

The upper airway of dogs and cats comprises the passages that air moves through on its way to the trachea (windpipe) and lungs. These passages include the nose, sinuses, pharynx, and larynx. There are many different problems that can affect the upper airway and compromise the flow of air. Brachycephalic dogs and cats are more prone to upper airway abnormalities and can often have several different conditions together. A brachycephalic breed is one that has a shortened snout and face, such as English Bulldogs, Pugs, Boston Terriers, and Persians. The conditions most often found in these breeds are stenotic nares, everted laryngeal sacculles, and elongated soft palate. When these conditions compromise respiration, surgical intervention is necessary.

## **What are the symptoms?**

The symptoms of brachycephalic airway syndrome can include the following:

- Noisy breathing
- Excessive snoring
- Open mouth breathing
- Gagging and/or choking
- Exercise intolerance
- Cyanosis (blue tongue)

These symptoms are exacerbated by hot and humid weather. Obesity is also a contributing factor in the worsening of symptoms.

A concrete diagnosis is made by visual examination of the upper airway. These laryngeal examinations most often are performed with the help of sedation or general anesthesia.

## **Which conditions necessitate this surgery?**

Stenotic nares is the medical diagnosis for nostrils that are too closed to allow normal respiration. These animals tend to excessively breathe through their mouths and wheeze when they try to breathe with their mouths closed. The treatment for this condition is a rhinoplasty (nose job). A small wedge of tissue is resected from the side of the nostril and the edges are sutured together to widen the nostrils and allow for normal respiration.

Everted laryngeal sacculles occur in dogs that have compromised upper airway flow. These dogs must work harder to fill their lungs with air, which results in the laryngeal sacculles being pulled down into the airway. The laryngeal sacculles are small bags of tissue that are positioned in front of the vocal cords. When they are pulled into the airway, they block the opening to the trachea. The treatment for this problem is to remove the sacculle tissue.

Elongated soft palates can vary from slight to severe. The condition occurs when the soft palate is too long, and, if slight, the clinical signs usually consist of snoring. If the soft palate is long enough to hang down into the airway, it can block the opening to the trachea and prevent normal airflow. This is a very serious condition and can sometimes result in a complete obstruction of airflow. The treatment for this condition is to excise the excess tissue in order to shorten the soft palate.

### **What is the post-operative care?**

The post-operative care depends on which procedure, or combination of procedures, were performed. Patients that have only had a stenotic nares repair can often go home the same day. They must wear an Elizabethan collar at all times to prevent them from rubbing or scratching at the sutures in their nose. If everted laryngeal sacculles or a soft palate were excised, the patient must spend at least one night in the hospital. These surgical procedures can cause inflammation in the throat, which requires supervision. Once home, patients must remain on a soft diet for a minimum of two weeks. They must be kept quiet and cool to allow their airways to heal and reduce inflammation.

### **What are the possible complications?**

The complications involved in upper airway surgery depend on the severity of the patient's condition. In some cases, additional surgery may be required to resect more tissue if clinical signs persist post operatively. In very severe cases where a patient has been greatly compromised by their condition, intensive care may be necessary post operatively, including a temporary tracheostomy to allow the upper airway to heal.