



Examination of the eye

TARGETED
TREATMENT
FOR EYES



1. Preparation

History

It is essential to start by obtaining a thorough history. This should include:

- 1 Signalment
- 2 Background on housing, diet, vaccinations, travel and in-contact animals
- 3 General health status, including any recent diseases or trauma, and/or history of previous ocular issues and outcome
- 4 Information on the current complaint:
 - a. Duration and onset
 - b. Unilateral or bilateral
 - c. Presence of visual difficulties, discharge, pain, discolouration, mass or other abnormality
 - d. Any behavioural abnormalities

Equipment

BASICS

- Focal light source and magnification (Direct Ophthalmoscope / Otoscope)
- Indirect fundoscopic lens (20—30 dioptre)
- Forceps (for the 3rd eyelid)
- Cotton wool, slides and sterile saline
- Local anaesthetic and mydriatic agent
- Swabs for bacteriology/virology
- Schirmer tear test strips
- Fluorescein dye
- Lacrimal cannulae

OTHER USEFUL EQUIPMENT

- Binocular/Monocular indirect ophthalmoscope
- Slit-lamp biomicroscope
 - Tonometer
 - Goniolens

Consultation Room

The room in which the examination is performed should have the facility for complete darkness and should be calm and quiet. Animals should be adequately restrained, as examination involves getting close to the face. If required, muzzle dogs and gain assistance in handling fractious cats. Sedation should be avoided where possible to prevent interference with eyelid positioning and with the results of diagnostic testing.



In The Light

2. Ophthalmic Exam

In The Dark



STEP 1

OBSERVATION

Before touching the animal, assess for evidence of pain/visual abnormalities. Note the head position, gait, blink rate, orbital, periorbital and eyelid conformation and the resting position of the upper, lower and third eyelids.

STEP 2

GENERAL PHYSICAL EXAMINATION

Follow your own protocol to assess for presence of non ocular clinical signs. Greater focus should be placed on the eyes and periocular region. Assess facial and eye symmetry, presence of discharge, signs of pain (blepharospasm, epiphora, photophobia etc) and gain a more in-depth evaluation of the presence of en/ectropion.

STEP 3

PHYSICAL INSPECTION OF THE EYE AND ADNEXA

Start with the external eye. Assess the upper and lower lids and conjunctiva by retracting both lids. The presence and location of the lacrimal puncta can be recorded. Application of gentle pressure to the globe should cause protrusion of the third eyelid to allow for examination. It may be possible to grasp it with atraumatic forceps to assess the posterior surface.

STEP 4

NEURO-OPHTHALMOLOGIC EXAM

Document the results of the following tests:

- Palpebral reflex
- Dazzle reflex
- Menace response
- Pupillary light reflex

Abnormalities in these tests may require further neurological testing.

The Schirmer tear test measures aqueous production over one minute and should be performed at this point in every case with ocular discharge, conjunctivitis and/or keratitis. Equally, where swabbing for microbiology or virology is indicated, this would be a sensible point in the examination to collect these samples - before topical agents are applied.

STEP 5

FURTHER INSPECTION OF THE EYE AND ADNEXA

A focal light source should be used to examine the cornea, documenting any opacities or irregularities. The tear film should look clear. Continue to examine the anterior chamber, ensuring it is visualised at different angles to document clarity and depth. Move to the iris and pupil margin—the margin should be smooth and iris of normal colour, then finally document the opacity of the lens.

STEP 6

OPHTHALMOSCOPY

Distant Direct - The ophthalmoscope should be held close to the examiner's eye and the animal positioned at around arms length away. Light should be shone towards the animal until the tapetal reflex is detected. Any obstruction to the tapetum will appear black. The method is particularly good for assessing for cataracts and enabling the examiner to distinguish between cataracts and nuclear sclerosis of the lens.

Examination of the fundus is achieved using a combination of indirect and close direct ophthalmoscopy. The pupils should be dilated using a mydriatic agent. It is useful to examine the fundus of all eyes, as there is much variability, and gaining a knowledge of the normal variants will allow easier detection of disease.

Indirect - Use a focal light source, at arms length, to detect the tapetal reflex. Next place a condensing lens a few centimetres in front of the eye, ensuring the flattest side is towards the patient and document observations.

Remember that the image produced is both inverted and reversed.

Close Direct— Use a low intensity light and place the ophthalmoscope close to both the examiner and animal's eye. The view of the fundus is small and highly magnified. The optic disc can be examined, followed by assessing the remaining fundus (usually in quadrants). Finally, the retina should also be evaluated.

3. Further Testing

According to the findings in the examination, consideration should be given to whether further testing is required, either in house or by a referral practice. This may include use of fluorescein to assess the cornea/tear film and patency of the nasolacrimal ducts, corneal scraping for cytology, tonometry where there is concern over intraocular pressures, gonioscopy to assess the drainage angle, further imaging and electroretinography.