

Pain

(Acute, Chronic, and Post-operative)

Basics

OVERVIEW

- Pain is an unpleasant sensory or emotional experience associated with actual or potential tissue damage
- The inability for the pet to communicate does not negate the possibility of the presence of pain and the need for appropriate pain-relieving treatment
- “Acute” is the medical term for “sudden”; “chronic” is the medical term for “long-term”; and “post-operative” is the medical term for “following surgery”

GENETICS

- Age, sex, breeding strain, and species can alter responses to harmful or injurious stimuli (known as “noxious stimuli”)
- Recently, genes have been described that modify individual mouse behavioral responses to harmful or injurious stimuli (noxious stimuli)

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs
- Cats

SIGNS/OBSERVED CHANGES IN THE PET

- Behavioral signs of pain and distress vary considerably among individual pets
- Experience, environment, age, species, and other factors can modify the intensity of the reaction to harmful or injurious stimuli (noxious stimuli)
- The most obvious clinical signs of distress in the dog and cat include vocalization; agitation; abnormal posture or gait; thrashing; being overly sensitive to pain or touch (known as “hyperesthesia”) or extremely sensitive to painful stimuli (known as “hyperalgesia”); and being extremely sensitive to stimuli that normally would not cause discomfort or pain, but the pet responds with a painful response (known as “allodynia”)
- More subtle signs include trembling, depression, reduced appetite, stupor, and biting
- Rapid breathing (known as “tachypnea”), rapid heart rate (known as “tachycardia”), dilated pupils (known as “mydriasis”), and increased blood pressure (known as “hypertension”) are signs observed with the stress response that also may accompany pain; these are non-specific signs that may be seen with many non-painful conditions
- Clinical signs associated with long-term (chronic) pain may be very subtle or difficult to evaluate, since the pet may compensate for the pain; chronic pain often is associated with decreased activity, lameness, or depression



CAUSES

- Pain can be caused by tissue disruption associated with trauma or surgery, and also by long-term (chronic) degenerative changes, such as osteoarthritis (form of joint inflammation [arthritis] characterized by chronic deterioration or degeneration of the joint cartilage)
- Pain that outlives the initial tissue damage may indicate altered nervous system processing

RISK FACTORS

- Trauma
- Surgery
- Pain intensity may not always correlate with the degree of tissue damage; however, more invasive soft tissue and orthopedic surgical procedures likely are associated with a greater pain than less invasive surgical procedures

Treatment

HEALTH CARE

- Medications to decrease pain (known as “analgesics”) and to produce a loss of ability to perceive pain (known as “anesthetics”); drug **selection depends on species, pain intensity, and underlying cause of pain**
- Treat the underlying cause at the same time, if possible
- General good management and nursing practices to make the pet comfortable (for example, use of padded bedding)
- Non-pharmacologic treatments, including bandaging and hydrotherapy (which may be achieved with a whirlpool bath) may be appropriate
- Cold laser therapy and physical manipulation (such as massage) may be useful additional treatment options for certain conditions
- If the pet's quality of life is not acceptable, euthanasia may be the most humane option

ACTIVITY

- Rehabilitation medicine is a useful adjunct for some painful conditions
- **Cage rest, limited activity, or physical therapy may be useful for certain types of pain**

DIET

- Dietary changes (**such as weight reduction**) to help treat the underlying condition are very important
 - Prescription veterinary diets
 - (Hill's J/D) are specifically for dogs with osteoarthritis (form of joint inflammation [arthritis] characterized by chronic deterioration or degeneration of the joint cartilage).
 - Metabolic + Mobility (J/D) diet is focused on weight loss and targeting joint pain due to osteoarthritis.
- Many supplements and nutraceuticals are beneficial in prevention of degenerative joint disease due to osteoarthritis.
 - Daily chews: Movoflex, Synovi G4, TriCox
 - Periodic injections: Adequan (hyaluronic acid)

SURGERY

- Surgical treatment of the underlying condition causing pain may be the best treatment (such as knee ligament injury)

Medications

- NSAIDs are used most commonly for the long-term (chronic) treatment of painful conditions in dogs; **newer NSAIDs have improved safety in dogs when administered over a prolonged period, but gastrointestinal and kidney side effects are still possible**—talk to your pet's veterinarian about possible side effects.
- The safety and effectiveness of most NSAIDs have not been well demonstrated in cats, and their long-term use in cats is limited
- Treatment of pain related to disorders of the nervous system or to altered nervous system processing (known as “neuropathic pain”) is challenging; neuropathic pain does not always respond well to traditional pain relievers (analgesics), such as opioids and NSAIDs, although these drugs usually are tried initially; if the pet does not

respond to analgesics, other medications (such as tricyclic antidepressants or antiepileptic drugs) and other alternative (complementary) therapies may be effective

- Other analgesic medications (such as gabapentin) may be beneficial for pets that have pain of long-term (chronic) disease or from nervous system injury
- Non-traditional medical treatments are common but should be evaluated for safety and effectiveness before use

Follow-Up Care

PATIENT MONITORING

- Frequent **physical exam evaluation** of the pet's overall health, as well as, effectiveness of medications designed to decrease pain (analgesics) should be performed, **in some cases every 3-6 months, minimum of every 12 months is required.**
- Pets receiving long-term (chronic) medications to decrease pain (analgesics), especially non-steroidal anti-inflammatory drugs, **should be evaluated periodically (every 6-12 months) with blood work** (such as serum biochemistry profile) to monitor gastrointestinal, liver, and kidney function. In some cases more frequent evaluation may be necessary for the safety of your pet.
- Careful follow-up and monitoring are important, especially when treating pets following trauma and in the immediate period following surgery

PREVENTIONS AND AVOIDANCE

- Although some degree of pain is usually an unavoidable consequence of trauma or surgery, when possible, the administration of medications to decrease pain (analgesics) early in treatment or before the pet experiences pain may provide better control of the pain

EXPECTED COURSE AND PROGNOSIS

- Sudden (acute) pain associated with trauma or surgery usually resolves with tissue healing
- Chronic pain associated with conditions, such as osteoarthritis, requires long term management with multiple different modalities to minimize pain as well as maximize quality of life and safety.

Key Points

- Understand what to expect and to look for when your pet is receiving medications to relieve pain (analgesics)
- The veterinarian should explain the effects of the prescribed medication as well as side effects; if you have any questions, ask your pet's veterinarian
- Effectiveness of medications to relieve pain (analgesics) varies and several drugs may need to be tried before an effective treatment is found for your individual pet

Notes

