

Sleeping Beauty; Pre-sedation protocols
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Learning Objectives:

1. Determine when to reach for a sedative protocol versus an anesthetic
2. Explain expected physical changes to clients
3. Quickly modify protocols to meet the patient's unique needs

When you picture Sleeping Beauty from the classic fairytale, you may view or see a state of pure tranquility. In all my years of euthanasia work, I have come to see my patients in the final moments of life as just that; peaceful, carefree, and in harmony with their body and surroundings. Using sedatives and anesthetics, we invite them to let the world around them go and prepare for death. The benefits are numerous, the downsides minimal.

We can administer sedatives or anesthetics early in the appointment or just before euthanasia itself. My company, the Companion Animal Euthanasia Training Academy (CAETA) advocates for their use before anything else is done to the pet that would require restraint of any kind, such as with catheter placement. We advocate for the pet to be sound asleep before any euthanasia preparations or euthanasia itself are performed. This is the only way to ensure reduced pain or anxiety. This can be successfully carried out in the hospital or home setting.

In 2013, the American Veterinary Medical Association stated that use of pre-euthanasia sedation or anesthesia should be provided whenever practicable, especially with companion animals, when those present for the death of their pet could have negative mental health impacts from watching their pet struggle in the final moments of life. While they advocate for its use, it is not required for euthanasia to be achieved. CAETA however considers it an essential component for good death. The American Animal Hospital and Fear Free Program also agree.

Pre-euthanasia Sedation or Anesthesia

Inducing a sleep-like state should be considered when euthanizing companion animals in the presence of loved ones. Every veterinary team will have a preferred protocol to use, which should always be adjusted to meet the individual needs of the animal yet standardized meaning every pet receives something before euthanasia. There are pros and cons to using pre-euthanasia sedation or anesthesia.

Pros: Minimizes fear and anxiety

Allows for closeness before death

Minimizes restraint during euthanasia itself

Relieves pain before death

Increases technique options

Cons: May lead to physical distress in critical animals

Can slow down time to death, i.e., longer appointment time

Greater expense

Common Drug Types

Common drugs to use for sedation or anesthesia include alpha₂-agonists, tranquilizers, opiates, and dissociatives. The pharmacology of these drugs should be well understood, including side effects in the face of ongoing illness typical of the dying process. Typically, pre-euthanasia sedatives and anesthetics are used in combination with each other in synergy to deliver the smoothest results. A sedative protocol only contains sedative drugs while an anesthetic protocol only needs one anesthetic drug to be considered an anesthesia protocol. Drugs can be administered via different routes including oral, transmucosal, subcutaneous, intramuscular, intravenous, and inhaled.

Here are some common drug types and examples used in canine and feline patients.

Sedatives

Alpha-2 Agonist: dexmedetomidine, xylazine

Opioid: butorphanol, nalbuphine (semisynthetic and non-controlled)

Phenothiazine: acepromazine

Benzodiazepines: midazolam, zolazepam

Anesthetics

Dissociative anesthetic: ketamine, tiletamine

Neurosteroid: alfaxalone

Hypnotic: propofol

Anesthetic gas: isoflurane

Dr. Kathy Cooney's 2023 Pre-Euthanasia Sedation and Anesthesia Protocols

Canines

Sedation protocol (SQ)

Dexmedetomidine (0.5mg/ml) = 0.1 ml per 10# minus 0.1ml for dogs over 50# and over

(Can be substituted with medetomidine, ex. Zenalpha by Dechra)

Butorphanol (10mg/ml) = 0.1 ml per 10#

Acepromazine (10mg/ml) = 0.05 ml per 10#

Example combo for 40 lb dog = D (0.4ml), B (0.4ml), A (0.2ml) all combined in same syringe

Anesthesia protocol (IM or SQ)

Tiletamine/zolazepam (100mg/ml) = 0.1 ml per 10#

Acepromazine (10mg/ml) = 0.1 ml per 10#

Dexmedetomidine (0.5mg/ml) = 0.025 ml per 10#

Example combo for 40 lb dog = T (0.4ml), A (0.4ml), D (0.1ml) all combined in same syringe

Felines

Anesthesia protocol (IM or SQ)

Tiletamine/zolazepam (100mg/ml) = 0.1-0.15 ml per 5#

Acepromazine (10mg/ml) = 0.1 ml for all BW

Example combo for a 7# cat = T (0.2ml), A (0.1ml) both combined in same syringe

or another

Anesthesia protocol (IM)

Alfaxalone (10mg/ml) = 1.1 - 1.5ml for most cats

Butorphanol (10mg/ml) = 0.2ml for all BW

Acepromazine (10mg/ml) = 0.1ml for all BW

Example combo for a 7# cat = Alfaxalone (1.3ml), B (0.2ml), A (0.1ml)

= pounds

10 pounds = 4.5kg

Falling Asleep

Depending on the pet patient's health status and signalment, it may be advisable to reach for an anesthetic protocol over a sedative. Patients that are high energy, nervous, dyspneic, aggressive, or in severe pain may resist sedation alone and require something stronger to induce sleep. With enough stimulation, animals can awake from sedation, increasing risk of pain and further anxiety during the euthanasia procedure. Therefore, intraorgan euthanasia methods, such as intracardiac injections, require either very deep sedation or anesthesia itself. The patient must be unaware the injection is taking place.

During early stages of relaxation through sedation or anesthesia, pets can have a stuporous appearance, be ataxic, and lick their lips. Their eyes can and often do remain open. There is typically change to the respiratory rate and this varies from patient to patient. And we certainly expect and desire the pet to enter a state of unconsciousness or very deep sleep. Urination and defecation commonly occur during and after death, but if the pet is very deep in sleep, the body can begin to release fluids during sleep. This makes it necessary to be proactive rather than reactive and protect the pet's hind end with absorbent materials. Blood pressure changes are expected and acceptable but add to the complexity. It means venous access is more challenging and time to death may be slowed. Muscle fasciculations and/or twitching is acceptable but can alarm those in the room. I describe them as the body's way of releasing energy and that they are very normal in this state of sleep. It's our responsibility to avoid drugs and protocols that will lead to actual vomiting, especially in already critical patients.

Oral PreVisit Pharmaceuticals (PVPs)

I already recommend pre-euthanasia sedation or anesthesia via a 1-step or 2-step protocol. If using oral drugs before injectables, we call this a 2-step protocol (1st step is oral, 2nd step is injectable) followed by the euthanasia technique. Oral PVPs must be fed or squirted into the mouth up to 2 hours before the appointment. The Chill Protocol, developed by Dr. Karas at the Cummings School of Veterinary Medicine at Tufts University, recommends some PVPs be given

the night before and the morning of. I like this and feel it works well to pre-load the pet for even better relaxation.

Modified Oral Chill Protocol for Canine and Feline Euthanasia

(Note the regular Chill Protocol has lower doses)

~Gabapentin (25 mg/kg) and melatonin (5 mg) administered the evening before the scheduled appointment.

~A combination of gabapentin (60 mg/kg) and melatonin (5 mg) administered at least 1 to 2 hours before the scheduled appointment.

~Acepromazine (0.1 mg/kg)* liquid administered into the mouth for absorption 30 minutes before the scheduled appointment.

*Note this is a 3-step protocol requiring 3 separate dosing of varied drugs.

It is important for owners to understand that oral sedatives and/or anesthetics will alter their pet's mentation and actions right up until euthanasia. We want to be sensitive to this and encourage owners to create quiet, calm space around their pet and to begin saying goodbye when the drugs are given. Once the pet is sleeping, owners may feel a bit of disconnect. Therefore, being mentally prepared for these final moments is important. Of course sometimes the oral meds do not make a significant impact and the pet remains awake. It is hard to predict who will fully succumb to the drugs and who won't. I let my clients know we do our best and that no matter what, we will proceed with gentleness when the time comes.

In Summary

Our goal in using pre-euthanasia sedation or anesthesia is a peaceful, pain-free passing. Strive for that ideal response every time. Anticipate the pet's needs and adjust accordingly. There are many options possible – we must use the one that's well suited for us and the patient. We determine what is best by watching their body language, considering their illness or health status, and the environment around them that will affect successful sleep. One protocol may not work for every patient every time. Anesthesia or heavy, deep sedation is required for intraorgan injections. I emphasize heavy and deep because the pet must be unaware of what's happening. It is malpractice here in the US for an animal to react, aka be aware of any intraorgan injection. Pre-euthanasia sedation and anesthesia is considered the gold standard by the AVMA and other organizations. Veterinary teams are encouraged to standardize their use. And lastly, oral sedatives should be considered more often to relieve FAS. They work very well for many pets and overall, make for a calmer procedure.

References

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