# Brachycephalic Obstructive Airway Syndrome (BOAS) Surgery

ProVetSurg
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### BOAS

Breeds such as English Bulldogs, French Bulldogs, Pugs and Persians with a short muzzle and flattened face, are described as brachycephalic. These patients have narrowed nostrils, long soft palates and narrow windpipes (tracheal hypoplasia) which can lead to obstruction of the flow of air through the upper airways. Secondary changes such as laryngeal collapse, swelling of the airways and eversion of the laryngeal saccules can also cause the patients ongoing discomfort and respiratory challenges if left untreated

### What are the signs of BOAS?

Patients experience exercise intolerance, snoring and noisy breathing, hyperthermia (over heating), regurgitation and in severe cases collapse and occasionally sudden death. Clinical signs occur from a young age, and worsen over time as secondary changes occur and exacerbate the obstruction of airflow further.

### Surgical management of BOAS

Surgery aims to improve the airflow through the upper airway by widening the airways and allowing adequate oxygen to reach the lungs, reducing panting and overheating.

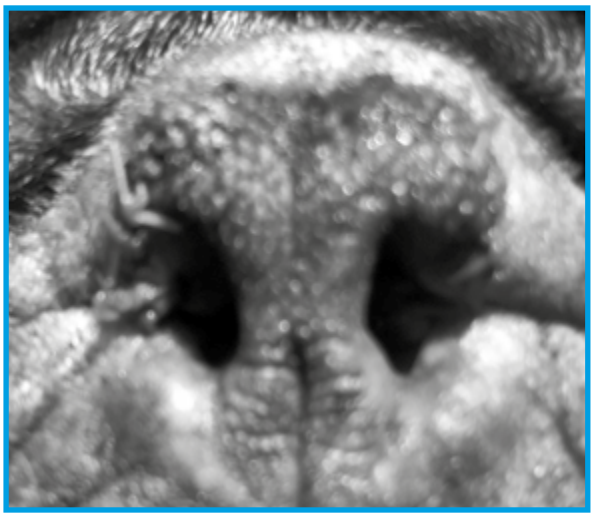
There are three parts to BOAS surgery and your surgeon will be assess your pet to see if all or just some parts of the surgery are required.

- Widening of the nares (nostrils) by removing a wedge of excess tissue from the alar fold of the nose
- Staphylectomy, or resection of excessive soft palate tissue
- Laryngeal sacculectomy to remove the everted laryngeal saccules which can obstruct the entrance to the trachea.

BOAS surgery performed before secondary changes have occurred carries an improved outcome compared to more chronic cases with severe secondary changes.

*Before*

Surgery to widen the nares. Absorbable suture material is used and the sutures will fall out by themselves after a few weeks.



*After*

### Adjunctive conservative management of BOAS

Many BOAS patients have a hypoplastic (narrow) trachea which cannot be managed surgically.

Optimising your pet's weight to ensure that they are not overweight is an important additional management step to help prevent excessive collapse of the trachea.

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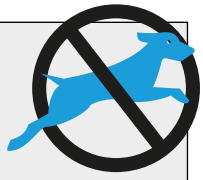
## *Post operative care*

### *Exercise restriction:*



**Exercise restriction will be required for 14 days following BOAs surgery.**

Patients can be taken to the garden for no more than 5 minutes to toilet. Patients should be on a lead at all times to prevent over exertion, but must be walked on a harness and not a collar to avoid excessive pressure to the neck.

Up to 75% of BOAS patients will experience regurgitation and/or vomiting. Patients will be prescribed antacids (for example omeprazole) to take before and after surgery to reduce the risk of regurgitation. In many cases, regurgitation and/or vomiting is reduced following BOAS surgery.

### *Potential complications:*

There is a risk of swelling immediately following BOAS surgery which could necessitate a patient to be hospitalised and a tracheostomy tube to be placed. The use of steroids at the time of surgery greatly reduces the risk of swelling. Acute severe swelling is not a common occurrence but careful monitoring is required immediately post operatively.

Resection of too much of the soft palate carries a risk of reflux of water and food into the nasal cavity causing rhinitis, where resection of too little carries a risk of the need for a repeat surgery.

### *Outcome*

Improvement in BOAS signs is expected once post operative swelling reduces, and in some cases this can take up to 4 weeks.

Patients who are obese are unlikely to have a significant improvement in BOAS clinical signs.

Weight management is important in the short and long term following BOAS surgery.

Avoiding the use of collars, and instead using harness and lead is recommended for the long term.

It is sensible to avoid exercising BOAS patients in hot weather in the long term to prevent heat stress and hyperthermia.