

AHT Equine



Ophthalmology

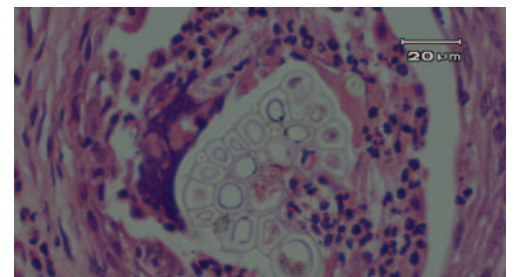
AHT Equine's Ophthalmology Unit provides a 24 hour service 7 days a week dealing with a wide range of acute and chronic ocular diseases.

Diagnostic Facilities

Ophthalmic examinations include the use of a slit lamp biomicroscope as well as direct and indirect ophthalmoscopy. The value of this approach is illustrated by a case of recurring corneal ulceration and blepharospasm in a 9-year old Welsh Cob. The cause was not immediately apparent, but a thorough examination of the lids and conjunctiva using the slit lamp biomicroscope revealed a hair-like structure. On histopathology, this was shown to be a 3mm fragment of plant material.



The arrow indicates the position of the foreign body material in the palpebral conjunctiva.



Plant material can be seen embedded within the superficial conjunctival submucosa. It is surrounded by clusters of neutrophils.

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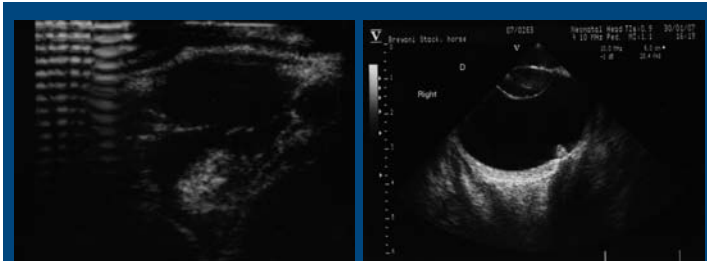
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Ophthalmology

Ocular Ultrasound

Ocular ultrasonography can be performed in the conscious horse and is part of the routine ocular examination for some of our cases. It allows for a rapid and detailed examination of the globe and associated structures which is invaluable when an ophthalmoscopic examination is not possible due to opacity of ocular structures, as in corneal oedema or cataract formation.



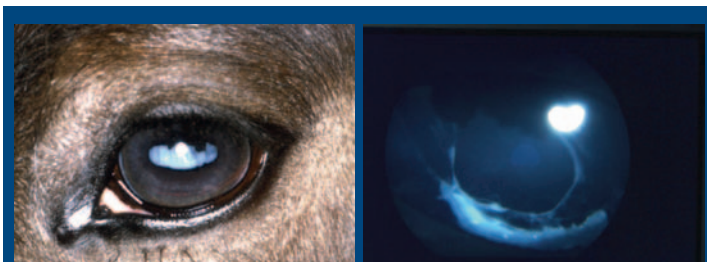
Eight-year-old pony with diffuse corneal oedema and intraocular haemorrhage as a result of an acute traumatic injury. The curvilinear V shaped structure extending throughout the posterior segment and back to the optic disc is indicative of a complete retinal detachment. Blood clots can be seen within the vitreous.

Twenty-month-old colt with bilateral microphthalmia and cataracts. The ultrasound of the right eye demonstrates a small but slightly deformed lens (lens size 10mm, globe size 38mm). There is also choroidal thickening and an echogenic structure on the retinal surface.

Surgical Procedures

Most surgical procedures, including keratectomy, conjunctival flaps and corneoscleral advancement flaps require good magnification to achieve a satisfactory outcome. Intraocular surgery requires a high level of skill, training and the use of dedicated microsurgical instrumentation which requires a significant level of investment. Cataract extraction is one such procedure. Whilst cataract extraction has become routine in small animals and man, we are only just beginning to see this successfully performed in the adult horse.

Foals with congenital cataract are ideally suited for this procedure, as the eye and cataract are relatively small. However, with the advent of specially designed phacoemulsification equipment and intraocular lenses suitable for the adult equine lens, rapid progress in this area is likely.



One-month-old Quarterhorse filly with a congenital cataract.

Post operative result following phacoemulsification to remove a cataract. The remaining opacity is a result of capsular cataract.

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Anaesthesia

Many ocular procedures are facilitated by neuromuscular blockade to achieve an optimal eye position and control of intraocular pressure. Vitreous prolapse in the horse is a well recognised complication of intraocular surgery. This can be minimised with the use of neuromuscular blockade under general anaesthesia. The Trust's dedicated and experienced anaesthesia team are responsible for the care of all our patients. This is particularly important in the post operative period when pain control is particularly pertinent.

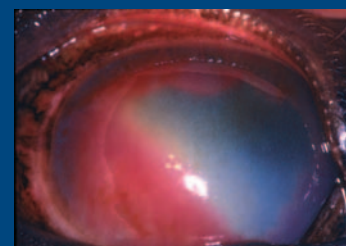
Medical conditions

Early referral of ocular cases can make a significant difference to the outcome. This is particularly pertinent for corneal and intraocular conditions. Unfortunately, many of our cases have a very chronic history. We have recognised the increasing incidence of keratomycosis in the horse in the UK, which interestingly parallels a similar situation in man. This is a devastating ocular condition, which frequently results in loss of the globe. Early diagnosis is facilitated by our on-site clinical diagnostic and pathology service. The classical history for corneal fungal infection is one of prolonged topical steroid and antibiotic treatment, frequently following a penetrating injury. Corneal scrapes and biopsies should be performed to try and establish an early diagnosis. Unfortunately many fungi have a tropism for Descemet's membrane and may therefore be missed on biopsy. However, 3 classical presentations which raise the level of suspicion of fungal involvement are illustrated below.

Keratomycoses demonstrating clefting around an area of extensive ulceration



Keratomycoses presenting as stromal abscessation



Keratomycoses characterised by a 'cake frosting' appearance



Smear taken from an ulcerated cornea, demonstrating numerous fungal hyphae

