BOAS: Brachycephalic Obstructive Airway Syndrome

What is a Brachycephalic?

Most people are not familiar with the term brachycephalic, but if you own a French Bulldog, Pug, Boston Terrier, Boxer, Bulldog, Peckingese, Shih Tzu, Cavalier King Charles Spaniel or any one of the other breeds with a 'pushed in' or short face, you should become familiar with this word.

The word derives from Greek roots*: brachy*, meaning short, and *cephalic,* meaning head. Brachycephalic dogs have been bred so as to have a normal lower jaw, relative to their body size, and a compressed upper jaw- to give them that 'cute look'. But with this, come some potential serious respiratory problems that can be minimised with the appropriate knowledge.

Brachycephalic Obstructive Airway Syndrome (BOAS), is a combination of abnormalities affecting short faced brachycephalic dogs. The four main characteristics of BOAS include:

- **Stenotic nares**: narrow or even closed nostrils and nasal passages
- **Elongated soft palate**: abnormally long soft palate relative to the length of face leading to blockage of the windpipe while breathing- and there's a lot of snoring too!
- **Everted laryngeal sacclues**: the normal larynx has two small pockets called saccules. When a dog has increased effort to breathe, with time these pockets will turn inside out inside the throat. Surgical correction may be helpful.
- **Hypoplastic trachea**: abnormally narrow windpipe, especially seen in Bulldogs.

The classic ‘snore’ or ‘grunt’ seen in brachycephalic breeds is evidence of the abnormalities listed above.

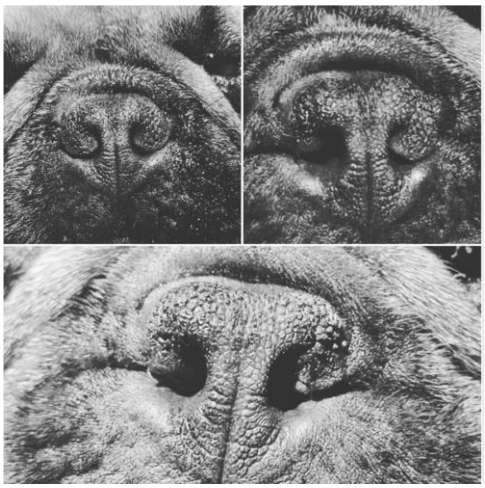
The main health concerns for brachycephalic breeds diagnose with boas include the risk of overheating, increased pressure and risk of airway collapse and a decrease in oxygenation to vital organs (such as the brain)- all secondary to the increased airway obstruction. Another associated risk is aspiration pneumonia, which brachycephalics may be at more risk, as they are also predisposed to certain gastrointestinal diseases causing regurgitation.

What can we do? Treatment and prevention of brachycephalic airway syndrome:

- **Surgery:** Surgical intervention to address the physical abnormalities is the hallmark of BOAS treatment. Surgical options include widening of the nostrils, shortening of the soft palate and removal of the laryngeal saccules (if everted). It is important to understand that surgery is not considered curative in these breeds, rather aims to reduce the stress on the airways as much as possible and therefore improving the animal’s quality of life. It is recommended that corrective airway surgery in affected brachycephalics be performed early, to reduce the chance of secondary effects

Nasal Wedge Resection

Dr Jess Green perfromed this procedure on a Frenchie recently:



The before photo: top left picture

The dog’s RHS nostril has been corrected: top right picture

The after photo: both nostrils have been widened and corrected to allow passage of air to be more efficient.

of BOAS such as airway collapse and eversion of laryngeal saccules.

- **Exercise and temperature management**: Aim to exercise and walk animals during the coolest time of the day, such as dusk and dawn, and be sure not to over-exercise your brachycephalic pet. Always ensure your pet has access to fresh water.
- Taking care in choosing your pet if buying from a breeder: be sure to meet your puppy's parents, if possible, as well as the breeder in person to discuss BOAS.
- Visit the vet early for assessment: this involves a physical examination, but your vet may recommend an airway examination under sedation or anaesthesia and/or radiographs. Some dogs may even require advanced imaging.

At VetHQ our team is skilled in assessing your pets for brachycephalic obstructive airway syndrome and experienced in performing corrective surgery, if required.

If you have a short faced friend in your household, feel free to make an appointment or contact us for advice on an airway assessment, and guidance specific to your pet.