



Selected Conditions of the Ocular Adnexa in Dogs

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Ocular adnexa is a term that describes the group of anatomical structures that are associated with the eye (the globe) such as the outer eyelids, conjunctiva, the third eyelid and the lacrimal system (for tear production) These soft tissue structures act as a protective barrier to the surface of the eye (the cornea) The eyelids should rest against the ocular surface in the dog with normal conformation of the lids and globe. The eyelid margin is generally pigmented and free of hairs, eyelashes or cilia grow out of the edge of the upper eyelid behind the margin (the dog does not have lower eyelashes)

Structural or conformational abnormalities of eyelid position

Entropion describes the condition where the eyelids turn inwards and may affect both upper and lower lids (figure1) surgery is often necessary because the inversion of the lids causes discomfort and if left untreated may lead to keratitis or corneal ulceration.



Figure 1 Entropion

Ectropion describes the condition where the lower eyelids turn outwards or appear 'droopy' (figure 2) This condition may be suspected in younger dogs, but signs may become less apparent as the conformation of the skull changes as the puppy develops. Corrective surgery can be performed to shorten the affected eyelid in some cases however the degree of correction should be assessed in the unsedated animal as sedative drugs will cause the eyelids to droop.

Ectropion can also develop in older dogs of breeds such as the Cocker and Clumber Spaniel as they develop a dropped facial mask with ageing.



Figure 2 Ectropion

Abnormalities involving cilia

Distichiasis is a condition where **distichia** (abnormally positioned cilia) emerge along the eyelid margin (figure 3) they can usually be visualised without magnification and can cause irritation and ulceration to the ocular surface when they grow towards the eye. Plucking the hair will relieve irritation but only temporarily as the hair will re-grow, the preferred surgical treatment is by electrolysis or cryosurgery.



Figure 3 Distichia

Ectopic cilia differ from distichia in that they emerge from the conjunctiva several millimetres from the eyelid margin thus causing irritation and potential damage to the ocular surface. The dog will also suffer a degree of ocular discomfort resulting in blepharospasm (squinting). Ectopic cilia cannot often be visualised without magnification, surgical excision of the follicle is required to correct the abnormality. Ectopic are not as common as distichia but anecdotal evidence suggests there does appear to be a breed predilection in the Flat Coated Retriever.

Trichiasis is a condition whereby facial hair contacts the ocular surface. Upper eyelid trichiasis occurs in some breeds such as the Cocker spaniel where excessive skin on the head causes the hair to come into contact with the eye. Some brachycephalic breeds (those with short flat skulls) for example the pug or bulldog suffer from trichiasis when nasal folds are in close proximity to the eye (figure 4)



Figure 4 Nasal fold trichiasis

Prolapse of the gland of the third eyelid results in the appearance of a pink swelling at the inner corner of the eye (medial canthus) and is commonly referred to as 'cherry eye' (figure 5). Surgery to correct the condition involves creating a "pocket" or space to put the gland into and then suturing the conjunctiva on the back of the third eyelid.



Figure 5 Prolapse of the gland of the third eyelid (right eye)

British Veterinary Association/ Kennel Club (BVA/KC) Eye scheme

For over thirty years the BVA has operated a screening programme for hereditary eye disease in conjunction with the Kennel club. The conditions specified within the scheme are hereditary conditions of the eye itself and not conditions involving the eyelids or adnexa or those relating to tear production or drainage. However, during an eye examination, the veterinary ophthalmologist will observe these structures and record abnormal findings such as entropion, ectropion and distichiasis on the middle section of the eye certificate. The BVA website explains the reason for this approach:

'this approach is needed because evidence of inheritance for these disorders is incomplete and their complex nature is acknowledged, however, comments made in the middle section of the certificate will summarise their significance, especially so if they may be a cause of discomfort or reduced vision'. (BVA)

Results of general eye tests for breeds where there is no known inherited ocular disease (KIOD) will now also be recorded and published in the BRS as well as gonioscopy results. If no condition is found they will be published as an unaffected result, if there is an observation, this will be recorded as "observation made – results with owner", as at this time the hereditary component of the condition won't be known in the breed.

References:

BVA <https://www.bva.co.uk/canine-health-schemes/eye-scheme/> accessed 1st July 2022

Petersen-Jones SM (2002) The Eyelid and nictitating membrane, In: *BSAVA Manual of Small Animal Ophthalmology*, 2nd edn, ed. SM Petersen-Jones and S Crispin.

Acknowledgement:

Photographs courtesy of David Gould