

# **Sedation and Pain Management of Exotic Companion Mammals:**

*The importance of safe sedation and pain management protocols  
in exotic companion mammals*

Dario d'Ovidio, DVM, MS, SpecPACS, PhD, Dip. ECZM (Small Mammals)

LafeberVet Program #776-44435

Exotic companion small mammals (e.g. rabbits, rodents, ferrets, etc.) are popular pets, and are frequently presented to veterinary practitioners for several medical reasons. As they can be easily stressed from handling, sedation and anesthesia are often required for many noninvasive clinical procedures such as nail trimming, blood collection, imaging procedures, inspection of the oral cavity and even for physical examination in those subjects that are not acclimated to human contact. In addition, like for dogs and cats, chemical restraint is required for any painful or invasive procedure.

Much of the information regarding exotic animal anesthesia comes from studies performed in laboratory animals or is extrapolated from dogs and cats, however important differences exist in physiology, anatomy, and drug metabolism between domestic and exotic mammal species or even between exotic animals belonging to the same order. Sedation is often preferred over general anesthesia in exotic pets in order to decrease the anesthetic risk in these patients, especially in those who are sick or debilitated. In addition, sedation helps reduce anxiety and stress in both healthy and diseased patients.

Several injectable agents can be used for sedation of exotic mammals and include benzodiazepines (e.g. diazepam, midazolam, zolazepam), alpha-2-agonists (e.g. medetomidine, dexmedetomidine, xylazine, etc.), opioids (e.g. butorphanol, methadone, buprenorphine, etc.), noncompetitive *n*-methyl-*d*-aspartate (NMDA) receptor antagonists (e.g. ketamine, tiletamine, etc.), and neurosteroids (e.g. alfaxalone). In addition, inhalant agents (e.g. isoflurane, sevoflurane) can be considered for short-term immobilization as well as non-painful procedures. All of these drugs can be administered solely or better in combination to achieve synergistic effects to allow overall reduction of the dosage of each single drug as well as required inhalant agents thus decreasing risk associated with the use of heavy sedation or general anesthesia.

Pain management is crucial in several disease conditions and to prevent the postoperative complications (e.g. anorexia, reduced activity, GI disorders, etc.). Multiple analgesic therapies for exotic companion mammals are available and mainly include nonsteroidal anti-inflammatory drugs (NSAIDs) and opioids. Locoregional anesthesia and analgesia can be used as an adjunct to sedative protocols and general anesthesia to alleviate pain and to promote a multimodal approach to analgesia. Although research investigating the pharmacodynamics and pharmacokinetics of local anesthetics (e.g. lidocaine, bupivacaine, ropivacaine, etc.) is lacking in exotic animal species, these drugs are widely used in the clinical setting with dosages extrapolated from studies conducted in similar species or anecdotal reports. The use of nerve locators or ultrasound guidance is promoted to increase the success rate and decrease the incidence of iatrogenic complications.