

Brachycephalic Syndrome

What is brachycephalic syndrome?

Brachycephalic syndrome refers to a combination of upper airway abnormalities that can make it difficult for short-muzzled (brachycephalic) dogs to breathe normally. These dogs are typically very noisy while breathing and often have difficulty getting enough air when active or during hot, humid weather. The upper airway abnormalities include stenotic nares (narrowed nasal openings), elongated soft palate and everted laryngeal sacculles.

Brachycephalic breeds such as Bulldogs, Pugs, Pekingese and Boston Terriers are genetically predisposed to these problems. Some breeds, especially English Bulldogs, may also have a hypoplastic (smaller than normal) trachea. Alone each of these problems can cause airway resistance, but their cumulative effects can make normal breathing very difficult and possibly lead to life threatening respiratory distress.

Stenotic nares

Stenotic nares are defined as very narrow nostril openings. The nostrils may even collapse during inhalation. A dog with severely stenotic nares may need to breathe almost exclusively through his mouth. A wedge resection is a surgical procedure in which triangular shaped pieces of nasal tissue are removed to create permanent, wider nasal openings.

Elongated Soft Palate

An elongated soft palate is simply a soft palate that is too long relative to the length of the throat. This long palate can actually protrude down into the upper airway opening causing significant resistance to air flow during inhalation. Surgical removal of excessive soft palate completely relieves this component of airway obstruction.

Everted Laryngeal Sacculles

Everted laryngeal sacculles are folds of tissue that begin to protrude into the airway from the sides of the larynx (voice box). This eversion or out-pouching of tissue results from chronic airflow resistance, which is secondary to the elongated soft palate and / or stenotic nares. This chronic resistance to air flow results in significant negative pressure within the upper airway leading to the eventual eversion of soft tissues and possible collapse of the upper airway in severe cases. Even though the everted sacculles are a secondary problem, they add to the cumulative upper airway narrowing and increased resistance to airflow. Surgical removal of the everted sacculles increases the interior diameter of the upper airway and significantly helps reduce the resistance to air flow through the airway.

Treatment

Not all dogs with brachycephalic syndrome need surgery. Most brachycephalic dogs lead comfortable lives by avoiding exposure to excessive heat, humidity and rigorous activities that lead to prolonged panting. Maintaining an ideal body weight is also important for normal upper airway function in brachycephalic breeds. Dogs that continually experience difficulty breathing or have very loud respiratory sounds are considered good surgical candidates. Surgical correction almost always relieves the partial airway obstruction(s) and patients breathe much easier, quieter and tend to have a significantly improved quality of life.

