



Brachycephalic dogs and their eyes

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Having mentioned a new specialist clinic for brachycephalic dogs a couple of weeks ago, I spotted an older article (*Veterinary Times* Nov 4 2013) on the subject of the brachycephalic dog and their eyes. It is an informative article aimed at vets but it has some interesting points for dog breeders to keep in mind.

Of course, in the short intervening period since it was published things have still moved forward in several breeds but nevertheless there are some important messages for dog breeders. Unsurprisingly I have a few personal critical comments to make about the article.

A short muzzle, a characteristic feature of several dog breeds, does provide some dogs with an increased risk of eye damage. However, the risks are not always obvious and it is certainly not as simple as the eye being protected by a long muzzle as it is further away from harm. The *Veterinary Times* article is focused upon the Pug, but the author's comments are valid for several of the short muzzled breeds.

The potential problems revolve around three basic areas of conformation, all associated with the reduced muzzle length in some (brachycephalic) breeds. These are – a shallow orbit in which the globe of the eye sits; eyelids that incompletely blink across the surface of the eye; and skin folds around the eye that may interfere with its integrity.

The shallower orbit is considered to be part of the skull shape of the short-muzzled dog. The old nutmeg of the prolapsed eye (called proptosis) is raised and does certainly occur. Personal experience of one case appears to be matched by the infrequency of this experience of ophthalmologists (who are most likely to see cases like this). So we must question if this is as common as suggested or is it being used for its dramatic effect? As far as I know nobody has compiled any prevalence figures on proptosis and certainly the breeds concerned do not seem to feel it is that common.

Accepting that prolapse of the eyeball is a most dramatic condition, what is most often seen? The three areas of conformational change associated with brachycephalic dogs lie behind the ophthalmologists experience. This is important as experience strongly influences professional views about brachycephalic dogs.

The shallow orbit does tend to make the eyes appear larger. A relatively large, round appearance of the visible eye can lead to eye-lids that are insufficient to cover the front of the eyeball during a blink. Incomplete closure when the eyelids blink will reduce the coverage of tears and this is a very important matter.

The inner edge of eyelids can turn inwards (entropion) when the eyes are particularly large and this may cause the hair on the lids to rub on the cornea of the eyeball. This irritation may cause damage to the cornea and hair contact can also transfer bacteria to the surface of the eye. As tears may be reduced across the cornea and they carry antibacterial factors this increases the risk of infection and ulceration.

Skin folds around the shortened muzzle (nasal rolls), if excessive, may allow hair to impinge on the cornea creating a further risk of irritation, abrasion and infection of the cornea. However such damage is often more centrally placed on the cornea and in this area damage may more readily lead to ulceration and perforation of the cornea where the blink is incomplete.

Another effect of poorly fitting eyelids may be the inadequate drainage of tears. These normally pass down the lacrimal duct, the opening of which is in the inner corner of the eye, and drainage is into the nasal cavity. Watery eyes, wet margins to the eyelids or tears running down from the inner corner of the eye all indicate that tear drainage is not satisfactory.

The article spends some time describing how a veterinary surgeon might approach a diagnosis in Pugs and how surgical repair or medical treatment might ameliorate the problems of conformational excess. However the

author does go on to suggest that prevention is better than cure and superficially covers what breeders can do. The description of the eye in the breed Standard is correctly quoted.

Although it is not said directly, the desire for there to be no white of the eye showing when the dog looks ahead is supported as a good signal of acceptable conformation. In addition, a dog with a complete blink, signalling tear production is spread well across the cornea, is another point to look for and in many ways determines what would be an eyeball of the correct size.

Examination of the eyes with any torch or bright light is likely to show blemishes that indicate that all is not well. Scarring and pigmentation of the cornea are all signs that any judge or breeder can detect with experience and knowledge and without the need for artificial light sources. Given several breeds now encourage examination of eyes this hopefully will advance the process of better selection of dogs for healthy eyes.

The presence of scarring and pigmentation are a feature of the best of breed veterinary examination at dog shows. They are a strong signal of conformational problems giving existing or past pain or discomfort to the dog. This is why they are so important to note and use as a disqualifying fault.

So what are my gripes? Well the old problem of slack terminology irritates me particularly when it is used by a scientist. 'Brachycephalic breeds have a shallow orbit' is for example an unproven statement. Some brachycephalic breeds might have a shallow orbit but it depends where the line is drawn on what qualifies as a brachycephalic.

Then there is the lack of attention to the breeding of the animal. Yet another issue that continually grates where a breed is described in veterinary publications. This article quotes registration figures to demonstrate the undeniable growth in popularity of the Pug over recent years and the KC survey in 2006 demonstrated eye conditions represented some 20 per cent of the total in this breed.

Okay so far but there is no recognition of the number of dogs bred that are not registered (by puppy farms for example) and no effort to remark upon how the population of Pugs requiring veterinary specialist help are not split at the vets level between KC registered and non-registered dogs. In short, yet again the breeder of the registered pedigree dog takes the blame for all dogs bred of that type.

However it is important to focus on the important message in this article. The information provided demonstrates that those who breed brachycephalic breeds are paying attention to the health of their dogs' eyes if they are increasingly selecting their breeding stock with conformation most likely to reduce the prevalence of eye conditions associated with the breed.

- See more at: <http://www.dogworld.co.uk/product.php/120763#sthash.mQAW61Pl.dpuf>