

**THIRD PAPER**

**13 SEPTEMBER 2007**

**Perusal time: 10 minutes**

**Time allowed: TWO hours**

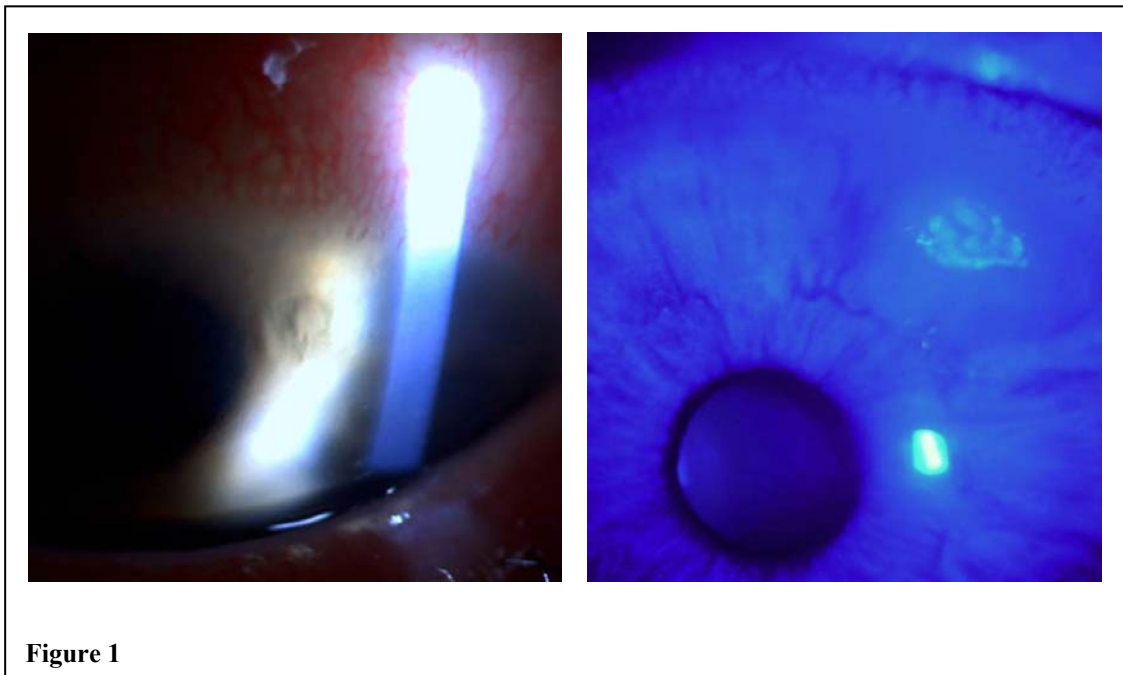
**Candidates should answer ALL questions. All questions are of equal value.**

1. A 60-year-old female patient presents to you with a vesicular rash extending from her right temple, across her right upper eyelid, and down the right side of her nose, extending to the tip. There are no such lesions anywhere on the left side of her face. The right pre-auricular lymph node is tender on palpation. The rash has been present for 24 hours but the patient reported a burning sensation for 48 hours prior to that. On presentation, the patient reports that the rash is very painful.

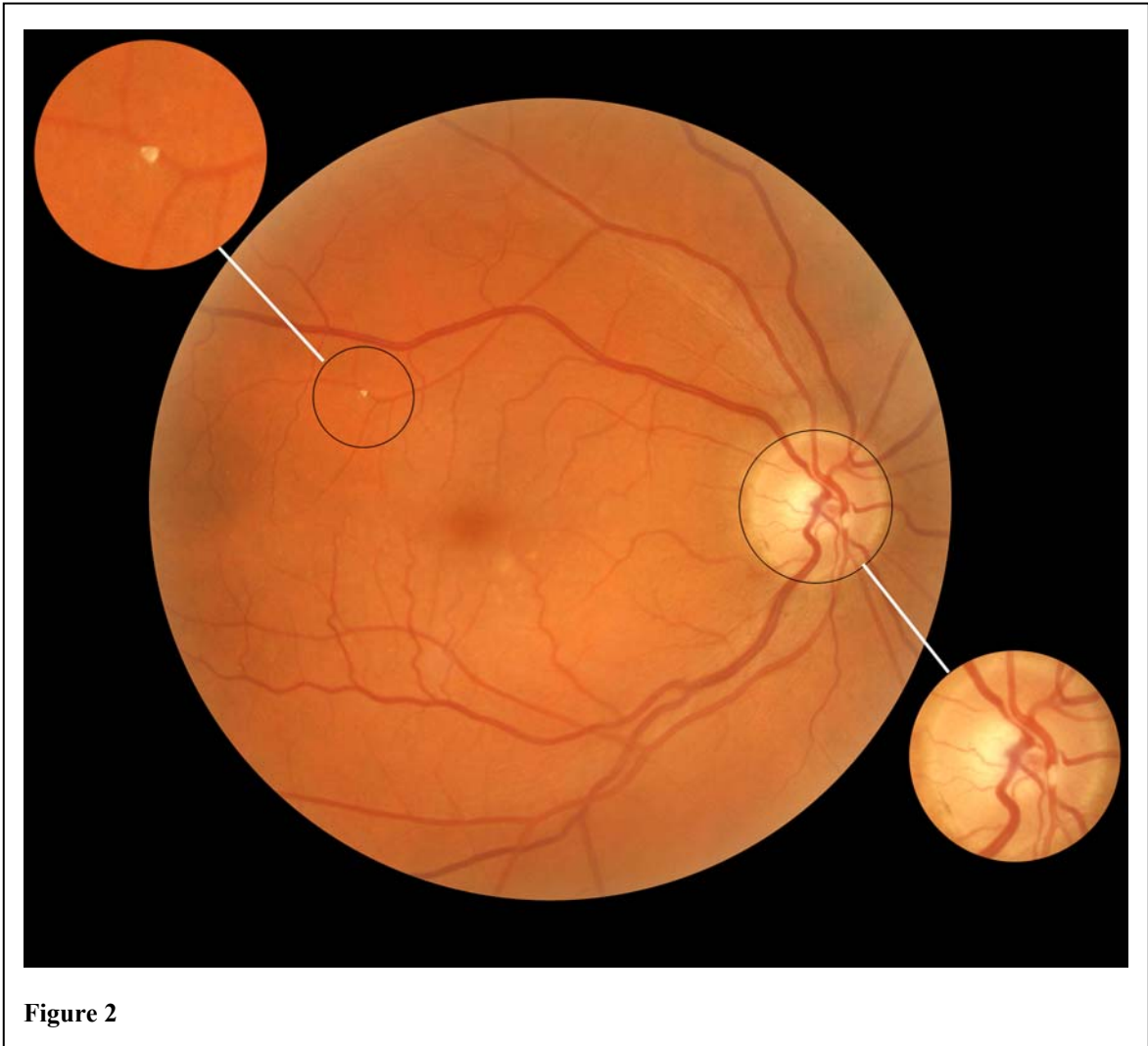
Best corrected visual acuity is 6/7.5 in the right eye with pain and photophobia. Acuity in that eye was 6/4.8 two months previously.

- a) Based on these signs and symptoms, give the most likely diagnosis for the condition. (3 marks)
- b) What techniques would you use to further assess the condition and what signs of the disease are you looking for?  
(4 marks)
- c) What therapies might be used to manage this condition and discuss the time-frame for using each of the therapies?  
(3 marks)
2. A 40-year-old man with a painful right eye presents to you and he complains of photophobia and blurry vision. He also reports having lower back pain for the past 3 months.
- a) What is the likely diagnosis? (2 marks)
- b) What work-ups would you perform to confirm the diagnosis? (4 marks)
- c) What is your management plan? (2 marks)
- d) If the patient complains of dysuria, what could this be? (2 marks)

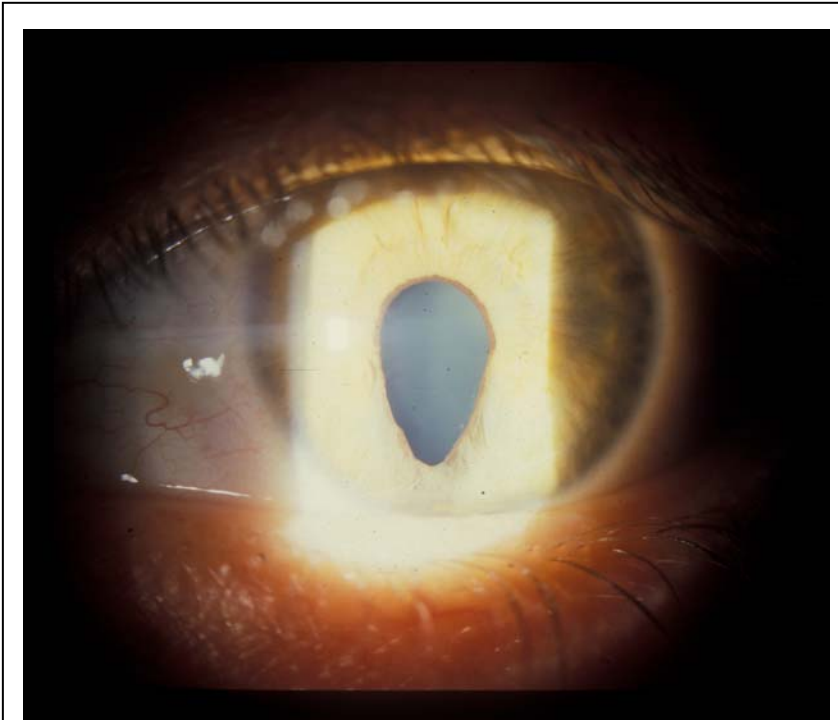
3. A 30-year-old contact lens wearer presents to your practice, reporting pain, tearing and redness in the left eye and mild photophobia. Best corrected visual acuity is reduced in this eye from its usual 6/4.8 to 6/7.5. Slit-lamp photographs of the left cornea are shown in Figure 1. The photograph on the right shows evaluation using sodium fluorescein dye under cobalt blue lighting.
- a) What is the most likely diagnosis for this condition? (4 marks)
- b) What management and therapies would you recommend for it, and why? (6 marks)



4. A 67-year-old male patient attends for routine eye examination. His R fundus appearance is as shown in the photograph (Figure 2 – includes two magnified inserts). He does not use any systemic or topical medication. His L fundus is normal. Visual acuity is R and L 6/6. He reports two episodes of “his vision going black over half his vision”, which lasted about 15 minutes.
- a) Describe features of clinical significance in the fundus photograph. (2 marks)
  - b) What condition is represented? (1 mark)
  - c) How is this related to his symptoms? Outline a probable aetiology. (4 marks)
  - d) What advice could be given to this patient regarding the condition? (3 marks)



5. A mother consults you asking if there is anything seriously wrong with her young daughter's right eye (Figure 3). The mother reports that the eye has looked like this since birth, and that her child has always been very sensitive to glare.
- a) What is the most likely diagnosis for this condition? (3 marks)
  - b) How would you explain this condition to the patient's mother? (3 marks)
  - c) What might you see if you examine the girl's right eye with an ophthalmoscope? (2 marks)
  - d) Other than wearing sunglasses, what could be done to alleviate the symptom of glare? (2 marks)



**Figure 3**

6. A 38-year-old male office worker presents for a routine eye examination because he has lost his spectacles. He last had his eyes examined 5 years ago. The patient has truncal obesity and is a heavy smoker. He reports that his general health is fair, but he has not seen a medical practitioner for 3 years.

The patient's left fundus is shown in Figure 4.

- a) What signs do you see in the fundus? (3 marks)
- b) Given the above changes and the patient's profile, what is the likely diagnosis? (2 marks)
- c) How should this patient be managed? (5 marks)



Figure 4

7. A 40-year-old woman presents with a red, painful, photophobic right eye. You note the lesions depicted on the R cornea, following instillation with sodium fluorescein dye (Figure 5), and a marked anterior chamber reaction. That morning, her general practitioner (primary care physician) had prescribed fluorometholone 0.1% q6h and chloramphenicol 0.5% q6h.
- a) List possible differential diagnoses for these corneal lesions. (3 marks)
  - b) Critically discuss this management. (7 marks)



**Figure 5**

8. The patient in Figure 6 presents to you because of concerns about the recent difference in the size of their pupils. The eyes appear as shown in the photograph (Figure 6). You find that the right pupil is unreactive to light (direct and consensual illumination) and only slowly constricts when the patient is asked to fixate a near target. The left eye reacts normally to direct and consensual light and to near stimulation.
- a) Based on the results outlined above, give a tentative diagnosis. (3 marks)
- b) Outline other examination techniques, clinical and pharmacological tests, and the results from these tests, that may be carried out to confirm your diagnosis. (7 marks)



**Figure 6**

9. You have conducted a full colour vision evaluation on an 18 year old male patient and obtained the results in Figure 7 below.

a) Discuss the results for each of the tests performed: Ishihara test, Farnsworth Panel D15, Medmont C100, the Nagel anomaloscope and the Farnsworth lantern test. (5 marks)

b) What is the final diagnosis? (2 marks)

c) Based on the colour vision findings, what advice would you give this patient if he was considering the following careers: airline pilot, electrician. (3 marks)

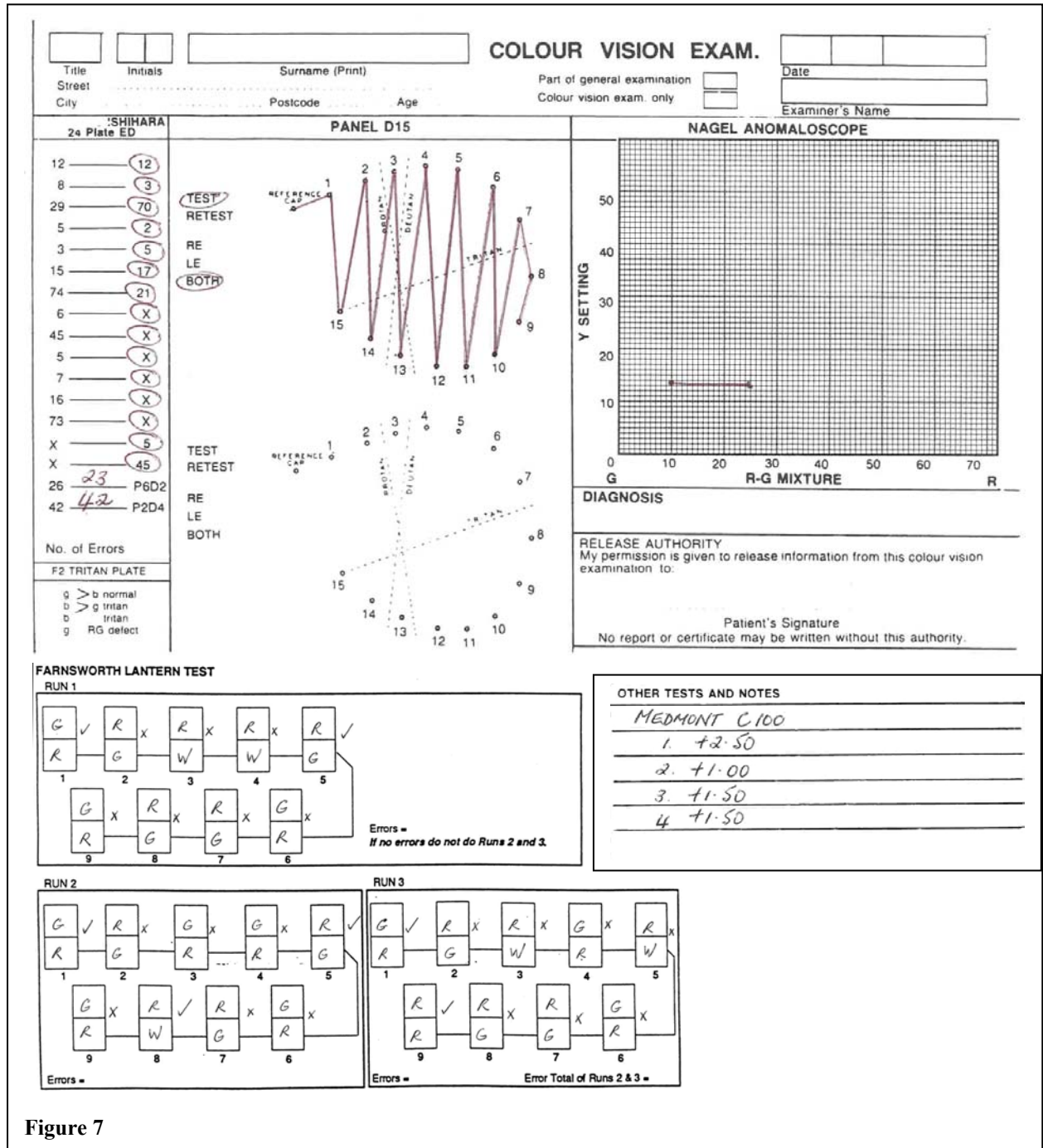
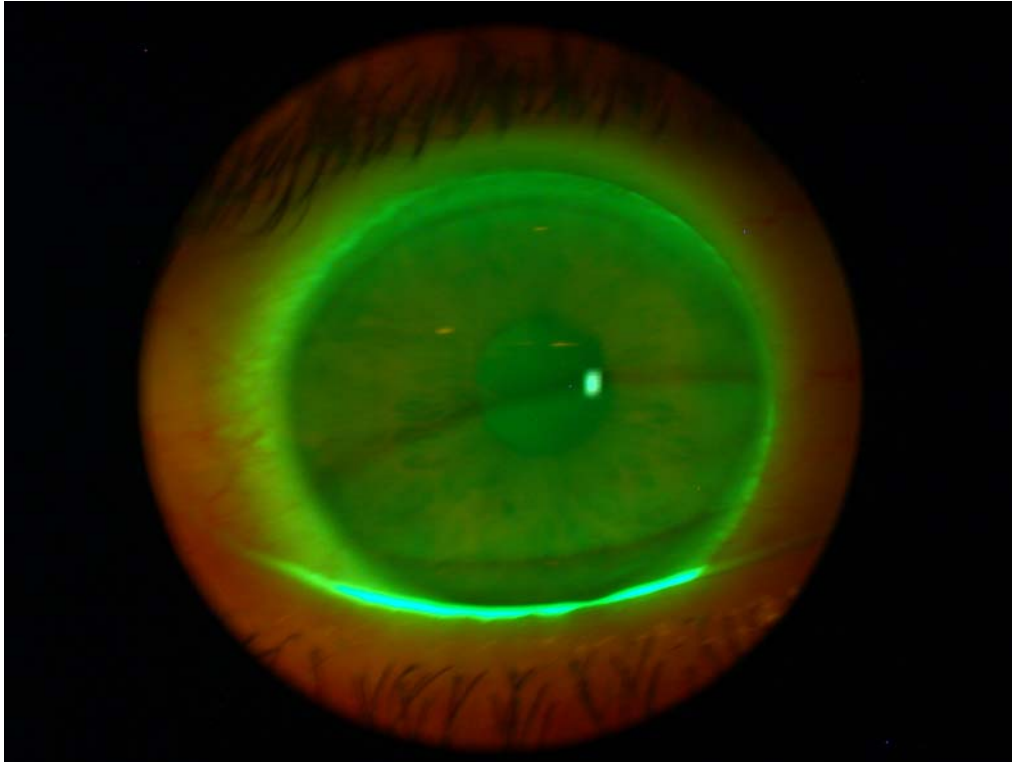


Figure 7

10. This patient is currently a soft lens wearer who complains of dryness symptoms towards the end of the day. You notice an irregular lower lid margin and mild sodium fluorescein staining just beyond the limbus (Figure 8).
- a) What condition is likely to cause this lid margin irregularity and how does this lead to the symptoms of dryness? (3 marks)
  - b) How would you manage this patient? (3 marks)
  - c) What lens-related factors might cause mild staining around the limbus? (2 marks)
  - d) How would you manage the staining and how could you establish the likely cause? (2 marks)



**Figure 8**

11. A 30-year-old patient presents complaining of itchiness and a mucous discharge in both eyes. He has been wearing daily wear soft contact lenses for three years. The appearance of the everted upper eyelid following instillation with sodium fluorescein dye is shown in Figure 9. Give your diagnosis and outline your management plan.

(10 marks)





13. A 35-year-old administrative assistant, who does a lot of computer work, has eyestrain, headaches and blurred vision worsening during the day. The problem has become worse over the last few months. She was told as a teenager that she had different prescriptions in each eye but no treatment had been suggested.

Your relevant findings:

Vision: R 6/6, L 6/18 at distance and N5 at 40cm.

Retinoscopy and subjective refraction are: R +0.50D, L -2.25D

Near Point of Convergence = 10cm

Phorias: Distance: H ortho V ortho

Near: H 8  $\Delta$  exo V ortho (no prescription) and 9 $\Delta$  exo with the prescription

Mallett near fixation disparity vision unit: 1 $\Delta$  to align the targets with the prescription.

Fusional vergences at near (with prescription): BI 12/15/10 BO 10/12/6

When this prescription for subjective refraction is put in a trial frame, the patient feels uncomfortable, and says she feels as if her eyes are strained.

Discuss your diagnosis and management of this patient.

(10 marks)

14. A 3-year-old child is brought to you as the parents have noticed that the right eye appears to turn in when the child is tired. It has only been noticed in the last 2 months. Birth, general health and family ocular histories are normal. The vision using a LEA paediatric vision chart is R 6/24 and L 6/6. The family live in a small country town.

Your cover test confirms a right esotropia of 10 $\Delta$  at distance and 15  $\Delta$  at near.

Cycloplegic retinoscopy gives R +3.00D and L +2.00D

With this prescription, the child's VA is R 6/12 and LE 6/7.5 using the LEA chart.

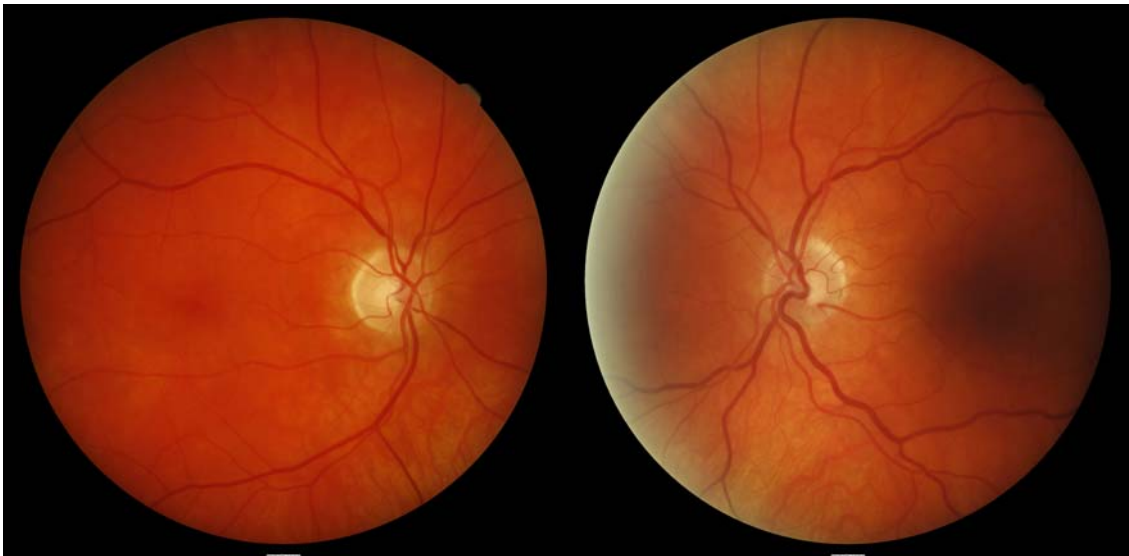
The angle of strabismus appears to have been abolished at distance but there is a small 5  $\Delta$  residual right eye strabismus at near.

Discuss the type of strabismus the child has and your management. Assume you are unable to refer this patient to another practitioner.

(10 marks)

15. A 55-year-old male patient has presented with a red and hyperaemic looking left eye. Biomicroscopy shows dilated conjunctival and episcleral vessels in the left eye, slight conjunctival chemosis, a clear cornea without staining, no cells or flare in the anterior chamber, and normal pupil reactions. His left eye also appears slightly proptosed. Visual acuity is 6/6 in each eye. Intraocular pressure is R 12 L 21 mm Hg by applanation. His R and L fundi are as shown in Figure 11.

- a) What is your tentative diagnosis for this patient, including a brief rationale? (3 marks)
- b) Outline further examination procedures that could be indicated for this patient, including a brief rationale for each of these. (5 marks)
- c) Outline the likely prognosis for this patient. (2 marks)



**Figure 11**

16. A 74-year-old man presents for examination for the first time at your practice. He is reporting occasional horizontal diplopia at distance when watching TV with his spectacles, and has noticed this is less of a problem if he turns his head to the right when watching the TV. He also comments that his hearing is becoming distorted in his right ear. He currently uses single vision distance and near spectacles. He is taking medication for his hypertension, which is well controlled.

You find no change to his distance refraction. Visual acuity is R and L 6/6-. Apart from minimal nuclear sclerosis, ocular examination is normal. Cover test shows esophoria at distance, which increases in right gaze, and is unchanged in left gaze. No movement is seen on the near cover test.

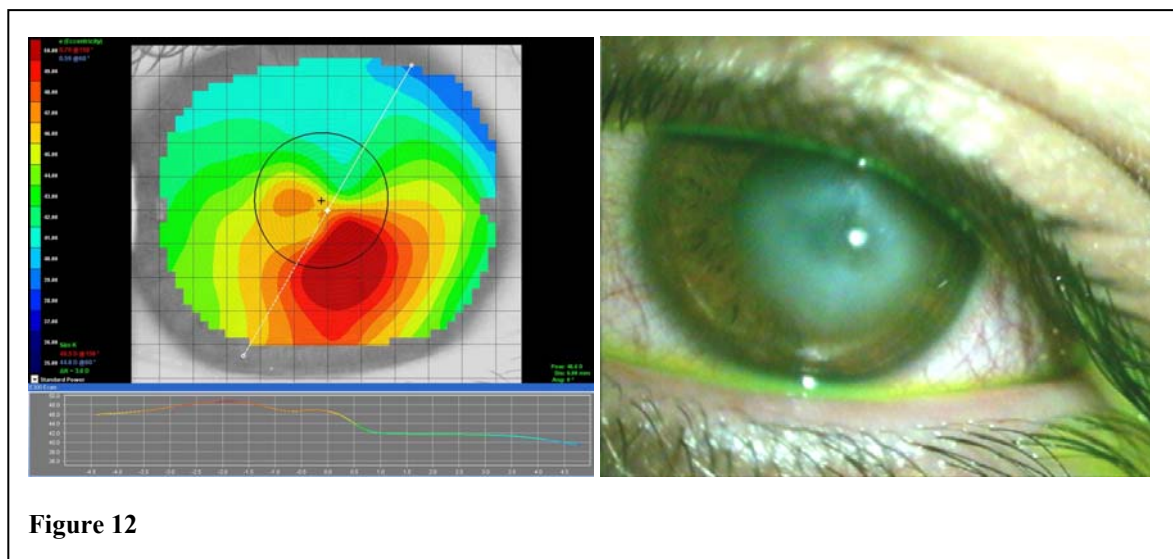
- a) Comment on any areas of concern with respect to this gentleman's history and your clinical findings, and suggest a tentative diagnosis. (4 marks)
- b) Are further tests indicated? If so, what tests could be performed to aid in diagnosis? (3 marks)
- c) What advice or actions could be recommended to the patient? (3 marks)

17. A 65-year-old phakic male patient presents to your practice with pain and reduced vision in his left eye. Vision with current glasses is R6/7.5, L 6/30 (pinhole no improvement). The left pupil is non-reactive and partly dilated. On slit-lamp examination, the anterior segment of the right eye appears normal, the left cornea has hazy stroma and the left conjunctiva shows injection. Van Herrick ratios are R 0.2, L 0.0, measured by slit-lamp. Intraocular pressures are R 18mm Hg, L 40mm Hg with a non-contact tonometer.

Describe the management and treatment of this patient, including time-frames for action.

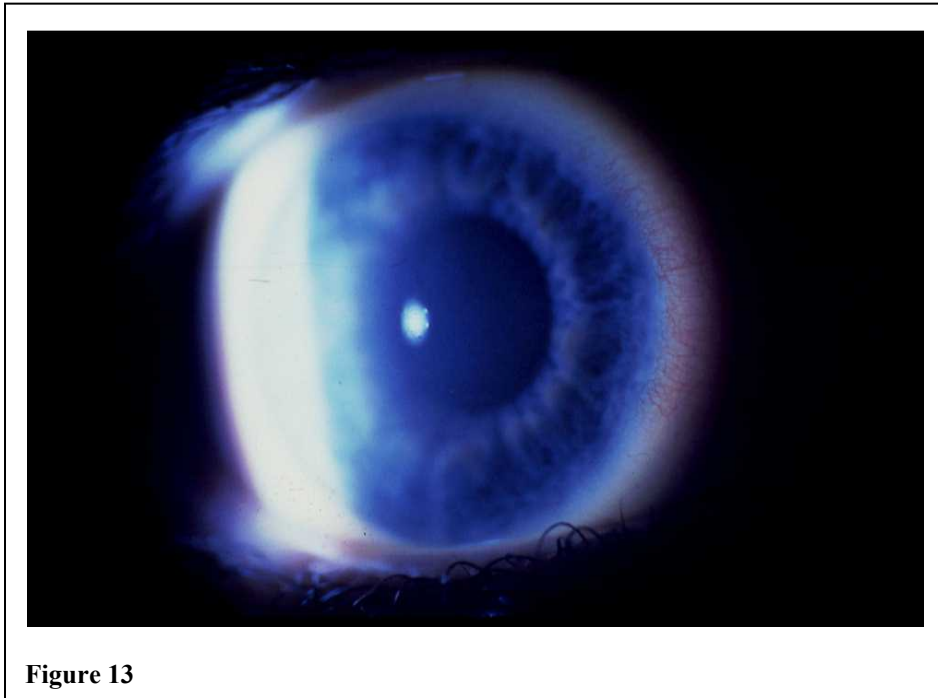
(10 marks)

18. An 18-year-old female patient presents for an eye examination. The patient informs you that she has bilateral keratoconus, which was first diagnosed at 12 years of age. You find that best-corrected visual acuity with rigid contact lenses is RE 6/18 and LE 6/36. Slit lamp examination reveals central scarring of both corneas and videokeratometry shows keratoconus (Figure 12). The patient complains of glare sensitivity and halos around lights at night.
- a) This patient currently drives a motor vehicle in their work as courier. What advice do you give this patient regarding their suitability for driving? (2 marks)
  - b) Explain why this patient may be complaining about glare and halos. (3 marks)
  - c) After discussion with you, the patient requests referral for assessment for penetrating keratoplasty. What role can you play in post-surgical management of the patient? (5 marks)

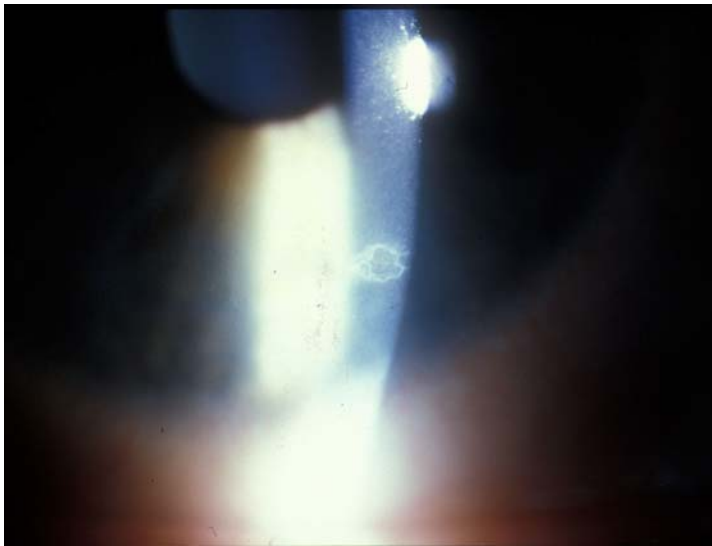


19. Figure 13 shows the cornea of a monocular aphakic patient who has been wearing +18 D HEMA soft lenses on an extended wear basis for 4 weeks. Briefly discuss the likely corneal findings, their appearance and slit lamp biomicroscopy techniques you would use to examine this cornea. Consider them with respect to the following corneal tissues:

- a) epithelium (2 marks)
- b) stroma (3 marks)
- c) endothelium (3 marks)
- d) limbus (2 marks)



20. A 28-year-old male presents urgently at your practice in the early morning complaining of an extremely painful left eye on awakening. On questioning, he reports that he has had several episodes of eye irritation and redness in either one eye or both eyes on waking in the mornings over the last four months. The irritation has usually resolved a few hours after instillation of topical lubricants. Today, however, the pain is much worse in his left eye, so he has presented immediately to your practice. He has a history of high myopia since childhood, rigid gas permeable contact lens wear for 6 years, and bilateral LASIK surgery 10 months ago to correct the myopia. The immediate post-operative period was uneventful. On slit lamp biomicroscope evaluation, an ocular abnormality is noted (shown in the photograph in Figure 14).
- a) What is the likely diagnosis based on the photograph and patient history? In your answer, give the possible precipitating factors that may have lead to development of this condition. (4 marks)
- b) Detail the possible management options available for this condition. (6 marks)



**Figure 14**