

FExNet 2026

Collated SAQs: Ophthalmology

QUESTION BOOKLET

18 short-answer questions covering the ACEM Fellowship ophthalmology curriculum for emergency medicine — acute angle-closure glaucoma, retinal vascular occlusions, retinal detachment, optic neuritis, giant cell arteritis, anterior uveitis, conjunctivitis, bacterial and herpes keratitis, herpes zoster ophthalmicus, orbital and pre-septal cellulitis, endophthalmitis, pupillary abnormalities, painful and painless visual loss differentials, corneal abrasion, and subconjunctival haemorrhage. Note: ocular trauma (globe rupture, hyphaema, orbital compartment, chemical injury) is covered in Trauma — Special Circumstances and Trauma — Head/Face/Neck booklets. Stems are written in detailed prose with abbreviations spelt out in full.

18 questions • 183 marks

ACEM-aligned format. Sub-questions labelled a) b) c). Mark allocations indicative; references cited in the Answer Booklet. Question and answer indexes are clickable.

Question Index

Click any entry to jump to its question. Marks shown right.

Q1. Acute Angle-Closure Glaucoma	12	Q10. Herpes Simplex Keratitis (Dendritic Ulcer)	9
Q2. Central Retinal Artery Occlusion	11	Q11. Herpes Zoster Ophthalmicus	11
Q3. Central Retinal Vein Occlusion	9	Q12. Orbital versus Pre-septal Cellulitis	11
Q4. Retinal Detachment	10	Q13. Endophthalmitis	9
Q5. Optic Neuritis	10	Q14. Pupillary Abnormalities and Anisocoria	11
Q6. Giant Cell Arteritis with Visual Loss	11	Q15. Painful Red Eye — Differential Diagnosis	10
Q7. Acute Anterior Uveitis (Iritis)	10	Q16. Sudden Painless Vision Loss Differential	10
Q8. Acute Conjunctivitis — Causes and Treatment	12	Q17. Corneal Abrasion and Corneal Foreign Body	9
Q9. Bacterial Keratitis in Contact Lens Wearer	10	Q18. Subconjunctival Haemorrhage	8

Question 1 | Acute Angle-Closure Glaucoma (12 marks)

A 65-year-old Asian woman presents to your emergency department with a 4-hour history of severe right-eye pain, blurred vision with halos around lights, headache, and nausea. The pain began when she walked into a darkened cinema. She is hypermetropic (long-sighted). On examination, her right eye is intensely injected, the cornea appears hazy / cloudy, and the pupil is mid-dilated, oval, and unreactive to light. Vital signs are within normal limits.

a) List 4 features supporting acute angle-closure glaucoma. (4 marks)

b) List 3 methods of measuring intraocular pressure AND state the upper limit of normal. (4 marks)

c) State 4 immediate management priorities (with drug, dose, route). (4 marks)

Question 2 | Central Retinal Artery Occlusion (11 marks)

A 74-year-old woman presents to your emergency department with sudden painless visual loss in her right eye that occurred 30 minutes ago. She has perception of light only at the periphery of her right visual field. Her main comorbidities are hypertension, hypercholesterolaemia, and type 2 diabetes mellitus. On fundoscopy of the right eye, you see a pale (whitish) retina with a 'cherry-red spot' at the macula. Her vital signs are within normal limits.

a) List 5 causes of sudden painless unilateral vision loss. (5 marks)

b) Describe what is meant by a relative afferent pupillary defect (RAPD) AND state when it would be expected. (3 marks)

c) List 3 emergency department treatment options for CRAO with rationale. (3 marks)

Question 3 | Central Retinal Vein Occlusion (9 marks)

A 66-year-old man with hypertension, type 2 diabetes mellitus, and primary open-angle glaucoma presents to your emergency department with sudden painless vision loss in his left eye that occurred 2 hours ago. He has noticed haloes around lights for the past few weeks. On examination, his left visual acuity is 6/60. Fundoscopy reveals widespread intraretinal haemorrhages in all four quadrants, dilated and tortuous retinal veins, cotton-wool spots, and disc swelling. There is no relative afferent pupillary defect.

a) Describe 3 fundoscopic features distinguishing CRVO from CRAO. (3 marks)

b) List 3 risk factors for CRVO. (3 marks)

c) State 3 management priorities. (3 marks)

Question 4 | Retinal Detachment (10 marks)

A 78-year-old myopic man presents to your emergency department with sudden painless vision loss in his right eye that started 1 hour ago. Over the past few days he has noticed flashing lights (photopsia) and an increasing number of floaters in the right eye. He has a history of cataracts (operated 2 years ago) and hypertension. On examination, his right visual acuity is hand movements only. The posterior chamber is not clearly visible due to a posterior vitreous detachment.

a) List 3 risk factors for retinal detachment. (3 marks)

b) List 4 investigations or examinations to help establish the diagnosis (with reasoning). (4 marks)

c) State 3 management principles. (3 marks)

Question 5 | Optic Neuritis (10 marks)

A 32-year-old woman presents to your emergency department with a 3-day history of progressive vision loss in her left eye, associated with pain behind the left eye that worsens with eye movement. She has noticed her vision is 'washed out' — colours appear less saturated, particularly red. She has no previous medical history. On examination, her left visual acuity is 6/24 (right 6/6 normally). There is a left relative afferent pupillary defect. Fundoscopy is normal.

a) List 4 features supporting optic neuritis. (4 marks)

b) List 3 investigations with rationale. (3 marks)

c) State 3 management priorities. (3 marks)

Question 6 | Giant Cell Arteritis with Visual Loss (11 marks)

A 78-year-old woman presents to your emergency department with sudden painless vision loss in her left eye that occurred 6 hours ago. She has had increasing right-sided headache, jaw pain when chewing, and scalp tenderness for the past 3 weeks. She has a 2-month history of generalised malaise, fevers, and weight loss. On examination, her left visual acuity is hand movements; there is a left relative afferent pupillary defect. Fundoscopy shows a swollen pale optic disc. The right temporal artery is thickened, tortuous, and tender to palpation, with absent pulse.

a) List 4 supportive features for giant cell arteritis (GCA). (4 marks)

b) List 3 investigations with expected findings. (3 marks)

c) State 4 immediate management priorities — emphasise URGENCY. (4 marks)

Question 7 | Acute Anterior Uveitis (Iritis) (10 marks)

A 35-year-old male presents to your emergency department with a 2-day history of severe right-eye pain, photophobia, and reduced vision. He has a history of ankylosing spondylitis. On slit-lamp examination, the right eye shows a constricted (small, irregular) pupil, ciliary flush (deep circumferential redness around the limbus), cells and flare in the anterior chamber, and corneal keratic precipitates. Intraocular pressure is 18 millimetres of mercury (normal).

a) List 3 distinguishing features of anterior uveitis from conjunctivitis. (3 marks)

b) List 4 systemic associations of anterior uveitis. (4 marks)

c) State 3 management priorities. (3 marks)

Question 8 | Acute Conjunctivitis — Causes and Treatment (12 marks)

A 25-year-old man presents to your emergency department with a 3-day history of bilateral red eyes with watery discharge. He had an upper respiratory tract infection 1 week ago. On examination, both eyes have conjunctival hyperaemia, mild watery discharge, and mild eyelid swelling. Visual acuity is preserved (6/6 bilaterally). He denies pain (only foreign-body sensation). Pre-auricular lymphadenopathy is palpable bilaterally.

- a)** Complete the table — for each cause of conjunctivitis (bacterial, viral, allergic), give 3 discriminatory features (history / examination) AND treatment (3 marks for discriminatory + treatment per category). (9 marks)

- b)** List 3 'red-flag' features that warrant urgent ophthalmology referral. (3 marks)

Question 9 | Bacterial Keratitis in Contact Lens Wearer (10 marks)

A 22-year-old woman presents to your emergency department with severe right-eye pain, photophobia, and discharge for the past 12 hours. She wears soft contact lenses and has been sleeping in them. On examination, the right eye is intensely injected with significant ciliary flush and watering. Slit-lamp examination reveals a 3-millimetre paracentral round white corneal infiltrate (ulcer) with fluorescein-staining epithelial defect overlying it. Visual acuity is reduced to 6/24. There is a small hypopyon (1 millimetre layer of pus in the anterior chamber).

a) List 3 features supporting bacterial keratitis. (3 marks)

b) List 4 likely causative organisms (specifically in contact lens wearer). (4 marks)

c) State 3 management priorities. (3 marks)

Question 10 | Herpes Simplex Keratitis (Dendritic Ulcer) (9 marks)

A 38-year-old man presents to your emergency department with a 3-day history of a painful left red eye, photophobia, and watering. He has had similar episodes 2 years ago and 4 years ago. Slit-lamp examination with fluorescein reveals a branching, dendritic-shaped epithelial defect on the corneal surface with terminal bulbs. Visual acuity is mildly reduced (6/9).

a) List 3 features supporting herpes simplex keratitis. (3 marks)

b) State 3 management priorities (drug, dose, duration). (3 marks)

c) List 3 complications of recurrent herpes simplex keratitis. (3 marks)

Question 11 | Herpes Zoster Ophthalmicus (11 marks)

A 68-year-old man presents to your emergency department with a 4-day history of severe right-sided forehead and periorbital pain that started before the rash appeared. He has now developed a vesicular rash in a strict unilateral distribution across the right forehead, scalp, upper eyelid, and tip of the nose. He notes mild blurred vision in the right eye. He has type 2 diabetes mellitus.

a) List 4 features supporting herpes zoster ophthalmicus. (4 marks)

b) State 4 important complications. (4 marks)

c) State 3 management priorities. (3 marks)

Question 12 | Orbital versus Pre-septal Cellulitis (11 marks)

A 7-year-old boy is brought to your emergency department by his parents with a 2-day history of swelling and redness around his left eye. He has had a 1-week history of upper respiratory tract infection with purulent nasal discharge. On examination he is febrile (38.6 degrees Celsius), with marked left periorbital swelling, erythema, and tenderness. The eye is closed by oedema. When the eyelid is gently retracted, the globe appears proptosed, eye movements cause pain, and there is limitation of upgaze and lateral gaze.

a) List 4 features distinguishing orbital from pre-septal cellulitis. (4 marks)

b) State 4 management priorities for orbital cellulitis. (4 marks)

c) List 3 important complications of orbital cellulitis. (3 marks)

Question 13 | Endophthalmitis (9 marks)

A 70-year-old man presents to your emergency department with a 24-hour history of severe right-eye pain, photophobia, and rapidly progressive vision loss. He underwent uncomplicated phacoemulsification cataract surgery 4 days ago. On examination, his right visual acuity is hand movements only. There is conjunctival injection, marked anterior chamber reaction, hypopyon (3 mm layer), and decreased red reflex. Vitreous has a hazy appearance on slit-lamp.

a) List 3 features supporting endophthalmitis. (3 marks)

b) List 4 management priorities. (4 marks)

c) List 2 less common causes (other than recent surgery). (2 marks)

Question 14 | Pupillary Abnormalities and Anisocoria (11 marks)

Three patients present with pupillary abnormalities: Patient A: A 65-year-old man with a sudden severe headache; right pupil dilated and unreactive, right ptosis and exotropia. Patient B: A 35-year-old woman with chronic anisocoria. The right pupil is constricted; she has right partial ptosis but her right eye is normally positioned. Sweating is reduced on the right side of the face. Patient C: A 22-year-old woman with a chronic tonically dilated right pupil; reacts only slowly to light, but constricts gradually with sustained near vision. Reduced ankle reflexes.

a) Patient A — diagnose AND state 1 cause. (3 marks)

b) Patient B — diagnose AND state 2 causes. (3 marks)

c) Patient C — diagnose AND describe the physiology. (3 marks)

d) Describe Argyll Robertson pupil AND name 2 causes. (2 marks)

Question 15 | Painful Red Eye — Differential Diagnosis (10 marks)

A 50-year-old woman presents to your emergency department with a painful red left eye that has developed over 24 hours.

- a)** List 5 differential diagnoses with one cardinal examination finding for each (10 marks; diagnosis + finding 2 marks each). (10 marks)

Question 16 | Sudden Painless Vision Loss Differential (10 marks)

A 70-year-old man presents to your emergency department with sudden painless vision loss in his right eye that occurred 90 minutes ago. He has perception of light only at the periphery.

- a)** List 5 differential diagnoses for sudden painless vision loss with 1 fundoscopic finding AND 1 distinguishing feature for each (10 marks; 2 marks each). *(10 marks)*

Question 17 | Corneal Abrasion and Corneal Foreign Body (9 marks)

A 35-year-old man presents to your emergency department with a painful right eye that started 2 hours ago after he was working on a metal lathe without eye protection. He has watery discharge, photophobia, and foreign-body sensation. On slit-lamp examination with fluorescein, you visualise a small (1 millimetre) green-stained linear epithelial defect on the right cornea, and a small metallic-looking foreign body adherent to the epithelium just superior to the visual axis. There is a small rust ring around the foreign body.

- a)** Describe the technique for removing a corneal foreign body in the emergency department. (4 marks)

- b)** List 3 contraindications to topical anaesthetic discharge AND state 3 management steps. (3 marks)

- c)** List 2 indications for ophthalmology referral after foreign body removal. (2 marks)

Question 18 | Subconjunctival Haemorrhage (8 marks)

A 65-year-old woman presents to your emergency department with a sudden onset of a bright red bleed under the conjunctiva of the right eye that she noticed on waking this morning. She is asymptomatic except for mild discomfort. She has a history of hypertension (treated, well-controlled) and is on warfarin for atrial fibrillation. Her INR is 4.5. On examination, there is a flat, well-demarcated, bright red haemorrhage covering the inferior bulbar conjunctiva, sparing the cornea. Visual acuity is 6/6, eye movements are full, intraocular pressure is 14 mmHg.

- a) List 3 features distinguishing simple subconjunctival haemorrhage from concerning pathology. (3 marks)**

- b) List 3 underlying causes / risk factors. (3 marks)**

- c) State 2 management priorities. (2 marks)**
