

AAFP and ISFM Feline-Friendly Handling Guidelines



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Background The number of pet cats is increasing in most countries, often outnumbering pet dogs, yet cats receive less veterinary care than their canine counterparts.¹ Clients state the difficulty of getting the cat into a carrier at home, driving to the clinic, and dealing with the fearful cat at the veterinary clinic as reasons for fewer visits.² Educating and preparing the client and the veterinary team with regard to respectful feline handling is necessary in order to avoid stress and accomplish the goal of good health care. Without such preparation, feline stress may escalate into fear or fear-associated aggression. The resulting stress may alter results of the physical examination and laboratory tests, leading to incorrect diagnoses (eg, diabetes mellitus) and unnecessary treatments.^{3–5} Without compassionate and respectful handling by the veterinary team, clients may feel the team lacks skills and compassion, or does not understand cats. Injury may occur to the cat, client and/or veterinary team.⁶ Clients who want to avoid stress for their cat may avoid veterinary visits or choose another practice instead.

Goals The use of feline-friendly handling techniques should reduce these problems. Handling is most successful when the veterinary team adapts the approach to each individual cat and situation. The goal of these guidelines is to provide useful information for handling cats that can lead to:

- ❖ Reduced fear and pain for the cat.
- ❖ Reinforced veterinarian–client–cat bond, trust and confidence, and thus better lifelong medical care for the cat.
- ❖ Improved efficiency, productivity and job satisfaction for the veterinary team.
- ❖ Increased client compliance.
- ❖ Timely reporting and early detection of medical and behavioral concerns.
- ❖ Fewer injuries to clients and the veterinary team.
- ❖ Reduced anxiety for the client.

Social behavior and communication

People often misinterpret cat behavior and how cats deal with stress and conflict. Veterinary teams can help clients create realistic expectations about feline behavior and how to resolve problems. Begin by educating the team and your clients about the unique social and behavioral characteristics of the cat. Help them learn to interpret behaviors from the animal's perspective – that is, 'to think like a cat'.

Feline behavior concepts

Historically, people kept cats for their ability to hunt and kill rodents rather than for other traits, so people did not significantly modify the cat's innate behaviors by genetic selection.^{7,8} Cats need an outlet for hunting behavior. Hunting is also a component of play in cats. It may be possible to distract them in the clinic using an interactive toy, such as a toy mouse on a wire.

Cats are solitary hunters – they avoid fights with other cats whenever possible. They achieve this by distancing themselves from other cats.⁹ Cats often respond to confrontation by avoidance or hiding, with fighting only occurring as a last resort. Allowing cats to feel hidden while they are at the veterinary practice, using items such as towels or carriers, may facilitate handling.

Feline boldness and acceptance of novelty and interaction vary with genetic predisposition and environment. Socialization and habituation to human handling, starting between 2–7 weeks of age, improves feline–human relationships.¹⁰ Nonetheless, human agitation, rough handling, sudden or erratic movements, or loud voices may cause an unexpected or sudden fearful or aggressive reaction in the cat.

Cats are social animals, interacting primarily with cats within the same colony. Cats do not have an innate ability to tolerate unfamiliar



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The AAFP and ISFM welcome endorsement of these guidelines by the American Animal Hospital Association (AAHA).

cats at initial introduction.¹¹⁻¹³ As both predator and prey animals, cats often show fear or defensiveness in unfamiliar environments or with unfamiliar people.^{11,14} This behavior may be covert (not obvious) rather than overt (easily seen).

Cats reserve tactile communication with other cats for members of their feline social group or colony. Cats show affiliation and maintain the colony odor by allorubbing (rubbing against another; often misinterpreted when it is directed toward humans as a request for food or affection), and allogrooming (grooming each other, generally on the head and neck).^{15,16}

Most cats prefer the head and neck for physical touch. Cats may become upset and even aggressive when people try to pet them in other areas (eg, increased arousal and rolling skin when the back is touched; clasp-ing human hands and arms with feline claws when touched on the stomach after rolling onto their back).^{11,17,18}

Recognizing anxiety and fear

Fear is a response that enables avoidance of perceived danger.⁹ Anxiety results from the anticipation of an adverse event based on a previously negative, fearful or painful experience.¹⁹

Early signs of fear and anxiety

Most veterinary team members can recognize facial and postural signs of advanced fearful aggressive behavior. The different behavioral displays shown here demonstrate points at which the veterinary team can attempt to defuse escalating fearful or fear-aggressive behaviors, well before a cat is fully aroused.

Body postures

This cat shows increasing signs of fear as a technician approaches. The cat displayed the below sequence of behaviors over less than a minute. The fear was resolved by distraction.

The technician is about 6 feet (2 m) away. The cat is showing early signs of fear or anxiety by slightly turning the ears and lowering them horizontally. The back is beginning to arch. Note the mild tension in the face. The team should be taking action at this stage to defuse this cat's fear



The cat shows increased fear by bringing the feet closer to the body, lowering the head and making itself seem smaller

The cat is now preparing itself for fight. The back has become more arched and ears more flattened, suggesting that the cat is potentially more aggressive. (A few seconds later, the cat hissed and looked as if it would lunge forward)



The technician changed the approach and began enticing the cat with a favorite toy. Note the one extended paw and the upward ears. The back is no longer arched and the cat's overall posture is more relaxed

Facial changes

These close-up images show the cat's face as it becomes more fearful. When these signs appear, take steps to defuse the anxiety in the cat.



Progressive mydriasis and mild rotation/flattening of the ears indicate increasing fear



Slightly narrowed or oblong pupils, horizontal and forward turning ears and more tense jaw-set show escalating apprehension and fear

Cats often respond to confrontation by avoidance or hiding . . .

With experience one can learn to recognize subtle, early signs of fear or anxiety (see below) and their related aggressive behavioral responses.²⁰ Recognizing these signs early allows measures to be taken to prevent escalation to a full-blown response of fear aggression. Ear position, body posture and tail movement are helpful indicators of a cat's state of mind.^{9,21} Changes in the eyes and face also give clues to mounting anxiety. Anxious or fearful cats may produce increased sweat from their paws. Anxiety and fear can also be recognized by changes in vocalization – from distress meowing to growling, hissing and spitting.

Cats lack techniques to resolve conflict by appeasing each other, and instead freeze, flee, fight or engage in displacement behaviors (eg, self-grooming). Acquiescence, silence and/or lack of movement do not signal lack of pain or lack of anxiety. A cat that 'freezes' is signaling that it is anxious or uncomfortable.²²

Preparing client and cat for the veterinary visit

Taking the time to accustom the kitten or cat to travel and handling can reduce the stress of veterinary visits throughout the cat's life. The veterinary team and the client can work together to develop strategies to prepare cats for positive veterinary experiences. Where possible, the team and/or client, as appropriate, should:

❖ Rehearse visits to the veterinary practice

(hospital or clinic) with positive rewards (eg, tasty treats) to introduce the cat to the practice and being around other people and cats. Reward and reinforce all desired behavior, using technician or veterinary nurse* appointments to introduce the cat to the practice and being around other people and cats. Avoid punishing cats, either physically or verbally, because this can have unintended effects, such as increased or redirected aggression.²³

❖ Offer client education classes – either kitten classes or classes for owners of kittens. These allow opportunities to educate owners about positive handling of kittens to help familiarize kittens to different people and a variety of positive situations.

❖ Rehearse clinical examinations and learn to do procedures at home using calm praise



and pairing these procedures with positive reinforcement, through food or other rewards (eg, play, catnip, massaging the neck or chin). Gently perform these procedures as demonstrated by a member of the veterinary team:

- handling the paws and looking into the ears, to prepare for ear exams and nail clipping;
- opening the mouth in association with the delivery of a tasty treat, to prepare for oral examinations, administration of oral medications, or tooth brushing;
- feeling over the legs and the body, to prepare for the physical exam;
- grooming;
- doing regular medical procedures at home (eg, administering prescribed parasite prevention, taking blood glucose measurements in diabetic patients).

❖ **Adapt cats to carriers** (see page 367). Take kittens and cats on occasional short car rides, beginning at an early age if possible.

❖ **Locate the cat well before departure** on the day of the visit in order to leave on time; encourage the cat to enter the carrier on its own (see page 367).

❖ **Bring items that carry a familiar scent** for the cat, such as favorite bedding or toys.

❖ **Notify the veterinary team in advance** if the cat may be easily upset. This will allow them to prepare (eg, move cat to exam room immediately, have treats and toys available to distract the cat). The veterinary team may provide flexibility and choice, tailoring the appointment to each individual client and cat, as appropriate. For example, some cats do better with house calls, others do not.

❖ **Understand the effect of your own anxiety or stress on the cat**, remaining calm and reducing any outward display of fear and anxiety.

❖ **Remain positive**, proceed at the cat's pace, remain aware of the cat's responses, and use rewards that encourage desired behaviors (treats, food, toys, massage).

❖ **If indicated, use prescribed anxiolytics and/or anti-nausea medication** for the cat.

❖ **Pre-plan for the cat's return home** (see 'Going home' section).

See Table 1 (page 373) and the 'Further reading' list (page 374) for helpful resources.



. . . Allowing cats to feel hidden while they are at the veterinary practice may facilitate handling.

Cat carriers

Carriers provide safety for both client and cat during transport,²⁴ and often give a cat a sense of security by being hidden in a secure, closed container. Surveys are ongoing to determine the best attributes of carriers. They should, however, be sturdy, secure and stable for the cat, easy for the client to carry, and quiet so that opening the carrier does not startle the cat. Some cats like to see out, whereas others are less anxious when covered. The design should permit easy removal of the cat if it will not come out on its own, or should allow the cat to be easily examined in the bottom of its carrier. A removable top is useful for fearful and fear-aggressive cats, as well as for sick, painful or limited-mobility cats.

Carriers provide safety for both client and cat during transport, and often give a cat a sense of security.



A variety of carrier styles exist, such as this one which zips open, allowing the cat to be slowly exposed, as appropriate, while it remains on its own bedding. *Courtesy of Dr Anne-Claire Gagnon*



A more conventional carrier, with removable top and front. *Courtesy of Dr Sophia Yin*

Training the cat to use the carrier

The goal is for the cat to learn to associate the carrier with positive experiences and routinely enter it voluntarily. Make the carrier a familiar part of furniture at home, with soft bedding for comfort. If the cat responds favorably to treats, catnip and/or toys, place these in the open carrier as positive reinforcement to encourage the cat to enter the carrier at home. Some owners may find it helpful to train the cat to enter the carrier using a word or clicker as a cue. Individual cats respond differently to treats; use them if that makes the cat less stressed or anxious.



Relaxed kitty, with a favorite toy! *Courtesy of Dr Ilona Rodan*

The goal is for the cat to enter the carrier voluntarily.

Getting an unwilling cat into the carrier

If the cat has not been accustomed to the carrier at the time a veterinary visit is imminent, plan a strategy that will work with the type of carrier and the home environment. Putting the carrier in a small room with few hiding places may encourage the cat to choose the carrier. Consider use of a synthetic feline facial pheromone (FFP) analog spray in the carrier at least 30 minutes prior to transport to help calm the cat. Open the carrier and place familiar bedding, a toy and/or treat inside. Encourage the cat to enter the carrier voluntarily. Do not chase the cat to get it into the carrier. If needed, remove the top of the carrier while encouraging the cat to go into the bottom tray, then calmly replace the top.

Transporting the carrier in a vehicle

Prior to any scheduled veterinary visit, practice lifting the carrier and getting it in and out of the car. Try this first without the cat, to be sure that there isn't too much jostling or knocking of the carrier, and then with the cat inside. During travel secure the carrier by placing it on the floor or by using a seatbelt, because a moving carrier can frighten the cat. Placing a towel over the carrier can prevent visual arousal.

Carrier secured with a seatbelt. *Courtesy of Dr Eliza Sundahl*



General principles for creating a positive environment

Manage odors

Manage odors by cleaning surfaces, washing hands and removing lint between patients. Ventilate after all olfactory incidents (eg, disposing the trash after anal gland expression, cleaning where another cat has walked or rubbed on furniture).²⁵ Cats are macrosmatic – their sensitive sense of smell drives many of their behavioral responses. Some odors (eg, air fresheners, disinfectants, rubbing alcohol, blood, deodorant, perfume) and unfamiliar clothing may cause anxiety or fear.^{26–28}

Consider using a synthetic feline facial pheromone analog

Studies show that a synthetic FFP analog may have calming effects in stressful environments, reducing anxiety, fear and aggression, and increasing normal grooming and food intake in caged cats.^{29–32} Cats may benefit from diffusers placed throughout the hospital and a spray used about 30 minutes in advance on materials used for cats to lie on, in cages, as well as on towels used for handling.

Use FFP only in addition to, and never as a substitute for, removing odors, washing, gentle handling and other provisions for creating a cat-friendly environment.

Manage visual and auditory input

Minimize visual cues that may lead to anxiety. Keep other patients away from the cat's line of vision. When possible, provide a separate feline entrance and feline waiting room or area. Cover cat carriers with a blanket or towel. Minimize harsh lighting.^{33,34} Provide a quiet environment and speak softly. Minimize noise that might startle the cat, such as phones and fans. Consider using soothing background music and acoustic dampeners.

If you have a resident cat ...

Be aware that it may elicit anxiety in a patient if it is seen, smelled or heard. Train staff to recognize any signs of feline stress, both in the practice cat and in the patients, and be ready to either respond or prevent access of the practice cat to patient areas.

Preparing the practice environment

Setting the stage

Some key considerations for creating a cat-friendly environment, which apply throughout the hospital, are outlined in the box above.

Waiting room/reception area

Minimize waiting times by using scheduled appointments. If possible, modify the schedule to provide for:

- ❖ Cat appointments during quieter times of the day.
- ❖ Cat and dog appointments at different times.
- ❖ Different times and/or days for admitting cats and dogs for surgery.

Direct the client and cat into the exam room as soon as possible to avoid other pets and noise. If this is not possible, minimize cat–cat or dog–cat interaction, if both are in the waiting room, by educating clients with dogs to keep away from feline patients, providing separate dog and cat waiting rooms, or using screens to create separate dog/cat areas. Keep cat carriers off the floor (create elevated shelves above dog nose height, or use a stable chair that is not facing another pet). Have towels/blankets available to drape over the carrier if necessary.

Exam/consulting room

If the hospital sees more than feline patients try to dedicate a minimum of one exam room to cats only. Be flexible in your choice of where the exam occurs (eg, exam table,

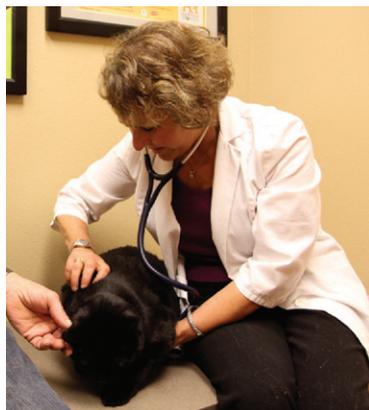


FIG 1 Examine the cat where it is comfortable, such as on an exam room bench. Courtesy of Dr Ilona Rodan

scale, chair, couch or floor); conduct the exam wherever the cat is most comfortable (Fig 1). To remove scent signals, such as alarm pheromones, use disinfecting soaps or washing powders that remove both protein and fat (which are part of the make-up of pheromones). Have available a variety of treats, disposable/giveaway toys and/or catnip-treated towels to positively engage the cat. The response to catnip and similar plants will vary due to genetic differences.^{35,36}

Cat cages in the veterinary practice

If possible, provide cat-only rooms. The optimal cat cage has the following attributes:

- ❖ Is large enough to accommodate the client's carrier, and for the litter box to be away from food, bedding and water.
- ❖ Is at mid-level or higher. Side-by-side cages are preferable to cages facing each other so that the cats do not see each other and become visually aroused.³⁷
- ❖ Provides a safe haven with both hiding and perching places (eg, sturdy cardboard box). If a cat shows less anxiety when in a darker area, cover the front of the cage with a towel.
- ❖ Has controlled temperature and sound insulation. Note that fiberglass cages are warmer, less reflective and quieter than stainless steel.
- ❖ Contains a towel and/or toys from home.
- ❖ Contains the cat's preferred food and litter. (While this may not be possible with every patient, it may help those that are anxious or fearful. Consider asking clients to bring in the cat's own food.)

Interacting with the cat in the veterinary practice

Preparing to greet the cat

The first encounter with the cat will impact the success of the current and subsequent visits. Where possible, appoint specific 'cat-friendly' team members. Greet cats and clients by their names with moderated body language and voice.

Be aware of any special requirements of the individual patient before the cat arrives. Playful kittens are easily distracted by toys or treats. Middle-aged and senior cats frequently have degenerative joint disease and need soft surfaces to keep them comfortable; be aware that pain levels with chronic conditions will vary.³⁸

As much as possible, have equipment needed for examination and testing in the exam room before handling the cat. To minimize the negative effects of gestures and noise, have all your materials prepared (eg, syringes out of their wrappers). Use silent clippers or scissors.

Think 'Go slow to go fast.' For most cats, using a slow approach is more efficient in

Think 'Go slow to go fast.'

For most cats, using a slow approach is more efficient in achieving the results you want.



achieving the results you want. Adopt a calm, positive demeanor and work at a consistent pace.

Opening the carrier and accessing the cat

Open the door of the carrier while taking the history, to allow the cat to choose whether it wants to venture out on its own. Some cats may walk out of the carrier more readily if it is on the floor. If the cat is out of the carrier, put the closed carrier out of sight during the exam but allow the cat to return to it immediately the procedures are completed. Calm cats that enjoy the experience may be left to explore the exam room, if appropriate.*

If the cat is still in the carrier when you finish history-taking, quietly remove the top and door, if possible. Most cats are very comfortable remaining in the bottom half of the carrier, and will allow a large portion of the examination while being there.

If the cat is fearful, place a towel between the two halves of the carrier as you remove the carrier top; this covers the cat in a 'tent' but the cat remains accessible (Fig 2).

Some carriers cannot be disassembled. Opinions vary about appropriate techniques for removing a cat from this type of carrier, with little or no evidence to show which are safest and least stressful. If the cat will not come out on its own, but will accept handling, try the techniques listed below.



FIG 2 If a cat prefers to stay in its carrier, using a towel to cover the cat as the top of the carrier is removed can decrease its anxiety. This technique is also the first step to putting a towel over a cat that is displaying fear aggression. Courtesy of Dr Eliza Sundahl



FIG 3 Examining a cat while it remains in the bottom of the carrier may be less stressful for the cat. Courtesy of Dr Eliza Sundahl



If the cat will not come out of the carrier . . .

- ❖ Do what you can to work with the cat within the carrier (Fig 3).
- ❖ Avoid grabbing the cat to pull it out. Do not tip the carrier up on its end to shake the cat out or for the cat to fall out. Avoid the use of cat bags, nets and gloves (see later) with calm cats.
- ❖ Reach in and support the caudal abdomen and back legs to encourage the cat to move forward.
- ❖ If the cat acts in a fearful manner, gently slide a towel around the cat to remove it.
- ❖ If the cat shows continued resistance and/or signs of fear, follow tips in the section on chemical restraint and dealing with the fearful/aggressive cat. Avoid escalating fear in the cat.
- ❖ Discuss carrier choice with the client (see page 367).

*Footnote: When considering whether or how to allow cats to be loose in the room, and/or whether or how to allow clients to hold their cats, follow the recommendations of your veterinary association, attorney and/or liability insurance company.

Recognizing and responding to cat signals

Rely on the cat's response (body language) to determine your own behavior (Fig 4). Recognize early signs of arousal; if needed, break longer procedures into steps to prevent escalation of fear. If the cat begins to show fear, slow down or take breaks from handling to prevent escalation of arousal. Some cats get worse with breaks and repeated attempts to handle, even with premedication; these patients should be sedated or anesthetized. With the use of anti-anxiety medications that might also have an amnesiac effect (eg, benzodiazepines), these cats may improve over several years.

Try using treats or a synthetic FFP analog. Evaluate the potential stress of multiple procedures and adjust timing accordingly if the cat becomes aroused. Determine your strategy early and be ready to change your technique to accommodate a rapidly escalating anxiety event (see later discussion on dealing with fearful/aggressive cats). Consider these options:

- ❖ Hospitalize the cat to carry out additional procedures later that day.
- ❖ Use chemical restraint.
- ❖ Reschedule for another time when a better strategy (eg, premedication) can be in place.

Always try to end the visit on a positive note, with client and cat as calm as possible.

Performing the exam and working with the cat

Learn a variety of techniques and positions for each procedure and be flexible with each individual patient. Try the following techniques:



FIG 4 Cats hold back their ears for different reasons; this cat is relaxed and happy. Courtesy of Dr Anne-Claire Gagnon

- ❖ Place towels or non-slip pads under the cat, or keep the cat on top of the familiar bedding from the carrier; the latter is preferable because the familiar smell may make the cat more secure in the hospital environment.
- ❖ Examine the cat in a lap (preferably your lap) with the cat facing the client and away from you. Always have bedding underneath the cat and on your lap. Use your body and arm to support the cat.
- ❖ Allow the cat to maintain its chosen position.
- ❖ Vary your touch with the cat's response. The head and neck are preferred areas of touch for the cat; placing your hand on the head and massaging between the eyes or cranial aspect of the ears may calm the cat (Fig 5). Other cats will remain still if you place a hand in front of the chest.

- ❖ Swaddle the cat in a towel (Fig 6) or cover the cat's head with a blanket, as this may make the cat feel more secure.

- ❖ Whenever possible, perform procedures in the exam room.³⁹ Most clients appreciate being present, but if their anxiety is making the situation worse for the cat, politely ask the client to step out of the exam room, rather than move the cat.



Making human behaviors less threatening for the cat

- ❖ Avoid direct eye contact.
- ❖ Move slowly and deliberately; minimize hand gestures.
- ❖ Put yourself on the same level as the cat; approach from the side and do not loom above or over the cat.
- ❖ Use a calm quiet voice. Animated discussions may engage the client but scare the cat.
 - ❖ If the cat is anxious, return it to the carrier before going over instructions with the client, unless you need to demonstrate a technique.
 - ❖ Be aware of your own emotions and their potential effect on the cat's behavior.

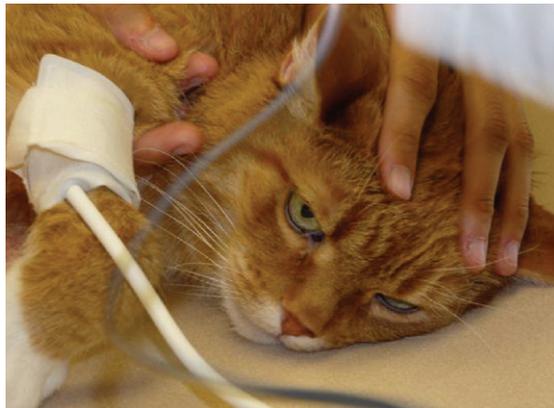


FIG 5 Massaging or stroking the top of the head can help relax a cat while doing procedures such as taking blood pressure. The first and fifth digits help hold each side of the head to prevent movement that could cause injury. Courtesy of Dr Ilona Rodan



FIG 6 (a) Cats may feel more secure lightly swaddled in a towel while on an exam surface, as in the case of this mildly anxious cat. She is more relaxed with this technique than exploring the room or staying in her carrier. (b) Using a towel to wrap around a cat can provide varying degrees of restraint and control. This towel technique is excellent for cephalic venepuncture. Courtesy of Dr Eliza Sundahl (image a) and Dr Sophia Yin (image b)

Minimizing the stress of medical procedures

- ❖ When performing multiple procedures, begin with those less stressful or invasive.⁴⁰
- ❖ Offer different routes of administering medications, when available. Show the client how to give pills. Consider pilling aid devices, food or tasty treats in which pills can be hidden.⁴¹
- ❖ Consider warming injections to room temperature, if this does not affect product efficacy.
- ❖ Use one needle to aspirate vaccine or drug, and a different, small-gauge needle to administer injections.⁴²
- ❖ Holding the head and body in natural positions may allow procedures such as jugular/cephalic venepuncture and cystocentesis (Fig 7) with minimal restraint.
- ❖ For cats that react strongly when touched with a needle, and/or when multiple injections are anticipated, apply a topical anesthetic or use a transmucosal opioid.



FIG 7 Many procedures require minimal restraint if the cat is in a natural position, such as in this standing cystocentesis. Courtesy of Professor Daniëlle Gunn-Moore

About scruffing techniques

'Scruffing'* is a general term for a variety of holds on the skin of the cat's neck. Grasping the scruff of the neck varies from a gentle squeeze of skin, to grasping a larger fold of skin with varying amounts of pressure. Consideration of natural feline behavior can help put this technique into perspective. Cats grasp the scruff of the neck of other cats in only limited circumstances.^{43,44} During the first few weeks of life the mother cat may lift kittens by the scruff of the neck using her mouth.⁴⁵ This is a method of transport and immobilization, and not a form of discipline. During mating, the tomcat grasps the scruff of the queen.^{46,47}

Some veterinarians and veterinary behaviorists do not use scruffing and do not condone its use. They find that using other gentle handling techniques is less stressful, more time efficient, provides greater safety for personnel, and allows the cat to have a sense of control. They prefer other methods to manage situations where feline welfare or personnel safety are at stake.

Other veterinarians handle cats gently and use scruffing only if it is necessary to protect the welfare of the cat or for the physical protection of personnel. Still others think that scruffing a cat is acceptable for short procedures, in an emergency, and to prevent the cat from escaping or injuring someone.

If you think this technique is the *only* alternative, carefully evaluate the cat for any signs of fear or anxiety. The cat may become immobile but may not be comfortable, or may become aggressive. Handle the cat as gently as possible and guard against using aggressive handling techniques out of anger or frustration. The panel does not condone lifting the cat or suspending its body weight with a scruffing technique because it is unnecessary and potentially painful.

'Clipping' or 'pinch-induced behavioral inhibition' is a term that pertains to using clips to apply pressure to the dorsal neck skin or other areas along the dorsal midline.⁴⁴ Some veterinarians and behaviorists do not use clipping and do not condone its use. Some have reservations about the clipping procedure and have concerns about the ethics of controlling behavior through inhibition of behavioral responses. Others think it has a place when done appropriately, in certain cats and under the conditions described above for scruffing.⁴⁸⁻⁵⁰

The panel does not condone lifting the cat or suspending its body weight with a scruffing technique.

Techniques for working with fearful or aggressive cats

Veterinarians may need to work with feral cats or fractious cats that could injure clients or the team. Cats may show anxiety, aggression and fear via a variety of behaviors. Fear is the most common cause of aggression in cats at the veterinary practice. Learn to recognize early signs and take steps to reduce or prevent escalation of fear. Carefully evaluate the situation to select the most appropriate action.

Pre-visit techniques

- ❖ When making appointments, ask about and then record the client's comments about the cat's behavior (at home and during previous visits). Record in the client file in-clinic experiences about what works and what does not.
- ❖ Make attempts to decrease fear associated with the carrier using the techniques described earlier.
- ❖ Provide oral medication to manage the cat's fear prior to a visit if the history or owner comments suggest this might be helpful. Use an oral benzodiazepine (eg, alprazolam) as an anxiolytic and possible amnesiac (note that benzodiazepines may cause disinhibition of aggression). Use anti-nausea medication (eg, maropitant) for cats with travel-induced nausea or emesis.⁵¹ Avoid using acepromazine because it is a sedative, not an anxiolytic; it limits motor responses without modifying sensory perception; it increases sensitivity to noises; and it may increase aggression, making the cat more combative. Specific treatment protocols vary by country and among veterinarians. Consult with an anesthesiologist for further information.

*Footnote: On review of these guidelines, the ISFM/FAB feline expert panel strongly support the view that scruffing should never be used as a routine method of restraint, and should only be used where there is no alternative.

Chemical restraint at the veterinary practice

Chemical restraint may increase safety and reduce stress for the cat, client and veterinary team. It is always better to use chemical restraint pre-emptively because, once the cat is agitated, chemical restraint is less effective or reliable. Indications for chemical restraint are shown on the right.

Medications that utilize intramuscular or subcutaneous administration are optimal because their use requires less restraint. Use reversible agents when possible. One choice is to use the following regimen,⁵⁴ provided there are no contraindications:

- ❖ Low-dose dexmedetomidine (which is reversible), combined with an opioid for sedation. Choose an opioid based on the predicted degree of sedation and analgesia required. Mu (OP3) agonist narcotics (eg, morphine, hydromorphone) are reversible. However, butorphanol is short acting and may be suitable for some procedures.
- ❖ Add a benzodiazepine (midazolam) for its hypnotic, sedative, muscle relaxation and possible amnesic effects (also reversible).⁵⁵
- ❖ Add a small amount of ketamine for further sedation, if a cat is not sufficiently sedated with the combination of an opioid, dexmedetomidine and midazolam.

Chemical restraint choices vary among veterinarians and will depend on patient signalment and physical status; product availability varies by country. Obtain advice from an anesthesiologist if necessary. A variety of resources contain specific protocols.⁵⁴ The websites of the Veterinary Anesthesia and Analgesia Support Group and the American College of Veterinary Anesthesiologists contain more information (see Table 1).

Indications for chemical restraint

- ❖ When a cat shows signs of fear, anxiety or aggression, and the procedure will take longer without chemical restraint.
- ❖ Situations in which you anticipate pain, discomfort or surgery and where analgesia alone will be insufficient.
- ❖ When gentle restraint or appropriate restraint equipment does not provide sufficient safety for the team.



Use general anesthesia if sedation is insufficient to accomplish necessary procedures. Note that the use of an induction chamber with gas anesthetic as a method of restraint may mean less control of the patient's airway and raises concerns about other safety issues for the cat and the staff.⁵⁶

Fear is the most common cause of aggression in cats at the veterinary practice.

Learn to recognize early signs and take steps to reduce or prevent escalation of fear.



Working with the cat at the practice

When a fearful/anxious cat is anticipated, if possible see it immediately upon arrival. Try any or all of the techniques described in the 'pre-visit' section, as appropriate.

A synthetic FFP analog may make cats calmer but does not reduce struggling.⁵² If the cat is experiencing pain and/or a procedure is likely to cause pain, then premedicate with analgesics, use minimal restraint and divide procedures into smaller steps. Refer to the AAHA/AAFP pain management guidelines for information about under-recognized painful conditions and treatments in cats.²²

A variety of types of equipment are available to assist with feline handling. Reserve these for times when milder techniques are not effective. Be sensitive to the cat's response to any item used, and moderate as needed. Disinfect materials between use. Use of the following will vary with the needs of the individual cat and veterinarian:

- ❖ **Towels or muzzles** that cover the eyes might calm cats by reducing the intensity of visual stimuli. They do not immobilize the cat.
- ❖ **Gloves** may protect human arms and hands to some extent. Some panelists do not use gloves because they do not control the cat's movement in the way that towels do and may carry odors that may further arouse the cat.⁵³
- ❖ **Nets** should be used only rarely, such as when a cat is difficult to get out of a cage for quick sedation, or in an emergency situation to capture a loose cat. Make sure it is a clam shell style net designed for the capture of small mammals (ie, with holes much smaller than for fish, to prevent the cat's toes from getting caught in the netting). Do not use a net to immobilize the cat unless the procedure can be completed within a few seconds (eg, an injection). Some panelists never condone the use of nets.
- ❖ **Cat bags** designed for restraint can allow access to the front leg for cephalic venepuncture and the dorsal shoulder for subcutaneous fluid injections. Be aware that getting a cat into a cat bag may be difficult and that a tight bag may lead to panic, while a loose bag may not provide sufficient restraint. A well-placed towel wrap may be more comfortable and form-fitting.

Going home

When cats return home they may carry unfamiliar materials (eg, bandages), or unfamiliar odors (eg, elimination of inhalation anesthetic byproducts may create odors for 24–48 hours). Other cats may fail to recognize the returning cat and may attack them. To reduce problems, ask clients whether problems with re-introduction have occurred in the past, and consider the procedures that were performed at the veterinary practice.

General tips for reducing inter-cat aggression at home

- ❖ Ask clients to bring something that ‘smells like home’ when they drop off or pick up their cat (Fig 8).
- ❖ Consider the use of a synthetic FFP analog in the carrier and at home.
- ❖ Advise clients to be passive when bringing a cat home (do not encourage or force interaction between the cats or communal feeding).

Where there is no history of aggression

If the cats have no history of aggression after veterinary visits, try these steps:

- ❖ Leave the returning cat in the carrier to see



FIG 8 This cat has come to the clinic with its own familiar bedding. Courtesy of Dr Eliza Sundahl

how the other cat(s) react; if no hissing or signs of aggression/fear occur, leave the cats together (with the returning cat still in the carrier and with supervision) for approximately 5–10 minutes.

- ❖ Next, leave the cats free in the same room together and monitor for any reaction. If signs of aggression occur, distract the cats to separate them. Avoid getting between them or picking them up in that aroused state because redirected aggression may occur.

Where aggression is a potential concern

If prior home-comings have led to aggression, or if there is a negative reaction after trying the above approach, recommend that the client tries these steps:

- ❖ Put the patient in another safe, quiet room (with all necessary resources) for at least 24 hours until the cats consistently respond to food and toy play from both sides of the door.
- ❖ If problems continue after slow reintroduction for 3 days, clients should seek veterinary advice regarding slower introduction or medication to facilitate the process.

Often, in these situations, bringing the cats to the clinic together for future visits will prevent problems, as both cats will carry the scent of the clinic.⁵⁷

TABLE 1 Useful websites and online information for veterinary teams and/or clients

Information resource	URL
American Association of Feline Practitioners (AAFP) <ul style="list-style-type: none"> ❖ Client area with links to medical explanations and management strategies ❖ Veterinary guidelines (eg, senior care, life stages, vaccination, pain management) 	www.catvets.com
American College of Veterinary Anesthesiologists <ul style="list-style-type: none"> ❖ List of anesthesiologist consultants 	www.acva.org
Catalyst Council <ul style="list-style-type: none"> ❖ Videos about taking your cat to the veterinarian, and cat carrier training ❖ Health care information 	www.catalystcouncil.org www.catalystcouncil.org/resources/video
Cornell University College of Veterinary Medicine <ul style="list-style-type: none"> ❖ Cornell Feline Health Center videos demonstrate acclimating a cat to accept procedures such as brushing teeth, giving medication, trimming nails, taking temperature. Techniques can be adapted to other areas that may not be covered in the videos 	http://partnersah.vet.cornell.edu/pet/cats
Feline Advisory Bureau (FAB) <ul style="list-style-type: none"> ❖ Information for cat owners and breeders about feline medical concerns, behavior issues and environmental needs ❖ Tips on giving pills or liquid to cats 	www.fabcats.org www.fabcats.org > advice > owners > general cat care > medicating your cat
International Society of Feline Medicine (ISFM) <ul style="list-style-type: none"> ❖ Veterinary information formerly on the Feline Advisory Bureau (FAB) website, including ‘Cat friendly practice’ 	www.isfm.net
Ohio State University – Indoor Pet Initiative <ul style="list-style-type: none"> ❖ Comprehensive information helping owners and veterinarians understand the behavior and environmental requirements of the pet cat and offering strategies to facilitate providing a lifestyle less likely to result in stress-related disease 	http://indoorpet.osu.edu/cats
Veterinary Anesthesia and Analgesia Support Group <ul style="list-style-type: none"> ❖ Details about specific medications ❖ Medication protocols 	www.vasg.org www.vasg.org/information_by_drug.htm www.vasg.org/protocols.htm

SUMMARY POINTS

- ❖ Increased veterinary care for cats will significantly improve their health and welfare.
- ❖ Clients need to feel confident about bringing their cats to veterinary practices.
- ❖ Increased awareness of feline behavior on the part of the veterinary team may improve handling techniques and increase the frequency of health care visits.
- ❖ Relatively small and simple steps at each stage of the veterinary visit can make it a significantly happier and less stressful experience for all.



Further resources for veterinary teams and/or clients

Websites and online information

See Table 1.

Useful reading

Some of the below are available in electronic format; check with the publisher or supplier for information

Beaver B. Feline behavior: a guide for veterinarians. Saunders, 2003.

Bowen J, Heath S. Behaviour problems in small animals. Elsevier Saunders, 2005.

Bohnenkamp G. From the cat's point of view. Perfect Paws Publishing, 1991.

Heath S. Why is my cat doing that? Hamlyn/Thunder Bay Press, 2009.

Horwitz D, Landsberg G. (Edited for UK by Heath, Mills and Zulch, and for Australia by Seksel). Lifelearn behavior client handouts. www.lifelearn-cliented.com.

Horwitz D, Mills D (eds). BSAVA manual of canine and feline behavioural medicine. 2nd edn. British Small Animal Veterinary Association, 2009.

Horwitz D, Neilson J. Blackwell's five-minute veterinary consult. Clinical companion: canine and feline behavior. Blackwell Publishing, 2007.

Landsberg G, Hunthausen H, Ackerman L. Handbook of behavior problems of the dog and cat. 2nd edn. Elsevier, 2003.

Moffat K. Addressing canine and feline aggression in the veterinary clinic. *Vet Clin North Am Small Anim Pract* 2008; **8**: 983–1003.

Seksel K. Training your cat. Hyland House Publications, 2001.

Yin S. Low stress handling, restraint and behavior modification of dogs & cats (book and DVD). CattleDog Publishing, 2009.

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References

- 1 Flanigan J, Shepherd A, Majchrzak S, Kirkpatrick D, San Filippo M. US pet ownership & demographics sourcebook. Schaumburg, IL: American Veterinary Medical Association, 2007: 1–3.
- 2 Hoyumpa A, Rodan I, Brown M, et al. AAFP-AAHA Feline Life Stage Guidelines. *J Feline Med Surg* 2010; **12**: 43–54.
- 3 Greco DS. The effect of stress on the evaluation of feline patients. In: August JR, ed. Feline internal medicine. Philadelphia: WB Saunders, 1991: 13–17.
- 4 Carlstead K, Brown JL, Strawn W. Behavioral and physiological correlates of stress in laboratory cats. *Appl Anim Behav Sci* 1993; **38**: 143–58.
- 5 Kaname H, Mori Y, Sumida Y, et al. Changes in the leukocyte distribution and surface expression of adhesion molecules induced by hypothalamic stimulation in the cat. *Brain Behav Immun* 2002; **16**: 351–67.
- 6 Jeyaretnam J, Jones H, Phillip M. Disease and injury among veterinarians. *Aust Vet J* 2000; **78**: 625–29.
- 7 Overall KL. Normal feline behavior: clinical behavioral medicine for small animals. St Louis: Mosby, 1997: 45.
- 8 Griffin B, Hume KR. Recognition and management of stress in housed cats. In: August J (ed). Consultations in feline internal medicine. 5th edn. St Louis: Saunders Elsevier, 2006: 717–33.
- 9 Bowen J, Heath S. An overview of feline social behaviour and communication: behaviour problems in small animals: practice advice for the veterinary team. Philadelphia: Saunders, 2005: 29, 31, 164.
- 10 Karsh EB. The effects of early and late handling on the attachment of cats to people. In: Anderson RK, Hart BL, Hart LA (eds). The pet connection. St Paul: Globe Press, 1983: 207–15.
- 11 Crowell-Davis S, Curtis T, Knowles R. Social organization in the cat: a modern understanding. *J Feline Med Surg* 2004; **6**: 19.
- 12 Macdonald DW, Yamaguchi N, Kerby G. Group-living in the domestic cat: its sociobiology and epidemiology. In Turner DC, Bateson P (eds). The domestic cat: the biology of its behaviour. Cambridge: Cambridge University Press, 2000: 14, 95.
- 13 Overall K, Panaman R. Behaviour and ecology of free-ranging female farm cats (*Felis catus* L.). *Z Tierpsychol* 1981; **56**: 59–73.
- 14 Griffin B, Hume KR. Recognition and management of stress in housed cats. In August J (ed). Consultations in feline internal medicine. 5th edn. St Louis: Saunders Elsevier, 2006: 717–33.
- 15 Passanisi NC, Macdonald DW. Group discrimination on the basis of urine in a farm cat colony. In: Macdonald DW, Müller-Schwarze D, Natynczuk SE (eds). Chemical signals in vertebrates. Oxford: Oxford University Press, 1990: 339–41.
- 16 MacDonald DW. The carnivores: order Carnivora. In: Brown RE,

- MacDonald DW (eds). Social odours in mammals. Oxford: Clarendon Press, 1985: 619–722.
- 17 Bradshaw JWS, Hall SL. Affiliative behaviour of related and unrelated pairs of cats in catteries: a preliminary report. *Appl Anim Behav Sci* 1999; **63**: 251–55.
 - 18 Soennichsen, S, Chamove AS. Responses of cats to petting by humans. *Anthrozoos* 2002; **15**: 258–65.
 - 19 Notari L. Stress in veterinary behavioural medicine. In Horwitz D, Mills D (eds). BSAVA manual of canine and feline behavioural medicine. 2nd edn. Gloucester: British Small Animal Veterinary Association, 2009: 136.
 - 20 Panksepp J. Affective consciousness: core emotional feelings in animals and humans. *Conscious Cogn* 2005; **14**: 30–80.
 - 21 Heath S. Feline aggression. In: BSAVA manual of canine and feline behavioural medicine. Gloucester: British Small Animal Veterinary Association, 2002: 216.
 - 22 Hellyer P, Rodan I, Brunt J, Downing R, Hagedorn JE, Robertson SA. AAHA/AAFP pain management guidelines for dogs and cats. *J Feline Med Surg* 2007; **9**: 466–80. Available at www.aahanet.org and www.catvets.com.
 - 23 AVSAB. AVSAB punishment position statement: The use of punishment for behavior modification in animals. American Veterinary Society of Animal Behavior, 2007. Available at www.avsabonline.org.
 - 24 Rose C, Rodan R, Levy J, Dinnage JD. AAFP position statement: Transport of cats. *J Feline Med Surg* 2010; **12**: 886–87. Available at www.catvets.com.
 - 25 Berton F, Vogel E, Belzung C. Modulation of mice anxiety in response to cat odor as a consequence of predators diet. *Physiol Behav* 1998; **65**: 247–54.
 - 26 Belew AM, Bartlett T, Brown SA. Evaluation of white-coat effect in cats. *J Vet Intern Med* 1999; **13**: 134–42.
 - 27 Crowell-Davis SL. White coat syndrome: prevention and treatment. *Compend Contin Educ Pract Vet* 2007; **29**: 163–65.
 - 28 Apfelbach R, Blanchard CD, Blanchard RJ, Hayes RA, McGregor IS. The effects of predator odors in mammalian prey species: a review of field and laboratory studies. *Neurosci Biobehav Rev* 2005; **29**: 1123–44.
 - 29 Gunn-Moore, DA, Cameron ME. A pilot study using synthetic feline facial pheromone for the management of feline idiopathic cystitis. *J Feline Med Surg* 2004; **6**: 133–138.
 - 30 Griffith C, Steigerwald E, Buffington C. Effects of a synthetic facial pheromone on behavior of cats. *J Am Vet Med Assoc* 2000; **217**: 1154, 2000.
 - 31 Kronen PW, Ludders JW, Hollis NE, et al. A synthetic fraction of feline facial pheromones calms but does not reduce struggling in cats before venous catheterization. *Vet Anaesth Analg* 2006; **33**: 258–265.
 - 32 Frank D, Beauchamp G, Palestrini C. Systematic review of the use of pheromones for treatment of undesirable behavior in cats and dogs. *J Am Vet Med Assoc* 2010; **236**: 1308–16.
 - 33 Veranic P, Jezernik K. Succession of events in desquamation of superficial urothelial cells as a response to stress induced by prolonged constant illumination. *Tissue Cell* 2001; **33**: 280–85.
 - 34 Dalke H, Little J, Niemann E, et al. Colour and lighting in hospital design. *Optics & Laser Technology* 2006; **38**: 343–65.
 - 35 Zhao YP, Wang XY, Wang ZC, et al. Essential oil of *Actinidia macroperma*, a catnip response kiwi endemic to China. *J Zhejiang Univ Sci B*. 2006; **7**: 708–12.
 - 36 Todd NB. Inheritance of the catnip response in domestic cats. *J Hered* 1962; **53**: 54–56.
 - 37 Stella JL, Lord LK, Buffington CA. Sickness behaviors in response to unusual external events in healthy cats and cats with feline interstitial cystitis. *J Am Vet Med Assoc* 2010; **238**: 67–73.
 - 38 Robertson S, Lascelles D. Long-term pain in cats: how much do we know about this important welfare issue? *J Feline Med Surg* 2010; **12**: 188–199.
 - 39 Brown S, Atkins C, Bagley R, et al. Guidelines for the identification, evaluation, and management of systemic hypertension in dogs and cats. *J Vet Intern Med* 2007; **21**: 542–58.
 - 40 Holzworth J. Cat diseases. Philadelphia: WB Saunders, 1987: 5.
 - 41 Bennett AD, MacPhail CM, Gibbons DS, Lappin MR. A comparative study evaluating the esophageal transit time of eight healthy cats when pillled with the FlavoRx pill glide versus pill delivery treats. *J Feline Med Surg* 2010; **12**: 286–90.
 - 42 Richards JR, Elston TH, Ford RB, et al. The 2006 American Association of Feline Practitioners Feline Vaccine Advisory Panel report. *J Am Vet Med Assoc* 2006; **229**: 1405–41.
 - 43 Houpt KA. Domestic animal behavior. 4th edn. Ames, Iowa: Blackwell Publishing, 2005: 177, 240–41.
 - 44 Pozza ME, Stella JL, Chappuis-Gagnon AC, Wagner SO, Buffington CA. Pinch-induced behavioral inhibition ('clipnosis') in domestic cats. *J Feline Med Surg* 2008; **10**: 82–87.
 - 45 Baerends-van Roon JM, Baerends GP. The morphogenesis of the behaviour of the domestic cat: with a special emphasis on the development of prey-catching. Amsterdam, North Holland Publishing, 1979: 12.
 - 46 Beaver BV. Feline behavior: a guide for veterinarians. St Louis: Saunders Elsevier, 2003.
 - 47 Bradshaw J. Behaviour of cats. In: Jensen P (ed). Ethology of domestic animals. 2nd edn. Oxford, UK: CABI International, 2009: 212.
 - 48 Tarttelin M. Restraint in the cat induced by skin clips. *J Neurosci* 1991; **57**: 288.
 - 49 Lefebvre L, Sabourin M. Response differences in animal hypnosis: a hypothesis. *Psychol Rec* 1977; **1**: 77–87.
 - 50 Klemm WR. Identity of sensory and motor systems that are critical to the immobility reflex (animal hypnosis). *Psychol Rec* 1977; **1**: 145–59.
 - 51 Hickman MA, Cox SR, Mahabir S, et al. Safety, pharmacokinetics and use of the novel NK-1 receptor antagonist maropitant (Cerenia™) for the prevention of emesis and motion sickness. *J Vet Pharmacol Ther* 2008; **31**: 220–29.
 - 52 Kronen PW, Ludders JW, Erb HN, Moon PF, Gleed RD, Koski S. A synthetic fraction of feline facial pheromones calms but does not reduce struggling in cats before venous catheterization. *Vet Anaesth Analg* 2006; **33**: 258–65.
 - 53 Takahashi LK, Nakashima BR, Hong HC, et al. The smell of danger: a behavioral and neural analysis of predator odor-induced fear. *Neurosci Biobehav Rev* 2005; **29**: 1157–67.
 - 54 Moffat K. Addressing canine and feline aggression in the veterinary clinic. *Vet Clin North Am Small Anim Pract* 2008; **38**: 983–1003.
 - 55 Ebner J, Wehr U, Baumgartner C, Erhardt W, Henke J. Partial antagonization of midazolam-medetomidine-ketamine in cats – atipamezole versus combined atipamezole and flumazenil. *J Vet Med A Physiol Pathol Clin Med* 2007; **54**: 518–21.
 - 56 US Department of Labor: OSHA. Anesthetic gases: guidelines for workplace exposures. Revised May 18, 2000: <http://www.osha.gov/dts/osta/anestheticgases>.
 - 57 Arakawa H, Arakawa K, Deak T. Sickness-related odor communication signals as determinants of social behavior in rat: a role for inflammatory processes. *Horm Behav* 2010; **57**: 330–41.