

Advancements in Evidence-Based Analgesia in Exotic Animals



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KEYWORDS

• Analgesia • Avian • NSAID • Opioid • Pain • Reptile • Small mammal

KEY POINTS

- Despite the sparse, yet growing, body of literature regarding analgesic therapy in companion exotic animal species, the recognition and treatment of pain in these animals is of utmost importance.
- Multiple analgesic therapies for exotic animal species are available and often a multimodal, or balanced, approach to pain management will benefit the patient.
- Because there is very large interspecies variability with regard to the pharmacokinetic and pharmacodynamic responses to analgesic drugs, extrapolation of drugs and dosages from similar, yet taxonomically distinct, species, should be practiced with caution.
- Continual reassessment of the individual patient response to analgesic treatment and examination for new or ongoing sources of pain are keys to successful patient management.

INTRODUCTION

The need for timely and appropriate recognition, assessment, and treatment of pain in all veterinary species, including exotic pets, cannot be overstated. Although the assessment of pain perception in nondomestic species is still in its infancy, as reflected by a relatively sparse body of published literature, this does not preclude analgesic management in these species. Furthermore, the inability of animals to communicate the presence, quality, or intensity of pain also should not hamper proper treatment. In fact, the International Society for the Study of Pain recently modified their definition of pain to include the statement that “the inability to communicate verbally does not negate the possibility that an individual is experiencing pain and is in need of appropriate pain-relieving treatment.”¹

Pain recognition in veterinary species is a challenging endeavor and this is especially true for pet exotic animal species. Prey animals will often attempt to elude

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predators by masking outward clinical signs of disease, including pain. This has been objectively identified in laboratory animals, which are reportedly more likely to exhibit clinical signs of pain when an observer is absent from the environment.^{2,3} This highlights the considerable importance of meticulous and ongoing assessment of exotic species for signs of pain. Identifiers of pain include both behavioral (eg, changes in activity, appetite, urination and defecation habits, loss of normal behaviors) and physiologic signs (eg, changes in heart rate, respiratory rate, body temperature); recognizing that nonpainful disease states and psychological stressors also can influence these parameters. Although numerous pain scoring systems have been created, no gold standard exists for the assessment of pain in veterinary species. Furthermore, because different species can respond differently to similar noxious stimuli, the development of species-specific algorithms for the assessment of pain is necessary. Likewise, a thorough understanding of normal anatomy, physiology, and behavior for a particular species, and even an individual animal, can aid appropriate pain management.

Preemptive analgesia should be instituted before any painful procedure, unless contraindicated. The benefits of preemptive inhibition of pain pathways have been demonstrated in multiple species.^{4,5} Additionally, because pain perception involves multiple processes, in general, administration of a single analgesic agent is often inadequate for complete alleviation of pain; thus, multimodal or combination analgesic therapy is preferred. A balanced analgesic plan can maximize overall drug efficacy while minimizing the potential for individual drug toxicity, and this may be an especially important consideration when treating exotic animal species for which few pharmacokinetic (PK) data on administered analgesic drugs are available.

Because much of the current practice of exotic animal analgesia is based on anecdotal evidence, in many cases, nontraditional therapies may be implemented without objective evidence of effect. Whereas this type of treatment may be advocated in clinical practice according to the belief that “if it may help, then why not try it?” clinicians should consider that such practice risks denying a patient an effective treatment in favor of one with no objective evidence.

There are multiple possible sequelae of undiagnosed or untreated pain, including increased morbidity, increased mortality, or the development of a chronic pain state, all of which can produce a poor quality of life for both the patient and the caretaker. As such, effective, timely analgesic therapy is essential for patient welfare and caretaker satisfaction and should be an integral component of any treatment plan. A dearth of PK and pharmacodynamic (PD) data in exotic animals has resulted in extrapolation from other species, sometimes via very distant phylogenetic connections. However, an increasing body of research regarding analgesic therapy in exotic species has provided clinicians with objective, evidence-based, and (in some cases) species-specific data on which to base clinical analgesic decisions. This article provides an overview of recent advances in evidence-based literature regarding analgesic management in common pet exotic animal species. To assist clinicians, **Table 1** summarizes analgesia protocols for companion exotic animal species, according to currently available published evidence.

ANALGESIC DRUG CATEGORIES

Opioids

Although opioids are often the mainstay of anesthetic and postoperative analgesic management in domestic species, and are indicated for the management of moderate to severe pain, their use in pet exotic species, including birds, reptiles,

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