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Rhinoplasty and Soft Palate Resection in Dogs with Brachycephalic Obstructive Airway Syndrome (BOAS)

What is BOAS?

Brachycephalic obstructive airway syndrome (BOAS) is a condition that is caused by structural problems in the face and mouth/throat of some dogs. Due to the shape of their head it is a condition commonly seen in "Squashed face" (brachycephalic) breeds such as English Bulldogs, French Bulldogs, Pugs and Pekingese. Other breeds such as Cavalier King Charles Spaniels and Staffordshire Bull Terriers are also more commonly affected by this condition than other breeds.

There is usually more than one structural problem contributing to this condition in dogs and these problems can include very narrow nostrils, a soft palate that is too long (the soft palate is the tissue towards the back of the mouth separating the mouth from the nose), a narrow windpipe (trachea) and excessive soft tissue in the back of their throat. All of these abnormalities make it harder than normal for a dog to breathe as the openings that they breathe through are either too small or are partly blocked up. As a dog gets older the problems tend to get worse as the extra pressure in their throats from trying to breathe causes other structures to swell and collapse making it even harder to breathe.

Symptoms in dogs with BOAS vary dramatically depending on the severity of the disease. One of the first symptoms of this disease is snoring in many cases. As the disease progresses other symptoms develop including: coughing; difficulty breathing; vomiting/regurgitating; inability to cope with exercise; collapse and death. Dogs with BOAS often seem to cope with their condition a lot of the time but heat and stress can push them into a life threatening crisis as they struggle to breathe.

How is BOAS diagnosed?

In most cases BOAS can be diagnosed on a routine examination of the dog. To determine exactly what problems exist and how severe they are generally requires more testing. The presence of narrow nostrils can be determined simply by looking at the dog's nose. A narrow windpipe is diagnosed by taking x-rays. Other problems such as a long soft palate, enlarged tonsils and swelling/collapse of structures in the throat are diagnosed by examining the mouth and throat under general anaesthetic.

Examination of the mouth/throat to check for these problems can be done at desexing for young animals that have not developed many symptoms of the disease. The problem can also be corrected at this time in some cases and in other cases the surgery to correct the problem may be scheduled for another time. For older patients that already have symptoms the examination and surgery to correct the problem should all be done in the same anaesthetic because anaesthetics can be risky in patients that have trouble breathing.

What can be done to correct or prevent BOAS?

Several causes of BOAS can be corrected with surgery; some procedures are very minor while others are a bit more significant. Dogs with this condition should have surgery as early as possible because the condition gets worse the longer it goes uncorrected. If left too long the problems can become so severe that surgery is very risky or severe problems develop that cannot be surgically corrected.

Of the abnormalities that cause BOAS the narrow nostrils and long soft palate are most commonly corrected with surgery. In dogs with more advanced disease removal of tonsils or other structures in the throat that are blocking their airway may be required.

Correcting narrow nostrils is a quick simple procedure that can be done at the same time the dog is desexed. It involves surgically removing a small part of the dog's nostril that is sitting where the wider opening should be. A couple of dissolvable stitches are put in to hold everything in place while it heals. There are minimal complications associated with this procedure and most dogs look completely normal after the procedure. Some dogs with black noses may have some pink visible after the procedure depending on how it heals.

Correcting a soft palate that is too long is a bit more complicated than correcting narrow nostrils but if it is done early by an experienced surgeon it is a reasonably straightforward procedure for most dogs. The surgery involves trimming off the excess part of the soft palate bringing it back to a normal length. Dissolvable stitches are put in to hold everything in place while it heals. Although complications associated with this procedure are not common they can be serious so need to be mentioned. In some cases especially if the dog has had the problem for a long time there can be significant swelling after the surgery and the airway may become completely blocked. This is a life threatening complication and a tube may need to be placed into the dog's neck to try and save their life. Another serious complication is the development of pneumonia after the procedure. Again this is not a common problem but if it does occur it can be life threatening for some dogs.

Although the complications of a soft palate resection can be serious this procedure is not recommended for patients unless they already have or are likely to develop significant airway problems. In most dogs the procedure is successful and their quality of life is significantly better than it would have been if they had not had the procedure.