotics for cats with diarrhoea, unless absolutely necessary, as they disrupt the faecal microbiome (can possibly worsen the diarrhoea) and in the interest of good antimicrobial stewardship and minimising antimicrobial resistance (AMR).

Minimise stress. House the cat in a quiet area, ideally away from other cats and dogs. Soft calming background music can help. Minimise staff cleaning of the enclosure ('spot cleans' only). Move the cat to the largest enclosure possible, ideally one with separate toileting, feeding and sleeping areas

(Figure 3) and ensure the cat also has a hiding place. All of these things can make a difference to how quickly the diarrhoea resolves.

Diagnostic work-up

I start with in-house saturated salt (zinc sulphate) faecal flotation testing, using the centrifugation method which is straight forward to perform, fast, and inexpensive. This will identify coccidiosis and also common helminth infections (roundworm and hookworm). Remember that multiple pathogens may be present, so don't stop scanning after identifying a single organism!

If faecal flotation is negative, send faeces to a commercial laboratory for multiplex faecal PCR testing. Ensure the panel tests for both *Giardia* spp. and *T. foetus*. This testing will also identify other causes of diarrhoea, including feline panleukopenia virus, feline coronavirus, salmonellosis, *Clostridium perfringens*, *Toxoplasma gondii* and cryptosporidiosis. Sometimes PCR testing on multiple different occasions is necessary to identify the cause of the diarrhoea (if the aetiology is infectious). If PCR testing identifies the cause, I recommend repeating PCR testing at the end of treatment to ensure treatment success.

Empirical therapy

Shelters can consider empirical therapy, eg prior to sending off faecal samples for PCR testing, by treating with toltrazuril (Baycox™; 20mg/kg one-off dose), fenbendazole (50mg/kg SID x 5 days), and possibly metronidazole for secondary dysbiosis (10mg/kg BID x 7-10 days). This combination therapy will cover coccidiosis, giardiasis, any nematode infections (roundworm, hookworm, whipworm and lungworm) and some cestode infections (effective against *Taenia* spp. but not *Dipylidium caninum*, the flea tapeworm).

Should the animal present with chronic diarrhoea, or is systemically unwell, these suggestions will need to be modified, or disregarded, and an alternative approach with consideration of other non-infectious causes of diarrhoea considered.



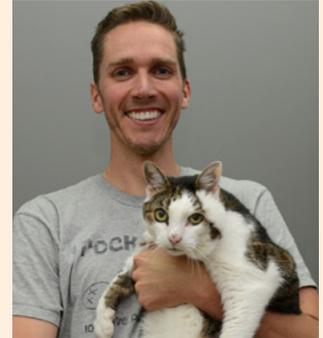
Figure 3: 'Cat Condo' en suite with separate eating/drinking, toileting and sleeping areas, and a hiding place. Image courtesy of Dr Simone Maher, Centre for Veterinary Education (Australia).

With special thanks to Dr Lauren Kirk of Cats Protection, Sussex, UK, for providing helpful comments to an earlier version of this article.

References available on request

Dr. Mark Westman

BVSc (Hons) MANZCVS (Animal Welfare) PhD



Mark graduated with a BVSc (Hons) from the University of Sydney in 2003. Following graduation he worked mainly in shelter medicine for 10 years, before returning to the University of Sydney to undertake a PhD investigating feline retroviral diseases. On completion of his PhD in 2016, Mark moved to the University of Glasgow to undertake postdoctoral research in FIV and FeLV. For the past couple of years Mark has lectured in veterinary microbiology at the University of Sydney and maintained an active research profile, publishing articles on both FIV and FeLV infection. Mark has volunteered for veterinary programs in Papua New Guinea, Thailand, Indonesia and India, and also co-founded Pets in the Park in Australia, a charity dedicated to providing free veterinary care to pets owned by the homeless.

Understanding Cats' Needs

Gemma Lovegrove Cats Protection is launching a new, online learning course focusing on cats and their specific needs

Cats Protection developed a free online learning course called Understanding Feline Origins (UFO) in 2012. The course was designed to provide cat owners and those working with or interested in cats with the knowledge to meet their cats' species-specific needs, to enhance their human/animal relationship, and to help prevent behaviour problems from occurring.

The course has been hugely popular and due to its success, it has been given a total refresh and a new name! The new course, Understanding Cats' Needs, includes interactive elements and learning activities throughout. Illustrations and animations have replaced photography to allow accurate messages to be more specifically conveyed. The course is broken up into several categories, and it can be completed in one go or in sections. The course is still free of charge and can be accessed via the Cats Protection website and even better, it does count as Continued Professional Development (CPD).

At the beginning of the course, we are introduced to an African wildcat called Sandy. African wildcats live in the savannah of Africa and they are the ancestor of our pet cats. By looking at the way in which Sandy behaves in her natural environment, the course demonstrates how best to meet a domestic cat's needs. The ethology of our domestic cat is still very similar to that of the African wildcat as domestic cats have been evolving beside humans for a relatively short time, compared to other domestic animals. This means that domestic cats still retain much of their ancestral behaviours and traits.

Illustrations and animations have replaced photography to allow accurate messages to be more specifically conveyed

Solitary

The African wildcat lives in the savannah, with a sparse concentration of prey, so individuals are well-dispersed and solitary to avoid competition for the small amounts of available food.

Like their ancestors, domestic cats still want to maintain an independent territory and are generally happy to live without other cats for company. In fact, many cats living together under the same roof only tolerate the presence of others to gain access to valued resources.

Multi-cat households can be harmonious, provided there is enough space available for each cat. Cats need to be carefully introduced and each one needs to be able to access separate and sufficient resources without having to interact with any other cat. By being able to choose an independent life, feelings of competition and associated stress can be reduced.

There are some cats that like each other. Looking out for and identifying affiliative behaviours such as cats which sleep touching and spend time grooming or rubbing against each other are likely to be in the same 'social group' or 'friends'.



Cats hunt before they are hungry to ensure sufficient food is caught each day



Providing places to perch or get up high can help cats cope with potentially stressful situations



Hunter

African wildcats spend several hours a day hunting to meet their nutritional needs. Not every attempt is successful so they will hunt before they are hungry to ensure sufficient food is caught each day. They eat many small rodent-sized prey items per day, each providing a small amount of energy. Cats are crepuscular (most active at dawn and dusk) which is when their prey is most active.

Because hunting is not hunger driven, domestic cats are still highly motivated to hunt and have a need to perform successful 'kills' to avoid frustration and release endorphins. They are drawn to movement, so interactive play with toys that mimic their prey helps cats to exhibit this natural behaviour and may reduce the desire to seek out such behaviour elsewhere.

The domestic cat's digestive system is suited to small meals frequently, mirroring the hunting activities of the African wildcat. Dry food provided in feeding balls or scattered around the house provides cats with the opportunity to spend more of their day seeking out their meal.

Communication

Because cats are asocial, they haven't developed the complex facial muscles required to make a variety of facial expressions for communicating with other cats face to face. Instead, they use long lasting olfactory messages, allowing them to communicate with other cats remotely. These messages, left by rubbing, spraying urine and scratching, enable them to maintain a territory without coming into direct conflict, minimising the risk of injury or disease transmission.

Messages, left by rubbing, spraying urine and scratching, enable them to maintain a territory without coming into direct conflict, minimising the risk of injury or disease transmission

Domestic cats often rub facial pheromones around the house to indicate a familiar 'safe zone' and spray or scratch the edges of their territory. They may spray indoors if they feel they need to indicate an area of caution.

Avoidance of stress and conflict

African wildcats are small predators and rely on staying fit for survival. As a solitary animal, they cannot rely on others in their group to hunt for them if they are injured. They would much rather avoid conflict by running, climbing or hiding than staying to fight.

Cats often prefer to sleep in an elevated area



When domestic cats feel stressed, they endeavour to use the same strategy as their ancestors. Providing them with places to hide or get up high can help them to cope with stressful situations. When cats show aggressive type behaviours, it is sometimes because they are stressed or fearful but do not have the option to flee, so are forced to fight.

Sleep

African wildcats need plenty of sleep to allow their energy reserves to be replenished, enabling them to hunt whenever they detect prey. They sleep in a safe place within their territory and rotate the spot to help keep parasite levels low. They often scratch when they wake up to stretch their muscles and to maintain their claws.

It is a good idea to provide cats with a scratching post next to their sleeping area. If it is appropriate for use (tall enough for cats to stretch to full height and sturdy enough for them to lean into), and in the correct location, it is likely they will use this for scratching, rather than furniture or carpet!

Toileting

Toileting is a vulnerable activity for an African wildcat, so they choose a safe and private location within their territory. They steer clear of toileting near to areas in which they eat and drink to avoid contamination of their food and water and they bury their deposits in the sand of the savannah, maybe to elude detection by prey or potential predators.

Domestic cats also prefer to toilet in a safe and private location, away from their food and water.

Water

African wildcats prefer to drink from a moving water source, and, as desert animals, they have evolved to survive without drinking a large amount.

Domestic cats often also have a preference for moving water, and their water source should be placed away from their food and toileting area.

Cats in a rescue environment

Although a cat in a pen, tucked up in a warm cosy bed may look content, being in rescue care is stressful. We have established that cats like to maintain a territory, but in care, they are surrounded by the sights, scents and sounds of strange cats. They are unable to exhibit their natural hunting behaviour and so may suffer from frustration. Cats rely heavily on scent but lose all of their familiar scents when entering the new environment and cleaning and disinfection regimes essential for disease control remove their scent on a daily basis. Cats in care often don't have the option to rotate their sleeping area, or to eat, drink and toilet in different locations.

Cats Protection aims to maximise welfare while cats are in care by providing opaque barriers between pens, offering places to hide, climb and rest up high, and using two beds in the pen, allowing alternate beds with a familiar scent to be left behind while the other is washed. Cats are also provided with interactive toys to allow them to exhibit some hunting behaviour.

However, the best way to help the unwanted cat population is to stop cats coming into rescue care in the first place, by neutering and preventing behaviour problems that lead to relinquishment.

By reflecting on the evolution of the domestic cat, and thinking about the environment from the cat's perspective rather than a human point of view, we are able to provide for our cats needs. Although every cat is an individual and genetics and previous experience will play a part in a cat's behaviour, making some simple changes can improve a cat's welfare.

Note: The online UCN course is due to be released online in September/October 2019 and can be accessed free of charge here:

www.cats.org.uk/cat-care

Cats often scratch when they wake up to stretch their muscles and to maintain their claws. It is a good idea to provide cats with a scratching post next to their sleeping area

Gemma Lovegrove

BSc (Hons) PG cert



Gemma holds a BSc in Animal Science and Welfare and a Post Graduate Certificate in Anthrozoology. She has been employed within the pet, animal welfare and veterinary industry for the last 25 years, beginning her career at the RSCPA headquarters before gaining wide experience working within zoos, catteries, veterinary laboratories and nutrition companies before re-fulfilling her passion for the animal welfare sector by joining Cats Protection as Veterinary Manager in 2005. After having twins in 2013, Gemma has worked for the animal welfare industry in a consultancy capacity.

Hide and Sleep

Laura Rowbotham shares her experience of using the CP Hide and Sleep in a clinical setting

We all love cats! They can be affectionate, indifferent and hilarious to watch, but take them out of their comfort zone and they get stressed like the rest of us. Even in their own territory they tend to have a safe place to retreat to.

Over the last few years, feline-friendly handling and environmental needs in veterinary practice has become more commonplace. It has become more obvious than ever that cats recover much quicker in a relaxed environment.

Here at the Mount Vets in Somerset, feline-friendly practice is an area we are focusing on a lot.

We have progressed hugely in understanding cats and their needs.

One of the biggest changes we have made here, is the environment our feline patients are kept in while in the clinic.

We now strive to make them feel as secure and safe as possible in unfamiliar surroundings. Some of our patients are only with us for a day, others for a week, but they are all treated in the most feline friendly way possible.

I myself am guilty of putting a cat in a kennel, with a comfy bed and thinking there was no more I had to do. How wrong I was!

Since attending courses and doing Continued Professional Development (CPD), I realise there is so much more we can do. One of the best changes we have made here at the Mount, is the environmental changes to our cattery. The discovery of the CP Hide & Sleep® has been life changing!

Originally, before we discovered the CP Hide & Sleep®, cats were admitted to the hospital, placed in a kennel with a bed, and if particularly stressed a towel would be placed over the front of the kennel. Cats essentially had nowhere to hide, and nowhere to look out and see their surroundings.

We now have protocols in place for setting up a kennel for our patients. Every cat admitted is offered the same size kennel. A bed is placed down first with the Hide & Sleep® on top. Food and water, if appropriate, are placed near the hide. A litter tray is placed on the opposite side of the kennel and a towel that has been sprayed with a feline pheromone (Feliway) is placed over the kennel door on the side of the litter tray. This towel then stays with this patient throughout its stay with us, it can be used on a consult table when examining the patient or as a restraint if needed.

Over the last few years, feline-friendly handling and environmental needs in veterinary practice has become more commonplace. It has become more obvious than ever that cats recover much quicker in a relaxed environment



A relaxed cat using the elevated bed

We are lucky at The Mount to have separate cat and dog wards. Upon being admitted our cats are taken through in their baskets to our cat ward. The door is shut to keep noise to a minimum and the lights are on a dimmer to stop a harsh glare. We also have classical music playing gently in the background, to further block out external noise.

Once out of their basket and placed in a kennel nearly every cat, even the most confident of cats, tends to bolt under the Hide & Sleep®. Given time to settle into their kennels some more confident patients will sit on top of the hide to inspect their surroundings.

There will always be that one patient who doesn't use the hide (this was my own cat, Mack, a CP rescue, who I'm pretty sure hasn't read the handbook on how to be a cat!)

In cases such as these we will happily remove the hide, but this is quite rare.

Having a safe environment making a patient more relaxed, in my opinion aids recovery time. Cats feel vulnerable when going to the toilet and eating. If we can encourage a secure feeling this in turn encourages feeding. Nutrition is a key part in



Hide & Sleep



Using a Hide & Sleep® makes better use of the 3D space of a cage

the healing process. Toileting is also vital to keep everything moving. All too often we have patients too nervous to use their tray, either causing them to toilet where they lie or holding it in, neither of which are good for them.

Where previously a prep room announcement was made that 'Fluffy' has finally passed faeces, so we can all cheer, now there is no need to shout about it anymore, as a normal toileting routine is quickly re-established, despite being in the kennel.

The design of the Hide & Sleep® is also useful for examining a patient without having to disturb them too much. We can access the patient through either of the entrances to administer medication or check on them.

When we do however have to remove the cat from the hide, it can just be lifted off carefully, so we never have to try and extract them through the front or side entrance.

From a hygiene point of view the hides are made of sturdy plastic that is easily disinfected to prevent the spread of infectious diseases and can be used time and time again.



A cat on intravenous fluids making use of the hiding opportunity provided



The pen door can be partially covered with a towel in addition to providing the Hide & Sleep, not instead of

I should probably add in that although it is referred to as a 'cat' hide, it also offers a perfect hiding place for rabbits, guinea pigs and other small furries.

As well as the Hide & Sleep®, Cats Protection provide a whole Feline Fort®. This consists of a step and a table where the hide can then be placed on top. Although we don't have the space here for the Feline Fort in its entirety, these are perfect for bigger boarding kennels such as shelters or catteries.

Everyone here at The Mount has seen the benefits of the Hide & Sleep® and they work brilliantly alongside our other improvements to make sure every patient is given the opportunity to feel safe and secure in an otherwise unfamiliar environment.

So, I encourage every practice to give them a try, not only will you see the difference in your patients, you are helping a wonderful charity in the meantime.

To place an order for a Hide & Sleep®, please see below:

- General public, including veterinary practices and catteries should visit CP's online shop - www.catsprotectionshop.co.uk to purchase at the RRP price of £40
- Other charities: other registered animal charities can order the Hide & Sleep® at a discounted rate through the NCC Visitor Centre
E: felinefort@cats.org.uk

Everyone here at The Mount has seen the benefits of the Hide & Sleep® and they work brilliantly alongside our other improvements to make sure every patient is given the opportunity to feel safe and secure in an otherwise unfamiliar environment



A bank of pens all ready to go. A Hide & Sleep in each pen will help each cat to settle into the more quickly by providing both a perching and hiding opportunity

Laura Rowbotham

RVN



My name is Laura Rowbotham. I am a qualified nurse and have been working at the Mount vets in Wellington, Somerset for 14 years. I will be starting my feline nursing certificate this year, which I am super excited about! I live with my two children, Isabelle and Tom and we have three cats, all of which are CP rescues.

What makes rescuing and rehoming stressful for cats?

Bethan Hann explores the stressors faced by cats entering shelters and how to mitigate them

Cats entering the rescue and rehoming environment may experience varying levels of stress. For some, the experience can result in stress-related symptoms such as anorexia, anuria or constipation. Studies have shown that a cat's adjustment to the rescue and rehoming environment can take up to five weeks. These anxious cats are far less likely to be rehomed than cats that are relaxed and sociable with visitors. Minimising stress in cats entering the rescue environment is therefore extremely important not only as a welfare concern, but also to reduce the time taken to rehome. Staying in care for any length of time is inherently stressful and as such affects a cat's welfare negatively. This report discusses what factors within the rescue environment can lead to stress and ways to mitigate them.



Figure 1 An example of a cat using the Hide & Sleep® as a perch

Groupings

Cats from different locations should not be grouped into the same pen – even cats from the same home should be monitored to ensure that they are compatible. Cats have evolved to live and hunt independently and have not developed the ability to perform complex visual and auditory communication. This means that when confronted with another cat they are unable to perform appeasing behaviours to avoid conflict.

In the home environment it is possible for cats to maintain their own territories, only coming together to share resources. Some cats who appear to the owner to get along, may fight when brought into a rescue environment if they cannot then maintain their own territories. This can be hugely stressful for the cats and therefore pairs may need to be separated. Affiliative behaviours such as rubbing against each other or co-grooming suggest that a pair identify as being in the same social group as each other. Forming a social bond with another cat is not a generalised behaviour it is individual to the pair or group and does not mean that these cats will get on with others. Studies have shown that cats housed in solitary accommodation within shelters are less stressed than those housed in groups.

Pen design

Ideally cats in different pens should not be able to see each other. Their inability to diffuse tension can lead to stress for individuals. Ideally pens should be designed with solid opaque barriers between them so cats cannot see each other. Taping newspapers to the inner side of the pen can be used as a temporary visual barrier for cats that become particularly stressed.



Pens should be designed with solid opaque barriers between them so cats cannot see each other

When confronted, cats will choose to run, hide or climb to avoid conflict. Providing cats with the opportunity to hide is very important to reduce stress, mimicking natural behaviour. Something as simple as a cardboard box on its side will provide the feeling of safety and can be thrown away between cats to avoid the spread of disease. Studies have shown that a cat prefers having an object to hide in. The Hide & Sleep® part of the Feline Fort®, developed by Cats Protection, is a very useful hide as it offers both a place to hide underneath and a place to perch on top. The Hide & Sleep® can be disinfected easily between cats and gives the added benefit of allowing cats to rotate their sleeping position – to sleep in a higher position, similar to how they would in the wild.

For cats, toileting is a vulnerable behaviour and therefore litter trays need to be placed in an area that is out of sight for both humans and other cats. As anuria and constipation are issues associated with the stressed cat, encouraging the use of the litter tray is essential. To encourage usage the litter should be approximately 3cm deep and deposits from the tray should be scooped out at least twice daily.

Asking the owner about the cat's desired litter tray design and substrate is a really useful exercise prior to the cat's arrival. Cats become accustomed to litter tray substrates in their socialisation periods between the ages of two and eight weeks old, resulting in

individual cat preferences. If this information is not available then a soft, sand litter type is popular with most cats. Ideally multiple litter trays with different substrates will be offered upon first arrival to increase the likelihood that the cat will use one. Unfortunately the size of the pen may mean that this is not feasible. Cats dislike contaminating their food or water sources with faeces and therefore the litter tray needs to be in an area away from the food and water bowls. This may mean that in some shelters only one litter tray can be offered.

Unfortunately even the most well designed centres cannot prevent all stressors such as new sights and smells. For most cats these stimuli will not be completely new, however most will be novel for feral cats. Keeping feral cats within a rehoming centre for any length of time is contrary to their welfare and should be avoided. Some charities will house feral cats for the minimal amount of time required to allow a health check and neutering procedures prior to being released again. Cats Protection's policy is to confine ferals for as short a period as possible, generally releasing both males and females within 24 hours of surgery (weather and case dependent). Feral cats over eight weeks old are not to be brought into care for rehoming. While in the centre, contact with humans and cats should be kept to a minimum to avoid as much stress as possible and sedation should be used when required.

Disease

The nature of the rescue and rehoming environment means that there is a high risk of disease transmission. Cats from different areas with different health statuses are all brought under one roof which facilitates the spread of disease. Disease is therefore a very important stressor that cats may face within the rescue and rehoming environment.

To combat this, strict biosecurity principles should be followed within shelters to try and prevent transmission. Upon entry cats should receive a general health check to look for common infectious diseases such as ringworm and cat flu. This initial examination itself can be very stressful for the cats and therefore handling should be performed in the least stress provoking way possible. Suggested methods include:

- reduce the number of handlers present
- allow the cats to have some control – allow them to come out of the carrier in their own time and avoid scruffing. Examining the cats at a height, for example on a box, makes them feel safer
- ensure the handlers are confident and slow in their approach
- do not make direct eye contact
- if the cats are particularly fearful then providing a hiding place such as a towel can help. If the cats are very fearful then sedation should be considered
- Feliway diffuser in vet practice

Cats should also receive basic preventative health treatments such as flea, worming and vaccination. Ideally any cats that are deemed to be high risk for FIV or FeLV should be screened, high risk cats include:

- entire sexually mature cats
- all cats that have been in contact with FIV or FeLV positive cats
- strays
- orphaned kittens whose queen's FeLV/FIV status is unknown

Funding may restrict the testing availability, if this is the case then any cats that exhibit signs of retrovirus infection should be prioritised. These signs are relatively vague including recurrent infections, pyrexia, weight loss, lymphadenopathy and pale mucous membranes due to anaemia. Extra care should be taken with FIV positive cats to avoid direct or indirect contact with other cats, for example by feeding FIV positive cats first.

Any cats with suspected or diagnosed infectious disease should be isolated from the main population of cats. Maintaining good hygiene practices within the rescue centres will also help prevent disease transmission. Thoroughly disinfecting pens, bowls and litter trays between cats is essential.

Scent profile

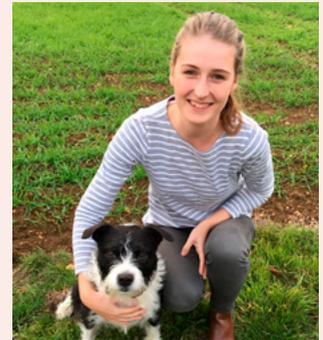
The cat's olfactory system is extremely well developed and in the wild they would use scent around their territory for orientation and communication with other cats. This allows them to avoid coming into direct contact with other cats and enables them to have control and predictability within their environment. Cats also use scratching behaviour to mark their territory using the scent glands between the pads of their toes. Traditional scratching posts are difficult to disinfect and may not be suitable for the rescue and rehoming environment however they can be replaced with old cardboard or carpet. They need to be placed on the walls of the pen at a height that means that the cat can be fully stretched when scratching. Being able to express this natural behaviour will improve the cat's welfare.

Cleaning, although necessary, will remove the scent of the cat and replace it with foreign scents. For cats this will make the environment unfamiliar

The cat's olfactory system is extremely well developed and in the wild they would use scent around their territory for orientation and communication with other cats

Bethan Hann

BVM BVS MRCVS



Bethan graduated from the University of Nottingham in July 2018, she has since been working in a small animal practice on the Suffolk/Essex border. Bethan really enjoyed the behavioural teaching during her EMS placement at Cats Protection and is looking to complete a certificate in behaviour when she has gained a bit more experience!

and therefore they may feel unsafe again. To avoid this, a double bedding system can be used. To provide a continuity of scent profile, one layer of bedding can be removed while leaving a layer of bedding that contains the cat's scent. Bringing toys or bedding from the cat's previous home will provide familiar scents when initially being introduced to the pen which can reduce the initial stress. Similarly, future adopters can introduce the cat to their house's scent by bringing in a familiar item. This aims to make the rehoming process less stressful.

Artificial pheromones, for example FELIWAY® Classic, have been produced to mimic the pheromone produced by cats when they feel safe and at ease. Studies have shown that artificial pheromone products are effective in reducing anxiety in cats. Spraying FELIWAY® Classic onto toys or bedding in a pen once daily may therefore be appropriate if a cat appears anxious.

Enrichment

Hunting behaviours such as stalking, pouncing, grabbing and killing releases endorphins in cats. Endorphins are known to reduce stress. Providing feeding enrichment will increase the length of time that cats will be 'hunting' for their food, this reduces boredom as well as providing a release of endorphins. Feeding enrichment can be provided as commercial puzzle feeders or can be homemade; such as placing kibble in tissue or in an egg box. Placing toys in the pen that mimic prey will also stimulate hunting behaviour and cause a release of endorphins.

Cats like to have a predictable routine that contains some novelty to prevent boredom. Feeding and human interaction at set times can help a cat to settle in at the rehoming centre while changing the toys available will provide some novelty. Boredom can lead to behavioural issues which can make a cat more difficult to rehome.

Conclusion

Due to the nature of the rescue and rehoming environment, it is not possible to remove all potential stressors that cats may face. However, the methods mentioned in this report aim to mitigate these stressors as much as possible in order to improve welfare and increase the speed of rehoming.

References available on request

All the latest news from Cats Protection

Cats Protection veterinary questionnaire



Veterinary Profession
SURVEY



Win one of five deluxe M&S food hampers worth £40 for your practice

The major UK feline welfare charity is seeking information on the veterinary profession's perception of its work. Cats Protection (CP) would be very grateful if you or someone within your practice can spare a few minutes to complete the questionnaire below by 30 September 2019. If

preferred, responses can remain anonymous, but if the practice wishes to be entered in to the prize draw to win a deluxe M&S food hamper worth £40 then the details should be completed on the back page.

www.surveymonkey.co.uk/r/cpvetsurvey

Microchipping – cats are lost without it

Cats Protection has been promoting microchipping to cat owners throughout June as part of National Microchipping Month. In Wales, Cats Protection took over Cardiff Central station's advertising space for four weeks to raise awareness of the benefits of microchipping owned cats. In Wales 38% of owned cats aren't microchipped, which equates to a staggering 230,000 cats. The Advocacy & Government Relations team took the opportunity to spread the word that microchipping is the safe and permanent way to identify a cat and help reunite it with its owner if lost. It is hoped that this will encourage more cat owners to visit their local vet and get their cat microchipped.

Cats Protection has consistently called for the microchipping of owned cats to be compulsory. The Advocacy & Government Relations team is working with Members of the Welsh Assembly to encourage the Welsh Government to introduce regulations which would bring into force compulsory microchipping of owned cats in Wales. This is something that Lesley Griffiths, the Welsh Animal Welfare Minister has said she is considering.

Politicians at Westminster are also interested in the issue. Cats Protection was delighted when the Parliamentary Under-Secretary of State for

Environment, Food and Rural Affairs, David Rutley MP, announced in mid-June that he is planning to issue a call for evidence on cat microchipping in England. This is an important first step in the process of achieving compulsory microchipping of owned cats. Cats Protection's research undertaken by MORI shows that 27% of owned cats are not microchipped in England.

Furthermore, many of the cats coming into the care of rehoming charities like Cats Protection are not microchipped. In 2018, 62% of the cats taken in by Cats Protection's UK centres were not microchipped. This highlights the need for compulsory microchipping of owned cats to be introduced across the UK.

Microchipping can make a vital difference if a cat ever goes missing and owners often tell us how much it means to them when they are reunited with their beloved cat.

More information is available on our website at www.cats.org.uk/microchips-reunite

¹ The PDSA Animal Wellbeing (PAW) Report 2018 Wales

¹ Cats Protection research study undertaken using Ipsos Mori's nationally representative omnibus panel, base size 5,166 English consumers



In Wales, Cats Protection took over Cardiff Central station's advertising space for four weeks to raise awareness of the benefits of microchipping owned cats



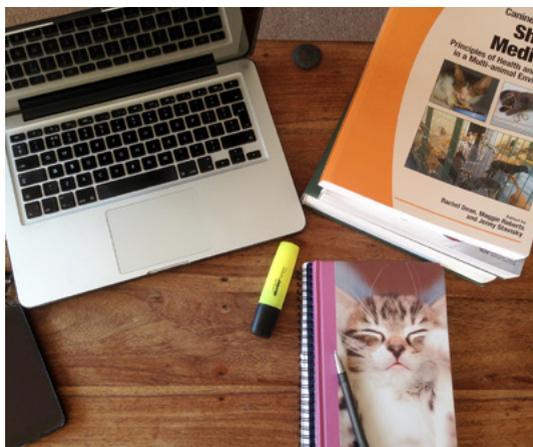
DOING IT FOR THE CATS

Nine Mile Challenge 2019

After the success of last year's Nine Mile Challenge, it will be back again this September. We challenge cat-lovers to walk nine miles throughout September to raise funds for Cats Protection. As last year, the nine miles can be done all in one go or spread across the month, whatever suits you. And this year there will also be a running option for those feeling more sprightly and energetic.

Anyone can register via the website www.cats.org.uk/9miles where you will also be able to download some resources to help you plan your miles and raise money.

For any queries, please contact the Fundraising Events team on events@cats.org.uk or call 01825 741 960.



Student hub

Cats Protection has recently launched the Student Hub on the Cats Protection website. This section is for vet and vet nurse students and includes relevant information about pre-clinical and clinical EMS opportunities at Cats Protection, links to the kitten neutering database and associated resources, access to the Behaviour Hub and also the Cats Protection Shelter Medicine podcast.

Visit the hub here: www.cats.org.uk/cat-care/vets-info/student-hub

Cats Protection and other members of the Companion Animal Welfare Group Wales (CAWGW) at its launch



Launch of the Companion Animal Welfare Group Wales

Cats Protection is one of the founding members of a new group dedicated to improving the welfare of companion animals in Wales which launched at the National Assembly for Wales on 2nd July.

The Companion Animal Welfare Group Wales (CAWGW) is the first group solely dedicated to improving companion animal welfare in Wales and will inform and advise on important issues such as the breeding, sale and microchipping of cats and dogs and responsible pet ownership.

The group is comprised of five full members: Cats Protection; Blue Cross; Dogs Trust; PDSA; and the Kennel Club, as well as three associate members:

CARIAD (Care And Respect Includes All Dogs), The Dog Breeding Reform Group and Friends of the Animals Wales. These organisations bring extensive expertise in companion animal welfare as well as a shared commitment to championing this in Wales, where they have experienced harrowing cases of cruelty and neglect towards companion animals.

Chairing the CAWGW is Christine Chapman who brings a wealth of experience from both frontline politics as well as her background as a strong advocate for animal welfare.

Supporters can follow the progress of the CAWGW through the website www.cawgw.co.uk



Need to talk to someone?

Cats Protection understands just how much your cat means to you and what you may be going through if your pet is missing, had to be rehomed, nearing the end of their life or recently passed away. We have a large range of resources, information and support to help you at this difficult time, including ways to help celebrate the life of your cat.

If you're experiencing the loss of your cat, you can talk to us. Our volunteer listeners can provide emotional support and practical information.

Please get in touch, we're here and ready to listen:

t: 0800 024 9494

(9am-5pm, Mon-Fri) free & confidential

w: www.cats.org.uk/grief

Reg Charity
203644 (England and Wales)
SC037711 (Scotland)

