Stenotic Nares in Brachycephalic Pets

What Are Stenotic Nares?
Stenotic nares (pinched nostrils) is a common abnormality found most commonly in brachycephalic pets, which are pets that have a short wide head, such as English bulldogs, Boston terriers, Pugs and Pekingese. It is also seen in some cat breeds such as Persians and Himalayans. Because of their anatomy, pets with brachycephalic syndrome have an increased resistance to airflow through their upper respiratory tracts – the mouth, nose and larynx.

Other abnormalities may also be present in these breeds, including an overlong soft palate, laryngeal collapse and eversion of the laryngeal saccules, which are tissues behind the vocal folds that can evert into the lumen and cause obstruction of air movement. These all comprise what is termed “Brachycephalic Syndrome”.

What Causes Stenotic Nares?
Stenotic nares are caused by congenital malformation of the cartilages of the nose, secondary to selective breeding of animals with short noses. Although stenotic nares are present at birth, clinical signs of respiratory difficulty often do not begin until the animal is several years old. Either sex may be affected.

What Do Stenotic Nares To a Pet’s Health?
Increased airway resistance from brachycephalic syndrome over a prolonged period can lead to progressive respiratory difficulty. As the large negative pressure of the increased effort to inhale continually draws it in, the larynx becomes weaker. Eventually, the larynx collapses, causing the animal to be unable to move a sufficient amount of air into the lungs. Affected animals often appear blue (cyanotic) and can die.

How Are Stenotic Nares Diagnosed?
A visual examination is often all that is needed for the veterinarian to make a determination of stenotic nares. Diagnosing the other lesions of Brachycephalic Syndrome typically require mild sedation and a visual examination of the pharyngeal, laryngeal area.

How Are Stenotic Nares Treated?
Being an anatomical defect, it is treated with surgery.

What Are The Benefits of Surgery?
Even a small increase to the diameter of the airway can greatly decrease the respiratory effort, making it easier for your pet to breath. Science indicates that for every doubling of a fluid tube’s diameter, the resistance is decreased by four times. In this case, the fluid is air. So, if a pet’s nasal opening is increased from 1/16\textsuperscript{th} of an inch (as many of these brachycephalic breeds) to 1/8”, the resistance to breath decreases four times. If, after surgery, we open the airway to 1/4”, the pressure resistance decreases sixteen times!

This means that even a small increase in the nasal opening can significantly decrease the resistance to breathing, making it much easier for these surgery patients to breath.

Typically, with the stenotic nares surgery, you will see an increase in the airway size. It won’t be as large as a normal cephalic breed airway is, but the small increase will make a big difference in your pet's life.

What Are the Limitations of the Stenotic Nares Surgery?
Now, the limitation to stenotic nares surgery is that it does not treat the other problems which may be found with Brachycephalic Syndrome. However, it is not very invasive, with few adverse reactions which makes it a good first initial surgery to perform on a pet with Brachycephalic Syndrome.

What Are The Complications of Surgery?
Very few complications arise from stenotic nares surgery. If they do arise, they tend to be more annoying, than life threatening.

Sometimes after surgery, there may be excess bleeding, blood will drip from the surgery site. If this happens, it should stop within a day.

Also, sometimes the pet scratches them out or the sutures will not hold the edges together. If this should happen, it is not serious. The edges may separate, but they will eventually scar back together again and the benefit of the surgery will still be realized.
What Is the Post-Operative Care for My Pet with Stenotic Nares Surgery?

Usually, there are small sutures placed at the surgical margins. Many times the sutures placed are absorbable, meaning that the body will eventually loosen them and they will simply fall off in three to six weeks. Your surgery discharge technician will let you know if your pet needs to return for a suture removal or not.

We typically recommend an “Elizabethan collar” for these patients as well. This is to keep the patient from scratching out the sutures. The collar is often worn for two weeks.

Antibiotics and pain control medication are also dispensed. Although it is not considered a seriously painful surgery, the surgical edges can be annoying to your pet.