BOAS (brachycephalic obstructive airway syndrome)

What is BOAS?
BOAS is the respiratory disease related to brachycephalic (short nosed dogs) conformation.
The conformation causes air flow obstruction therefore less air reaches the lungs and less oxygen is delivered to the body. Body heat elimination is also diminished. Heat is usually eliminated by panting. Dogs do not sweat.

Symptoms:
There is a lot of noise when breathing, even at rest, which may sound like snoring. These dogs have decreased exercise tolerance especially in hot and humid weather, panting and, sometimes, fainting episodes.

Treatment:
This is mainly surgical. Treatment is based on widening the air passage to the lungs and consists of:
1. Widening nose inlet (stenotic nares - where the nostrils are too small to allow adequate passage of air making breathing through the nose difficult).
2. Shortening elongated soft palate - where the soft palate is too long. In these cases, the soft palate is excessively long allowing it to sit within the opening of the trachea (windpipe) and thus obstructing normal airflow. The elongated soft palate creates turbulent airflow resulting in the increased respiratory noise we hear in brachycephalic dogs, including snoring.
3. Excision, full or partial, of enlarged tonsils. This is common in brachycephalic breeds due to chronic inflammation. Some surgeons advise tonsillectomy at the time of airway surgery. This is typically assessed with each individual.
4. Everted or swollen laryngeal saccules - these saccules normally sit either side of the floor of the larynx just in front of the vocal folds / chords. In brachycephalic dogs the increased effort of breathing may result in the saccules becoming swollen resulting in obstruction of air flow. Swollen laryngeal saccules is the first stage of collapse of the larynx - a very serious condition.
5. Overcrowding of the nasal turbinate bones - this occurs in some cases and may require additional surgery if breathing is not improved by correction of the above problems. Nasal CT is required before surgery.

What can’t be corrected at present:
1.Small trachea (tracheal hypoplasia) - where the trachea (windpipe) is too small. This condition cannot be treated.
2. Enlarged tongue.
In sporadic cases additional surgery may be performed to eliminate excessive mucosal folds and partially releasing the hyoepiglottic ligament.

Post-surgery:
After surgery, dogs are treated with medication for pain and inflammation and are monitored in the hospital for 8-24 hours. Once released from the hospital, they should rest for 2 weeks, which means no activity that causes heavy breathing or barking. This means no play and very light, short walks. They should be fed small amounts of food which are easy to swallow, like cut up small cubes of meat but not mushy food. The aim is to prevent your pet from chewing and impacting soft food into the wound.

Complications:
Complications can include aspiration pneumonia, upper airway obstruction (due to inflammation) and bleeding. Post-operative coughing and gagging are common. In some cases, significant post-operative inflammation or bleeding can obstruct the airway, making breathing difficult or impossible. Sporadically, if the swelling does not resolve, a tube is placed through a small incision in the neck into the trachea (temporary tracheostomy). The tube is maintained until the swelling in the pharynx subsides enough that the patient can breathe normally. This can take 2-3 days. This happens in a small number of cases and post-surgery care can significantly add to the total cost of care required for the patient.