

Anesthetic Considerations in Patients with Endocrinopathies

Key points to keep in mind

- Most patients with endocrinopathies are presented for general anesthesia that is unrelated to the actual endocrinopathy
- Patients may be well managed or unmanaged for their endocrinopathy
 - Endocrinopathies alter their physiology to a variable extent
- Always investigate the present/latest status of a patient's endocrine disease
 - History, patient records, diagnostic investigations
- Unless an emergency, it is advisable to always stabilize a patient's condition with proper medical therapy to improve anesthetic safety

Feline Hyperthyroidism

Physiological Alteration	Impact	Potential complication	Anesthetic considerations
Thyrotoxicosis	Increased metabolic activity	Alteration in drug pharmacokinetics Handling stress, hypoxemia and hypercapnia Tissue hypoxia	Titrate drug administration May need to adjust drug dose and frequency Appropriate sedation and gentle handling Preoxygenation Monitor pulse-oximetry and capnography Monitor body temperature
Increased sympathetic activity *increased expression and activity of beta adrenergic receptors	CVS becomes hyperdynamic Increased myocardial work Imbalance between myocardial oxygen delivery and demand	Hypertension Increased propensity to arrhythmias Tachyarrhythmias Hypertrophic cardiomyopathy Reduced CO	Consider thorough evaluation of CVS including thoracic rads, ECG and echo Avoid and manage stress by proper handling and premedication Monitor HR, ABP, ECG Antihypertensive medications (CCBs, ACEi, or B-blockers)

Good Induction drugs

- Propofol
- Alfaxalone
- Etomidate
- NOT ketamine!

Inhalant anesthetics

- Halogenated anesthetic agents
 - Isoflurane
 - Sevoflurane

Canine Hypothyroidism

- Myxedema coma is a concern
 - Caused by a deficiency of thyroid hormones
 - Characterized by myxedema, hypotension, bradycardia, hypoventilation, hypothermia, obtundation or extreme lethargy
- Preoperative stabilization is key!
 - Injectable levothyroxine may be utilized in emergent cases but long-term management prior to anesthesia is preferable