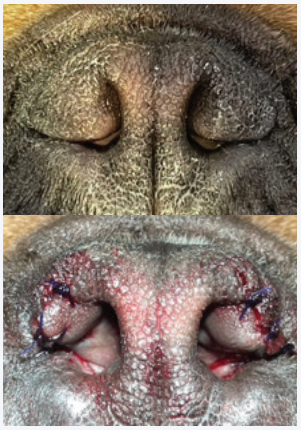
MASH
MELBOURNE ANIMAL SPECIALIST HOSPITAL

Brachycephalic Obstructive Airway Syndrome (BOAS)

BOAS is commonly seen in small animal practice as the breeds which have these characteristics are increasingly favoured by pet owners. We hope to demystify the condition with this brief summary.

What are the components of BOAS?



Stenotic Nares (43-85%)

Intra-nasal sinus conflict or stenosis

Elongated (and thickened) soft palate (86-96%)

Redundant pharyngeal tissue (folds)

Everted tonsils

Everted Laryngeal Saccules (55-66%)

Laryngeal collapse (8-70%)

Tracheal hypoplasia (38%)

Gastritis (+/-Hiatal hernia) (37-89%)

What clinical signs should we look for?

Classically affected individuals will have rapid and noisy breathing. Whether this is stertor, stridor or a combination, depends on which factors are present. Gastritis, which is the silent component of this condition, may be characterised by frequent regurgitation of frothy material. Sleep apnoea and snoring may also be seen in affected dogs.

Which ones can be treated?

Those listed above in BOLD can be readily managed with surgery, the others less so.

The aim should be to prevent progression of the disease by intervening early. It is also worth noting that as there are several components of this syndrome that cannot be corrected, the aim of surgical intervention is to improve airway function rather than restore “normal” anatomy. Therefore, we hope to improve clinical signs of the syndrome rather than eliminate them.

When should we do surgery?

As soon as we recognise an affected individual, and they are close to maturity, then surgery can be performed.
The ideal age bracket is 9–12 months of age.

Early intervention is key to preventing these conditions spiralling into an unmanageable and unsatisfying situation where irreversible laryngeal collapse has developed.

It can help by explaining to owners that even though many Brachycephalic dogs make noise when they breathe, this is not the case with most other breeds, and that their quality and possibly quantity of life will be compromised because of this difficulty in breathing.

Decompensated individuals who are older, may not be ideal candidates for performing BOAS surgery within your GP practice. Such patients could benefit from having an ICU to recover in.

What Surgical Techniques do we Recommend?

Stenotic Nares: Vertical Wedge Alarplasty

Elongated Soft Palate: Folded Flap Palatoplasty

Everted Palatine Tonsils: Tonsillectomy

Everted Laryngeal Saccules: Laryngeal Sacculectomy

End Stage Laryngeal Collapse: Permanent Tracheostomy

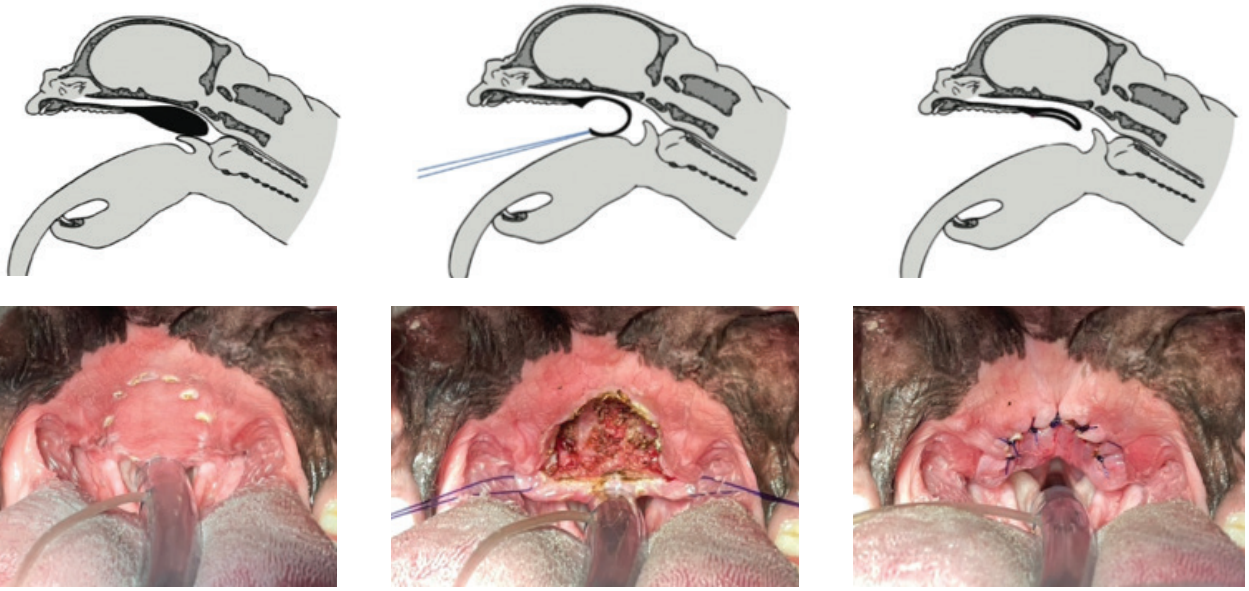
Hiatal Hernia: Phrenoplasty, Esophagopexy & left sided Gastropexy.

Surgical Highlight – Folded Flap Palatoplasty:

Traditional surgical treatment for an elongated soft palate involves simple resection of the caudal portion of the soft palate. Whilst this technique relieves the laryngeal obstruction it fails to resolve nasopharyngeal obstruction, leading to suboptimal outcomes. For this reason, simple resection of the soft palate is no longer recommended.

The folded flap palatoplasty is a more technically demanding procedure and takes longer to perform but has been shown to result in superior outcomes. This procedure both shortens and thins the soft palate relieving both laryngeal and nasopharyngeal obstruction.

An additional advantage of the folded flap palatoplasty is that the suture line is on the roof of the mouth, further rostral from the larynx than the traditional technique. This means there is less caudal pharyngeal swelling post operatively and therefore fewer respiratory complications associated with this swelling.



What is required peri-operatively?

Pre-surgical treatment with a proton-pump inhibiting medication is now recommended for most cases.

Oxygen is provided in a flow-by fashion prior to induction.

Corticosteroid based anti-inflammatories are usually given pre-operatively to help minimise swelling in pharynx resulting from the surgery.

The surgeon should be present at induction of anaesthesia, to fully assess the upper airway.

Following surgery, the patient must be carefully monitored, and the endotracheal tube left in situ for as long as will be tolerated. The patient can only be discharged to the owner's care if you are very confident there will be no ongoing concerns with breathing. The patient should be fed slowly and cautiously, after full recovery from anaesthesia, usually with small soft meat balls, one at a time for about one week.