

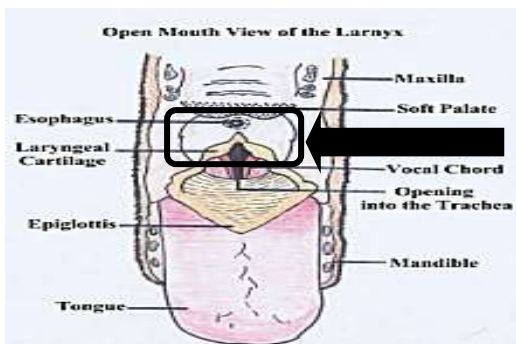
Brachycephalic Obstructive Airway Syndrome (BOAS) in dogs

What is BOAS?

BOAS is a combination of upper airway conditions seen in dogs that are bred to have short noses and high domed foreheads (eg Pugs, French Bulldogs, English Bulldogs). This breeding causes an excess of soft tissues in the upper airways that obstructs airflow and forces the animal to rely on open mouth breathing.

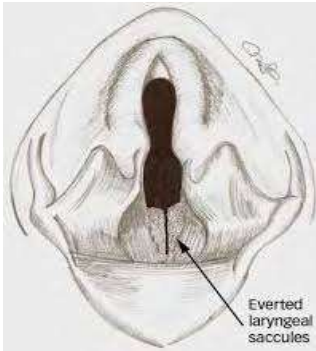
What airway structures are affected?

The opening of the **nostrils** may be narrow or completely closed (stenotic nares).



The **soft palate** (at the back of the mouth) may be elongated and get sucked into the larynx (voicebox) when the dog breathes in. The black arrow show the area that is obscured by an elongated soft palate.

Sometimes, the **tonsils** are enlarged and inflamed. They then protrude into the back of the mouth. Finally the **larynx** may be swollen and the mucosal lining of the sides may bulge into the airway contributing to airway obstruction (**everted laryngeal saccules**).



Dogs can also have excessive soft tissue in the **turbinates** of the nasal passages, and may develop a **hypoplastic (narrowed) trachea**.

How do I spot a BOAS case?

Dogs affected with BOAS may have one, some or all of these structures affected and this causes increased resistance of airflow through the upper airway. This means that the dog may snore very loudly when asleep, or snore when awake or at rest. Sometimes, these dogs will sleep with a toy wedged into their mouths, or rest their head on an elevated surface. When they exercise they pant continuously and have difficulty exercising when the weather is warm. They often pant for a long time after exercise, as they can't easily cool down.

Some dogs collapse when they exercise or get excited, and may become so hypoxic that they lose consciousness. As dogs have to pant to lose heat, these dogs are also more prone to heat stroke which can also cause loss of consciousness or death.

Does my dog definitely need to have surgery?

All brachycephalic dogs are affected to an extent with this syndrome. Dogs that are not severely affected may cope well as long as they don't become overweight and are never exercised in warm weather. If there is long term increase in airflow resistance, the dog may develop laryngeal collapse due to the pressure on the larynx (voicebox). When this happens, the airflow resistance becomes very much worse and can be very difficult to treat. **The aims of BOAS surgery is to reduce airflow resistance in the upper airways and prevent longer term deterioration of the airway structures.**

What does surgery involve?

We recommend an initial consultation to assess airflow. Then once under anaesthesia, we evaluate the back of the throat. We also examine the larynx to see if there is any evidence of laryngeal collapse. We then perform surgery to widen the nostrils and to shorten the soft palate to an anatomically correct position. Sometimes we need to remove the tonsils to open up the airway. Treatment for laryngeal collapse or removal of hypertrophic turbinates is usually delayed to see if the dog improves after BOAS surgery.

What is the recovery time?

Dogs usually recover very quickly from this surgery and are discharged the same day with some pain relief, anti-inflammatory medication and, occasionally, antibiotics. Some dogs can panic after surgery due to the swelling and discomfort of the surgery. In these instances, it may be advisable to monitor them out-of-hours here overnight, where they may need a temporary breathing tube inserted in their trachea to help them breathe until they are calm and relaxed.

They should be rested for 7 days post operatively but thereafter can be treated normally. Some dogs may also require treatment for pre-existing aspiration pneumonia.

Are there any other problems that are associated with BOAS?

Many dogs affected with BOAS will have difficulties eating or swallowing as they struggle to breathe while eating or drinking. Some dogs have a secondary aspiration pneumonia due to the chronic breathing issues. However about 30% of these dogs also have a tendency to regurgitate saliva or food.

Most of the dogs will improve after surgery, but some will require antacid medication. Some dogs also have a hiatal hernia which causes regurgitation of food from the stomach and this may require medication for life, or occasionally, further surgery if it does not settle down after BOAS surgery. Most dogs with a hiatal hernia will improve when the airflow resistance from the upper respiratory tract is relieved by BOAS surgery.

If you are not sure if your dog needs surgery, please make an appointment to discuss this with your vet.

What to expect at DentalVets.

You will have been referred by your vet. An initial assessment consultation at DentalVets is required to ensure your pet is a candidate for treatment. This will be a conscious examination of about 45 minutes. This examination is essential before we can make an appointment for your pet's future surgery. The payment for this consultation is payable at the time of your appointment.

During this conscious examination you will be asked some husbandry questions and about the exercise habits of your pet. Your pet will be walked/exercised for 3-5 minutes to assess exercise tolerance. Your pet will be physically examined and airways auscultated before and after exercise.

If your pet is a candidate for BOAS surgery a surgical appointment will be made for a later date, within 1-4 weeks of the consultation. Your pet will be admitted on the morning of surgery (~8.45am) and discharged at the end of the day (~4pm). In certain circumstances, your pet may have to stay with our out of hours service at DentalVets for observation and monitoring.

A pre-authorisation can be completed with your insurance provider prior to the consultation to ensure that this procedure is covered by your insurance policy. If the pre-authorisation has been successful we can claim from your insurance provider directly. In this case, your policy excess would be payable on the day of surgery.