Despite significant advances in pain management for companion animals, 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 when treating pain in our patients. To treat pain we must first look for it, recognize it and quantify it in some way so we can assess the efficacy of our interventions. 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?”

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”.

**Acute pain assessment**

Many attempts have been made to correlate objective measurements such as heart rate and blood pressure with pain. In cats, no study has found a consistently reliable objective measure, which is not surprising since these parameters can be affected by many factors other than pain.\(^1\),\(^2\) Cats 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, respiratory rate and blood pressure.\(^3\) Mechanical nociceptive threshold testing has proved a useful technique for evaluating both primary (wound) and secondary (remote areas unrelated to the wound) hyperalgesia suggesting that an assessment of wound tenderness should be incorporated into an overall assessment of post-operative pain.\(^4\) Observation from a distance and interacting with the animal are both essential components to an overall assessment. A painful animal may remain very still and quiet because they are painful and without interaction these animals will be overlooked.

Currently there is no gold standard for assessing pain in cats but some 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 a SDS, NRS and VAS for assessing pain in dogs following surgery and reported significant variability between observers, which could be as high as 36%, with all three scales.\(^5\)
It is now accepted that quantitative measurements of behavior are the most reliable methods 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. Knowledge of the normal behavior for the individual being evaluated is important and deviations from normal behavior may suggest pain, anxiety or 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.

Acute pain assessment tools for cats
We are 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.\[6, 7\] 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.\[8\] 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 or painful area
- Overall demeanor

Cats that adopt a hunched or “tucked-up” posture are likely experiencing pain. In one study detailed behavioral ethograms were constructed for cats before and after abdominal surgery; a hunched or tucked up posture was rarely recorded in cats before surgery but occurred on a frequent basis afterwards.\[9\]

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.\[10\]

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 performed by all team members and it should be an integral part of the animal’s evaluation. After temperature, pulse and respiration are checked, pain, which has been coined the
“fourth vital sign,” should also be assessed. 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 or trauma, the patient’s response to analgesic therapy and the expected duration of action of the analgesic drug(s) administered will help to determine the frequency of evaluations. For example, if an animal is resting comfortably following 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.

References