



# The Royal Australian and New Zealand College of Ophthalmologists

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## OPHTHALMIC BASIC SCIENCE EXAMINATIONS Clinical Ophthalmic Pharmacology & Emergency Medicine 27 March 2007

<b>Duration of Paper:</b>	<b>1.5hours</b>	<b>Total Marks: 90</b>
<b>Total No. of questions:</b>	<b>33</b>	

- ◆ **Candidates must attempt all questions**
- ◆ **Write your answers in the answer pad using CLEAR and LEGIBLE writing, use diagrams and point form where appropriate**
- ◆ **Start a new page for each question, do not write on the reverse of any answer page. Make sure to put your candidate number on each page**
- ◆ **If you cross out an area of your own writing, it will not be considered by the examiners**

### Question 1

What are the main differences between a suspension and a solution? (2 marks)

### Question 2

What advice would you give to a patient for whom you are prescribing a drop in suspension form and why? (1 mark)

### Question 3

What are the advantages of the application of digital pressure to the medial canthus after instillation of eye drops? (2 marks)

### Question 4

List delivery systems commonly used for the administration of ocular drugs. (3 marks)

### Question 5

What is a prodrug? Give an example. (2 marks)

### Question 6

What is the *residence time* of an eye drop? (1 mark)

**Question 7**

What are the factors that determine the residence time? (3 marks)

**Question 8**

How would you manage a patient suffering acute anaphylaxis? (4 marks)

**Question 9**

What possible risks would you mention to a patient when commencing topical steroid treatment for allergic conjunctivitis? (3 marks)

**Question 10**

In the treatment of severe bacterial keratitis, what measures can be taken to ensure a therapeutic stromal concentration of antibiotic? (3 marks)

**Question 11**

What is the mechanism of action of famciclovir in the treatment of Herpes simplex keratitis. (1 mark)

**Question 12**

You are prescribing a course of oral doxycycline in a patient with rosacea-associated blepharitis. What instructions would you give to ensure maximum absorption of the drug and to reduce gastrointestinal side effects? (2 marks)

**Question 13**

List the side effects of intravenous mannitol. (3 marks)

**Question 14**

List 3 potential long term ocular side effects of topical pilocarpine. (3 marks)

**Question 15**

What is the length of time from drop administration to peak effect for the following drugs?

- a) Apraclonidine
- b) Timolol
- c) Brinzolamide
- d) Travaprost

(2 marks)

**Question 16**

In what ocular conditions would the use of prostaglandin analogues be relatively contraindicated and why? (2 marks)

**Question 17**

List the side-effects of oral acetazolamide. (4 marks)

**Question 18**

What are the 2 classes of pupil dilating agents and give an example of each. (4 marks)

**Question 19**

List routes by which corticosteroids can be administered in the treatment of uveitis. (4 marks)

**Question 20**

What factors would influence your choice of route of administration of steroids in treating uveitis? (2 marks)

**Question 21**

What relative contraindications would you take into consideration when prescribing oral corticosteroids? (4 marks)

**Question 22**

What are the manifestations of systemic intoxication from atropine drops given to a child for the purposes of cycloplegic refraction? (2 marks)

**Question 23**

When prescribing brimonidine drops for children with glaucoma what side-effects should you discuss with the parents? (2 marks)

**Question 24**

What antibiotics are used for intravitreal injection in post-operative endophthalmitis? Against which organisms are these active? (3 marks)

**Question 25**

What is the duration of action of lignocaine versus bupivacaine when injected locally with adrenaline? (2 marks)

**Question 26**

Which local anaesthetic is used for intracameral anaesthesia? (1 mark)  
What specific formulation characteristic is required? (1 mark)

**Question 27**

What factors would you consider when assessing a patient for suitability for cataract surgery under topical anaesthetic? (3 marks)

**Question 28**

Why are topical local anaesthetics not suitable for long term use? (2 marks)  
What effects may occur if inadvertent long term use occurs?

**Question 29**

A patient is noted to have a decompensating cornea after routine cataract surgery. What substances could be implicated in causing endothelial toxicity? (3 marks)

**Question 30**

Give an outline of the information you would give to consent a patient prior to fluorescein angiography. (5 marks)

**Question 31**

What is the duration of action of each of the following drops used to dilate the pupil?

- a) Cyclopentolate
- b) Tropicamide
- c) Atropine
- d) Phenylephrine

(4 marks)

**Question 32**

List the ocular side effects of amiodarone. (4 marks)

**Question 33**

List the ocular side-effects of hydroxychloroquine. (3 marks)

**END OF PAPER**