

Brachycephalic Ocular Syndrome

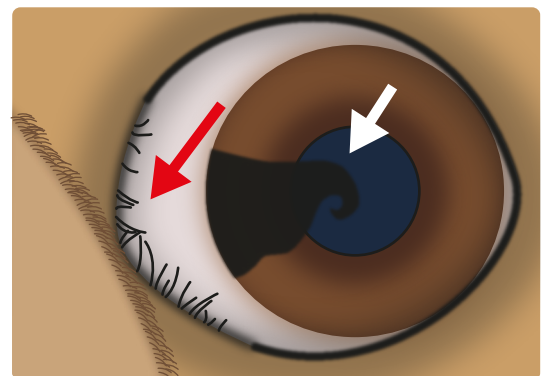
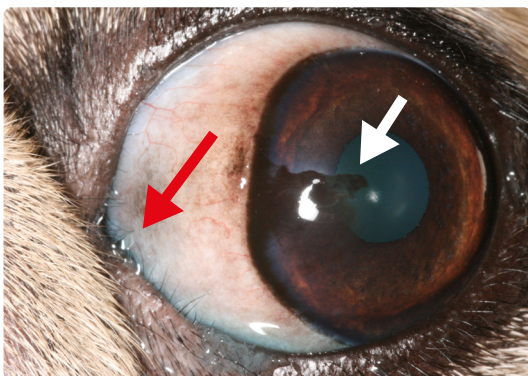
What is Brachycephalic Ocular Syndrome?

A brachycephalic breed is essentially a breed that has a short nose and flattened face. Examples include Pugs, French Bulldogs, British Bulldogs and Shih Tzus. These breeds have become very popular, mainly because of their great personalities, however some of the lovely features that make their little faces so appealing to us, especially their large eyes, may place them at high risk to develop painful and potentially blinding eye problems.

What are the common eye conditions seen in these pets?

'Brachys' eyes are at increased risk to be damaged or wounded easily due to a number of features:

- As the skull shape in these breeds becomes more and more compressed, their bony orbits become very shallow. This causes the eyes, which sit in the shallow orbit, to bulge forward and thus be very exposed. Blunt trauma to the eye is therefore much more likely.
- The eyelid openings of pugs are extremely large, which results in a poor blink function and thus exposure of the central cornea (the clear window of the eye). You may even have observed that your pet sleeps with their eyes partially open!
- Pugs are prone to develop dry eye due to a reduction in quantity or quality of tears. Tears are vital in keeping the cornea healthy and clear. Chronic dry eye will result in scarring and pigmentation of the clear corneal surface and, if unlucky, also wounding.
- The middle corner of the eyelids is under extreme tension in these breeds. This causes inward rolling of the hairy skin onto the eye itself, leading to constant rubbing of hairs on the surface of the eye. This can cause potentially blinding scarring or wounding (ulcers).
- Brachys that suffer wounds to the corneal surface (termed a 'corneal ulcer'), seem to be prone to rapid worsening of this wounding which we call a 'melting' ulcer. If left untreated, corneal perforation can occur. Brachys don't seem to respond to standard drop treatment as well as "long-nosed" breeds and often require rapid surgical intervention to save ulcerated eyes.



On the left we have a photo of a pug with marked brachycephalic ocular syndrome, and on the right a graphic representation of the eye. Note the large eyelid opening, the hairs rubbing on the eye (red arrows) and the black pigment on the eye (white arrows).

How is it treated?

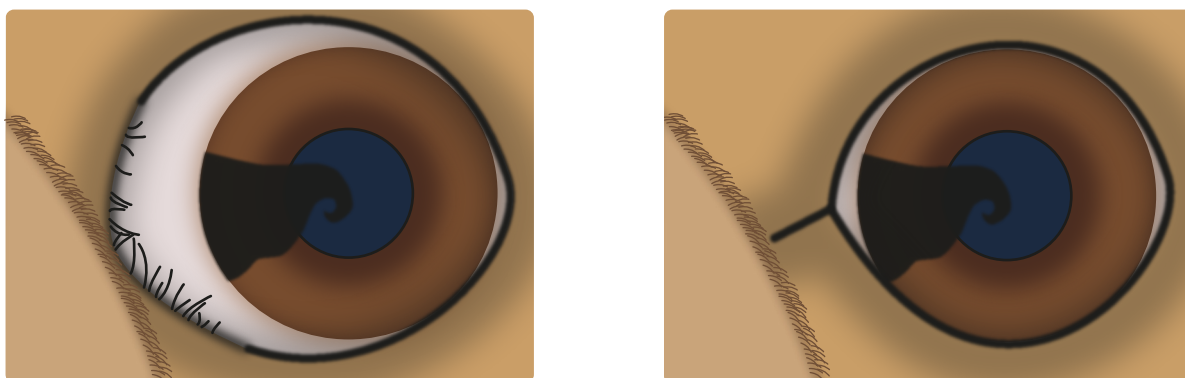
Most brachys that come to see us for an eye examination have already suffered an ulcer at some point or have active ulceration. Generally, we try and address the ocular syndrome with the following steps:

- **Treat corneal ulcers:** If there is an ulcer present, we try and treat this either with a drop plan, or in some cases surgical intervention will be required. Please consult our corneal ulcer and corneal surgery factsheets for more information on these topics.
- **Improve the ocular surface health:** this may involve long-term frequent tear replacers to supplement your pet's own tears, or other medications to increase their own tear levels.
- **Correct the extreme eyelid positioning:** this procedure is called "medial canthoplasty", and will be explained below.

This combined approach is the best chance we have to prevent your pet from developing further ulcers and try and keep the eyes as healthy, and the corneas as clear, as possible so that they do not go blind.

What is a "medial canthoplasty" surgery?

Medial canthoplasty surgery involves removing a small amount of skin in the middle corner of the eyelids, and closing the skin in a better anatomical position. This effectively reduces the large eyelid opening size in order to improve protection of the eye itself, allow for better closing of the eyelids (no more sleeping with open eyes!), and allow a more efficient spread of tears over the ocular surface.



Above we have a pug's eye before medial canthoplasty surgery on the left, and after surgery on the right. Note the reduction in the size of the eyelid opening and the removal of the hairs rubbing on the eye on the middle corner.

We hope that these pictures will have helped you in considering whether a medial canthoplasty is the way forward for managing your dog's eye problems – but we would of course be more than happy to discuss any concerns that you have about this procedure with us in person!

What if I choose not to have surgical treatment?

We appreciate that it is a tough call to decide whether your lovely pet's eyelids should be shortened, as like us you love the look of your four-legged family member. Of course we would only recommend surgery in serious cases after weighing up the risk/benefit ratio specifically for your pet. However, if we do feel surgery would be beneficial, it is a relatively small change to the appearance of your dog's face to reduce the risk of further painful and potentially blinding corneal problems, so we feel very confident to re-assure you that this is the time to put current 'beauty ideals' (your pet's huge eyes are the equivalent of the size 0 on the cat walk) on the back burner – and to do what will keep your friend comfortable and sighted!

That being said, if surgery is absolutely not possible, then a combination of the previously mentioned treatment plans will be recommended, and we will do the best we can to support your pet.



Eye Veterinary Clinic

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