

BRACHYCEPHALIC RESPIRATORY SYNDROME: DOGS WITH SHORT FACES DON'T BREATHE WELL

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Most people are not familiar with the term brachycephalic, but if you own a Pug, Boston terrier, Pekingese, Boxer, bulldog, Shih Tzu or any dog with a pushed in or short face, you should become familiar with this word. It comes from the Greek roots brachy (meaning short) and cephalic (meaning head).

Brachycephalic dogs have been bred to possess a normal lower jaw that is in proportion to their body size and a compressed upper jaw. Although this conformation makes them look cute it leads to several medical problems. In producing this cosmetic appearance, we have compromised these animals in many important ways. Severely affected dogs can experience collapse of the larynx (voice box) and require a permanent tracheostomy (a hole in the throat for breathing). Aspiration pneumonia, recurrent respiratory infections and higher risk for anesthetic complications are also common in brachycephalic dogs. (To aspirate is to suck in fluid. In aspiration pneumonia saliva or stomach juice ends up in the lungs, where it causes pneumonia.) A shortened life expectancy and serious medical problems are the cost of having that cute, flat face.

Brachycephalic breeds are frequent victims of brachycephalic respiratory disease syndrome, which affects several areas of the respiratory tract. Fortunately, most dogs do not suffer from all possible aspects of the syndrome but the shorter the face the more risk the dog has. Here are the main issues:

Stenotic Nares – This is a fancy name for narrowed nostrils. Many brachycephalic dogs have small nasal openings for breathing. A quick and simple surgical correction can be done to open the nostrils back up and improve breathing. English bulldogs usually have a distorted nasal septum and sinuses along with their stenotic nares. The nares can be fixed but there is no surgical repair we can do for the sinuses.

Elongated Soft Palate – It is difficult to fit the soft tissues of the canine mouth and throat into the brachycephalic's short face. A brachycephalic dog has the same amount of tissue in the throat as a normal dog but a lot less space. As a result, the soft palate, which is the soft part of the roof of the mouth separating the nasal passages from the oral cavity, flaps loosely down into the throat. In some breeds the soft palate is also thicker than normal. Sucking air past this obstruction creates snoring and snorting sounds.

Virtually all brachycephalics suffer from this and it usually gets progressively worse with age. The excess tissue slowly stretches and becomes longer with time. The constant turbulence of air trying to pass through too small an opening causes the tissues to swell. Breathing becomes more noisy and difficult as a pet ages. Excessive barking or panting may lead to swelling in the throat which can worsen the problem.

The soft palate can be shortened surgically. This should be done early in life, to decrease damage to surrounding tissues and to prevent secondary complications, especially laryngeal collapse. Sometimes the palate is already long enough to cause problems by the time a dog is 6 months of age and resection is done at the same time as spaying or neutering. Most of the time we shorten and correct the long soft palate when a patient is a young adult.

English Bulldogs tend to have a particularly hard time breathing. In fact, the English bulldog tends to have more severe symptoms in almost all aspects of brachycephalic syndrome.

Again, the soft palate can be surgically trimmed and this should be done early on, along with correction of stenotic nares.

Tracheal Stenosis – A brachycephalic dog’s windpipe may be dangerously narrow. This condition creates tremendous anesthetic risk and should be ruled out by chest radiographs prior to any surgical procedures. English bulldogs are again the breed most likely to have a narrow trachea.

Everted Laryngeal Saccules – The normal larynx (voicebox) has two small pockets, one on each side, called ventricles or saccules. When a dog has increased effort in breathing, over time these little pockets will swell and turn inside out (evert). When this occurs, they need to be surgically removed to get them out of the airway. Everted saccules indicate that surgery is also needed for stenotic nares and elongated soft palate, to prevent progression to full laryngeal collapse.

Heat Stress – Because of all these upper respiratory obstructions, the brachycephalic dog pants inefficiently. A dog with a more conventional face and throat is able to pass air quickly over the tongue through panting. Saliva evaporates from the tongue as air passes across it and the blood circulating through the tongue is efficiently cooled and circulated back to the rest of the body.

In the brachycephalic dog, so much extra work is required to move the same amount of air that the airways become inflamed and swollen. They are then less effective at cooling the air that passes by. This leads to a more severe obstruction, distress, and further over-heating. BRACHYCEPHALIC DOGS ARE THE MOST LIKELY CANDIDATES FOR HEAT STROKE. Exercise must be very limited in hot or humid weather, nor should a bulldog or pug be left outside on a hot day. These dogs should be kept calm and cool.

Altogether, the upper airways of the brachycephalic dog compromise the ability to take in air. Under normal conditions the compromise is not great enough to cause a problem; however, an owner should take care not to let the dog become overweight or get too hot in the summer. Be aware of what degree of snorting and sputtering is usual for your pet, and seek medical attention if you notice worsening. It is not uncommon for severely brachycephalic dogs to choke to death on their own throat tissue.

When your dog requires general anesthesia or sedation, your veterinarian will want to take extra precautions. Radiographs of the throat may be needed beforehand to look for tracheal stenosis. Anesthetic risk is higher than usual in these breeds, though under most circumstances the necessary extra precautions are readily managed by most animal hospitals.

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