Calming Coco: A Review of Pre-visit Medications to Address Aggression in Dogs and Cats

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Common Oral Pre-visit Medications

Trazodone

- Mechanism of action: serotonin antagonist/reuptake inhibitor, blocks serotonin 2A and 2C receptors, blocks SERT, at low doses H_1 and alpha-1 receptor antagonist
- Time to effect: 90-120 minutes
- Duration of effect: 8-12 hours
- Doses:
  - Canine - 2-10 mg/kg PO Q8-24 (<300 mg/dose)
  - Feline - 50-100 mg/cat or 10-33 mg/kg PO PRN
- Side effects: Nausea, vomiting, diarrhea, sedation, urinary incontinence, paradoxical excitation
- Contraindications: Patients on MAOIs, hypertensive patients; caution in patients with glaucoma, severe cardiac, hepatic, and renal disease
- Serotonin syndrome: In dogs, it is safe to combine trazodone with SSRI, TCAs, SNRIs, and azapirones but high doses of trazodone (>8 mg/kg/dose) should be avoided. In cats, data and clinical experience on trazodone in combination with SSRIs/TCAs is lacking.
- Literature:
  - Canine - Gruen and Sherman 2008, Gilbert-Gregory et al. 2016, Kim et al. 2022
  - Feline - Orlando et al. 2016, Stevens et al. 2016

Gabapentin

- Mechanism of action: anticonvulsant, selectively bonds and has high affinity to alpha-2-lambda site of voltage-sensitive calcium ion channels
- Time to effect: 90-120 minutes
- Duration of effect: 8-12 hours
- Doses:
  - Canine - 10-30 mg/kg PO Q8-12; up to 50 mg/kg PO PRN
  - Feline - 3-10 mg/kg PO Q8-12; up to 30 mg/kg PO PRN
- Side effects: Ataxia, lethargy, vomiting, hypersalivation, rarely paradoxical excitation
- Contraindications: Severe renal or hepatic disease
- Literature:
  - Canine - Stoller at al. 2022, Kirby-Madden et al. 2024
  - Feline - van Haaften et al. 2017, Pankratz et al. 2018, Spano et al. 2023

Pregabalin

- Mechanism of action: anticonvulsant, selectively bonds and has high affinity to alpha-2-lambda site of voltage-sensitive calcium ion channels
- Time to effect: 90-120 minutes
- Duration of effect: 8-12 hours
- Doses:
  - Canine - 2-8 mg/kg PO Q8-12 (up to 19 mg/kg per 1 study)
  - Feline - 1-2 mg/kg PO Q12; 5 mg/kg PO PRN (Bonqat®)
- Side effects: Dizziness, fatigue, sedation, ataxia
- Contraindications: Severe renal or hepatic disease
- Literature:
  - Canine - Sanchis-Mora et al. 2019, Thoefner et al. 2020
  - Feline - Lamminen et al. 2022, Lamminen et al. 2023

Clonidine

- Mechanism of action: Selective alpha-2 adrenergic agonist with some alpha-1 agonist activity, binds to imidazoline receptors (causing sedation and hypotension)
- Time to effect: 60-120 minutes
- Duration of effect: 4-12 hours
- Doses:
  - Canine - 0.01-0.05 mg/kg PO Q8-12/PRN
  - Feline - 0.025-0.05 mg/kg OP Q12-24 (anecdotal)
- Side effects: Sedation, GI upset, dry mouth, sedation, urinary incontinence, increased sound sensitivity, hypertension if suddenly discontinued
- Contraindications: Patients with severe cardiovascular, respiratory, renal, or hepatic disease; possibly patients on amitriptyline (corneal lesions in rats)
- Literature:

- Canine - Ogata and Dodman 2011, Pflaum et al. 2024
- Feline - N/A

Dexmedetomidine OTM

- Mechanism of action: Selective alpha-2 adrenergic agonist with some alpha-1 agonist activity
- Time to effect: 30-60 minutes
- Duration of effect: 2-3 hours
- Doses:
  - Canine - dogs (125-250 mg/m^2 as Sileo®)
  - Feline - 5 ug/kg; 1 dot (anecdotal)
- Side effects: Sedation, emesis, pale gums
- Contraindications: Patients with severe cardiovascular, respiratory, renal, or hepatic disease
- Literature:
  - Canine - Hauser et al. 2020
  - Feline - Messenger et al. 2018

Detomidine OTM

- Mechanism of action: Potent alpha-2 adrenergic agonist
- Time to effect: 1 hour
- Duration of effect: 30-150 minutes
- Doses:
  - Canine - 2-14 mg/m^2 (start at 8-10 for sedation)
  - Feline - TBD
- Side effects: Transient bradycardia, rare second-degree AV block
- Contraindications: Patients with severe cardiovascular disease
- Literature:
  - Canine - Hopfensperger et al. 2013, Hopfensperger et al. 2024
  - Feline - Smith et al. 2020

Benzodiazepines

- Mechanism of action: Bind to $GABA_A$ receptors
- Time to effect: 30-60 minutes
- Duration of effect: 3-12 hours depending on medication
- Doses: Depends on medication, no diazepam in cats
- Side effects: Sedation, ataxia, muscle relaxation, increased appetite, paradoxical excitation, disinhibition of behavior
- Contraindications: Patients with renal or hepatic disease, caution in those with aggression
- Literature:
  - Canine – Ibáñez and Anzola 2009, Herron et al. 2008
  - Feline - no studies for aggression (only fear and anxiety)

Chill Protocol

- Gabapentin 20-25 mg/kg PM prior
- Gabapentin 20-25 mg/kg, melatonin 3-5 mg/dog, OTM acepromazine 0.05 mg/kg PO 90-120 minutes prior

Literature: Costa et al. 2023 evaluated the protocol.

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