



**CALMING INFLUENCE**

Previsit medication works best when combined with additional interventions, such as lower-stress handling or Fear Free techniques.

**BEST BEHAVIOR**

# Benefits of Medicating Patients for Veterinary Visits

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## Abstract

Traveling to the veterinary clinic can be a source of stress and worry for dogs and cats. However, reducing or eliminating this stress can be achieved with previsit medication. This article will discuss the negative effects of stress on the veterinary patient while elucidating the benefits of previsit sedation. This article will also recognize the limits of previsit medication and inform the reader on the importance of Fear Free patient handling techniques.



### Take-Home Points

- The use of previsit sedation for veterinary patients can improve experiences and outcomes.
- The use of previsit sedation still requires the veterinary team to be mindful of the patient's body language to ensure safe outcomes.
- The recommended medication protocol can be tailored to the individual patient's needs.
- Providing previsit sedation to reduce patient stress can positively impact team morale.
- There is a learning curve to previsit sedation literacy, but the trade-off is that patients that are less stressed may struggle less and enable faster care by fewer people.
- Reducing patient stress should always be a priority in a hospital.

A trip to the veterinary clinic can be a source of stress and worry for dogs and cats.<sup>1</sup> Stress has the potential to mask the chief complaints described by the client; impede physical examination, diagnostic testing, and treatment administration; and put the veterinary team at risk if the stress results in aggressive behavior.<sup>2</sup>

This experience can be substantially improved by directing clients to administer a sedative and/or an anxiolytic to their pet before arrival for the veterinary visit.<sup>3,4</sup> The benefits of reducing or eliminating stress for the veterinary patient before a hospital visit are multifactorial, extending not only to the patient but also to the client and the veterinary team (TABLE 1). This article describes some of the benefits of using medication to minimize stress in veterinary patients. This information can be used to educate clients and minimize any reluctance on their part to premedicate their pets.

### WHY MINIMIZE PATIENT STRESS?

#### Patient

An immediate benefit of previsit medication is improved patient comfort. The stress associated with veterinary visits can be harmful to the patient's mental

wellbeing and can impede the examination, diagnosis, treatment, and overall patient care,<sup>5</sup> ultimately influencing/limiting future veterinary visits and possibly leading to a need for prolonged care. Another benefit is the patient's ability to recover mentally from a veterinary visit. One study found that 58.5% of cats continued to exhibit ongoing distress after returning home from veterinary visits.<sup>6</sup>

#### Client

Patients' stress in unpredictable surroundings or clients' anticipation of stress can lead clients to avoid bringing their pet in for veterinary care. Most clients do not like to see their beloved pet stressed, and some may fear injury to the pet if involved in a struggle for restraint. One study found that 28% of cat owners and 22% of dog owners reported that they would bring their pets to the veterinarian more often if the visit was not associated with so much stress.<sup>7</sup>

Previsit medication can thus increase client compliance with regard to scheduling and keeping veterinary appointments. Avoiding veterinary visits can ultimately lead to a need for advanced medical care if the pet does not receive timely and appropriate care, thereby imposing a financial burden.

**TABLE 1 Possible Benefits of Medicating Patients Before and During Veterinary Visits**

PATIENT	HEALTHCARE TEAM	CLINIC	CLIENT
<ul style="list-style-type: none"> <li>● Improved wellbeing</li> <li>● Faster recovery from stressful events</li> <li>● Improved attitude for future visits</li> </ul>	<ul style="list-style-type: none"> <li>● Reduced risk for injury</li> <li>● Improved morale</li> <li>● Decreased workload</li> <li>● Increased efficiency</li> </ul>	<ul style="list-style-type: none"> <li>● Improved efficiency</li> <li>● Decreased workers' compensation claims</li> <li>● Improved team morale</li> <li>● Increased revenue (due to client loyalty and word-of-mouth advertising)</li> </ul>	<ul style="list-style-type: none"> <li>● Improved compliance with veterinary visits</li> <li>● Increased compliance with follow-up care (resulting from improved experience during the veterinary visit)</li> <li>● Improved perception of the veterinary team</li> </ul>

TABLE 2 Medication for Previsit Sedation<sup>5,8,9</sup>

DRUG	CLASS	INDICATIONS	ADVERSE EFFECTS
Gabapentin	Gabapentinoid	<ul style="list-style-type: none"> <li>● Decrease patient stress for transport</li> <li>● Decrease fear response to loud noises</li> <li>● Reduce stress and aggression in cats</li> </ul>	<ul style="list-style-type: none"> <li>● Ataxia</li> <li>● Salivation</li> <li>● Vomiting</li> </ul> <p><b>Note:</b> These effects are specific to cats; adverse effects in dogs have not been noted.</p>
Trazodone	Serotonin antagonist and reuptake inhibitor	<ul style="list-style-type: none"> <li>● Reduce behavioral signs of stress</li> <li>● Reduce confinement stress</li> <li>● Promote sedation</li> </ul>	<ul style="list-style-type: none"> <li>● Vomiting/gagging</li> <li>● Diarrhea</li> <li>● Hypersalivation</li> <li>● Paradoxical excitation</li> <li>● Behavioral disinhibition</li> <li>● Ataxia</li> </ul>
Alprazolam	Benzodiazepine	<ul style="list-style-type: none"> <li>● Reduce fear or panic</li> </ul> <p><b>Note:</b> There are no studies on alprazolam as an anxiolytic in cats.</p>	<ul style="list-style-type: none"> <li>● Ataxia</li> <li>● Paradoxical excitation</li> <li>● Possible disinhibition</li> </ul>
Dexmedetomidine oromucosal gel (Sileo, zoetisus.com)	$\alpha_2$ agonist	<ul style="list-style-type: none"> <li>● Reduce fear of noises</li> </ul> <p><b>Note:</b> Not indicated for use in cats.</p>	<ul style="list-style-type: none"> <li>● Hypersalivation</li> <li>● Vomiting</li> <li>● Possible absorption by person administering</li> </ul> <p><b>Note:</b> Wear gloves.</p>

TABLE 3 Medication for In-Clinic Sedation

DRUG	CLASS	INDICATIONS	ADVERSE EFFECTS
Dexmedetomidine	● $\alpha_2$ agonist	<ul style="list-style-type: none"> <li>● Sedation for short procedures</li> <li>● Sedation for aggressive patients</li> <li>● Sedation for anxious patients</li> </ul>	<ul style="list-style-type: none"> <li>● Profound bradycardia</li> <li>● Hypersalivation</li> </ul>
Midazolam	● Benzodiazepine	<ul style="list-style-type: none"> <li>● Mild sedation</li> <li>● Anxiolysis</li> </ul>	<ul style="list-style-type: none"> <li>● Paradoxical excitation</li> </ul>
Methadone	<ul style="list-style-type: none"> <li>● Opioid</li> <li>● Pure <math>\mu</math> agonist/ NMDA antagonist</li> </ul>	<ul style="list-style-type: none"> <li>● Adjunct to neuroleptanalgesia</li> </ul>	<ul style="list-style-type: none"> <li>● Gastrointestinal signs</li> <li>● Bradycardia</li> </ul>
Butorphanol	● $\kappa$ agonist/ ● $\mu$ antagonist	<ul style="list-style-type: none"> <li>● Adjunct to neuroleptanalgesia</li> </ul>	<ul style="list-style-type: none"> <li>● Excessive sedation</li> </ul>

NMDA=N-methyl-D-aspartate

## Veterinary Team

The veterinary practice also benefits when patient stress is alleviated. The benefits of having premedicated patients include decreased daily workload (due to increased efficiency) and boosted team morale (due to reduced confrontation with distressed patients and clients). Previsit medication eliminates the need to have several team members assist with anxious patients; reduces their risk for injury if they need to restrain fearful patients; and increases the chances of successful and efficient completion of examination, diagnostic testing, and treatment administration. Although initially arranging for previsit medication takes time (educating clients, determining the medication protocol, calculating dosages, writing and filling scripts), the trade-off is that patients that are less

stressed may struggle less and enable faster care by fewer people. Reducing the risk for staff injury benefits not only the individual team member but the hospital as well. This is achieved by decreasing workers' compensation claims and staff time off work due to injury, limited abilities after returning to work, and perhaps new fear of handling patients.

## HOW CAN PATIENT STRESS BE MINIMIZED?

### Medication

The negative experiences described above can be substantially improved when patients are given a sedative and/or anxiolytic before arrival for the

**TABLE 4 Chill Protocol<sup>11</sup>**

DRUG	EVENING BEFORE EXAM/PROCEDURE	1-2 HR BEFORE EXAM/PROCEDURE	30 MIN BEFORE EXAM/PROCEDURE
Gabapentin	20-25 mg/kg PO	20-25 mg/kg PO	
Melatonin		0.5-5 mg/kg	
Acepromazine injectable (10 mg/mL) but administered OTM			0.025-0.05 mg/kg

OTM=oral transmucosal

**TABLE 5 Modified Chill Protocol Used for Bunny**

DRUG	EVENING BEFORE EXAM/PROCEDURE	1-2 HR BEFORE EXAM/PROCEDURE	30 MIN BEFORE ARRIVAL FOR EXAM/PROCEDURE
Gabapentin	20-25 mg/kg PO	20-25 mg/kg PO	
Trazodone	5 mg/kg PO	5 mg/kg PO	
Acepromazine injectable (10 mg/mL) but administered OTM			0.05 mg/kg OTM

OTM=oral transmucosal

veterinary visit (**TABLE 2**) and/or during the visit (**TABLE 3**).<sup>1</sup> The following case example (provided with permission by Jordan Sanchez, LVT) describes how previsit medication can benefit everyone involved.

Bunny, a 55-kg, 8-year-old, neutered male Akita-mix dog, was presented for a lateral thoracotomy to remove a lung mass. During previous visits, Bunny was noted to be fractious, stressed, and untouchable; because of the lung pathology, his stress could result in dyspnea and collapse.

To prevent injury to the patient and to keep the veterinary team safe, a previsit sedation protocol was planned. Because of Bunny's level of aggression, a multimodal protocol was chosen. The benefits of a multimodal protocol include the ability to increase the effectiveness of each drug through interactions in several areas of the nociceptive pathway.<sup>10</sup> A modified "chill protocol" was prescribed to reduce stress and mitigate dyspnea and/or collapse.

Developed at The Cummings School of Veterinary Medicine at Tufts University, the chill protocol was created as a way to alleviate stress and promote calmness in the aggressive and anxious patient.<sup>11</sup> The chill protocol is a combination of 3 orally administered medications that reduce anxiety and/or aggression<sup>11</sup>: gabapentin, melatonin, and oral transmucosal (OTM) acepromazine (**TABLE 4**). Within this protocol, gabapentin has properties that promote anxiolysis, sedation, and analgesia.<sup>11</sup> Despite a lack of published

data on the merits of gabapentin to treat and reduce anxiety, Costa et al. indicate that anecdotal clinical experience supports its use.<sup>11</sup> Melatonin is a naturally occurring hormone in humans that has the potential to benefit dogs with fear-motivated aggression and/or anxiety.<sup>11</sup> Because of Bunny's level of aggression, the veterinarian substituted trazodone for melatonin (**TABLE 5**). Acepromazine synergistically works to promote sedation and calming. This phenothiazine derivative tranquilizer agonistically exerts sedative effects via the dopamine receptors in the central nervous system.<sup>12</sup>

The client's adherence to the timing and delivery of the chill protocol enabled the nursing team and doctors to safely examine and treat Bunny. Additional benefits included a markedly decreased monitored anesthesia care requirement, decreased staff stress, and smoother patient recovery.

Continued delivery of this protocol for each visit enabled the team to take follow-up chest radiographs every 6 weeks without incident. The protocol was paired with Fear Free techniques and philosophies. By using pheromones, exhibiting calm and relaxed body language, quiet voices, and avoiding direct eye contact, the veterinary team was able to position Bunny for radiographs with minimal restraint.

Note that use of acepromazine as a treatment for anxious patients has been reported to be contraindicated.<sup>13</sup> Anecdotal evidence in Bunny's case



Forceful and excessive patient restraint is frightening and painful<sup>3</sup> and can result in injury to the patient and/or the veterinary team.



demonstrated repeated success with OTM administration of acepromazine. Other contributors to this success include client compliance, veterinary team competency, and use of Fear Free techniques.

### Minimal Restraint

Oral and/or injectable medications do not solve every concern with regard to veterinary patient anxiety. Previsit medications are only one aspect of improving patient health, team morale, efficiency, and safety; previsit medication works best when combined with additional techniques. The veterinary team should observe the patient's body language. Incorporating low-stress/Fear Free techniques into daily practice enables the team to tailor treatment plans to address individual patient needs. When interacting with patients, especially anxious or fearful patients, avoid punishment, loud voices, and force. Forceful and excessive patient restraint is frightening and painful<sup>3</sup> and can result in injury to the patient and/or the veterinary team. Other stressful interactions to avoid include leaning over or reaching for a patient (which

the patient can interpret as a threat), scruffing cats, dumping cats out of their carriers, or squatting face-to-face using direct eye contact with a worried patient.<sup>14</sup>

### SUMMARY

Reducing patient stress should be a priority in any veterinary setting. Although it may take time to initiate a previsit medication protocol for each patient, ultimately reducing or eliminating patient stress through medication before and/or during the visit can benefit everyone involved. **TVN**

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