Disclaimer: this document was created to help in the peri-anesthetic management of a specific case by a dedicated veterinary team (Pang et al. 2020 Can Vet J). It is provided here to reflect aspects of the work involved in case planning and preparation. It is not intended to be used as a generic document for anesthetic management.

Anesthetic Protocol & Procedural Document
<Patient> <Date> <Veterinary Clinic>
<Consulting anesthetist>

- □ Indicate checklist items

<u>Considerations</u>

Acute left lung lobe collapse during previous anesthetic

- High index of suspicion for endobronchial intubation based on available information
- Dynamic tracheal/bronchial collapse also possible

<Patient> is currently exhibiting exercise intolerance

- Owner has noticed <patient's> energy level is gradually decreasing
- Respiratory effort increases (starts panting) with prolonged gentle exercise/exertion
- No coughing or retching noted, no cyanosis, stridor or stertor
- No syncopal episodes
- Contributing factors to exercise intolerance could include:
    - Musculoskeletal problems (chronic weakness/pain of L hip and elbow dysplasia/arthritis)
    - Undiagnosed respiratory issues (e.g. tracheal/bronchial collapse)
    - Undiagnosed heart disease (e.g. mitral valve disease)
    - Undiagnosed endocrine disease (e.g. hyperadrenocorticism, hypothyroidism)

<u>Plan</u>

Before premedication:

- □ TPR on admission – auscultation of heart and lungs particularly important, also check femoral pulse quality and any detection of any murmur or irregular heart beat
- □ Check PCV/TP, glucose during catheter placement
- □ Prepare anesthetic machine – set up Bain circuit & 1 L reservoir bag, leak test anesthetic machine
- □ Prepare induction equipment – 3 sizes of ET tubes (6, 6.5, 7 mm), laryngoscope, tie, lube, gauze
- □ Review physical exam findings and pre-op bloodwork with <consulting anesthetist>
- □ Review drug dose calculations with <consulting anesthetist>

Premedication:

- □ Administer **2 mcg/kg fentanyl IV (have a second 2 mcg/kg fentanyl dose prepared)**
- □ Aim to have sufficient sedation to accept Salbutamol, pre-instrumentation and pre-oxygenation
- □ If moderately sedated on the fentanyl but deeper sedation needed, administer **0.1 - 0.2 mg/kg midazolam IV (do not administer midazolam if poorly sedated on the fentanyl)**
- □ Administer 2 puffs of Salbutamol via aerochamber (allow reasonable number of good breaths)
- □ Pre-instrument – start monitoring ECG and pulse oximetry
- □ Pre-oxygenate for 5 min with a facemask (ideally with a diaphragm to provide close fit)

Induction:

- **Pre-measure ET tube (start with 6.5 mm) to thoracic inlet**
- Keep O_2 mask on during alfaxalone administration, remove when ready to intubate
- Administer **second dose of fentanyl 2 mcg/kg if not already given**
- Administer **alfaxalone 1 – 2 mg/kg IV over 60 sec**
- **Do not intubate if there are any airway reflexes (gagging, coughing)**
- Titrate more alfaxalone (0.5 – 1 mg/kg) as needed until airway reflexes completely gone

Once intubated:

- Do not advance ET tube beyond thoracic inlet
- Turn on oxygen flowmeter (2 – 3 L/min)
- Attach capnograph
- Give several breaths while checking for an air leak around ET tube
- Inflate ET tube cuff only until leak is no longer audible (be careful not to over-inflate cuff)
- Auscultate R and L lung fields and confirm equal and audible breath sounds while someone is bagging
- Turn on isoflurane (1.5 – 2%)
- Confirm normal chest excursions and normal capnograph tracing

Maintenance:

- Attach doppler and get first blood pressure reading
- Crystalloid fluid rate: 5 – 10 ml/kg/hr for first hour, 3 – 5 ml/kg/hr after first hour (pending blood pressure)
- Bupivacaine dental blocks as needed (calculate and note down toxic dose)
- Hydromorphone (0.025 – 0.05 mg/kg IV) **OR** fentanyl CRI (approx. 3 – 10 mcg/kg/hr) as needed to keep isoflurane ≤ 2% and address analgesia requirements
- IPPV as needed (we can decide on ventilation and settings at the time)
- Be careful with positional changes – reposition very slowly and monitor SaO_2

Monitoring targets:

- Blood pressure: MAP ≥ 60 mmHg, SAP ≥ 90 mmHg
- Heart rate: blood pressure dependent (generally ≥ 80 bpm)
- $ETCO_2$: 35 – 45 mmHg
- SaO_2: 95 - 100%
- Body temperature: ≥ 37°C

Recovery:

- We will decide on post-op analgesia 30 min before recovery
- For recovery, position in sternal recumbency with head elevated on rolled towel
- Maintain doppler, ECG and pulse oximeter
- Turn off isoflurane, maintain on 100% O_2
- Extubate after swallowing
- Maintain on mask O_2 for 5 min
- Check SpO_2 on mask O_2 and room air, monitor respiratory rate/effort
- Decide whether to give buprenorphine before discharge