

Health and welfare information about your cat from Vetlexicon Felis.



Brachycephalic upper airway obstruction syndrome

Over the past hundred years human beings have designed for themselves a large number of different cat breeds. The conformation of some of these breeds has become more extreme and sadly many health problems have been introduced into the cat population as a consequence. The continual increased selection pressure for 'desirable' physical traits has resulted in many pets presenting with more severe manifestations of certain congenital conditions and at a much younger age. One example is brachycephalic breeds of cats (and other small animals, eg dogs). If you are considering buying, or already own, a cat with a short nose such as a Persian, Himalayan, exotic shorthair and some Scottish folds, then you need to be aware of the welfare issues surrounding brachycephalic upper airway obstruction syndrome (BUAOS). The most severely affected animals have the flattest face when viewed from the side and from the front their noses are not positioned well below the eyes, which is normal but higher up, even level with the eyes. These cats may be called “ultras”, “peke-faced” or “extreme” Persian types. Those with longer noses - and which are likely to be healthier - are the “tradition-type” Persians.

What is brachycephalic upper airway syndrome?

Brachycephalic upper airway syndrome otherwise known as BUAOS arises from the effects

of a group of congenital anatomical defects present in brachycephalic breeds.

Brachycephalic breeds of cat are those with characteristically short noses - the Persians and their allied breeds Himalayans and exotic shorthairs. Animals with shortened noses still have the same amount of soft tissue in their nose and throat but this is squashed into a smaller space and so is folded up and obstructs the airways. Animals with BUAOS may have one or more of the following defects:

- Excessively long and thickened soft palate.
- Narrowed laryngeal (voice box) due to protruding laryngeal sacculles.
- Collapsed larynx (voice box).
- Stenotic (narrow) nares (nostrils).
- Narrow trachea (windpipe).

The abnormal anatomical conformation of these cats means that airflow through airways is impeded. Breathing is noisy and sufficient oxygen can't be taken in especially when oxygen demands are higher, eg on exercise. Hot weather causes swelling of the tissues in the nose and throat further impeding airflow and exaggerating symptoms.

How would I know if my cat has BUAOS?

Severely affected cats may show signs of breathing problems at a very young age (4-6 months of age) although most will present with signs at around 1-3 years of age. The first signs you may notice if your cat has BUAOS are that it has noisy breathing or may snore loudly whilst sleeping. In fact many owners of cats with short noses think that it is normal for their pets to snore and snuffle. However, these noises indicate that their pet's airways are already narrowed and breathing is difficult. Cats with BUAOS frequently have significantly disrupted sleep as every time they lie down and relax their airways become obstructed.

Many cats with BUAOS are unwilling (or unable) to exercise normally and this can predispose them to putting on weight which further exacerbates their problems. Sudden deterioration in breathing may develop, leading to respiratory distress or sudden collapse (particularly in hot weather). This deterioration may be brought on by exercise and excitement. Severely affected animals may have almost total airway obstruction, can develop fluid build-up in the lungs and can die rapidly without emergency veterinary treatment.

How would my veterinarian know if my cat has BUAOS?

The diagnosis is based on the clinical signs (and typical breed) but further examination may be required to confirm the diagnosis, determine the severity of each of the different aspects of BUAOS, and to rule out other conditions. If your veterinarian suspects BUAOS they will want to perform a detailed inspection of the upper airway with your cat under anesthesia and may pass an endoscope (containing a small camera) through your cat's airways so they can access which abnormalities are present and how severe each of these is. These examinations are best performed by a veterinarian experienced at treating this condition so that treatment can be carried out at the same time. Anesthesia and examination without correction poses unnecessary risk to your pet - it is waking up after an anesthetic that is the most risky time unless the narrowings and tissue excesses have been corrected.

What other problems are associated with BUAOS?

Having large and protruding eyes where the eyelids either cannot close properly is another feature of brachycephalic cats. These eyes are prone to drying out so that there is an absence of a protective tear film on the surface. This leads to trauma, ulcers and a condition called corneal sequestrum.

There are also problems because the tear drainage is affected. Normally the nasolacrimal duct drains tears from the inside corner of the eyelids into the nose. In brachycephalic animals this duct is a normal length but the nose in which it is sited is short. So the duct is squashed up and cannot work properly. Tears back up and overflow onto the skin below the eyes. The skin here becomes sore and prone to infection. This is called epiphora. The skin may also be excessive and so be folded and these skin fold themselves are also prone to infections.

Cats with BUAOS are also likely to have problems giving birth and more likely to need a Caesarean section (with an increased risk of dying under an anesthetic).

Can BUAOS be treated?

Most BUAOS signs will improved if the animal loses weight so a dietary regimen forms part of any management in overweight cats. Because BUAOS is caused by congenital abnormalities of the airways the only way to resolve the problems is to correct the underlying abnormalities. Surgical procedures can open up the nostrils and remove excess tissue within the airways that is restricting the airflow. Surgical correction requires a great deal of skill and is not without risks. Your veterinarian may choose to refer you for treatment to a surgeon and anesthetist who specialize in these procedures. Following surgery the lives of affected animals should be significantly improved. Correction of the reversible primary abnormalities early in life will slow down or potentially prevent secondary irreversible changes occurring that would otherwise compromise the airway further. This emphasizes the importance of critically evaluating how well you pet can breathe early in life and seeking professional advice.

Is there a way of preventing this disease?

Since the condition is inherited it is important not to breed from animals that suffer from BUAOS (even if they have had surgery) as their offspring will also be affected. Unfortunately most show animals in affected breeds have been deliberately bred to produce the external appearances that are the result of these defects (such as a very short nose and flat face) so the defects are present to a greater or lesser extent in all animals within the breed. Ultimately BUAOS is a significant welfare issue in brachycephalic breeds - some animals will live for years breathing only with a difficulty that is like a human who has a heavy cold or is out of breath from exercising. The only way this can be prevented is by breeder acceptance that extreme conformations (such as excessively short noses) are not desirable in cats.

If you are worried about your pet in any way, but especially if it appears to have breathing problems, then you should contact your vet for advice.