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Environmental and Behavioral Enrichment for Cats

On an average day, how many cats do you see in practice exhibiting signs of Fear, Anxiety, or Stress (FAS)?

What if I told you, you might be UNDER estimating that number?

Let's start with an overview of what FAS includes. As we review, reflect on your feline patients and even your own cats. Are they really happy to see you? Or are they fearful, anxious, or stressed?

The Fear FreeSM website has numerous resources at <https://fearfreepets.com/veterinary-professionals/> have great images and discussions of the representations of body language that are often mistaken as 'craving affection' or 'rub my tummy' when it's actually FAS! Specifically, think of the cat that is flicking his tail rapidly back and forth like a whip. It seems like he's wagging it, but in reality this is a stressed cat! The same goes for a cat who's all tucked up and curled into a tight ball (like a roly poly). Think of this as that armadillo that curls up. The cat is doing the same – making itself as small as possible, 'you don't see me, you can't grab me, leave me alone.'

Fear FreeSM evaluations use a 5 point FAS Scale to help easily identify where a pet is at any given time with their FAS. Note that this number can change in a second, up or down, and can be affected by a myriad of things. It is our job to keep this FAS number as LOW as possible for the benefit of the pet's well-being (our number one purpose in our career) and for our safety as well! (Developed by Kenneth Martin, DVM, DACVB and Debbie Martin, LVTS, VTS (Behavior), 2017)

Most pets are food, toy, or interaction oriented so the FAS Scale shows indication to accept treats/food /reinforcement as a means to help identify a FAS level.

0	Relaxed; readily accepts treats, toys, attention	No signs of FAS; relaxed body language, social interaction with team
1	Mild FAS; readily accepts treats, toys, attention	Shows 1-2 mild signs of FAS – i.e. lip licking, avoiding eye contact, head turning, paw lift, partially dilated pupils, panting with relaxed commissures LESS THAN 4 times/minute. Interested in interaction.
2	Moderate FAS; usually will, but may not accept treats, toys, attention	Shows 1-2 moderate signs of FAS – i.e. ears slightly back/side, tail down, furrowed brow, slow movements, overt attention seeking, tight mouth pant (dog) LESS THAN 4 times/minute. Still social with team.
3	Moderate FAS; fidgeting, difficulty settling, 'nervous' attention	Shows 2 or more moderate signs of FAS MORE than 4 times/minute. May refuse reinforcement/treats or take them roughly. Hesitation to avoidance of team.
4	Fight/Freeze/Flight responses; little to no interest in treats, toys, or attention	Severe FAS signs WITHOUT aggression – i.e. immobility, escape, dilated pupils, panting (dog), increased RR, trembling, tense/closed mouth, ears back, tail tuck or thrashing (cat). Likely will not accept reinforcement and may exhibit active avoidance (moving away).
5	Heightened Fight/Freeze/Flight responses; no interest in treats, toys, or attention	Severe FAS WITH aggression – i.e. growling, lunging, barking, snarling, snapping, and intolerant of procedures.



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FAS Stoplight Scale and examples can be purchased through <https://fearfreepets.com/resources/fear-free-store/>

Ideally, this Scale is addressed multiple times throughout the pet's visit from the arrival to the hospital, entrance, exam room, treatment area, kennel area, procedures, pre/post op, and release. All of this is recorded in an **Emotional Medical Record (EMR)** so the team can learn for future visits to help keep those FAS scores low. Educating the pet parent to help prepare for the visit (it does start at home) and to work with the front desk area with scheduling to ensure the best possible visit for everyone involved.

How can we AVOID FAS? Or, at least minimize it to help make our patient's visit more enjoyable, even if it's going to include some parts that aren't necessarily happy (vaccination, radiographs for an injury, dental, surgery, etc.) How can we help our pet parent's understand THEY play a HUGE part in their pet's successful visit? Minimizing FAS not only helps the pet and pet parent, but significantly decreases chances of worker's compensation issues (bites, back problems, stress, other injuries) and increases our job dissatisfaction.

Liz Bales, VMD asks, "What are you doing for environmental enrichment?" Whether this question is asked of the pet parent or of the veterinary practice, stop and think about this for a moment. What is environmental enrichment and why is it important? The American Association of Feline Practitioners (AAFP) published a set of practice guidelines in 2013, available to the public, that is organized around five primary concepts to provide a healthy feline environment (<https://www.catvets.com/guidelines/practice-guidelines/environmental-needs-guidelines>) and the practical tips for clients handout: <https://catfriendly.com/wp-content/uploads/2016/08/Environmental-GuidelinesEViewFinal.pdf>.

Five Items for a Secure Environment for EACH Cat*

- 1. Safe Place to Sleep, Escape** – Soft bedding, as well as familiar smells and sounds, provides security for your cat. Some cats also like to be provided with soft, cozy places to hide. Two or three are ideal with one being in a high place for escape.
- 2. Provide multiple and separated key environmental resources**
 - a. Food – Predictable meal times and individual food bowls for each cat in your household.
 - b. Water – Clean fresh water in a location that is appealing to your cat.
 - c. Toilet – A convenient, clean, and private litter box to serve your kitty. A general rule of thumb, the number of litter boxes should be one more than the number of cats in your household.
 - Most cats prefer a larger litter box that is one and a half times the length of their body, and at least one and a half inches deep. This allows proper dig/scratch/sniff/cover behavior.
 - Litter should be scooped at least once daily.
 - Be sure to supply plenty of scratching posts to encourage appropriate scratching.
- 3. Opportunity for Play and Predatory Behavior:** Interactive toys that mimic prey, feathers, 'mice', food puzzles or food balls. Rotate toys to keep them fresh and new. Start these young to keep kittens away from feet and hands.
- 4. Provide positive, consistent, and predictable human-cat social interaction.**
 - a. Individual preference to petting, grooming, play, talking to, picking up, lying on a lap, etc. and is linked to what the cat learned/how it was socialized as a kitten.
 - b. Forced interaction is counteractive and the cat should always initiate, choose, and control the type of contact, especially with guests.



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- 5. Familiar territory and environment that respects the importance for the cat's sense of smell.** The sense of smell is how it evaluates its surroundings. Face-rubbing and body rubbing to mark their environment with their own natural pheromones and establish their boundaries.
- Avoid cleaning these especially when introducing new cats.
 - Feliway[®] is a synthetic pheromone that mimics cat's natural pheromones and can provide a calming effect in stressful situations.
 - Strong cleaner smells, detergents, or scented products can overwhelm the sensitive olfactory system and cause stress.

*Each cat should have his/her own set of the above environmental needs covered.

*The majority should be in low traffic, low noise areas, with easy access/egress to allow flight/escape when needed (i.e. not the laundry room or bathroom or mudroom).

*Opportunities for play that mimic the natural need to hunt and stalk and provide mental and physical stimulation

(Retrieved 9/3/2018 from AAFP website: <https://catfriendly.com/cat-care-at-home/what-your-cat-needs-to-feel-secure/>)

Use of enrichment can be as simple as lavender scent (nontoxic/medical, soothing smell) very lightly sprayed in corners of exam rooms every few hours, a trail of treats (food/game) to entice a cat onto a scale, or baby food on a tongue depressor as a means to distract (action) and comfort (food). The Fear FreeSM certification series has multiple examples, videos, blogs, and a Facebook group that continues to add to all of the creative ways to utilize enrichment in practice. A cat's stressors are commonly due to needs not being met. This leads to abnormal behavior (often undesirable) which leads to client complaints. Often disease components exacerbate these behavior issues such as inappropriate elimination, scratching furniture, etc.

Environmental Enrichment (EE) is defined as "modification of the physical environment of animals, especially those in captivity, for the purpose of meeting behavioral needs and improving well-being."

(2015 NAL Glossary by the United States Department of Agriculture, National Agricultural Library)

Note this is changing the physical environment to meet behavioral needs to improve the animal's well-being. This does not take into account animals that have an issue that is well outside of a normal response to an enrichment that will affect a behavioral response we hope to see. For example, a brain tumor or severe metabolic disorder that affects a body's normal functions. This definition also does not address the fact that the sensory perception of our pet patient's is much more sensitive to environmental stimuli than we are.

Although Dr. Bales' recommends the priority, especially in cats, is to have these environmental issues handled before the first visit to affect behavior the best, she reinforces that for the veterinary team, discussing the cat's EE with clients from the first visit can be paramount in early diagnosis of several behavior and physical disorders that are secondary to stress from lack of appropriate stimulation. From the AAFP Pillars of Feline Environmental Enrichment papers (2013):

Environmental enhancement (EE) should be part of the overall treatment plan for these disorders. As part of the wellness exam, it is the responsibility of the veterinarian to discuss the current state of the environment and to provide resources for EE to indoor cat owners.



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It is well known that if an appropriate environment is not provided for indoor cats, they are at greater risk of stress induced illnesses such as the following:

- Feline lower urinary tract disease
- Obesity
- Different forms of aggression
- Over grooming and other compulsive disorders
- Upper respiratory infection

Behaviorally, enrichment begins at home.

Cat pets even more so than dog pets are reliant upon their owners to provide their environmental enrichment because they are confined from their predatory hunting and roaming needs. Dr. Tony Buffington's research notes that even domesticated cats are still 3-dimensional in their actions and retain their prey/predator needs to roam, climb, and explore. His studies have also shown that the neural plasticity in the brain is affected throughout life, albeit more in the neonate and young kitten, but the gene expressions can be changed even in an older cat when "meaningful cognitive, sensory, social, and activity enrichment" occurs (Buffington, 2018).

We talked earlier about 'environment' and although an indoor cat's environment is fairly limited, there are times that kitty goes out and times that others affect the cat's normal environment (guests, new pets, new furniture, etc.). Refreshing the definition of environment, it includes the 5 'W's':

- WHERE-ever your patient is: at home, in the car, between the car and veterinary office, in the exam room, going for a walk in the park (on leash), etc.
- WHO is in that patient's space at that moment?
- WHAT else is going on in that patient's space at that moment?
- WHEN the situation is occurring in that patient's day (early, mid, late; before/after food)
- WHY is the patient in that space at that moment – its circumstance? Fun visit, vaccination, injury, etc.

First and foremost, have owners create a journal. What is the complaint or issue? What behavior do they want to change? What are the 5 W's that are occurring when the specific behavior is happening? WARNING: It's usually not a black and white answer.

Next, a full medical examination is in order. This may take time and more than one visit to minimize FAS on the cat. During these visits work on the Emotional Medical Record and start gathering information from the veterinary end and work with the journal the pet owner is keeping. Encourage good note taking. Take the time to review those notes. Often examples of possible stressors or fears or anxieties will show up quickly in that journal such as every time a car ride is apparent, the carrier comes out, or a certain person comes over or noises are heard (vacuum, loud music, etc.) Tracking trends and changes in written form makes it really easy to see behaviors that are hard to identify from memory. Modifying the environment may be as simple as removing an annoying vacuum or the cat from the home or area of the house when visitors come. Just like we have individual preferences, remember our patients will as well, so when one doesn't work, try something else. Cats also like variety and a good rotation of toys or variety of opportunities to keep the novelty and interest new is advised. A little catnip can help up the ante in interest in 'old' toys or even new toys to get the interest going (Martin, 2018). Climbing, scratching, and ability to roam are all essentials even though cats spend a lot of time appearing to sleep.



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These behaviors can be unfamiliar, unexpected, and even undesired to some owners that expect cats to just lie around.

When the owner comes up with a good list of comfort toys, treats, comfy spots, these should be the items included with stressful times such as transport to the veterinary clinic, or boarding situations, or when stressors occur at home such as guests or holidays when the unwanted behaviors may begin to surface again.

In practice, use of enrichment can be as simple as lavender scent (nontoxic/medical, soothing smell) very lightly sprayed in corners of exam rooms every few hours or a nutraceutical such as a Feliway pheromone diffuser. For distraction during vaccinations or even venipuncture, baby food or cream cheese mixed with tuna on a tongue depressor, or canister whipped cream or cheese can be enough to allow for happy cat results and a normal hemogram instead of stressed hemogram! The Fear FreeSM certification series has multiple examples, videos, blogs, and a Facebook group that continues to add to all of the creative ways to utilize enrichment in practice.

For cats, clicker training can be just as mentally stimulating and successful as it is for dogs. Teaching cats tricks with a food reward or a toy reward. 'Sit,' 'go to a spot,' 'tap a hand,' etc. are all teachable actions. Just as with dogs, too much can be too much, so paying attention to the attention the pet is giving is key. Cats need climbing and perching spots. They love to be up high and it's also a retreat/escape place. Foraging toys are great for enrichment to have cats 'work' for their food using puzzle feeders or toys that have kibble dispensers only when turned a specific way. Caution with the toy kibble dispensers is to make sure the kibble is of appropriate size to not dump a bunch of kibble out potentially allowing overfeeding. Hiding small bowls in a different location or at a different time is enrichment as well. Scratching posts are essential and will be specific to the preference of the cat – horizontal, angled, or vertical, carpet, sisal, rope, or cardboard, etc. Scratching areas should be in busier areas of the home and near the cats favorite resting spot (sometimes difficult to determine) and in my opinion two or more per cat is a good detractor. <http://foodpuzzlesforcats.com/stationary-puzzles> has some incredible puzzle toys from simple to complex, rolling to stationary, to hanging style for both kibble and wet food. Homemade items just need to be secure and checked so parts aren't ingested or splinter or pinch. Loss of attention or easily distracted is a sure fire indicator that it's time to stop and leave the cat be. Forcing interaction on an animal causes the opposite desired response in behavior.

Try the "Find It" Game for Cats and "Human and Kitten Play" handouts and then add your own versions!

Often behaviors seen at home, in public, or even in a shelter are similar to what we may see on presentation at the veterinary office. How many of those pets are exhibiting signs of FAS? More than you thought? All of the information and documentation done by pet parents, and veterinary staff can be a win-win in helping easily change behaviors from ones that exhibit Fear, Anxiety, and Stress to cats that are calm, happy, and more at ease in their environment. Animals that are without FAS tend to be healthier and/or will recover from health situations more quickly than those that are also battling with FAS. Working as a team we can affect positive behavior through enrichment and good medicine!

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“Find It” Game for Cats

Cats need an outlet for exploratory or searching behavior. In the wild, feral cats typically eat 10-20 small meals over a 24-hour period and spend a good part of their time hunting. Providing cats with the opportunity to search for their food, can provide for physical activity and mental stimulation.

Items needed

Numerous small treats or cat food
Small paper cups (4oz) quantity of 6 to 12

The game

1. When first teaching this game, let the cat observe a treat or a few pieces of cat food (4 or 5 pieces of dry food) being placed in a 4 oz. cup. Place the cup on the ground and let the cat knock it over or use her paw to remove the food.
2. Once the cat has learned to remove the food from the cup, begin to “hide” treat filled cups in cat-allowed locations while the cat is watching. Potential locations are behind a piece of furniture, on a cat tree, under a table. Avoid locations where human food is placed or any location where the cat is not allowed to explore.
3. Give the cue, “Find it” while stepping away from the hidden cup.
4. Repeat this game at least daily. Once the cat understands this game, increase the difficulty level by hiding the treat filled cups with her out of sight. Start the game with the cue word, “Find it!”



Human and Kitten Play

Cats and people are social creatures. Engaging in activities that are enjoyed together will enhance the relationship between you and your cat. These activities may be in the form of interactive play and training. Teach kittens to play with people with interactive toys rather than with hands.

A wand toy with a teaser on the end will simulate the stalk, chase, and capture sequence in the cat.

The Hunt and Chase Game

1. You should initiate and end the game. Have special toys that are used for this game and keep them out of reach of the cat until play time.
2. Give the verbal cue "Let's play" and present the wand toy. Move the toy slightly back and forth along the ground to foster interest or chase. Hiding the teaser around a corner or piece of furniture and making it move slowly out of sight, can peak a cat's interest in the item. Keep the toy at a level that does not require the cat to leap high in the air to try to get the toy.
3. Let the cat catch the teaser. The chase is part of the fun, but make sure the cat is able to catch the toy. Once caught, engage her in a gentle game of tug. Verbally reward her interest in the toy.
4. To teach the release of the teaser on cue: freeze (stop tugging and any toy movement). Give the verbal cue "drop it" and prompt it with a treat directly under the cat's nose. Reward with the treat for dropping the teaser. A marker such as a click or other event marker could be used to mark the precise moment of the release.
5. Add in some training such as a sit, high five, or go to place and reward the behavior with "Let's play" and presentation of the wand toy. This helps to control the kitten's arousal while working on manners training at the same time.
6. Repeat the above steps. Eventually, you will delay the presentation of the treat after giving the "drop it" cue.
7. When the game is over, let the cat know by saying something such as, "All done," and engaging her in an independent activity such as searching for treats or playing with another toy independent of you. The wand toy should be placed away and out of sight.

Helpful hints:

- Have two identical wand toys. When the cat releases the teaser, reinforce the release by bringing out the other wand toy.