

Supplementary Appendix S1—Standardized perianesthetic protocol for brachycephalic dogs undergoing anesthesia at a veterinary medical teaching hospital.

Purpose: For the management of brachycephalic dogs that require general anesthesia

This protocol is intended for all English Bulldogs, French Bulldogs, Pugs, and Boston Terriers that are undergoing general anesthesia. It should also apply to Shih Tzus identified as having brachycephalic airways syndrome (BOAS)

Pre-anesthetic care: Administer the following

Famotidine: 1.0 mg/kg IV or SC

Metoclopramide: 0.5 mg/kg SC

Duration of Treatment:

- 1) For patients with no history of regurgitation or vomiting: initiate prior to premedication, continue postoperatively based on patient status and judgment of clinician
- 2) For non-emergent procedures and a patient with a history of regurgitation or vomiting: initiate oral administration of metoclopramide and a proton pump inhibitor one week prior to surgery, continue postoperatively IV, SC or PO based on patient status and judgment of clinician

If ONLY BOAS surgery is planned:

- If able, do not use peri-operative opioids
- Use alternative analgesics such as lidocaine and ketamine
- Frequently assess pain levels postoperatively
- Immediately prior to the start of airway surgery, administer Dexamethasone 0.15 mg/kg IV (if no contraindication)

Post-anesthetic Care:

- All patients must recover in the ICU
- Delay extubation until patient is fully alert
- Be prepared for emergent re-intubation
- Consider naso-tracheal oxygen supplementation or high-flow nasal cannula support to facilitate recovery
- Consider sedation if required
- Monitor the following:
 - Temperature – especially if stridor/stertor present
 - Cough
 - Nasal Discharge
- Be prepared for temporary tracheostomy/ventilator support

.....
In certain cases, some exceptions may be required based on judgement of the clinician

The protocol was fully implemented in July 2014. The study included 84 Boston Terriers, French Bulldogs, English Bulldogs, and Pugs that underwent airway surgery (ie, staphylectomy) with or without other procedures before (July 1, 2011, through December 31, 2013; n = 40) and after (July 1, 2014, through December 31, 2016; n = 44) full protocol implementation. BOAS = Brachycephalic obstructive airway syndrome.