

Pussycat peccadilloes

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ABSTRACT

The approach in general to feline behaviour problems is described. The causes and options for reducing urine-spraying, elimination in unacceptable places, predation, territorial aggression and scratching of objects are discussed.

IMPORTANCE

The diverse range of attitudes and behaviour of people towards cats, and the relationships between people and cats, is primarily based upon cat behaviour. When it is undesirable to people they are likely to try and modify it. With greater awareness of the scientific study of animal behaviour the public are increasingly looking for answers to their questions about feline behaviour. There are many people in the community who claim experience in modifying the behaviour of dogs, such as obedience instructors, breeders, kennel owners, dog rangers and anybody who has ever owned a dog. In contrast there are precious few who would claim an understanding of feline behaviour, let alone to have successfully modified their cat's behaviour.

PRINCIPLES OF APPROACH

Similarities

The first thing to establish in everybody's mind is that there is nothing mysterious about cat behaviour. They respond to stimuli, and the response is affected by learning, fatigue, stage of development and motivation. The same principles of behaviour apply to them as to other animals. They are amenable to the same principles of modification.

Differences

They have a different species-specific repertoire of behaviours from other species as they adapted very successfully to a particular biological niche. Within domestic cats there is a huge range of variation in appearance and behaviour. This results in great differences in individuality.

PHYSICAL EXAMINATION

Any animal that is presented for a behaviour change should be physically examined. There are numerous possible physical causes for changes in behaviour such as gingivitis, hyperthyroidism, feline lower urinary tract disease and toxicological disorders.

OPTIONS

There are usually several ways of altering behaviour. For instance in urine-spraying there are management changes, drugs and surgery to consider. By helping owners to choose strategies for reducing the problems, I believe they are more likely to end up with behaviour that is acceptable to them. They can work their way through the options, starting with the quick, easy and cheap ones and if necessary going on to those that require more effort and expense, until the behaviour is acceptable or they have done all they are prepared to do. I find it useful to keep in touch with clients so that they can be reminded that there are options, even if they are re-homing or euthanasing their cat.

URINE-SPRAYING

Typically this is a small volume deposited on a vertical surface by a standing cat with an erect and quivering tail. However it may be done by a squatting cat onto a horizontal surfaces. Some cats will turn their hindquarters against a vertical surface with a raised quivering tail but without spraying. This may be an intention movement to spray (a 'dry spray'). It may be shown by a urine-sprayer in circumstances normally associated with real spraying, but it is also shown by cats that have never sprayed.

There are many predisposing factors to spraying. Spraying by most cats can be reduced or eliminated by various methods. This is best done by identifying the predisposing and eliciting factors and applying the appropriate treatments. Spayed females are particularly difficult to treat but there are plenty of options which can be tried singly or together. However there may be some cats which continue to spray despite all known treatments. Clients may not wish to use some options, such as surgery, and may elect to find the cat a new home where spraying can be done outside without disturbing the new owner.

COMMON CAUSES AND THEIR TREATMENTS ARE -

Lower urinary tract disease

A common cause of spraying is lower urinary tract disease, which should be eliminated as a cause before behaviour therapy is applied.

Sex and sex status

Spraying is characteristic of the entire male, who typically marks prodigiously within his territory. Some owners believe it is not shown by females or desexed members of both sexes. It is an advantage of desexing that the male and the female are less likely to spray. However it has been estimated that 10% of desexed males and 5% of desexed females will spray at some time in their lives. The chances of spraying decrease with sex and sex status as follows: entire male > desexed male > entire female > desexed female.

Anxiety

This is usually because there has been some change in the cat's environment such as house alterations, new cats in the area, or sex activity in the local cats. Owners commonly describe their spraying cats as having an anxious temperament and it therefore takes less to make these cats anxious. Many of the factors discussed below probably elicit urine-spraying by increasing anxiety. Many of those that do not increase anxiety probably increase arousal, making the cat more likely to spray in the circumstances. When there are several cats in the household it is almost invariably the more or most anxious that does the spraying. Owners often comment that it is not the cat they expected, ie the one that they perceived as the most dominant or the most submissive.

Anxiety may be reduced by providing 'get-away' areas or cubbies. These are small, enclosed, elevated and comfortable areas in which the cat can rest and feel protected. It would be a good idea to put soft coverings on the floor such as old sweaters, which to many cats have the added appeal of human smells. Several boxes could be placed around the house in high places to see which sites are most preferred. Anxiety can also be reduced by environmental enrichment (as described in the associated paper ['Feline fabulous'](#)) and by drugs (as described later in this paper).

Strong-smelling cleaning agents

Avoid using agents which people can smell, particularly those containing ammonia, chlorine, pine or eucalyptus. The use of 'Pinol' and 'Dettol' has been associated with spraying. Cats have greater olfactory sensitivity than humans. Strange smells are likely to cause anxiety in the cat as smell has strong emotional significance to animals and people. A new smell will make a familiar environment less familiar and therefore more arousing.

Entry of unfamiliar cats

The presence of an unfamiliar cat in the house is very commonly associated with onset of urine-spraying, even when the newcomer has not sprayed. In terms of provocation it appears that the presence of such a cat is like 'a red rag to a bull'. If the newcomer sprays then there seems to be greater provocation for the resident to spray. Spraying often starts when the owner adds or allows a new cat to join the household. Strange cats also enter houses unbeknown to the owners. Clients are often unaware that strange cats are entering the house in their absence. If the resident cats can come and go at will, for example through a cat door, then it is highly likely that strangers will be doing the same. By keeping strange cats out of the house (eg shut cat door) or the property (eg have a dog on the premises) the resident cats may stop spraying. Cat doors are available which can only be opened when a resident cat approaches wearing a specially coded magnetic collar.

Presence of cat urine

It is a good idea to effectively remove the smell of the urine-spray wherever it is, even from immediately outside the house such as on the front door. This can be done from non-absorbent surfaces with an approximately 3% solution of bicarbonate of soda (about 1 dessert spoon in a litre of warm water). From absorbent surfaces the smell of urine can be removed by using 'Bac to Nature' (Nutripet P/L, Campbellfield Vic). The procedure should first be tested on an unimportant part of the surface to be treated.

Sight of visiting cats outside

Seeing cats outside from particular windows may be the eliciting factor for spraying. Preventing access to those windows or blanking off the view may solve the problem.

Hunger

Some cats have stopped spraying associated with meal times by making high quality dried food available at all times. Cats tend to snack at any time of the day or night, about 7-16 times per 24-hour period.

Frustration of confinement

Cats vary in their responses to confinement. This probably reflects the interaction of their genetically inherited temperament, experience and interaction with the present environment. All cats that are partially or completely confined can be expected to benefit from a program of environmental enrichment. These are activities that are made available to the cat to replace, at least in part, the environmental interaction they would experience as free-roaming animals. It provides daily opportunities for the cat to choose whether or not to interact with a complex and unpredictable environment. Ways in which this can be done are described in the associated paper 'Feline fabulous' in these proceedings.

Multi-cat household

The fewer the cats in the house the lower the chances of spraying. A male is more likely to spray when in a household with a female. However a female is not more likely to spray when with another female.

Being ignored by owner

Some owners have reported that their cats have sprayed when the owners have not responded to attention-seeking. Many cats become calmer by giving extra Tender Loving Care (TLC), which for many cats is brushing, carrying around and allowing it to sleep on a lap or shoulder.

Owner absence

Some cats only spray during their owner's absence. Separation anxiety may be reduced by: providing a relaxing environment, particularly one associated with the owner and her or his smell; anti-anxiety drugs; decreasing the cat's dependence on the owner (delay greeting ritual for 5 minutes after owner returns home, other person to care for cat), and environmental enrichment.

When it is not possible to identify or sufficiently reduce the causative factors, you could try one or more of the following:

Feeding under sprayed areas

Cats do not normally spray on or close to food. It is a good idea to have food permanently in position. This can be done very effectively by using 'Superglue' to stick about 10 bits of dried cat food on to an old saucer or paper plate. This gives a long-lasting effect without having to keep topping up the food.

Closing off areas

Keep the cat out of the sprayed areas for one month after the cleaning. Then reintroduce it to one area at a time for progressively longer periods under constant supervision with plenty of TLC. At the first signs of agitation or pre-spraying behaviour, put it outside.

Using drugs

Progestins have been estimated as being effective for a month or more in about 30% of cats overall. This varies with sex and number of cats in the house as follows: single males 80%, multiple males 40%, single females 20% and multiple females 2%. With greater awareness of the potential side-effects, as well as the behaviour changes of increased hunger and affection, there is an increasing reluctance to use them.

Diazepam (eg 'Valium') with a success rate of 68% can be at least as effective as the progestins but without the side-effects. However at least 90% of cats resume spraying after the treatment is stopped. Amitriptyline ('Tryptanol') has also been used successfully.

In my opinion, the present drug of choice is buspirone ('Buspar', Astra Pharmaceuticals). It also reduces anxiety and has been found to reduce urine-spraying in 55% of cats. Cats in multi-cat households were more likely to respond than those living as single cats. The effect continued in half the cats for 2 months after the treatment was stopped.

Please note that buspirone is not registered for use in cats in Australia. Some owners, notably those of Siamese or Tonkinese, have reported a period of activation or agitation for about 1 hour starting about 30 minutes after giving the tablet.

Punishing

Although spraying has been said to be reduced by punishment (eg a sudden very loud noise such as an air horn or rape alarm, a jet of water from a water pistol, a mousetrap underneath the sprayed area, or hanging aluminium foil over the area), giving cats noxious treatment can make them more anxious and hence spray more.

Absorbent pants

Some breeders fit their stud tom cats with an absorbent pad, such as a cut down woman's panty liner, held in place with elasticated mesh, such as 'Tubogauze'.

Ischiocavernosus myectomy

Cutting of this muscle on each side of the penis as done in a penile urethrostomy is said to be effective in 50-70% of male cats resistant to other options.

Olfactory Tractotomy

A cat's sense of smell can be taken away surgically by removing part of the olfactory tracts. This stopped spraying by 50-75% of cats resistant to other treatments.

URINATING & DEFECATING IN UNACCEPTABLE PLACES

Cats may urinate and/or defecate in places the owners find unacceptable. Acceptable places are usually somewhere outside the house or in a litter tray in the house. Some owners find elimination in a basin, wash tub or shower tray quite acceptable, whilst others do not. A problem arises when there is elimination in a different place or places that are unacceptable or the cat will not consistently learn to use a site acceptable to the owner. Elimination may be at a regular site or sites, or be apparently random throughout the house. Some of the possible causes and their possible treatments are:

Incontinence

Loss of bowel or bladder control can result in discharge at other sites. Cats usually return to their previous toileting habits after successful treatment of the condition. Unfortunately after the disorder has been resolved the cat may return to those sites as a habit.

One treatment protocol is to use one or more of the following in this order: eliminate cause of incontinence; remove odour as described under Urine-Spraying above; either cover the area with a waterproof surface or litter tray, or prevent access to the area until the cat is consistently using the owner-acceptable area; re-housetrain.

Lack of or unacceptable housetraining

There is often a history of incomplete housetraining, where the cat has never consistently used the litter tray over long periods. A change in environment can be sufficient to break the partially formed habit. Some cats are particularly difficult to housetrain with the usual methods and have unusual requirements, such as a covered litter box or one without any litter at all. Many of the most difficult problems I have encountered have been with Himalayans and other long-haired cats. It is possible that they do not as readily use litter because it is more likely to get caught in their long coat and they dislike that.

If the cat is repeatedly using a small area that is unacceptable to the owner it is housetrained, but in an area considered inappropriate by the owner. The area may be thoroughly cleaned, covered with a waterproof sheet such as polythene and a litter box placed over the centre of the previously soiled area. Once the cat is consistently using the litter tray then the tray may be moved about 20cm each day towards an acceptable permanent position. When the cat is using the tray in the latter position, the size of covering over the previously soiled area can be reduced each day to zero over about a week. If eliminations occur outside the tray then the training should be restarted several steps back with smaller changes in position each day. Where there are several sites consistently used for elimination, then several trays can be used with this method. The trays can be independently moved towards the desired place and amalgamated when touching. In this way the number of trays is progressively reduced.

Cats that have never been consistent in their use of the tray, and those that eliminate in several places around the house, may be re-housetrained as follows. Initially, when unsupervised, it is confined to a very small area and progressively allowed more space to live in. Start off by putting it in a small, dark, quiet area with a comfortable temperature, such as a wardrobe or closet. In there it needs to be provided with a resting place, food and a litter tray placed as far as possible from the resting place. If it has settled well in there, after 4 days of consistently using the litter tray, it can also be allowed access to the immediately surrounding area, such as a bedroom or hallway. Leave the litter tray in there but feed it as far away from the tray as possible. After a further 4 days of consistently using the litter tray allow it greater access to the house - say about one half. If it is still always using the tray after another 4 days it can then have access to the whole house. Then it is a matter of slowly moving the litter tray about 30 cm per day to the area in which you prefer it to be permanently sited. Ensure it is well away from food: a minimum of about 2 metres should be sufficient. If it eliminates out of the tray at any stage put it back in the smallest area for 4 days and repeat the routine.

Dirty litter

There is considerable variation between cats in the amount of urine or faeces which will prevent them using the litter tray. It is a good idea to keep the litter as clean as possible. It is usually sufficient to remove faeces or urine-soaked litter as soon as it is seen or smelt and to completely replace the litter once per day. Whilst empty the litter tray should be washed with bicarbonate of soda of at least 3% strength. A depth of litter of about 5cm is usually quite satisfactory. Untreated sawdust is cheap, readily acceptable to most cats, biodegradable and has a pleasing smell to many people. It can be disposed of in the garden around the bases of flowers and shrubs. Make sure though that the sawdust is untreated as treated sawdust contains arsenic. A hooded litter tray and a mat at the entrance will confine almost all of the sawdust to the immediate area. Rabbit pellets made from dried lucerne also make a pleasant-smelling biodegradable litter.

Some cats will not use the litter after it has been soiled by another cat or themselves. For these fastidious cats the litter should be cleaned whenever it is seen to have been soiled. This is made easier by having a large cooking spoon exclusively for this function immediately accessible to the tray. It is an advantage to have the tray close to a human toilet for the frequent disposal of small amounts of soiled litter. It is a good idea to have one tray per cat and an extra one, to increase the probability of there always being a clean tray for a fastidious cat.

Anxiety

Cats may show a breakdown in normal habits when there is a change in their environments, such as a member of the household leaving or a person arriving. It is relatively common for cats to eliminate on the pillow or bed of a person to whom they were attached and who has left the house. The presence of strange cats outside or particularly inside the house can cause a breakdown in normal elimination patterns. Cats vary considerably in their individual tendency to be anxious. Treatment of anxiety was discussed above under Urine-Spraying.

Sudden change of or different litter

An abrupt change in litter is a common cause of house-soiling. Different litters vary in attractiveness to different cats. Generally litter texture and coarseness are important factors in litter preference. Small particle size is preferred over larger and clay is preferred over sand. Fine textured clay was the most preferred litter when compared with coarse clay, wood-shavings, fine sand and topsoil.

If you are going to change the litter, start off with a small proportion (about 10%) of the new litter. If the cat avoids that, use an even smaller proportion. Slowly and progressively increase the proportions of the new litter over about 10 days. If there is reluctance to use the new mixture at any stage, go back a couple of steps in the increase in proportion.

Conditioned avoidance

Cats may avoid the litter tray having had a noxious experience, such as being attacked by a cat or person during elimination in the tray. A dog rushing up to or loitering with intent to eat the faeces may be sufficiently aversive to the cat to cause this avoidance. Dirty or otherwise aversive litter may result in this learnt avoidance and hence regular use of another site or sites.

Proximity of food

Feeding cats beside the litter tray is likely to stop use of the tray. This phenomenon can usually be used successfully to prevent a cat eliminating or marking in certain areas. The 'Superglue' technique was described under Urine-Spraying.

PREDATION

Hunting is shown by all ages and both sexes whether desexed or not. Hunger and predation are regarded as having independent motivational systems as cats will hunt despite having been well fed. This is because they are opportunistic hunters, which in the wild hunt frequently for small meals. However hunger predisposes to predation and hunting is part of feeding behaviour. In the wild the prey is more often ground-living animals. The cat waits near the burrow for the prey to emerge and move away, when it stalks, freezes and pounces. Movement will elicit the chase.

Predatory behaviour causes great distress to many owners, particularly when presented with a still-living endangered native species on the living room floor by a persistently vocalising pet. The playing with the prey before killing adds to the mental anguish of the owner.

To stop a cat continuing to hunt, the only effective method is to confine it 24 hours per day. A program of environmental enrichment (see ['Feline fabulous'](#)) will replace some of the complexity, unpredictability and choice that a confined cat would otherwise have experienced in the wild. Placing a bell or bells on cats' collars has been estimated as being effective in preventing only one third of cats from killing wildlife.

To obtain a cat that is unlikely to hunt, one can choose a breed with short legs and stocky body. In addition the kitten could be selected from a non-hunting queen, weaned at 6-weeks-old, and not exposed to prey until 1-year-old. Cats can kill without learning from their mothers but experience before 4-5 months old helps develop hunting skills. Later learning is slower. The chase and catch of prey are innate, but the manipulative elements are learnt. For example the nape-bite is perfected on live prey.

Elements of predatory aggression are often seen in play by cats, which inhibit the intensity that would be used in real life hunting. A kitten may pounce on and bite the tail of an older cat, sometimes resulting in aggression by the non-playful older cat. Play may also be directed at people particularly by young cats and those confined lone for long periods. This can result in human injury. Options for prevention are: environmental enrichment; a companion cat; the re-direction of play onto suitable objects; the owner shouting "No!" in a sudden deep loud voice; the vigorous swishing of a lightweight stick between owner and cat; and a sudden blast of very loud noise from a small fog-horn or rape alarm. Trying to punish the behaviour by smacking or tapping on the nose is not recommended for 2 reasons. Firstly these physical acts may elicit more intense aggression and secondly it may interfere with the relationship between owner and cat. Where human injury is significant and euthanasia would cause great distress to the owners then it may be ethically acceptable to de-claw or remove the canines.

TERRITORIAL AGGRESSION

In animal behaviour terminology a territory is defined as any defended area. This is indicated by the specificity of the possessor's aggression to that locality, which may be anything from several hectares to a sleeping place such as an armchair. The territories of entire males are considerably larger than other classes of cats. The possessor may hiss, growl, swat or chase the intruder from the area. The possessor may seek out or lie in wait to ambush and then chase the other cat.

Although it is a characteristic of cats of both sexes whether desexed or not, a few cats do not seem to show territoriality and they tolerate strange cats in the core of their home range (the area that they cover in their normal daily activities). Although aggression is highly likely to be shown by an established cat or cats towards a cat recently introduced to a household, it can occur between cats in an established group, often as they mature. Cats are not normally territorially aggressive to the human residents. It may be seen after one cat returns from somewhere else, such as being to the veterinary practice or even just outside the house on an excursion. It is likely that this aggression is elicited by the returning cat having a different smell. It has been found that putting strong-smelling solutions, such as men's after-shave, increases the chances of aggression by the untreated cat. Sometimes different behaviour elicits aggression. This may arise from vomiting, coughing or other behaviour change, such as recovery from general anaesthesia.

Treatment options are: desexing of males, temporary separation, re-homing, towelling, controlled exposure, and permanent separation. Towelling is the rubbing of the cats' heads (particularly cheeks and areas between eyes and ears) and dorsal tails with the same towel that is not washed between the rubbing of individuals. This is to get them used to each other's smell and to associate it with pleasure. Controlled exposure is done during play or feeding, with separation at all other times. They could be fed in separate cages, initially as far away as possible from one another but still within sight, and left in the cages for about half an hour afterwards. Providing there is no aggression, each day the distance is reduced, say 0.5m, until eventually they are fed with their cages touching.

If there is any aggression then go back several steps in the progression and continue forward again using much smaller reductions in distance. Once they are relaxed about eating alongside one another in cages, then the aggressor's cage can be opened for it to leave at will after eating whilst the introduced animal stays in its cage. When both cats are relaxed about that then the introduced cat's cage can be opened also at the same time. Thereafter they should be able to be fed close together in the usual way.

The use of progestins and diazepam (eg 'Valium') in the aggressor have rarely been found to be effective. However, treatment of the attacked cat with an anti-anxiety agent such as 'Buspar' may speed up resolution of the problem. The attacked cat is less likely to run away from the aggressor and so elicit the chase and aggression. The aggressor may tolerate the cat as it does not act like a 'victim'.

The chances of territorial aggression occurring are reduced by introducing cats as kittens.

SCRATCHING OBJECTS

Cats can be trained to use a scratching post and not to use other surfaces for their stretching and scratching exercises. Cut pile carpet is an attractive surface through which they can drag their claws. This should be firmly attached to a post at least 60cm high that is firmly held in position, usually by a heavier base. The forefeet of kittens can be gently placed up the post and drawn down it. By rewarding the kitten with praise and stroking whilst it is scratching and food when it has finished, it usually quickly learns to exclusively use an attractive post. Shouting at or spraying a cat with a water pistol is likely to reduce scratching in your presence. However scratching may well still be done in your absence. This can be diverted by temporarily putting a scratching post in front of the scratched surface that is protected by a non-scratchable cover such as wood, steel or thick plastic. Reward the cat as a kitten is trained for using the post. When it is consistently using the post, then move it less than 30cm each day towards an acceptable position. As cats tend to stretch and scratch after a rest, the post is best placed close to the cat's sleeping area. You may find it helps to have a scratching post in each room. Once the cat is using the post in the new position, the protection over the scratched area can be removed. If the cat goes back to scratch the area you find undesirable, it means that surface is more attractive than the post. The post could be made more attractive and/or mousetraps could be hung with the under-surface facing out. When the cat touches the back of the trap it springs out from the scratched surface and cannot snap shut on the cat's paw.

There are different attitudes to de-clawing cats to stop scratching problems. Whilst it is commonly done in the USA and Canada, it is very rarely seen in Australia, New Zealand and Great Britain. The present policy of the Australian Veterinary Association is that the removal of claws, particularly those that are weight bearing, to prevent damage to furnishings is not acceptable unless the only other option is euthanasia. Providing and training to use a scratching post is one option, and gluing on rounded plastic tips to the claws is another.

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