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Feline Behavior

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TECHNICIAN TIDBITS

- Cats share behaviors with other species and have unique feline behaviors.
- Emotions impact feline welfare and quality of life.
- All animals learn via essentially the same mechanisms.
- How cats sense and perceive the world impacts their behavior inside and outside the veterinary hospital.
- Recognizing normal and abnormal behavior positions professionals to help clients and facilitate a healthy human–animal bond.
- Understanding the learning theory is essential for veterinary professionals.
- Screening for common unwanted behaviors should be part of every veterinary visit.
- Incorporating behavior into every visit improves the lives of both cats and people.
- The three most common cat behaviors that clients describe as problematic can sometimes be prevented or reversed.
- Early detection improves the prognosis for treating problematic behaviors.
- It is not necessary to know everything about behavior modification to provide early detection.
- Building a referral community allows rapid referral when indicated.

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All animals share certain behavioral traits and also have unique species-specific behaviors. Essentially, most animals learn through the same mechanisms. They acquire behaviors and abandon behaviors based on whether the behaviors are effective from the individual animal's point of view. Emotions impact the animal's overall experience, future decision-making, and even affect how memories are stored in the brain [1, 2]. To fulfill our vocation as veterinary professionals, we need to take time to understand the behavior of our patients: how they learn, how species are unique, and how they are similar. Differentiating between normal and abnormal behavior, anticipating how an animal will respond in a given situation, and knowing how to modify or change behavior are all crucial skills for veterinary professionals [1, 2]. In this chapter, we discuss how cats are similar to other species and how they are unique.

The human–animal bond is the heart of veterinary medicine. How animals behave can have a dramatic impact on the quality and length of the human–animal bond. A strong human–animal bond protects the physical and emotional health of cats. When we take the time to understand feline behavior, we can be good stewards of the human–animal bond. Caring stewardship improves the welfare for both pets and people [2, 3].

1.1 Sensation and Perception

Animals are equipped with a sensory system that gathers information from the environment. Sensory information is transmitted to the brain, where it is decoded. Decoding sensations into useful information is called perception. Senses drive perceptions and perceptions impact behavior. Cats share similar senses to other mammals, including sight, olfaction, hearing, tactile (touch), and taste. How cats sense and perceive the world is unique, and understanding their special sensory organs and perceptive abilities allows veterinary professionals to provide the best possible care.

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1.1.1 Hearing

Sounds are measured by their frequency, measured in hertz (Hz). Cats have very sensitive hearing, with an approximate range spanning 55–79 000 Hz. For comparison, dogs hear frequencies between 67 and 45 000 Hz, and humans can only hear 20–20 000 Hz [2]. Cats are born with their ear canals closed and incompletely developed. As their ears open between 7 and 14 days of age, they begin to sense and perceive sounds in the environment [1]. Much like humans and many other mammals, as cats age and the hairs inside the inner ear stiffen, they will not hear higher frequencies as clearly [2]. Individual variation occurs, and some cats may be entirely deaf for part or all of their lives. Many of the sounds cats make are accompanied by a tactile experience. Purring is a good example. Neonatal kittens and deaf cats can perceive purring and will express vocalizations even if they cannot hear themselves [1].

When working with cats, providing an environment free from loud and shrill sounds will help them be more comfortable. For training purposes, a marker sound is often useful. Hospitalized cats should not be housed near equipment with high-frequency emissions, such as ultrasonic scalers or cleaners, as this may cause undue stress even though human caregivers are not able to fully hear these sounds [2].

1.1.2 Olfaction and Pheromones

Olfaction, or sensing and perceiving odors, is an important part of the lives of cats and how they communicate. When odor molecules enter the nasal epithelium, they will encounter olfaction centers that transmit this information to the olfactory bulb in the brain. Humans have about 5 million receptors. Cats have 150–200 million [2]! Cats spend a similar amount of time as dogs investigating odors in the environment. Odors that seem pleasant or mild to humans can be quite strong to cats, and potent chemicals and cleansers can cause "nose blindness" [1]. Nose blindness is when the olfactory center is temporarily overwhelmed by strong or noxious information. Being nose blind is uncomfortable for cats because it limits their ability to scan the environment for odor in a normal way.

Pheromones are another means of chemical communication for cats. Individual species have their own pheromones, and they are unique and specific to a given species. For example, humans cannot detect dog pheromones, and dogs cannot detect cat pheromones. Fear pheromones from a dog will not prompt a fear response in a cat, but fear pheromones from another cat may [1]. Pheromones are sensed by the Vomeronasal Organ or VNO. The VNO is considered part of the olfactory system, but pheromones and odors are different. Cats deposit pheromones in the environment via glands in the paws, cheeks, chin, mammary glands, anal gland secretions, and urine to share information about age, health, sexual and reproductive status, territory, and social interactions [1]. Synthetic pheromones simulating the F3 fraction deposited by facial rubbing can sometimes have a calming effect on cats. Many cats prefer and enjoy petting and touching the areas where the facial glands are located [4]. Figure 1.1 shows the locations of facial glands in cats.

1.1.3 Vision

Cats are very sensitive to both contrast and motion, but the spectrum of colors they see is far smaller than that of humans and dogs. Cats' eyes have about 10% of the number of color receptors found in human eyes. Because they have tapetum lucidum, cats have superior vision under low light conditions [2].

When training cats, consider using high-contrast items for treats, targets, beds, scale pads, feeding stations, and toys. Moving toys are often more exciting to cats as a reward than stationary items.

1.1.4 Tactile and Touch

In the veterinary setting, many of our patient interactions involve touch. The density of nerve-ending distribution over the body affects how intense a sensory input when it reaches the brain. Individual variation will determine how each animal processes and responds to touch. Take the example of tickling: touching a ticklish person and a non-ticklish person in the exact same way produces two very different responses [1, 2, 4]. This is due to individual variations in how the two different brains perceive similar raw sensory data. Perception drives behavior.

Similar to humans, dogs, and many other mammals, cats have a higher density of nerve endings around the face, lips, ears, paws, and genitals with the trunk having a lower density of nerve endings per square centimeter of surface area. Cats also have special sensory hairs (vibrissae) on their lips and cheeks, chin, above their eyes, and on the caudal aspect of the forelimbs above the carpal pads.

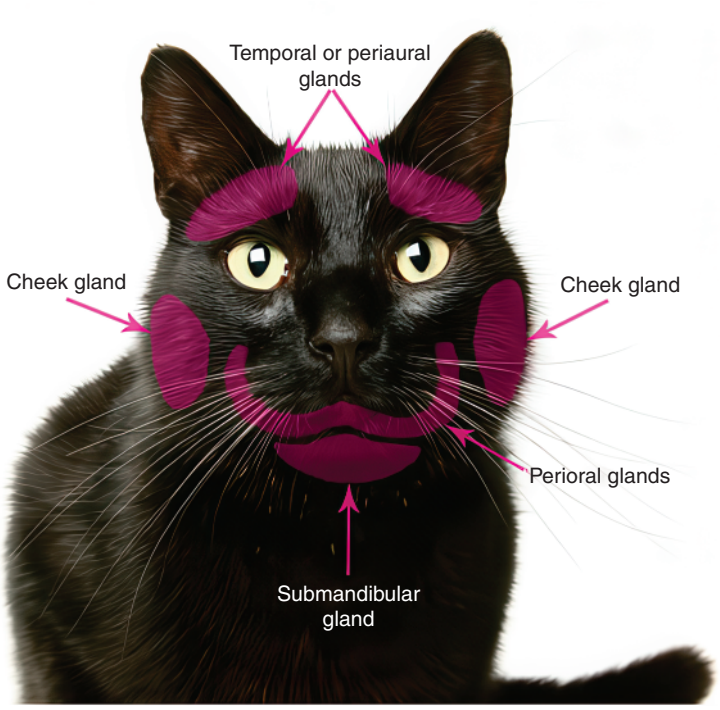


Figure 1.1 Facial gland locations in cats. Many cats prefer petting and touching in these locations. *Source:* International Society of Feline Medicine (ISFM).

When planning touch for cats, consider how they experience these sensations. Starting touch in a less sensitive area and gliding to a more sensitive area is a good general practice [1–4]. For instance, if touching a forelimb, begin touching the back of the head or shoulder, then glide down the limb and avoid putting excessive pressure on the vibrissae. Many cats enjoy tactile stimulation around their cheeks, head, and rump areas. Pleasurable tactile stimulation is often a valuable form of distraction and reinforcement when interacting with and training cats. Actions such as tapping a cat's head should not be used as a distraction, because it relies on an unpleasant or annoying sensation in a very sensitive area of the cat's body.

1.1.5 Taste

Cats have about 500 taste receptors, while most humans have between 4000 and 9000 taste receptors [2]. Olfaction and taste are closely linked, and the palatability of food often relies more heavily on odor than flavor for cats. Based on anatomical studies, it is believed cats detect savory and bitter and show a decreased response to salty and sweet. Cats are somewhat unique in their propensity to develop rapid conditioned taste aversion. Just a single experience triggering an unpleasant taste response can lead to a cat showing extreme behavior when presented with the same odor (predictor of taste) in the future [3]. This can be particularly problematic when administering medications, and formulations should be considered with this behavioral need of cats in mind [2].

1.2 Feline Body Language

Animals rely heavily on body language to communicate their thoughts and feelings, and to broadcast their intent about upcoming actions or behaviors. Veterinary professionals can carefully observe feline body language to provide the best possible veterinary experience, help cats participate in training and conditioning programs, and assess responses to behavioral therapies.

When first learning the body language signals of cats, it can help to evaluate each body part of interest, and then consider the whole picture and the context before arriving at an interpretation. Since cats do not share our human language, we will never be able to ask about their precise intention, but through careful and repeated observation, we can anticipate the likely sequence of a cat's behaviors based on their body language.

1.2.1 Arousal and Stress

Arousal refers to the overall emotional state of readiness to act or react [2]. Cats experience enhanced arousal when they are excited, pursuing prey, playing, greeting friendly people or animals, or participating in fun activities. Arousal is also increased during times of stress when the fear response has been activated and cats must respond to a perceived threat or conflict. Evaluating the overall context of the observed behavior helps guide the interpretation of a cat's body language. For instance, when pupils are mentioned, consider the ambient light. Dilated pupils can be a sign of stress, or dim lighting [1]. Context matters.

1.2.1.1 Calm or Relaxed

A calm or relaxed cat will express a low level of arousal and will appear comfortable. The cat may appear neutral or solicit interaction. Sometimes, these signals are referred to as distance-decreasing signals because they invite interaction.

Pupils: Appropriate to ambient light.
Eyes: Open and attentive or squinting with slow blinking, may hold prolonged eye contact if something is interesting.
Brows: The muscles between the eyes are relaxed, creating a soft or neutral brow.
Ears: Muscles around the ears are relaxed and the ears are held in a neutral or slightly forward position.
Lips and whiskers: The commissure is relaxed, the whiskers are neutral and positioned to the side.
Body tension: The cat's muscles are largely relaxed. If lying down, often the cat will be stretched out or rolled on a hip. If walking, the cat will cross open spaces and appear free in its movements.
Tail: When walking, the tail is held up and the tip is often curled over. Tail movements are fluid with relaxed muscles.
Proximity: Will approach or will not move away when approached.

1.2.1.2 Mild to Moderate Stress

A cat experiencing mild-to-moderate stress will appear more aroused and settle less frequently. The cat may solicit interaction, but its body language when soliciting will appear more tentative. Mildly or moderately stressed cats may appear ambivalent, as though it is difficult for them to decide if they wish to approach or would prefer more distance.

Pupils: Partial pupillary dilation, or frequent changes in pupillary size.
Eyes: Open, slightly squinting, or mildly wide eyes. May intermittently look away or beyond rather than giving direct eye contact.
Brows: The muscles between the eyes have some tension, drawing the brows together.
Ears: Muscles around the ears have increased tension, and the ears may be held higher on the head and forward or to the side.
Lips and whiskers: Commissure tightens slightly, appearing as a smaller or more closed mouth. Whiskers may pull forward or move between forward and side orientation.
Body tension: Muscles will have more tension. If the cat is lying down, paws may be folded close to the body. If walking, the cat may stay closer to walls or be less likely to cross open areas.
Tail: When walking, the tail will be visible but may be high or low-slung. Tail movements are less fluid, and the tip may twitch. If lying down, the tail may be pulled close to the body.
Proximity: Unlikely to approach, likely to look away, lean away, or move away when approached.

1.2.1.3 Severe Stress

Severe stress in cats will manifest as a freeze, flee, or flight response. All of these are distance-increasing requests.

Pupils: Pupillary dilation beyond what is appropriate for ambient light.
Eyes: Widened with direct staring or tightly closed while looking away.
Brows: Tight muscles across the top and back of the head pulling the brow tight.
Ears: Muscles around the ears have increased tension, ears held to the side or flattened.
Lips and whiskers: Tight commissure, mouth may be open or vocalizations observed. Whiskers tensely held far forward or folded flat backward.
Body tension: Tense muscles are either frozen completely or ready to spring forward or away.
Tail: When walking, the tail may be switching or lashing or held tightly down or under the body. When lying down, the tail is held tightly to the body or may slash intermittently side to side.
Proximity: May either flee, freeze, and fail to approach, or rapidly approach with or without subsequent retreat.

1.2.2 Predatory Body Language

Cats are natural predators, but kittens learn to hunt from their mothers. Kittens raised indoors without an example of hunting behavior shows the predatory sequence, but actually killing and ingesting prey is much less likely compared with kittens taught by their mothers [3]. Cats hunt using stealth, speed, and surprise. When observing prey, cats often crouch, intermittently freeze, move, and stare intently. They may seek cover, such as vegetation, rocks, or a piece of furniture to conceal their position. When approaching prey, cats stalk with a low-slung body before pausing to prepare to pounce, followed by a forward or upward leap and grab. If the prey item is large or engaging in self-defense, the cat may grasp with its forelimbs and kick out repeatedly with the hind limbs. This maneuver is also used when cats are playing, fighting, or engaging in serious self-defense [5].

1.2.3 Play Body Language

The body language of play and predation has a great deal of overlap in many carnivorous and hunting species. Hiding, stalking, pouncing, grabbing, biting, and kicking can all be observed in play between cats, toy-directed play, and human-directed play. During play, many cats engage in repeated leaps rather than the single pursuits observed in the predatory sequence. Why? Because the toy is still present and a bird or mouse will have escaped. Sometimes during play, arousal levels increase and the play may tip over into a fight-or-flight response. It is always advisable to use toys to play with cats rather than hands and feet to avoid accidental injury if play becomes too intense.

1.2.4 Body Language in the Veterinary Setting

Preventing and reducing stress for feline patients is of paramount importance. Veterinary professionals are obligated to prevent and reduce pain and suffering in animals. Emotional pain is equally important as physical pain [2]. Furthermore, clients who perceive their cats experience stress in the veterinary hospital or find visits unpleasant will be less likely to bring their cats for healthcare [1, 2, 4]. Reduced healthcare is a fact of veterinary-related stress in cats. Refer to Chapter 2, "Feline-friendly Interactions," for an in-depth discussion of best practices for welfare-centered visits.

1.3 Community Behavior in Cats

Free-living cats in communities, such as feral or semi-feral colonies will show some unique behaviors while others overlap with the lives of housecats. Free-living cats are organized in complex social groups, with affiliations or friendships building between specific individuals. The colony will have a group scent that all colony members recognize, and most colonies are antagonistic toward cats outside their own colony [1]. Colony size and behavior are dependent on the resources available. Abundant resources may support large colonies and decrease conflict between cats, while scarce resources may limit colony size and result in increased antagonistic behavior between cats.

Female-based family relationships form the basis of many colony structures, including multi-generational families. Queens may co-parent multiple litters of kittens, and toms may assist in rearing kittens by grooming, displaying hunting behaviors, and defending against cats from other colonies and predators [3].

Friendly relationships between cats often include touching noses, allogrooming, traveling together, spending time in close proximity, mirrored or parallel activities, community sleeping, sharing resources, mutually defending territory, and raising young. It is rare for an outsider to join an established colony, but it does occur. In the uncommon event, an outside cat joins a colony, numerous interactions are required over some time before the cat is accepted.

The territory is delineated and maintained with scent marking. Urine, feces, anal sac secretions, pheromone markers, and visual marks made by clawing are all used to identify colony territory and resources [1, 3].

Colony behavior is relevant to housecat behavior in a number of ways, especially in multi-cat households.

- Maternal-kitten and family relationships are most likely to be peaceful between cats.
- Accepting an outside adult cat requires numerous positive interactions at a distance if the outside cat will be accepted at all. This dramatically impacts adopting additional adult cats into an established household.
- A group of cats within a household will develop a community scent. When this community scent is disrupted by moving, changes in physical health or reproductive status, or visits to the veterinary hospital by one cat followed by a return home, antagonistic behavior may be seen between cats.

- Cats are excellent at social learning, observing the behavior of another cat, and then acquiring a new skill or habit.
- Marking behavior is completely normal and necessary in cats but can manifest in ways, which are unacceptable to clients.

1.4 Sexual Behavior in Cats

Female cats (queens) reach sexual maturity between 3.5 and 12 months of age. Males can reach sexual maturity as early as 3.5 months of age, but 6 months is more common. Once sexually mature, queens will have an estrous cycle every few weeks during the breeding season. Depending on location, weather, daylight length, and resource availability, cats are generally polyestrous from spring through autumn, and anestrous in winter months. Cats are induced ovulators, meaning when in estrus, they will only ovulate once copulations have occurred. The estrous cycle consists of proestrus and estrus, followed by either diestrus (if the female ovulates), interestrus (if no ovulation occurs), or anestrus which is a period of seasonal inactivity [6].

During proestrus, queens generally show 1–2 days of vocalizing, rubbing, kneading, rolling, and allowing males to approach more closely. Males attempting to copulate during proestrus will be met with aggressive displays by the female. Estrus follows when the female is receptive to copulation. During estrus, females do less rolling and rubbing, and more posturing paired with increasingly intense vocalizations. Estrus posture includes forelegs on the ground, lowered head, elevated rump, and tail held up and to the side to facilitate breeding. Females will mate with multiple males, preferring familiar over unfamiliar males. Males will approach, grasp the female by the scruff of the neck, mount, and breed. Copulation is rapid. The cat's penis is barbed and may cause discomfort when removed, resulting in females hissing, turning, swatting, and chasing the male. Males generally retreat to a greater distance immediately after copulation [6].

Intact males will generally vocalize, mark with urine, feces, pheromones, and claw markings, and seek closer association with females in attempts to breed [1].

When handling cats, consider how the natural behavior of cats may impact their experiences of touching, handling, and being restrained. Scruffing cats can prompt fear and defensive aggression and is to be avoided. Surgical sterilization is recommended for all pet cats to facilitate the welfare of both cats and humans, as well as to prevent unwanted litters. Cats are remarkably prolific in their reproductive cycle.

1.5 Elimination Behaviors

To meet the needs of cats, it is important to understand their normal elimination behaviors (Unwanted elimination will be addressed later in this chapter.) Kittens begin to explore substrate and location for elimination around 1 month of age. To void the bladder, cats will generally enter the elimination area, dig a small hole, turn around, squat to urinate, and then cover or manipulate the substrate. Digging is less frequent prior to defecation, and feces may be covered or left on the surface [1].

Cats, in general, have been shown to prefer large, uncovered, unlined litter boxes filled with finely granulated, unscented litter. Individual cat preferences may vary. The litter box should be large enough for the cat to enter, dig, turn around, eliminate, and cover without touching the sides, top, or other soiled areas. Many commercially available litter boxes are too small for an adult cat. Automatic litter boxes can be favored by some cats because the litter is always clean; however, the mechanism may frighten some cats, and often the size of the box is quite small and enclosed [2] (Figure 1.2a,b).

Cats will use urine and feces to mark territory. Sterilized and intact cats of both sexes will use eliminations to mark territory and send social signals. Intact males are most likely to engage in urine marking, and castration can reduce marking behavior by 90%.

1.6 How Cats Learn and Modifying Behaviors

Cats are intelligent, and like every animal, they are learning all the time. Life experiences, environmental conditions, and training will all influence which behaviors cats display. Individual variation on the part of the cat, the home, and the client affects learning, behavior, and behavior change. Behavior modification is essentially aligning the behavior of a pet with the expectations of the client. In many cases, both the animal's behaviors and the client's expectations require modification for success. Helping clients have realistic expectations while educating them in effective training and behavior modification will best protect the human–animal bond.



Figure 1.2 (a and b) A commercially available litter box that is too small contrasted with a litter box of sufficient size constructed from a storage bin. *Source:* Monique Feyrecilde.

To promote the best possible environment for learning and welfare, cats need to have their basic needs met. Safe housing, nutrition, healthcare, adequate physical and mental exercise, and social contact with preferred associates will contribute to good cat welfare [1, 2, 5, 6]. In this chapter, we will discuss classical conditioning, sensitization, desensitization, habituation, counterconditioning, operant conditioning, and functional or applied behavior analysis. A simplified version of each concept will be presented. Please note there are deeper complexities to every concept that are not discussed at this introductory level. Understanding each of these concepts is helpful for every veterinary professional. However, it is perhaps more important to realize that while we may discuss these terms individually, they all have the potential to occur simultaneously. Learning happens all the time, and all types of learning can and do overlap.

1.6.1 Classical Conditioning

Classical conditioning describes the process in which a previously meaningless or neutral stimulus is paired with an already meaningful stimulus, creating a new response even when the second stimulus is absent. The response is generally not under the direct control of the animal and includes emotions and reflexes, such as salivation [1, 2] (see Table 1.1).

1.6.2 Sensitization and Habituation

Sensitization and habituation are nonassociative learning protocols where the animal either develops a stronger response or a weaker response to the same stimulus when it is presented repeatedly. Sensitization is when a stronger response occurs, and the animal attends the stimulus more closely over time. Habituation is when a weaker response occurs, and the animal eventually stops attending the stimulus entirely [1, 2]. Sensitization is more likely to occur with more intense stimuli, while habituation is more likely with harmless stimuli [1]. Accidental sensitization is a common error when handling patients in the veterinary setting, or for cats who require serial treatments, such as daily pills or frequent injections [2]. An individual animal's temperament, learning history, and resilience to stress will impact how likely they are to be sensitized or become habituated to certain stimuli [1].

Table 1.1 A summary of behaviors associated before, during and after classical conditioning.

Before conditioning	During conditioning	After conditioning	Results
New pet carrier presented → no response	Carrier presented → cat placed into carrier and car ride	Carrier presented → cat hides behind sofa	Carrier alone prompts fear response of car ride
New carrier presented → no response	Carrier presented → Treats placed near carrier for cat to eat	Carrier presented → cat seeks treats	Carrier alone prompts pleasure response for treats

Sensitization example:
Low battery beep in fire alarm → cat notices and is startled → alarm beeps → more intense startle with fear response → alarm beeps → startle, fear, hiding

Habituation example:
Phone rings → cat notices → phone rings → cat notices but does not attend → phone rings → no response

Sensitization and habituation make good evolutionary sense, as they allow animals to avoid potentially dangerous situations and ignore unimportant stimuli [1].

1.6.3 Desensitization and Counterconditioning

Systematic desensitization is the process of preventing a stimulus from prompting a strong response by controlling the intensity of the stimulus and keeping it below the animal's threshold of response [2]. Counterconditioning is replacing an existing response with a new response to the same stimulus. Systematic desensitization and counterconditioning are commonly used together to achieve behavior modification [1].

Steps of systematic desensitization and counterconditioning:

1. Identify a nonstressful starting point.
2. Identify body language signs indicating the animal is below their response threshold. These will be mild signs and should be free from signs associated with stress.
3. Identify a way to elicit the desired response, such as pleasure, anticipation, or appetitive responses. The author calls this the "Happy Button."
4. Identify the trigger stimulus.
5. Consider ways to systematically divide the trigger stimulus into many tiny approximations or baby steps, called "exposures."
6. Pair a series of nonstressful exposures with the "Happy Button," gradually increasing intensity over time until the full-intensity stimulus prompts the "Happy Button" response.

Systematic desensitization and counterconditioning may take a few seconds, a few years, or be impossible. If the animal already has an existing intense response to the trigger, desensitization and counterconditioning will be more difficult [2]. If the animal's current response is neutral or mild, the process will be easier [1].

Example: Injections

1. Identify a nonstressful starting point:
   Cat sitting in cat bed.
2. Identify body language signs indicating the animal is below their response threshold:
   Present: Soft eyes, neutral whiskers, ears forward and relaxed, muscles soft, tail relaxed, or elevated.
   Absent: Pupil dilation, ears folded or flat, whiskers far forward or folded flat, tail tucked, crouched posture, etc.
3. Identify a way to elicit the desired response, such as pleasure, anticipation, or appetitive responses. I call this the "Happy Button":
   Squeezable tuna flavor cat treats.
4. Identify the trigger stimulus:
   Giving a vaccination.
5. Consider ways to systematically divide the trigger stimulus into many tiny approximations or baby steps, called "exposures:"
6. Pair a series of non-stressful exposures with the "Happy Button," gradually increasing intensity over time until the full-intensity stimulus prompts the Happy Button response.

Figure 1.3 shows the injection ladder.

Video 1.1 (see the companion website) shows an example of using desensitization and classical counterconditioning to create a functional and pleasurable injection behavior for a feline patient. You will see the injection procedure is broken down into many small exposures, and each exposure is paired with presenting the cat's favorite canned food. The timing of this exposure is important. Ideally, the exposure predicts or occurs simultaneously with pressing the "Happy Button."

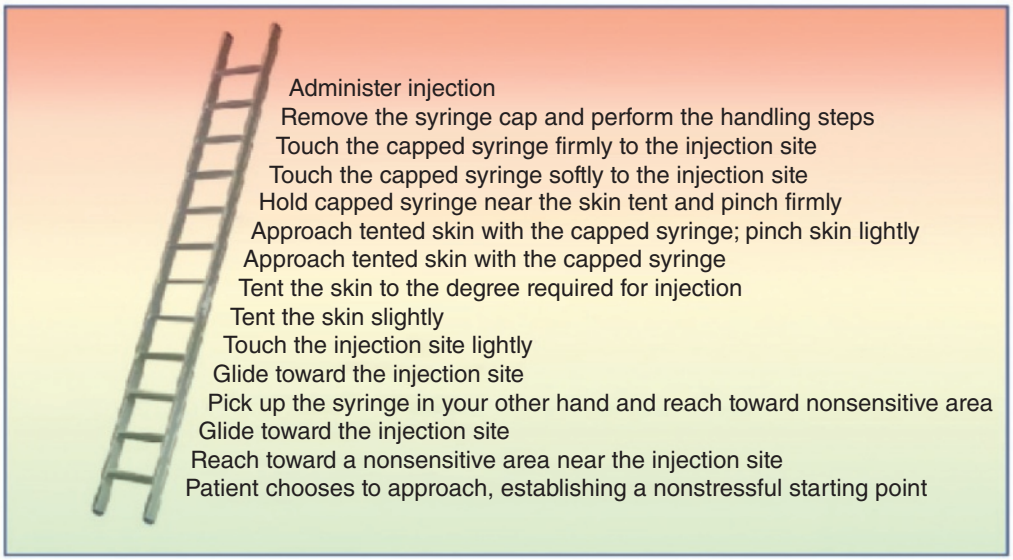


Figure 1.3 An example exposure hierarchy or exposure ladder for subcutaneous injection. This is only one example. More rungs may be needed for certain cats, while rungs may be skipped in other cats. Courtesy of Monique Feyrecilde, Cooperative Veterinary Care 2nd Edition, Wiley Blackwell 2024.

The goal of the procedure is to link feelings of contentment, pleasure, and appetitive response with the injection sequence. This author uses a short version of this technique for virtually every feline injection administered during wellness care with excellent success.

1.6.4 Operant Conditioning

Operant conditioning is one way to describe how animals learn new behaviors, why they continue existing behaviors, or why they may decrease and abandon behaviors over time based on the consequence or event that immediately follows the behavior [1, 2]. In this context, "consequence" simply means what happens after a behavior. It does not carry any emotional or value connotations. The same is true for the terms reinforcement, punishment, positive, and negative.

There are two basic categories of consequences when we use operant conditioning to describe behavior: Reinforcement and Punishment. Reinforcement is anything that results in a behavior happening *more* frequently, more intensely, or for a longer duration in the future. Punishment is anything that results in a behavior happening with *less* frequency, intensity, or duration in the future. Each type of consequence comes in two varieties: Positive or Negative. Think of these as mathematical terms, not pleasant vs. unpleasant. Positive means something is added to the situation from the learner's perspective. Negative means something is removed from the situation from the learner's perspective.

So the four quadrants of operant conditioning are:
Positive reinforcement: ADDING something to INCREASE behavior.
Positive punishment: ADDING something to DECREASE behavior.
Negative reinforcement: REMOVING something to INCREASE behavior.
Negative punishment: REMOVING something to DECREASE behavior.

Figure 1.4 shows a visual representation of the quadrants.

Example: Positive Reinforcement
Cat steps onto cat bed → treat is delivered → repeat
Over time, the cat steps onto the cat bed more often, more quickly, and remains there for a longer duration.

The behavior of stepping onto the bed is being positively reinforced. The cat also is likely to have feelings of pleasure and contentment (simultaneous classical conditioning).

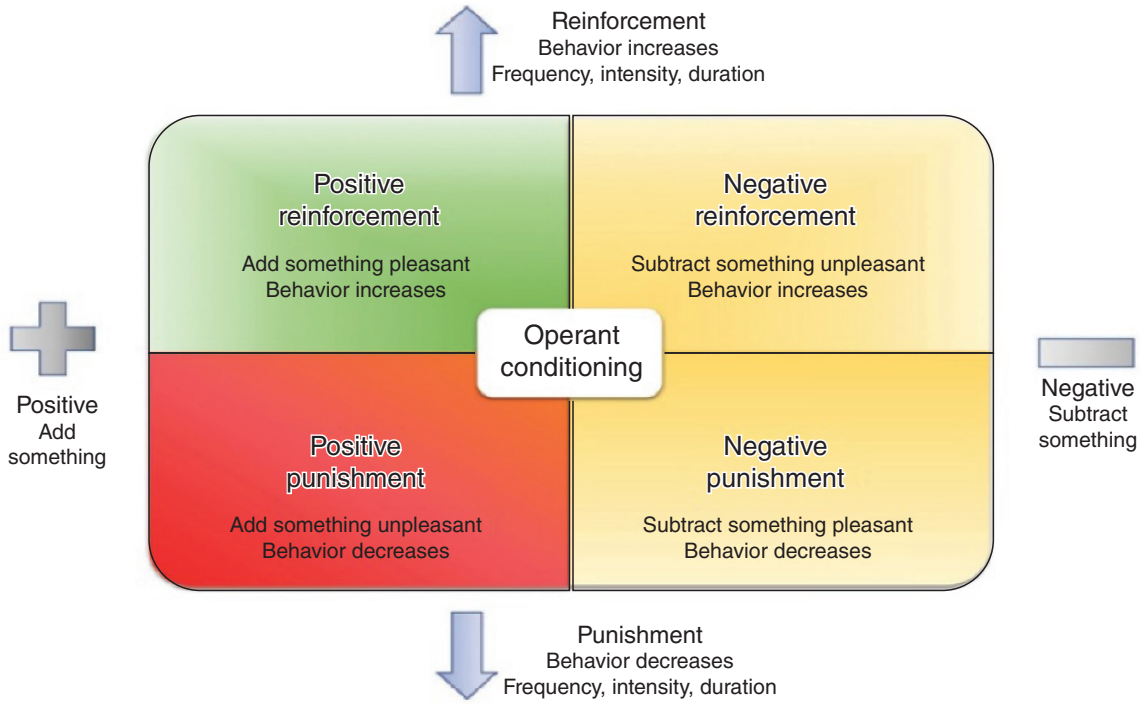


Figure 1.4 The quadrants of operant conditioning, are used to describe changes in behavior over time associated with specific consequences following a given behavior. Courtesy of Monique Feyrecilde, Cooperative Veterinary Care 2nd Edition, Wiley Blackwell 2024.

Positive reinforcement is effective when what is being added is desirable or pleasurable for the individual cat. Treats, tactile rewards, access to a favored spot or bed, and toy play are all common things used to offer positive reinforcement for most cats. Positive reinforcement training is considered a best practice for pets because it is safe and enjoyable, communicates to the animal what to do, and maintains behaviors while also protecting the human–animal bond.

Example: Negative Reinforcement
Driver turns on car ignition → loud beeping occurs → driver fastens safety belt → beeping stops.
Over time, the driver fastens their safety belt more quickly to avoid the beep.

The behavior of seatbelt fastening is being negatively reinforced.

This example shows one of the problems with negative reinforcement: it involves using something the learner will work to *avoid*. Intentionally setting up the environment or interaction based on having the learner avoid things can create a welfare concern. It is easy to prompt feelings of fear and stress when using negative reinforcement.

Example: Negative Punishment
Cat is playing with a toy and swats client's hand → toy is removed.
Over time, hand swatting during play decreases. The behavior of hand swatting is being negatively punished.

You may be able to imagine the cat who is playing becoming confused or frustrated when the toy is removed. The cat may even try harder to reach the toy, or swat at the hand again. One of the risks of negative punishment protocols is causing frustration, confusion, and distress. Punishment protocols do not demonstrate to the animal what *to do*, only *what not to do*. Learning is slowed, and the animal may even choose to opt out of the interaction completely.

Example: Positive Punishment
Driver is exceeding the speed limit → a police officer issues a speeding ticket.

Over time, the behavior of exceeding the speed limit when a police officer is decreased, and the behavior of scanning for police offers is temporarily increased.

Consider this example carefully. Did the target behavior of speeding actually decrease? Probably not. But it was replaced with a behavior of scanning for police. Why did not it work? Because it did not fulfill the requirements for successful positive punishment [1–3].

1. The punishment must be required promptly.
2. The punishment must occur every time the behavior is performed.
3. The punishment must be sufficiently aversive that the learner will avoid it.

So what went wrong? Most drivers have a learning history of intermittently exceeding the speed limit without receiving a speeding ticket. The attempt to change the driver's behavior will not succeed if the criteria for punishment are not met.

Example 2:
Driver is exceeding the speed limit → a traffic camera measures the driver's speed and automatically mails a speeding ticket to the driver's home.
Over time, the behavior of speeding *in this specific location* is decreased.

In this example, positive punishment is working, but only in the specific context of one location where the speed ticket camera is present. In other locations and contexts, the driver may be less careful with their speed. Context is important and punishment does not easily generalize to behaviors happening in a wide variety of locations or contexts.

It is considered best practice to avoid causing intentional stress, fear, confusion, or avoidance during training. Promote welfare in all interactions by selecting cat-friendly methods. To evaluate a method, run through this simple checklist:

1. Does it show the cat what *to do*? Yes
2. Does it deliver something pleasurable or desirable to the cat? Yes
3. Does it enhance the human–animal bond? Yes
4. Does the behavior change relatively quickly? Yes
5. Is there a risk of fear or confusion? No
6. Could it cause pain or avoidance? No
7. Is it intrusive to the cat or the person involved? No
8. Is it physically and emotionally safe for the cat and person? Yes

If the protocol does not satisfy this checklist, carefully consider if it is appropriate to use. Consult a trusted colleague or consultant before proceeding. Figure 1.5 shows a visual representation for selecting the least invasive and minimally aversive procedures for behavior change.

1.7 Functional and Applied Behavior Analysis

Consequences are only one part of cultivating, maintaining, or changing behaviors. One model for evaluating behaviors is the Applied Behavior Analysis (ABA) system. Using the ABA framework, it is possible to evaluate the function of a given behavior to better understand, and thereby potentially modify it.

1.7.1 The A-B-Cs of Behavior

A simple form of ABA is to observe the behavior of interest and consider what comes before and after the behavior. *Antecedents* come before the behavior. Antecedent is the "A" in A-B-C. There are distant and near antecedents. Locations, sensory information, social signals, handling interactions, and trained cues are all types of antecedents. Controlling, adjusting, changing, or maintaining antecedents influences behaviors. *Behavior* is the "B" in A-B-C and refers to the behavior of interest. *Consequence* is the "C" in A-B-C. Consequences are what comes after a behavior from the cat's perspective (see Table 1.2).

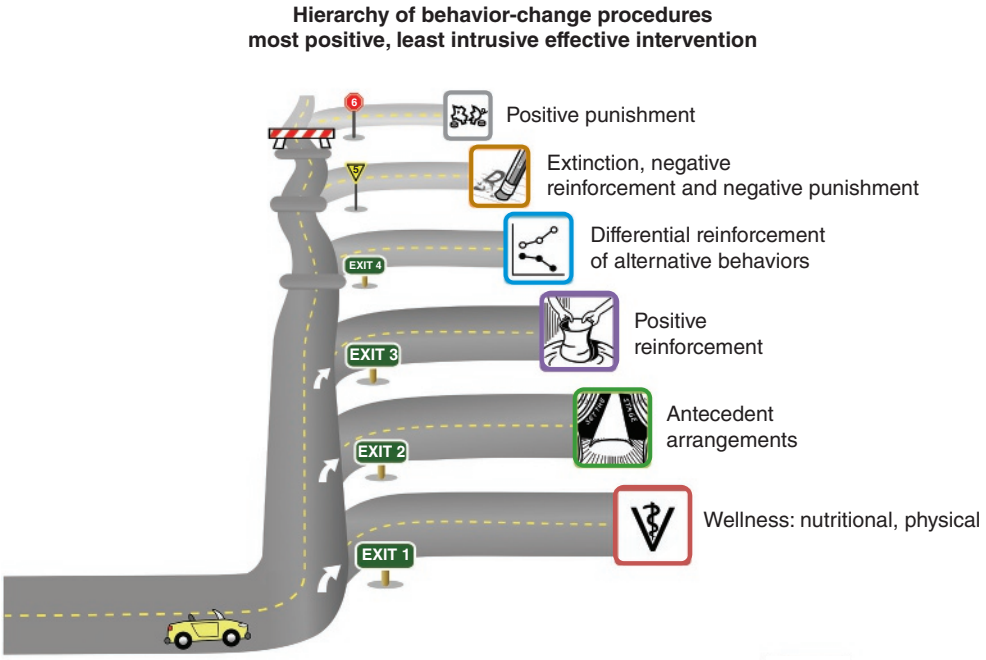


Figure 1.5 The hierarchy for selecting procedures to induce behavioral change. *Source:* Dr. Susan Friedman, Behavior Works.

Table 1.2 A summary of events during the A-B-Cs of behavior.

A = Antecedent: What occurs before the behavior being analyzed from the learner's perspective.
B = The behavior being analyzed.
C = Consequence: What occurs after the behavior being analyzed from the learner's perspective.

The A-B-Cs take into account the animal's motivation for performing behaviors. Multiple antecedents can be present, multiple behaviors can be happening in rapid succession, and multiple consequences can occur. Keen observational skills, detailed history-taking, an excellent understanding of feline body language, and good client communication skills are all important for successful behavior analysis. Documenting behaviors on video or in writing, especially over a period of time, can be extremely useful.

Take a stepwise approach when exploring behaviors using ABA:

1. Identify the **B**ehavior of interest.
2. Identify the **C**onsequences from the cat's perspective.
3. Identify the **A**ntecedents present before the behavior occurs from the cat's point of view.

Modifying consequences and controlling or changing antecedents can both help create desired behaviors or change existing behaviors. A multimodal approach is often most successful.

1.7.2 Example: Giving a Pill

In this introductory text, we will review a simple example of using the ABA model. Deeper multi-level analysis is possible as practitioners become more advanced, but the fundamentals are where it begins for everyone.

A client has been instructed to give her cat a pill every 24 hours, and the medication is needed for the rest of the cat's life. The client reports she was able to give the pill successfully for a few days, but now when she gets out the pills, the cat runs away and hides under the couch. If she tries to remove the cat from under the couch, the cat swats with his front claws.

There are two behaviors of interest listed in this scenario: running away and swatting.

B = Running away
C = Negative reinforcement – the pill bottle and client are removed/further away (feelings of relief and increased safety)
A = Presence of the client and the pill bottle – several experiences of being caught and receiving a bitter pill

Earlier, we discussed that classical and operant conditioning are not happening exclusively or in a vacuum. It is highly likely this cat has an emotional fear response to the pill bottle, a classically conditioned taste aversion to the pill, and a functional effective response that is being negatively reinforced for running away.

B = Swatting with claws
C = Negative reinforcement – the client's hand is removed (feelings of relief and increased safety)
A = Hand approaching while a cat is hiding under the sofa

For both behaviors, there are also more distant antecedents and contextual or environmental antecedents. Time of day, room of the house, number of people present, associated sounds, associated odors, verbal cues, owner body language, and more can all be part of the antecedent picture. Carefully questioning the client or watching a video of the sequence can help identify true antecedents. Watch for the very earliest sign of a change in behavior from the cat: tense body, looking away, leaning away, walking away, dilated pupils, or other signs of stress and the beginning of the retreat. Examine what happened immediately prior to the start of the behavioral sequence.

Once the behavior of interest has been identified, preferable replacement behaviors should be explored. Choose a replacement behavior that allows the cat to access positive reinforcement. Depending on the complexity of the selected replacement behavior, it may need to be broken down into multiple approximations, or small steps toward the goal. A successful treatment may incorporate shaping a behavior, desensitization and classical counterconditioning, and operant conditioning to reach a goal. That may feel like a lot of jargon, but it can be simple and effective.

1.7.3 Putting Together a Plan

Continuing the example of administering a pill, there are multiple possibilities.

Possible behaviors:

- Cat comes to a designated medication station to receive pills
- Cat consumes plain pill voluntarily
- Cat allows the client to administer the pill with a finger
- Cat consumes pill inside a treat
- Cat consumes medication compounded into a more palatable formulation (e.g., liquid)
- Cat allows the client to administer pill with a device

All of these behaviors begin with the cat being present and coming to the medication station to have their medicine given. The behavior of running and hiding needs to be replaced before the pill administration behavior is addressed.

Any complex behavior can be divided into many smaller, less complex approximations, with each approximation resulting in positive reinforcement. The deciding factor for when to deliver reinforcement is whether specific criteria have been met. Increasing and decreasing criteria is part of the art of training. The learner needs to be able to understand the criterion, and the criteria need to be manipulated so the learner receives sufficiently frequent reinforcement so they stay engaged with the process and make progress toward the goal behavior. Sessions should be kept short (1–2 minutes). Cats are adapted to eat multiple small meals throughout the day: when using food reinforcers, plan wisely with the understanding many cats satiate quickly. In this example, we will refer to food reinforcement as giving a "treat," but some cats may prefer tactile reinforcement or play with a toy. Remember, the learner determines what is reinforcing and rewarding. The change in behavior over time will tell the trainer if reinforcement is occurring. Is the behavior increasing in frequency, intensity, or duration? Tracking results informs the process.

Possible progression for teaching the pill behavior:

A: Presence of a comfortable mat or bed to be used as a medication station, cat is relaxed and in the vicinity of the bed. The pill bottle is NOT present. Trainer and treats are present
B: Cat looks at the bed
C: Treat delivered between the cat's starting position and the bed

A: Treat delivered between cat's starting position and the medication station
B: Cat walks toward the treat
C: Cat eats treat
A: Cat eats treat while facing the station. A second treat is placed on the station
B: Cat moves toward the station
C: Cat eats treat

Several repetitions of this session until the cat is walking all the way to the bed when the trainer shows up with a treat.

A: Station is present, a cat is relaxed, trainer and treats are present, the pill bottle is present in the environment not held in the hand and not near the station
B: Cat walks to the station
C: Treat delivered
A: Treat tossed off station for the cat to chase, while the cat is gone the pill bottle moved closer to the station but is not held in the hand
B: Cat turns and returns to the station
C: Treat delivered on station

In this example, a training "Loop" is being created. The Loop starts and ends with reinforcement. By using a "reset treat" tossed off the station, the trainer sets the cat up for another repetition, and another opportunity for reinforcement. During each repetition, the pill bottle is moved closer until it is sitting next to the station. It can then be held in the hand, and even rattled. By controlling the intensity of the pill bottle stimulus, the trainer is using principles of desensitization. Because the cat's emotional status is changing from avoidance and fear to anticipation of a treat, classical counterconditioning is happening. As the behavior of running away is being replaced with the behavior of coming to station, operant conditioning, and operant counterconditioning (also called response substitution) are occurring as well.

If the cat shows signs of returning stress, or the medication station behavior happens more slowly, criteria for reinforcement should be lowered temporarily *and* the pill vial stimulus needs to be presented at reduced intensity.

A practical note: When a cat has a strong conditioned taste aversion to a specific pill, it may be necessary to place the medication inside an unflavored capsule, or compounded into a chew, treat, or liquid. Conditioned taste aversion is difficult to reverse once established. The strong aversion may also "poison" the entire antecedent sequence associated with prior pill administration. The medication station may need to be set up in a room where the cat has never been medicated, and a treat wrapped around a plain capsule, or a syringe or dropper filled with liquid food only be delivered for many repetitions before medication can be reintroduced. For this reason, any time medication is prescribed, a behavior-aware means of *how* to give the medication needs to accompany the information of *what* to give [2]. Clients need guidance to prevent creating aversions to interactions and medications. Many free client education videos and handouts are available at www.fearfreehappyhomes.com to simplify the process.

1.8 Common Unwanted Behaviors

Surveys have demonstrated that many cats relinquished to shelters have behaviors their families found problematic. Euthanasia for behavioral reasons is more common than any veterinary professional would hope. Preventing and addressing common unwanted behaviors in cats help preserve the human–animal bond and protect cat welfare. The three most common unwanted behaviors described by clients relinquishing cats are elimination outside the litter box, destructive behaviors, and human-directed aggression [7].

1.8.1 Elimination

The most common unwanted behavior cat owners describe is problematic elimination. Generally, this means any elimination in the home outside the litter box. With elimination concerns, early detection has a strong impact on the prognosis for resolution. The veterinary team plays a critical part in early detection. Simply asking clients during every visit. "Have you noticed any urine or feces outside the litter box?"

Many physical disorders, illnesses, and injuries can lead to unwanted elimination in cats. There is also a significant crossover between gastrointestinal (GI) and urinary disorders and elimination concerns. For example, a cat with inflammatory

bowel disease may urinate outside the box, rather than defecate outside it. Some physical maladies that can contribute to unwanted eliminations include:

1. Pain: Any source of pain can result in unwanted elimination in some cats. Osteoarthritis, tooth resorption, GI pain, urinary pain, ocular pain, otitis, etc. Carefully rule out pain in any patient displaying unwanted elimination.
2. GI Illness: Any source of GI irregularity, urgency, frequency, or discomfort.
3. Urinary tract disease.
4. Any illness associated with polyuria and polydipsia, such as diabetes mellitus, renal disease, hyperthyroidism.
5. Changes in mobility and strength.
6. Changes in hearing or vision.

For these reasons, a health database should be collected for cats displaying unwanted elimination.

In some cases, physical illness can lead to unwanted elimination, but the elimination can become habitual. This is particularly common with pain-related elimination. If a cat associates pain and elimination, it can be challenging to achieve a return to the litter box because the cat will anticipate a painful experience based on past learning. Treating the source of pain may need to be combined with remedial house training for best results. The latrine area may need to be relocated, and changing the size and shape of the litter box can also help [1, 3, 4].

1.8.1.1 Housetraining

To a certain extent, housetraining comes naturally to many cats. Particularly, kittens raised in a home environment will have developed a substrate and location preference starting between 4 and 8 weeks of age. That being said, assuring clients understand the needs of cats and proper litter box etiquette is an important part of the veterinary team's responsibilities.

1.8.1.2 Meeting the Needs of Indoor Cats

Meeting the social, physical, and intellectual needs of cats has been shown to have a protective effect against unwanted elimination [8]. Litter box etiquette is an important part of the picture. In addition to selecting an appropriate-size box and litter texture, choose a location, which is easy for the cat to access and free from obstacles, such as tight spaces which can be blocked by other pets. Large homes will need more than one litter box to prevent cats getting caught short in a distant part of the home. The litter box will need to be kept clean. Educate clients to scoop any clumps daily, discard and refresh all litter weekly, scrub the box well monthly, and consider replacing the box annually. All plastics will eventually hold odor, regardless of how fastidiously clients clean the box. Figure 1.2a,b shows an example of a litter box that is too small and a homemade litter box constructed from a storage container that is acceptable in size. Homemade boxes also have the advantage of customizing the entry height to accommodate kittens and cats with diminished strength or mobility [1, 3].

The Ohio State University Indoor Pets Initiative provides a great deal of information regarding meeting the needs of indoor cats. Cats need appropriately preferred locations to scratch, elevated areas to rest and explore, toys that suit the individual cat's play style and prey preference, good nutrition, and freedom from unnecessary stress, such as conflict with other pets or people [8].

1.8.1.3 Urine Marking

While humans may not appreciate urine marking (or marking with feces or anal sac secretions), this is a normal behavior of cats. To prevent unwanted urine marking in the home, cat owners can:

1. Supervise adequately: Especially after the first marking is left in a specific area, do not allow the cat in that area without supervision, if possible.
2. Reduce stressors: Competition for food, resting places, social contact, or preferred toys can increase stress in cats. Stress and urine marking, unwanted toileting, and many other undesirable behaviors are closely linked in cats.
3. Exercise and enrichment: Provide daily exercise and enrichment. Consider offering food using foraging toys for at least one meal per day. Provide locations for preferred types of scent marking, such as scratching pads and posts.

Checklist for addressing elimination concerns in cats:

1. Take an elimination history every time cats are presented to the veterinary hospital.
2. Provide a medical workup for cats with unwanted elimination. Treat any underlying illnesses.
3. Toileting and urine marking can occur together or separately and have separate treatments.
4. Ensure good litter box etiquette.

5. Consider a "litter box buffet" to assess cat preference for substrate, location, and litter box style. Provide the cat's most preferred litter box moving forward.
6. Coach clients on meeting the needs of indoor cats. Stress reduction and optimal emotional welfare have a protective effect for unwanted elimination.
7. Screen for punishment which increases fear and stress. Yelling, hitting, squirting with water, static shock mats, etc., can all increase stress and do not address the underlying issue.
8. Management. Restrict access to areas where unwanted elimination occurs.
9. Remedial housetraining, including restricting access to a smaller portion of the home and gradually increasing freedom when litter habits are more stable, can be helpful.
10. Be prepared to refer. Veterinary teams should be familiar with referral options, including diplomates of the American College of Veterinary Behaviorists (DACVB), Certified Applied Animal Behaviorists (CAAB), Associate Applied Animal Behaviorists (ACAAB), and Certified Cat Behavior Consultant (CCBC) (see Table 1.3), to support families when the case is beyond the comfort level of the team.

1.8.2 Destructive Behaviors

The second most common objectionable behavior cat owners describe is destruction inside the home. This is predominantly unwanted elimination and scratching behavior.

Every cat needs the opportunity to engage in normal scratching behaviors. Even cats whose claws have undergone onychectomy will continue the motor patterns associated with scratching [3, 8].

Some reasons cats are believed to engage in scratching:

1. Deposit pheromones for social signaling
2. Leave visual markings for social reasons
3. Maintain the feet and nails
4. Stretching
5. Pleasurable sensations

Cats will have individual preferences for the location, substrate, and orientation of scratching surfaces. Common commercially available substrates, including carpet, fabric, sisal, wood, and cardboard. Some cats prefer upright surfaces while others may have a tendency toward flat scratching. The best way to prevent unwanted scratching is to provide multiple substrates in multiple orientations in socially important areas within the home. Tucking away the cat tree in a spare bedroom will decrease the likelihood of use.

Cats also respond well to positive reinforcement for scratching in desired areas. Delivering treats, catnip, preferred tactile contact, and toy play immediately after cats scratch in the correct location helps encourage them to continue to do so in the future.

Table 1.3 A summary of veterinary behavior organizations.

Professional	Designation	Degree required	Written exam	Practical skills evaluated	Continuing education requirement	Code of ethics
Veterinary behaviorist	DVM, DACVB	DVM, residency	Yes	No	Yes	Yes
Veterinary technician specialist	LVT/CVT/RVT, VTS (behavior)	Technician credential	Yes	Yes	Yes	Yes
Certified applied animal behaviorist	CAAB ACAAB	PhD MS	No	No	Yes	Yes
The International Association of Animal Behavior Consultants certified consultants	CCBC	No	Yes	No	Yes	Yes

1.8.3 Human-directed Aggression

Aggression is a normal form of communication in all animals, including humans. Most aggressive displays are distance-increasing signals, where the animal is trying to diminish feelings of threat or fear. True aggression involving scratching and biting is biologically expensive. Engaging in a fight can result in injury to both parties, so usually, smaller signs of discomfort are communicated over a distance before an interaction escalates to true aggression [1]. The following is an overview of some common forms of human-directed aggression seen in feline patients. Diagnosing and treating aggression requires specialized knowledge and is best referred to a veterinarian with additional training in behavioral medicine. Preventing common forms of aggression is an important task for all veterinary professionals.

1.8.3.1 Play-related Aggression

Cats are extremely agile and love to chase, grab, bite, and kick during play. Play can become very intense at times, with high levels of excitability [3]. Clients should be educated to use toys rather than hands when playing with kittens and cats. Cats develop preferences for specific kinds of toys and play styles. Fostering a desire to play appropriately with toys and never grab, bite, or kick hands is one of the most helpful things clients can do to prevent play-related aggression in cats. Avoid petting or stroking cats during toy play when they are highly aroused or excited to diminish the risk of being swatted or bitten. If the kitten or cat is showing signs of over arousal, such as piloerection, dilated pupils, repeated biting, growling, or redirecting toward hands instead of a toy, clients should take a break from play. Play should foster a strong and healthy human–animal bond. Physical and verbal reprimands during play should be avoided, because these can cause increased arousal and also prompt a fear response in cats. Fear during play can diminish the cat's ability to trust humans and hands, leading to further problems [5].

1.8.3.2 Fear-related Aggression

Fear-related aggression can happen in a variety of contexts. One of the simplest things veterinary teams can do to help cat families is to educate clients about the body language of fear, anxiety, and stress. Cat owners should monitor for hiding, slinking, and hugging walls when moving through the home in addition to the body language cues discussed earlier in this chapter. If the cat is showing signs of fear, the first steps of treatment are identifying and avoiding known triggers while an appropriate treatment plan can be created.

Socializing kittens and cats to household noises, human contact, contact with other animals, carrier travel, car travel, etc., can help protect against some forms of fear-related aggression. For kittens and new cats in the household, the following process can be helpful:

1. Identify what the cat's lifestyle will look like. Analyze the lifestyle picture for people, animals, objects, surfaces, and situations the cat will encounter.
2. Identify what the cat likes and enjoys, such as treats, toys, and tactile interactions.
3. Carefully introduce the cat to lifestyle situations, objects, and interactions at a low level of intensity, paired with something the cat enjoys.
4. Monitor for signs of stress. If the body language of stress is observed, the stimulus is too intense and needs to be broken down into smaller exposures.
5. If the cat appears comfortable, the stimulus can be increased in intensity over time, continuing to pair it with things the cat finds pleasurable in an effort to build a positive welfare-centered learning history.

1.8.3.3 Behavioral Medicine for Cats

Establishing behavioral diagnoses and prescribing medications is the role of the veterinarian [1, 2]. For practices where behavioral medicine is not available, be sure to be familiar with local and virtual referral options so families can receive the help they need. In much the same way a cardiac case is referred to a cardiologist, or a general practice veterinarian may refer a complex fracture repair to an orthopedic surgeon, so too can behavior cases be referred to board-certified veterinary behaviorists, or to veterinarians with advanced training in treating behavior concerns [2].

Behavior medications fall into two basic categories: baseline or mainstay medications and short-term or event-related medications. Baseline medications are given daily and generally take 4–8 weeks to achieve stable therapeutic serum concentrations. Short-term or event-related medications are given on an as-needed basis and generally have an onset between 1 and 3 hours after administration, lasting between 6 and 12 hours per dose depending on the agent prescribed. The goals of administering behavior medications are to relieve and prevent fear and stress, help regulate neurochemistry to improve the

quality of life of the cat and their ability to learn new skills, and to reverse harmful behavior patterns starting at the neurochemical level. A wide variety of both mainstay and event-related medications are available for cats and can be extremely helpful [1, 3, 4].

1.9 Behavior Emergencies

True behavior emergencies are uncommon in cats, but veterinary teams should be well versed in proper triage to identify and respond promptly should an emergency arise.

1. Human–animal bond endangered
2. Human-directed aggression with injuries
3. Any behavior involving significant self-harm or danger of injury
4. Aggression toward other animals

Behavior emergencies need to be scheduled for an evaluation and either treatment or referral immediately. Customer service teams and technical staff should all be trained to detect these important cases and triage them appropriately [1].

1.10 Incorporating Behavior into Everyday Veterinary Practice

All pets display behaviors, and all pets rely on an intact human–animal bond for their health and welfare. Families living with pets deserve a good quality of life as well. Incorporating feline behavior into everyday veterinary practice is one-way veterinary teams can meet the needs of cats and their families and fulfill our true vocation of caring deeply and well for our patients and their people. While incorporating behavior into practice can feel complicated, we will discuss three key ways to get started.

1.10.1 Include Behavior Questions in Every History

Each time a cat is presented for care, it is appropriate to take a general history. Adding two simple questions to the history can help detect behavior concerns and improve the lives of cats and their families. Asking open-ended questions rather than yes/no questions will yield more information from pet owners in general.

1. "Tell me about any concerning behaviors you have seen, or any changes in your pet's behavior."
2. "Tell me about any mistakes outside the litter box."

It can feel intimidating to ask these questions at first, because the veterinary team may not know how to address or potentially solve every unwanted or concerning behavior in their patients. It is not necessary to know how to fix everything before asking the question. Detection is the first step; the rest can follow. A pleasant side-effect of incorporating behavior questions into the history is that it teaches clients the veterinary team is a good source of information about behavior, and that they should call us if they observe any concerning behaviors or changes.

1.10.2 Build a Referral Community

A referral community is a must for every veterinary practice. Veterinary teams should dedicate some time and effort to identifying and evaluating fellow behavior professionals in the region. If there are no local positive reinforcement-based feline behavior professionals, many also offer treatment at a distance via telemedicine.

Veterinary behaviorists are veterinarians who are board-certified in the specialty of animal behavior. They will be DACVB. Know who your nearest option is, and which specialists offer distance telemedicine so referral is easy and comfortable. Veterinary technicians can also become veterinary technician specialists (VTS) in behavior and can support veterinarians with prevention and intervention both locally and at a distance.

Behavior consultants are professionals who assist with training and behavior modification but are not veterinarians, so they may not prescribe medications. CAAB will hold a PhD and have passed a rigorous evaluation process. ACAAB hold

a master's degree and have passed a rigorous evaluation process. A small number of individuals hold both a veterinarian's degree and a CAAB or ACAAB, but this is quite rare.

The International Association of Animal Behavior Consultants certifies feline behavior consultants by awarding the CCBC credential. The credential requires extensive experience and education, adhering to a code of ethics, and passing a detailed written examination.

Because training and behavior modification are largely unregulated, there may be qualified professionals without these credentials. Before referring, evaluate individual colleagues to assess their methods, ensure they are a good ethical match, and be sure you have confidence in their skill level for the type of cases you wish to refer.

A robust relationship with your referral community can be extremely rewarding and facilitate the veterinary team's ability to help more families.

1.10.3 Commit to Feline-friendly Methods

Later in this textbook, numerous handling procedures and clinical interactions will be discussed. Committing to feline-friendly methods that protect the emotional welfare of our patients is an important step in incorporating behavior in everyday practice [4].

1. Team members should be trained in evaluating feline body language and feline pain scoring.
2. Hospitals should adopt an emotional standard of care. The emotional standard of care dictates how and when to pause handling or procedures to preserve the emotional welfare of patients.
3. Every team member who interacts with patients should be empowered to pause a handling event and ask for review and revision.
4. Appointment reminders should include information for pet owners about how to safely deliver a calm cat to the veterinary clinic.
5. Clients should be prepared in advance to expect the team to safeguard the cat's emotional and physical health and pause treatments to make a new plan when cats are experiencing fear, anxiety, and stress.
6. Develop language to describe a patient's behavior rather than a label about the patient themselves. For example, replacing "fractious" or "spicy" with a description, such as "defensive aggression during rectal temperature," or better yet, a success note, such as "light towel wrap for hiding during blood collection," or "use liquid treat distraction during exam." Fear free has a numeric scale called the Fear Anxiety and Stress (FAS) Scale available for download. Having a standardized way to communicate about patient behavior removes the need for judgmental labels and can improve morale within the team.

In conclusion, cats are unique with respect to their sensations, perceptions, physiology, social structures, and relationships. However, cats share the same mechanisms for learning, acquiring behaviors, changing behaviors, and maintaining behaviors as all other species. Cats have emotional needs and behavioral needs that deserve our attention. By understanding the normal and abnormal behaviors of cats, screening for potential unwanted behaviors during every appointment, and developing a robust referral community, veterinary technicians can dramatically enhance the lives of cats, owners, and fellow veterinary professionals. By committing to choosing feline-friendly methods, we can better fulfill our true vocation of advocating for feline welfare.

See the companion website for further clinical references.

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