

## HOW DO YOU KNOW THEY HURT? ASSESSING ACUTE PAIN IN DOGS AND CATS

## PAIN MANAGEMENT

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Despite significant advances in pain management for companion animals, including new drugs with market authorization for use in dogs and cats and incorporation of non-pharmacologic modalities into treatment plans, pain is still undertreated. One of the main reasons for this is the difficulty in recognizing and “measuring” pain in non-lingual species. Lord Kelvin stated that “if you cannot measure it you cannot improve it” and this approach should be taken with our patients—we must first look for, then recognize, and in some way measure pain so we can monitor the efficacy of our interventions and treatments. Pain is a complex multidimensional experience with both sensory and psychological components. The sensory-discriminative component is “how it feels” (type, source, and intensity of pain) and the affective-emotional component is “how does it make the animal feel?” Pain is an emotion and is always unpleasant. It is wise to remind ourselves that animals live in the moment and have no concept of the future, so this is why we must strive to make them feel comfortable all the time because unlike ourselves, they don’t know that it will likely feel better tomorrow.

In humans who can self-report, pain is what the patient says it is but in neonates, cognitively impaired people, and animals, pain is what the observer says it is. As animal caregivers, we make proxy assessments on the patient’s behalf and this puts an extra burden on us to get it right.

Many attempts have been made to correlate objective measurements such as heart rate and blood pressure with pain. In cats, no study found a consistently reliable objective measure, which is not surprising since these parameters can be affected by many factors other than pain.<sup>1,2</sup> Cats and dogs suffer from white coat syndrome just as humans do; for example, fear and the stress of a journey to a veterinary hospital will alter heart rate in most animals. Mechanical nociceptive threshold testing has proved a useful technique for evaluating both primary (wound) and secondary (remote areas unrelated to the wound) hyperalgesia in dogs and cats suggesting that an assessment of wound tenderness should be incorporated into an overall assessment of post-operative pain.<sup>3</sup> A painful animal may remain very still and quiet because they are painful and without actively interacting with these animals their pain will be overlooked.

Currently there is no gold standard for assessing pain in dogs and cats but several tools do exist. Any system that is used must be valid, reliable, and sensitive. Without strictly defined criteria and use of well-trained and experienced observers, many scoring systems are highly variable. Basic pain scales include simple descriptive scales (SDS), numerical rating scales (NRS), and visual analogue scales (VAS). Holton and others compared the use of an SDS, NRS, and VAS for assessing pain in dogs following surgery and reported significant variability between observers, which could be as high as 36 percent, with all three scales.<sup>4</sup>

It is now accepted that quantitative measurement of behavior is the most reliable method for assessing pain in animals and that if the methodology used to develop and validate these systems is rigorous they can be objective with minimal observer bias. Multidimensional systems are particularly important when self-reporting is not possible. However, they must incorporate components that have been proven as sensitive and specific indicators of pain in the species being studied—dog and cat pain tools are not interchangeable. Knowledge of the normal behavior for the individual being evaluated is important and deviations from normal behavior may suggest pain, anxiety, fear, or some combination of stressors. Normal behaviors should be maintained post-operatively if an animal is comfortable. Grooming is a normal behavior but licking excessively at a wound or incision can be an indicator of pain, so the two should be differentiated. The occurrence of new behaviors such as a previously friendly animal becoming aggressive, or the loss of a normal behavior, for example a playful and friendly animal becoming reclusive, should raise our suspicion that pain may not have been adequately addressed. The assessment domains that are important include in an assessment are

- Posture
- Activity
- Attitude
- Attention to the wound or painful area by the animal
- Response to palpation of the painful site and surrounding areas

- Vocalization
- Facial expressions

Pain assessment should be a routine component of every physical examination so that pain becomes the fourth vital sign. Every member of the veterinary team can play an important role in recognizing pain and owners should be educated about behavioral changes that may be a result of pain in their pet. Technicians play a vital role and in fact the presence of trained veterinary technicians or nurses in a practice has been correlated with increased use of analgesic agents. The use of validated tools removes opinion, biases, and subjectivity and can be very empowering for animal caregivers.

### **Pain Assessment Tools for Dogs**

The Glasgow Composite Measures Pain Scale is a validated tool for use in dogs<sup>5</sup> and the short-form (CMPS-SF) version is user-friendly.<sup>6</sup> The short form can be downloaded in several different languages at <http://www.newmetrica.com/cmeps/>. The categories for assessment include vocalization, attention to the wound or painful area, posture and movement, response to palpation, and overall demeanor.

### **Pain Assessment Tools for Cats**

We are also learning what pain looks like in our feline patients and two clinically useful tools are available. Brondani and colleagues have developed a multidimensional composite scale for use in cats following ovariohysterectomy.<sup>7</sup> This tool, along with many videos of assessing pain in cats, is available at <http://www.animalpain.com.br/en-us/>. A simple one-page tool that is readily applicable in practice is the Glasgow Composite Measure Pain Scale for cats.<sup>8</sup> This scale has a maximum score of 16 and intervention is advised at  $\geq 4$ . The assessment domains in cats include vocalization, posture, attention to the wound, response to people, response to palpation of the wound, and overall demeanor. The latter domain includes asking yourself if the cat is “happy and content” or “depressed and grumpy,” because as previously stated we are not just evaluating “how much does it hurt when I press on the wound” but how pain is impacting on how the cat actually feels.

In general most cats dislike any restrictive dressings or bandages and may roll around, pay excessive attention to, or try to remove these. These behaviors could indicate pain or dislike of the bandage so it is important to differentiate between these two by performing a careful assessment. Another area of research is the interpretation of facial expressions as indicators of pain. “Pain face” or grimace scales have been developed for rodents, horses, and rabbits and preliminary work has been done with cats.<sup>9</sup>

### **Using Pain Assessment Tools in Practice**

Each clinic should choose a scoring system that fits their specific needs, and this may require some trial and error. Whichever one is chosen should be user-friendly, quick to complete, and easily completed by all caretakers, and it should be an integral part of the animal’s evaluation. After temperature, pulse, and respiration are checked, don’t forget to check the fourth vital sign. A scale should include both non-interactive and interactive components and rely heavily on changes in behavior.

The health status of the animal, extent of surgery/injuries, and anticipated duration of analgesic drugs determine the frequency of pain assessments. The severity of surgery, the patient’s response to analgesic therapy, and expected duration of action of analgesic drug(s) administered will help to determine frequency of evaluations. For example, if an animal is resting comfortably following the postoperative administration of an opioid, it may not need to be re-assessed for two to four hours. Animals should be allowed to sleep following analgesic therapy. Vital signs can often be checked without unduly disturbing a sleeping animal. In general, animals are not woken up to check their pain status; however, this does not mean they should not receive their scheduled analgesics. Undisturbed observations coupled with periodic interactive observations (e.g., palpation of the wound) are likely to provide more information than only occasionally observing the animal through the cage door. Routinely using a pain assessment tool enhances the care of patients in the perioperative period.

### **Suggested Reading**

2015 AAHA/AAFP pain management guidelines for dogs and cats. J Am Anim Hosp Assoc 2015; 51:67–84.  
 2015 AAHA/AAFP pain management guidelines for dogs and cats J Feline Med Surg 2015; 17(3):251–72.  
 Downloads for the guidelines and implementation tool kit available at

## References

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