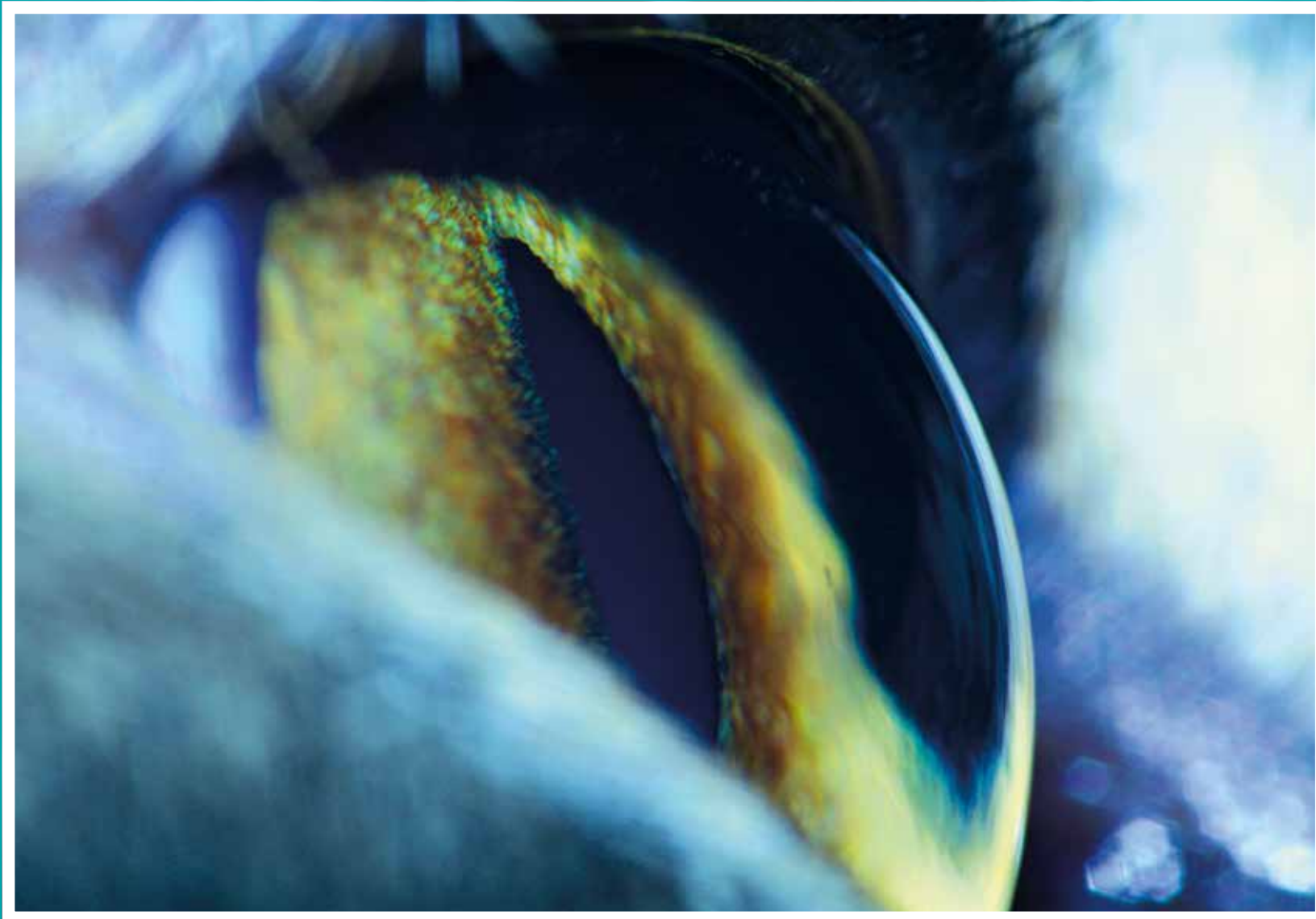


Postgraduate Certificate in Small Animal

# OPHTHALMOLOGY

BSAVA  
postgraduate  
programme

PURSUE YOUR POTENTIAL



NOTTINGHAM  
TRENT UNIVERSITY



 **BSAVA**  
BRITISH SMALL ANIMAL VETERINARY ASSOCIATION

# Structure and function of the eye

**Speaker: David Williams** MA VetMB PhD  
CertVOphthal CertWEL FHEA FRCVS

- Anatomy and physiology of the eye
- Optics and vision
- Ocular immunology
- Pathological responses of the eye

## Ocular diagnostics

**Speakers: Emma Dewhurst** MA VetMB FRCPath  
MRCVS and

**Paul Mahoney** BVSc DVR FHEA CertVC DipECVDI  
MRCVS

Clinical pathology:

- Swabbing
- Culture
- Cytology
- Biopsy

Diagnostic imaging:

- Radiography (survey and contrast)
- Ultrasonography
- When advanced imaging (CT, MRI) may be considered

# Examination of the eye

**Speaker: Christine Heinrich** DVOPhthal DipECVO  
MRCVS

- Obtaining an appropriate history and anamnesis for ocular patients
  - Specific emphasis on the importance of breed predispositions on the diagnosis of ocular disease in purebred dogs and cats
  - Consideration of effects of concurrently used medications on the ocular examination
  - Ophthalmic record keeping
- Order of the ocular examination: hands off – hands on
- Neuro-ophthalmic examination (in brief – more detail in the Neuro-ophthalmology unit)
  - Practical application of pupillary light, dazzle and menace responses as well as vestibulo-ocular reflexes
  - Additional methods of vision assessment both in a practical and a laboratory(\*) setting
- Use of diagnostic instruments:
  - Focal direct illumination without magnification
    - Use of a pen-torch or Finhoff Transilluminator for examination of adnexa, cornea and pupillary light reflexes
  - Direct ophthalmoscopy
    - Understand the principles of direct ophthalmoscopy
    - Practical application of direct ophthalmoscopy
    - Basic interpretation of ophthalmoscopic findings
  - Indirect ophthalmoscopy (monocular and binocular)
    - Understand the principles of monocular and binocular indirect ophthalmoscopy
    - Practical application of indirect ophthalmoscopy
    - Basic interpretation of ophthalmoscopic findings
  - Slit-lamp biomicroscopy
    - Understand the principles of the slit lamp biomicroscope
    - Awareness of various models available for veterinary use (hand-held) vs instruments predominantly available for human use (table-mounted)
    - Methods of illumination and magnification used in slit lamp biomicroscopy
    - Interpretation of findings on slit-lamp biomicroscopy
- Tonometry
  - Understand the principles of indentation, applanation and rebound tonometry
  - Practically handle various models (Schiotz tonometer, Tonopen and TonoVet)
  - Critical avoidance of errors during tonometry
- Gonioscopy (\*)
  - Understand principles of direct and indirect gonioscopy lenses
  - Practicalities of gonioscopy
  - Differentiate between normal and abnormal findings
  - Raise awareness of grading schemes used in gonioscopy
- Retinoscopy (\*)
  - Understand principles of retinoscopy
  - Practicalities of retinoscopy
  - Refractive state of canine populations
- Ancillary tests
  - Schirmer tear test and other methods of tear film assessment testing
  - Ocular uses of fluorescein including Seidel testing and testing for nasolacrimal patency
  - Corneal aesthesiometry (\*)
  - Appropriate sampling for ocular cytology, microbiology and histology (in brief – more detail in the Ocular diagnostics unit)
- Advanced imaging for ocular use (in brief – more detail in the Ocular diagnostics unit)
  - Ocular ultrasonography
  - Orbital radiography
  - Orbital and skull CT
  - Orbital and brain MRI
  - Electroretinography (\*)

Please note that elements marked (\*) are considered advanced techniques, which would normally be beyond certificate level. They are included here so that you can understand the principles, appreciate when it may be appropriate to offer referral, and are able to discuss options fully with clients.

## Principles of ophthalmic surgery

**Speaker: Sally Turner** MA VetMB DVOphthal MRCVS

- Principles of ophthalmic surgery
- Ophthalmic surgical instruments
- Use of magnification (operating loupes, operating microscopes)
- Patient and surgeon positioning
- Sterile preparation of the eye and adnexa
- Ophthalmic analgesia and anaesthesia
  - Local and regional analgesia
  - Anaesthesia for ocular surgery
  - When to refer
  - Principles of ocular microsurgery (corneal-conjunctival, intraocular +/- vitreoretinal (★))
  - Principles of postoperative care

## Conditions of the globe and orbit

**Speaker: Màrian Matas Riera** DVM DipECVO MRCVS

- Brief review of pertinent embryology and deeper review of anatomy
- Congenital and developmental anomalies of the globe and orbit
- Acquired abnormalities of the globe and orbit
- Diagnostics plan and therapeutics
- Overview of surgeries of the globe and orbit

## Conditions of the episclera, sclera and limbus

**Speaker: Natasha Mitchell** MVB DVOphthal MRCVS

- Review of pertinent embryology and anatomy
- Congenital and developmental anomalies of the episclera, sclera and limbus
- Acquired abnormalities of the episclera, sclera and limbus
- Therapeutics
- Surgery of the episclera, sclera and limbus

## Conditions of the eyelids and third eyelid

**Speaker: Sue Manning** BVSc(Hons) DVOphthal MRCVS

- Review of pertinent embryology and anatomy
- Congenital and developmental anomalies of the eyelids and third eyelid
- Acquired abnormalities of the eyelids and third eyelid
- Therapeutics
- Surgery of the eyelids
- Surgery of the third eyelid

## Conditions of the lacrimal secretory and excretory systems

**Speaker: Claudia Hartley** BVSc CertVOphthal DipECVO MRCVS

- Review of pertinent embryology and anatomy
- Imaging of the lacrimal systems
- Congenital and developmental anomalies of the lacrimal systems
- Acquired abnormalities of the lacrimal systems
- Therapeutics
- Surgery of the lacrimal systems

## The conjunctiva and cornea

**Speaker: Lorraine Fleming** BVetMed CertVOphthal MRCVS

- Review of pertinent embryology and anatomy
- Conjunctival conditions
  - Congenital and developmental
  - Acquired
- Corneal disease
  - Congenital and developmental
  - Acquired
  - Therapeutics
  - Surgery of the conjunctiva and cornea

## Practical surgery

**Speaker: David Gould** BSc(Hons) BVM&S PhD MRCVS DVOphtal DipECVO and  
**Jim Carter** BVetMed DVOphtal MRCVS

This practical will be cadaver based; there is likely to be a small number of core procedures which all undertake, and then a list of elective procedures from which delegates can choose (working in pairs).

- Basic surgery of the globe and orbit
- Basic surgery of the eyelids
- Basic surgery of the lacrimal system
- Basic surgery of the conjunctiva and cornea

## Uveal tract and glaucoma

**Speaker: Mike Rhodes** BVM&S CertVOphthal DipECVO MRCVS

- Review of pertinent embryology and anatomy
- Congenital and developmental anomalies of the uveal tract
- Acquired abnormalities of the uveal tract
- Surgery of the iris (\*)
- Review of aqueous humour production and drainage
- Primary glaucoma
- Secondary glaucoma
- Treatment of glaucoma
  - Medical
  - Surgical (\*)

## Lens and vitreous

**Speaker: Rob Lowe** BVSc DVOphtal MRCVS

- Review of pertinent embryology and anatomy
- Congenital and developmental anomalies of the lens
- Current screening programmes for inherited lens disorders
- Acquired abnormalities of the lens
- Surgery of the lens (\*)
- Congenital and development abnormalities of the vitreous
- Acquired abnormalities of the vitreous

## Ocular fundus

**Speaker: Sally Turner** MA VetMB DVOphtal MRCVS

- Review of pertinent embryology and anatomy
- Congenital and developmental anomalies of the retina/choroid
- Current screening programmes for inherited retinal disorders
- Acquired abnormalities of the retina/choroid
- Electroretinography (\*)
- Retinal surgery (\*)
- Abnormalities of the optic nerve

## Neuro-ophthalmology

**Speaker: Laurent Garosi** DVM MRCVS DipECVN

- Facial nerve paralysis
- The neuro-ophthalmic examination: from principles to practice
- Head tilt, nystagmus and strabismus
- Step-by-step approach to anisocoria
- Neurological causes of blindness
- Trismus, dropped jaw and masticatory muscle atrophy

## Ocular neoplasia and ocular manifestations of systemic disease

**Speakers: David Gould** BSc(Hons) BVM&S PhD MRCVS DVOphtal DipECVO and  
**Jim Carter** BVetMed DVOphtal MRCVS

- Primary and secondary neoplasia of the eye, adnexa and orbit
- Ocular manifestations of systemic disease

## Ophthalmology in exotic animals

**Speaker: David Williams** MA VetMB PhD  
CertVOphthal CertWEL FHEA FRCVS

- Review of pertinent anatomy and physiology in
  - Small mammals
  - Birds
  - Reptile
  - Amphibians
  - Fish
- Approach to the examination of the eye in exotic animals
- Common conditions of the eye, adnexa and orbit in exotic animals
- Therapeutic considerations in exotic animals

## Ocular injury

**Speaker: Claudia Hartley** BVSc CertVOphthal  
DipECVO MRCVS

- General approach to cases of ocular trauma
- Management of injury due to
  - Caustic or toxic substances
  - Blunt trauma
  - Penetrating trauma
  - Chronic repetitive self trauma
- Consideration of prognosis

## Ocular therapeutics

**Speaker: James Oliver** BVSc CertVOphthal  
DipECVO MRCVS

- Revision of principles of ocular therapeutics
- The cascade
- Use of antibacterials, antivirals, antifungals and parasiticides – case based
- Use of anti-inflammatories, analgesics and immunosuppressants – case based
- Devising practice-based therapeutic protocols

## Problem-based approach

**Speaker: James Oliver** BVSc CertVOphthal  
DipECVO MRCVS

Case based discussion on the following topics:

- Red and painful eye
- Hyphaema
- Cloudy eye
- Watery eye
- Deviated/protruding eye
- Blindness

## Practice observation

This unit has a different format to the others, and may be completed at any time during the first two years of study (Module 1).

**Each student must arrange to 'see practice' with an experienced ophthalmologist for a minimum of one full day or two half days.** A list will be provided of practices/individuals who have agreed to consider requests from students to see practice. If you would prefer to see practice with a practice or individual not on the list, please check the guidelines in this section.

The aim of this short period of practice observation is to allow you to watch an experienced ophthalmologist at work – the approach to the case, the appropriate use of diagnostic equipment, and the knowledge and skills applied. We hope there would also be the opportunity for you to discuss some aspects of the cases seen during the day.

**Each student must reflect on what they have learned.** After your period of observation, you will be asked to think about what you learned during your period of observation, and to write a short account in your portfolio.

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