



# Written Examination Candidate's Guide

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**Australian Pharmacy Council Ltd**

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Suite 3, Level 2 Ethos House  
28-36 Ainslie Place  
CANBERRA CITY ACT 2601  
PO Box 269  
CIVIC SQUARE ACT 2608  
Telephone: +61 2 6247 5088  
Facsimile: +61 2 6247 9611  
Email: [apec@pharmacycouncil.org.au](mailto:apec@pharmacycouncil.org.au)  
Website: [www.pharmacycouncil.org.au](http://www.pharmacycouncil.org.au)

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# Written Examination Candidates Guide

## 1. Introduction

The Australian Pharmacy Council (APC) is a national accrediting and examining body conducting a written competency examination on behalf of the Pharmacy Board of Australia (PBA).

The APC works collaboratively with governments, other pharmacy professional organisations, regulatory groups, and the community to identify issues and trends in pharmacy that require a collegiate approach.

Our functions are:

- leadership in developing and implementing nationally consistent policies, processes and approaches to pharmacy practice, regulation and registration,
- accrediting pharmacy schools and programs; and authorising agencies to accredit continuing professional development;
- conducting examinations towards eligibility for registration, and
- assessing the qualifications and skills of pharmacy graduates towards Australian registration

The New Zealand Pharmacy Council is a member of the APC.

The Written Examination (formerly known as the Australian Pharmacy Competency Assessment Tool (APCAT)) forms part of the competency assessment of pharmacist interns seeking registration at the completion of their internship, or a pharmacist returning to the workforce after a non-practising period. It has been developed to provide a common competency assessment for use by the PBA to establish the suitability of an individual for registration as a pharmacist in Australia.

The Written Examination consists of 125 multiple choice questions (MCQ):

- 5 calculation questions;
- 10 forensic/ethics questions; and
- 110 practice-based questions.

The MCQs are written by pharmacists from community, hospital, industry and academic backgrounds to ensure the Written Examination reflects contemporary practice. The questions have undergone extensive review, pre-testing and validation processes.

## 2. Objectives of Written Examination

The object of the Written Examination is to assist in the assessment of a candidate's ability to apply their knowledge and experience in pharmacy practice. Assessment is based upon the following functional areas of the *Competency Standards for Pharmacists in Australia 2003*.<sup>1</sup>:

- Functional area 1 (Practise pharmacy in a professional and ethical manner) includes the following competency units:
  1. Practise legally
  2. Practise to accepted standards
  3. Pursue life-long professional learning and contribute to the development of others
  
- Functional area 3 (Promote and contribute to optimal use of medicines) includes the following competency units:
  1. Participate in therapeutic decision making
  2. Provide ongoing pharmaceutical management
  3. Promote rational drug use
  
- Functional area 4 (Dispense medicines) includes the following competency units:
  1. Assess prescriptions
  2. Evaluate prescribed medicines
  3. Supply prescribed medicines
  
- Functional area 5 (Prepare pharmaceutical products) includes the following competency units:
  1. Consider requirements for preparing a product
  2. Compound pharmaceutical products
  3. Prepare cytotoxic drug products
  
- Functional area 6 (Provide primary health care) includes the following competency units:
  1. Assess primary health care needs
  2. Address primary health care needs of patients
  3. Promote good health in the community

## 3. Format of Written Examination

The Written Examination consists of 125 multiple choice questions to be attempted over a period of three hours. The questions are based upon functional areas 1, 3, 4, 5 and 6 of the *Competency Standards for Pharmacists in Australia 2003* as detailed in Section 2 of this guide.

Each of the multiple choice questions has four or five options (e.g. A - D or A - E). Each question has only **one** correct answer. Potential answers do not contain 'None of the above' or 'All of the above' as options.

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<sup>1</sup> Competency Standards for Pharmacists in Australia 2003. Pharmaceutical Society of Australia.

Questions may either 'stand alone' or be associated with a patient profile. The majority of questions are associated with patient profiles.

For those questions associated with a patient profile, the questions should be answered within the context of the profile in which they appear. In no case will the answer to one question within the profile be dependent upon correctly answering another question. The candidate will be able to answer each question independently of other associated questions.

#### Sample material

Attached are:

- Sample calculation questions
- Sample forensic/ethics questions
- Sample practice-based questions
- Sample profiles with questions

### **4. Preparation for Written Examination**

The questions in the Written Examination are designed to assess a candidate's competency in:

Functional area 1 (Practise pharmacy in a professional and ethical manner)

Functional area 3 (Promote and contribute to optimal use of medicines)

Functional area 4 (Dispense medicines)

Functional area 5 (Prepare pharmaceutical products)

Functional area 6 (Provide primary health care) of this document.

The majority of the multiple choice questions will refer to practice standards and guidelines contained within the current editions of the APF and the clinical information in the AMH.

The Written Examination has been developed with a view to assessing how well candidates can apply their knowledge and skills to practice situations, and to assist in evaluating whether they are competent to meet the responsibilities of pharmacy practice.

Preparation for the Written Examination should be based on the knowledge and experience acquired during professional education and training.

Candidates must have completed at least 50% of their required hours of supervised practice before attempting the Written Examination.

### **5. Examination Delivery**

#### Permissible reference material

The following texts may be taken to the examination

- current edition of the *Australian Medicines Handbook (AMH)*

- current edition of the *Australian Pharmaceutical Formulary (APF)*
- the *Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)*; or its equivalent from 1 July 2010 the *Uniform Scheduling of Medicines and Poisons (SUSMP)*
- the relevant state or territory drugs and poisons schedules and pharmacy Acts and Regulations
- the article *Supplying Medicines- What Pharmacists Need to Know*. This seven page article may be downloaded via the link:  
<http://www.pbs.gov.au/html/healthpro/info/supplying?ref=section1-supplyingmedicines>

Candidates should bring these to the testing venue. Note: permissible reference material may **not** contain annotations, hand written notes, or loose additional notes. However, text may be highlighted or flagged (unmarked flags only) prior to the examination. Candidates are urged to ensure they have the current editions.

Candidates should **not** assume copies of permissible reference material will be available at testing venues; neither will candidates be able to share reference material.

As some questions will require calculation, candidates will be provided with an on-line calculator at the testing venue. Other types of calculators will not be allowed.

#### Length of and time allowed for Written Examination

The Written Examination will consist of 125 questions to be answered over a period of 3 hours.

#### Delivery

The Written Examination will be offered six times per year in every second month and will be delivered by computer at testing centres in at least each capital city in Australia.

#### Register/Enrolment

Candidates may register on-line for the Written Examination by visiting the APC website [www.pharmacycouncil.org.au](http://www.pharmacycouncil.org.au) or the Pearson VUE website [www.pearsonvue.com/apc](http://www.pearsonvue.com/apc)

The examination fee will be paid online and the candidate will be issued with a confirmation letter/enrolment receipt which must be presented at the testing centre for admission to the Examination.

Candidates will be required to make two declarations at the time of registering/enrolling for an examination session. These declarations will be:

- I am able to use a computer mouse
- I declare that by the date of the examination for which I will register, I will have satisfactorily completed at least 50% of my required supervised practice hours. I understand that a false declaration will impact on my ability to be fully registered to practise as a pharmacist in Australia.

### Candidate Identification

Candidates must bring photo-identification or other positive proof of identity to the examination venue. Candidates who are not able to be positively identified will be refused permission to take the Examination.

### Other general instructions

All personal items such as mobile phones, pagers, brief cases, bags including hand-bags, wallets or purses are to be left at the front of the examination room.

Candidates must bring their confirmation/enrolment letter and photo-identification to the examination venue. Candidates who are not able to be positively identified will be refused permission to take the examination.

**Late arrivals will not be allowed entry to the examination room** and candidates will not be able to leave the examination venue within the last 10 minutes of the scheduled finishing time. All candidates leaving the room during the examination must be accompanied by a supervisor unless the candidates indicate they have completed the examination before the scheduled finishing time and will not be returning to the examination room. If a candidate has to leave the examination room temporarily to use toilet facilities, no extra time will be allowed.

Should a defect in an examination be noted the nature of the defect will be taken into consideration when the examination is marked, and no candidate will be disadvantaged. Note: supervisors are not authorised to correct any error or defect in the examination. This is to ensure all candidates do the examination under the same conditions at all venues.

### Non-disclosure agreement

Candidates will be required to sign a non-disclosure agreement at the commencement of the examination which states that they will not disclose any part of the examination content to a third party.

### Collusion, malpractice or unsatisfactory behaviour

Examinations are conducted under strict supervision. The APC reserves the right to expel any candidate during an examination if it can be reasonably concluded the candidate is guilty of unsatisfactory behaviour, or if the APC is not satisfied with the candidate's performance in any other way.

In the event of suspicion of collusion candidates will be separated.

In the event of clear evidence of malpractice (e.g. the use of concealed notes) the candidate will be asked to leave the room immediately. This will be done with as little disruption to other candidates as possible. In such cases the examination will be marked null and a report of the incident will be sent to the APC.

## 6. Results of Written Examination

Examination results are processed by the APC. Candidates are required to achieve an overall pass of at least 65%, with a pass in each of the functional areas covered by the examination. The APC does not provide information on the mark achieved by candidates. Results will be provided on a 'pass/fail' basis only.

Results will be placed on the APC website ([www.pharmacycouncil.org.au/ Examination Results](http://www.pharmacycouncil.org.au/ExaminationResults)) approximately one to two weeks after the examination and will remain on the website for a period of four weeks, after which time they will be removed.

Candidates must select the appropriate examination session and log in by entering their 13 character Provisional Registration Number beginning with the letters PHA in the Candidate ID field and their Date of Birth in the Password field.

Candidates will be required to print a copy of these results to present to the PBA when applying for the Oral Examination. No further written advice will be provided.

Results will not be given by phone, fax or e-mail.

## 7. APC Appeals Policy

The Australian Pharmacy Council (APC) has an **Appeals Policy** for assessments and examinations. The policy provides for appeals to be made against:

- the initial assessment (which establishes an applicant's eligibility to undertake the secondary assessment); or
- against the secondary assessment (which assesses knowledge or competency); or
- against an examination outcome for examinations conducted on behalf of other bodies.



5. All of the following medications are used in the treatment of rheumatoid arthritis **EXCEPT?**

- A sulfasalazine
- B hydroxychloroquine
- C methotrexate
- D meloxicam
- E olsalazine

**Correct answer: E**

6. For a recently bereaved 78 year old woman, which of the following would be the **MOST** appropriate choice to treat insomnia?

- A nitrazepam
- B temazepam
- C midazolam
- D diazepam
- E paroxetine

**Correct answer: B**

7. A patient experiencing menopausal symptoms has been prescribed, at different times, the following regimens:

Regimen A: Conjugated equine oestrogens 0.625mg Days 1-28  
Medroxyprogesterone 10mg Days 1-12

Regimen B: Conjugated equine oestrogens 0.625mg Days 1-28  
Medroxyprogesterone 5mg Days 1-28

Regimen B is **NOT** the preferred hormone replacement therapy option before menopause because

- A of the increased risk of breast cancer compared with regimen A
- B breakthrough bleeding is unpredictable and heavy
- C of the increased risk of deep vein thrombosis
- D breakthrough bleeding is scant and continuous

**Correct answer: B**

8. In the treatment of epilepsy, carbamazepine has anticonvulsant activity in patients with a wide variety of seizure disorders **EXCEPT:**

- A generalised tonic clonic seizures (gran mal seizures)
- B simple partial seizures
- C complex partial seizures
- D absence seizures
- E complex partial seizures secondarily generalised

**Correct answer: D**

9. A female patient has coeliac disease. She wants your advice regarding preparations that are suitable for patients with coeliac disease. You should advise her to avoid preparations containing

- A grains
- B glucose
- C lactose
- D gluten
- E iron and calcium

**Correct answer: D**

10. Which of the following statements is **CORRECT** with regard to medication administration in renal impairment?

- A loading doses of medications (except digoxin) should normally be reduced in patients with renal failure
- B creatinine clearance provides a good approximation of kidney reabsorption function
- C angiotensin converting enzyme (ACE) inhibiting medications should be used cautiously in patients with renal vascular disease
- D a patient less than 50 years would normally have a creatinine clearance of 40 - 60mL/minute
- E nitrofurantoin is an effective urinary tract antiseptic in patients with renal impairment

**Correct answer: C**

11. Gemfibrozil should be discontinued if a patient complains of

- A weight gain
- B constipation
- C diarrhoea
- D muscle pain
- E urinary frequency

**Correct answer: D**

12. A common side effect of felodipine is

- A persistent dry cough
- B flushing
- C sexual dysfunction
- D sleep disturbances
- E postural hypertension

**Correct answer: B**

13. What is the normal range for international normalised ratio in the treatment of thrombosis?

- A < 1.0
- B 1.0 - 1.5
- C 2.0 - 3.0
- D 2.5 - 5.0
- E 4.0 - 7.0

**Correct answer: C**

14. A patient phones your pharmacy and asks when they should stop taking clopidogrel prior to their upcoming surgery. They recall being told to stop it, but don't know when. The **MOST** appropriate advice would be

- A 6 hours pre-operative
- B 24 hours pre-operative
- C 3 days pre-operative
- D 7 days pre-operative
- E 3 weeks pre-operative

**Correct answer: D**

15. A patient presents you with a script for methotrexate for rheumatoid arthritis. Which of the following counselling points does **NOT** apply?

- A avoid excessive sunlight exposure
- B take dose once weekly
- C take on an empty stomach
- D special handling and disposal is required
- E do not take more than one aspirin tablet each day

**Correct answer: C**

16. Which of the following is **NOT** a side effect of erythromycin?

- A diarrhoea
- B photosensitivity
- C abdominal pain
- D pain on intravenous administration
- E cardiac arrhythmia

**Correct answer: B**

17. Which of the following is **NOT** a likely side effect of using prednisolone to treat rheumatoid arthritis long term?

- A osteoporosis
- B hyperglycaemia
- C skin atrophy
- D fat redistribution
- E platelet disorders

**Correct answer: E**

18. A female patient, age 36 years, phones your pharmacy and complains of having a sore and swollen calf muscle, with no apparent reason for the problem.) Which medication is **MOST** likely associated with her symptoms?

- A trimethoprim 300mg i nocte
- B ethinylloestradiol 30/ levonorgestrel 150 i daily
- C omeprazole 20mg i daily
- D citalopram 20mg i daily
- E naproxen 250 mg i 8 hourly

**Correct answer: B**

19. The antihypertensive medication class that should **NOT** be used for patients with gout is

- A diuretics
- B  $\beta$  blockers
- C selective  $\beta$  1 blockers
- D calcium channel blockers
- E angiotensin converting enzyme inhibitors

**Correct answer: A**

20. Which of the following is **INCORRECT** with regards to allopurinol?

- A allopurinol can commonly cause an itchy rash
- B allopurinol is used as a prophylactic agent for gout
- C the dose of allopurinol should be reduced in severe renal impairment
- D allopurinol should be given in a high loading dose to quickly resolve an attack of gout
- E allopurinol can interact with azathioprine increasing the risk of bone marrow depression

**Correct answer: D**

21. With regards to erythromycin, which of the following is **CORRECT**?
- A bioavailability is greater if taken on an empty stomach, but erythromycin may be taken with food if stomach irritation occurs.
  - B erythromycin should always be taken with food to reduce the incidence of nausea, vomiting and diarrhoea.
  - C erythromycin base should always be taken with food, whilst the ethyl succinate and stearate salts should always be taken on an empty stomach.
  - D erythromycin should be taken on an empty stomach, as bioavailability is reduced by 80% if taken with food.
  - E erythromycin should be taken strictly 6 hourly

**Correct answer: A**

22. A patient is prescribed a selective serotonin re-uptake inhibitor. Which of the following should you include in your counselling?
- A take each morning
  - B stop the medication once you are feeling better
  - C take at night
  - D take only when needed
  - E avoid aspirin when taking the medication

**Correct answer: A**

23. Which of the following is the **CORRECT** information to give to a person taking alendronate?
- A take with milk to enhance absorption
  - B take at bedtime to avoid possible drowsiness
  - C take one hour before or two hours after a meal
  - D avoid taking iron supplements within two hours
  - E take in the morning with breakfast to avoid stomach upset

**Correct answer: D**

24. With which of the following medications is it **MOST** important to maintain a high fluid intake?
- A allopurinol
  - B ibuprofen
  - C ramipril
  - D cephalexin
  - E frusemide

**Correct answer: A**

25. Which of the following statements is **CORRECT**, with regards to glyceryl trinitrate spray? When using the spray for the first time, the medication should be

- A shaken after opening and discarded after 3 months; a maximum single dose of 2 puffs under the tongue should be used over 15 minutes
- B primed and sprayed under the tongue; a maximum of 5 puffs should be used over 15 minutes
- C primed after opening and discarded after 3 months; a maximum single dose of 2 puffs under the tongue should be used 15 minutes
- D primed and sprayed under the tongue; a maximum single dose of 2 puffs should be used over 15 minutes

**Correct answer: D**

26. A patient is receiving palliative care for terminal stages of bowel cancer. He has been taking oral controlled release morphine tablets regularly. He presents with a new prescription for morphine liquid 5mg/mL. Which of the following is the **MOST** appropriate advice for this patient, with regards to the initial use of morphine liquid?

- A take the liquid regularly every four hours
- B take the liquid when required for breakthrough pain
- C stop the morphine sulfate tablets and just use the liquid
- D take the liquid with the regular dose of morphine sulfate tablets
- E take the liquid regularly and take the morphine sulfate tablets when required

**Correct answer: B**

27. A teenage girl with mild acne comes into the pharmacy and asks for something to help her skin. She has not used anything previously. The **MOST** appropriate recommendation would be

- A benzoyl peroxide 2.5%
- B to see her doctor for topical clindamycin
- C benzoyl peroxide 10%
- D to see her doctor for oral doxycycline
- E tea tree oil

**Correct answer: A**

28. A mother is concerned her child has hair nits. You should advise that she look for

- A small winged insects in the child's hair
- B white eggs stuck to hair shafts close to the scalp
- C white eggs stuck to the scalp and areas of redness on the scalp
- D small insects in the child's hairbrush and on bed linen
- E redness of the scalp and restlessness during sleep

**Correct answer: B**

29. A 55 year old male asks for something for a recent and painful muscle sprain he acquired while playing golf. On checking his profile you notice he is on the following medications

Atenolol 50mg	i	daily
Temazepam 10mg	i	nocte
Isosorbide Mononitrate	i	daily
Lithium 250mg	i	tds
Simvastatin 20mg	i	nocte
Docusate with senna	ii	nocte

Which of the following should you recommend?

- A aspirin/codeine
- B paracetamol/codeine/doxylamine
- C paracetamol
- D ibuprofen
- E glucosamine

**Correct answer: C**

30. A person has just received what appears to be a soft tissue injury of the ankle, crossing the road to enter your pharmacy. They immediately ask for your advice. Which of the following should you recommend?

- A rest, heat and elevation
- B massage, heat and elevation
- C exercise, ice and compression
- D rest, ice, compression and elevation
- E massage, ice, compression and elevation

**Correct answer: D**

31. While filling a script for a 24 year old male patient for salbutamol, you notice he has not had his repeat for beclomethasone filled. On questioning, he tells you it made his throat sore and gave him horrible white patches on his tongue. Which of the following actions is the **LEAST** appropriate?

- A suggest he uses a spacer device in conjunction with his inhaler
- B suggest he rinses his mouth with water after inhalation
- C counsel him regarding the benefits of regular use of his 'preventer' medication
- D suggest he regularly treats his thrush with nystatin oral drops

**Correct answer: D**

32. Which of the following statements is **CORRECT** with regard to garlic?

Garlic...

- A is of value in the treatment of human viral infections
- B appears to possess some antibacterial and anticoagulant properties
- C should be regarded as only exerting a placebo effect when used as a therapeutic agent
- D has proved to be of major benefit in its effects on blood lipids and apolipoproteins
- E is a modern fad treatment without any historical foundation of use

**Correct answer: B**

33. Symptoms of asthma include all of the following **EXCEPT**

- A night cough
- B shortness of breath
- C dizziness
- D tightness of chest

**Correct answer: C**

34. In addition to smoking, which of the following would place a patient at a higher risk of cardiovascular disease?

- A hypertension, diabetes and chronic airways limitation
- B diabetes, osteoarthritis and hypothyroidism
- C hypertension, diabetes and hypercholesterolaemia
- D hypercholesterolaemia, hypothyroidism and mild renal failure
- E hypertension, chronic airways limitation and osteoarthritis

**Correct answer: C**

## 9. Sample Written Examination Patient Profiles

Candidates should be aware that the dates contained in a patient profile are not intended to be associated with the actual date of sitting the examination. These dates of the supply of the medications, laboratory tests and pharmacist's notes are included solely for the purpose of indicating a time frame within each individual profile.

### Patient Record - Institution/Nursing Home

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<b>Patient Name</b>	<b>Mrs Elizabeth Daly</b>	
<b>Room Number</b>	<b>88</b>	
<b>Age</b>	<b>77</b>	<b>Height 157cm</b>
<b>Sex</b>	<b>Female</b>	<b>Weight 70kg</b>
<b>Allergies</b>	<b>Nil known</b>	

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#### **DIAGNOSIS**

**Presenting complaint** 1. Nausea, dry mouth, blurred vision, headache and constipation

**Medical history** 1. Heart failure  
2. Non-insulin dependent diabetes mellitus  
3. Angina

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#### **LAB/DIAGNOSTIC TESTS**

**Date**      **Test**

---

#### **MEDICATION RECORD**

<b>Date</b>	<b>Drug &amp; strength</b>	<b>Qty</b>	<b>Sig</b>
4/10	Paracetamol 500mg	100	ii qid prn
28/9	Spironolactone 25mg	100	i qid
28/9	Verapamil 80mg	100	i tds
27/9	Ramipril 5mg	30	i daily
26/9	Frusemide 40mg	100	ii mane
25/9	Metformin 500mg	100	i tid
24/9	Glibenclamide 5mg	100	i mane
24/9	Oxazepam 15mg	25	i bd
24/9	Temazepam 10mg	25	i nocte
23/9	Aspirin 300mg	96	i daily
17/9	Isosorbide mononitrate	30	i daily
12/9	60mg Digoxin 62.5mcg	200	i daily

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#### **PHARMACIST'S NOTES**

1. What is the drug **MOST** likely to cause Mrs Daly's constipation?

- A ramipril
- B digoxin
- C metformin
- D verapamil
- E paracetamol

**Correct answer: D**

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2. Which of the following combinations of medication is **MOST** likely to be causing headache, nausea and blurred vision?

- A temazepam and metformin
- B digoxin and oxazepam
- C digoxin and spironolactone
- D spironolactone and ramipril
- E ramipril and frusemide

**Correct answer: C**

3. Which of the following medications is **MOST** likely to be responsible for Mrs Daly's dry cough?

- A verapamil
- B ramipril
- C glibenclamide
- D digoxin
- E spironolactone

**Correct answer: B**

4. On 5 October, you are asked to review Mrs Daly's medications. Which of the following interventions should you suggest?

- A add a slow release potassium tablet after meals
- B delete aspirin
- C change verapamil dose to SR 240mg daily
- D cease oxazepam immediately
- E reduce metformin to one daily

**Correct answer: C**

5. What classification of diuretic is frusemide?

- A carbonic anhydrase inhibitor
- B loop diuretic
- C potassium-sparing diuretic
- D thiazide diuretic
- E herbal diuretic

**Correct answer: B**

**END OF PATIENT PROFILE ELIZABETH DALY**

## Patient Profile

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<b>Patient Name</b>	<b>Bob Read</b>	
<b>Address</b>	<b>3 Lilac Close, Lavender Bay ACT 2854</b>	
<b>Age</b>	<b>23</b>	<b>Height 180cm</b>
<b>Sex</b>	<b>Male</b>	<b>Weight 80 kg</b>
<b>Allergies</b>	<b>Aspirin</b>	

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### **DIAGNOSIS**

**Presenting complaint** 1. Knee injury (football)

**Medical history** 1. Asthma (moderate)

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### **MEDICATION RECORD**

<u>Date</u>	<u>Drug &amp; strength</u>	<u>Qty</u>	<u>Sig</u>
13/9	Naproxen 500mg	50	i bd
10/4	Beclomethasone 100mcg/dose	MDI	ii puffs bd
10/4	Terbutaline 500mcg/dose	DPI	i puff prn
10/1	Beclomethasone 100mcg/dose	MDI	ii puffs bd

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### **PHARMACIST'S NOTES**

<u>Date</u>	<u>Comment</u>
10/4	compliance not good with beclomethasone

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1. Immediate treatment to help reduce pain and swelling in Mr Read's knee injury should include
- A ice packs for 10 minutes every 1-2 hours for up to 48 hours
  - B ice packs for 10 minutes every 1-2 hours for the first 24 hours then start heat packs
  - C use of a compression bandage on the knee and aspirin 300mg every 4 hours orally
  - D methylsalicylate cream to be rubbed in well to the knee after ice treatment
  - E active exercise to keep the knee flexible

**Correct answer: A**

2. Of the following, which is the **MOST** significant adverse effect of naproxen for Mr Read?

- A abdominal pain
- B effect on mental alertness
- C wheeze or cough
- D skin eruption
- E tinnitus

**Correct answer: C**

**END OF PATIENT PROFILE BOB READ**

## Patient Profile

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<b>Patient Name</b>	<b>James Donell</b>	
<b>Address</b>	<b>19 Townsend Street, Hackam</b>	
<b>Age</b>	<b>19</b>	<b>Height 190cm</b>
<b>Sex</b>	<b>Male</b>	<b>Weight 90kg</b>
<b>Allergies</b>	<b>Shellfish</b>	

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## DIAGNOSIS

### Presenting complaint

1. Asthma
- 

## MEDICATION RECORD

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<u>Date</u>	<u>Medication &amp; strength</u>	<u>Qty</u>	<u>Sig</u>
1/12	Budesonide 400mcg/dose	DPI	ii bd
1/12	Nedocromil 2mg/dose	MDI	ii bd
1/12	Salbutamol 2mg/2.5mL	30	i qid prn for severe asthma

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## PHARMACIST'S NOTES

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<u>Date</u>	<u>Comment</u>
1/12	Non-compliance suspected

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1. Mr Donnell presents to his local pharmacist complaining of wheeze and shortness of breath. He requests supply of a cough suppressant mixture. The pharmacist should elicit details from the patient about all of the following

### EXCEPT

- A childhood history of respiratory tract infections
- B trigger factors for wheeze/shortness of breath
- C compliance details
- D regular medication
- E inhaler technique

**Correct answer: A**

2. Mr Donnell enquires about the supply of a metered dose aerosol salbutamol inhaler. The pharmacist has elicited a history suggestive of asthma. Which of the following is **MOST** appropriate?

- A supply salbutamol and request that he return to the pharmacy
- B supply salbutamol and recommend assessment by a doctor for re-evaluation
- C refuse supply and strongly recommend assessment by a respiratory physician
- D supply both salbutamol and salmeterol inhaler
- E check inhaler technique then supply salbutamol inhaler

**Correct answer: B**

3. Mr Donnell returns to the pharmacy with a prescription for prednisolone 50mg daily. He asks which adverse effects he may be likely to experience in the following week. Your advice should be

- A diarrhoea
- B dyspepsia
- C insomnia
- D constipation
- E rash

**Correct answer: B**

4. Long term side-effects of systemic corticosteroid therapy include all of the following **EXCEPT**

- A cushingoid features
- B osteoporosis
- C cataracts
- D thrombocytopenia
- E hyperglycaemia

**Correct answer: D**

**END OF PATIENT PROFILE JAMES DONELL**



2. Mr Benson discusses with you a constant pain in his side, which has existed for several months and which he has forgotten to discuss with his doctor. Of the following medications currently being taking by Mr Benson, which is the **MOST** likely cause of such a pain?

- A simvastatin
- B perindopril
- C sotalol
- D omeprazole
- E isosorbide mononitrate

**Correct answer: A**

3. Mr Benson has not previously been prescribed isosorbide mononitrate. Which of the following counseling points should you **NOT** give?

- A he should swallow his medication whole
- B he should take his isosorbide mononitrate morning and night
- C he may suffer some dizziness and nausea
- D he should take his medication at the same time each day
- E an additional tablet can be taken if acute pain occurs

**Correct answer: B**

**END OF PATIENT PROFILE ROGER BENSON**

## Patient Profile

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<b>Patient Name</b>	<b>Ken Richards</b>	
<b>Address</b>	<b>101 Tarragon Hill, Herbsville</b>	
<b>Age</b>	<b>69</b>	<b>Height 175cm</b>
<b>Sex</b>	<b>Male</b>	<b>Weight 75kg</b>
<b>Allergies</b>	<b>Nil known</b>	

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## DIAGNOSIS

**Presenting complaint** 1. Behavioural disturbance

**Medical history**

1. Hypertension
2. Chronic atrial fibrillation
3. Alzheimer's disease
4. Constipation and darkened stools – incontinence
5. Dizziness, light-headedness and occasional falls
6. Joint pains

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## LAB/DIAGNOSTIC TESTS

<u>Date</u>	<u>Test</u>	<u>Reference Range</u>
25/11	Haemoglobin 90g/L	(130-180 g/L)

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## MEDICATION RECORD

<u>Date</u>	<u>Drug &amp; strength</u>	<u>Qty</u>	<u>Sig</u>
25/11	Paracetamol 500mg	100	ii q6h
25/11	Risperidone 1mg	60	i mane
17/11	Perindopril 2mg	30	i daily
17/11	Selegiline 5mg	100	i daily
4/11	Hydrochlorothiazide 25mg	100	i mane
30/10	Naproxen 500g	50	i bd
15/10	Docusate with Senna	90	ii bd
15/10	Ranitidine 150mg	60	i bd
7/9	Ferrous Sulfate 350mg	30	i mane
7/9	Chlorpromazine 25mg	100	i bd

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## PHARMACIST'S NOTES

<u>Date</u>	<u>Comment</u>
26/11	Request for medication management review.

1. Which of the following medications is the likely cause of the patient's darkened stools, dizziness and hypertension?

- A ranitidine
- B risperidone
- C perindopril
- D naproxen
- E ferrous sulfate

**Correct answer: D**

2. The risk of falls may be increased by drug-induced postural hypotension. Which of the patient's medications has hypotensive effects?

- A naproxen
- B ranitidine
- C perindopril
- D selegiline
- E ferrous sulfate

**Correct answer: D**

3. Hydrochlorothiazide was added recently to reduce fluid retention. Which of the following medications is **MOST** likely to have contributed to the fluid retention?

- A naproxen
- B perindopril
- C risperidone
- D chlorpromazine
- E ranitidine

**Correct answer: A**

4. Which of the following medications has a side effect which may have led to the introduction of selegiline?

- A perindopril
- B hydrochlorothiazide
- C naproxen
- D ranitidine
- E chlorpromazine

**Correct answer: E**

**END OF PATIENT PROFILE KEN RICHARDS**

## Patient Record - Institution/Nursing Home

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<b>Patient Name</b>	<b>Angela Harrison</b>	
<b>Room Number</b>	<b>38, Peresby Hospital</b>	
<b>Age 67</b>		<b>Height 151cm</b>
<b>Sex Female</b>		<b>Weight 50kg</b>
<b>Allergies</b>	<b>Nil known</b>	

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### **DIAGNOSIS**

#### **Presenting complaint**

1. Phlebitis of the leg

#### **Medical history**

1. Breast cancer
  2. Pulmonary embolus
- 

### **LAB/DIAGNOSTIC TESTS**

<b><u>Date</u></b>	<b><u>Test</u></b>	<b><u>Reference Range</u></b>
23/9	Prothrombin Time (INR)	(0.9-1.3)
22/9	Prothrombin Time (INR)	(0.9-1.3)
21/9	Sputum - normal flora/heavy growth	

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### **MEDICATION RECORD**

<b><u>Date</u></b>	<b><u>Drug &amp; strength</u></b>	<b><u>Qty</u></b>	<b><u>Sig</u></b>
20/9	Cefaclor 375mg SR	10	q 12h
20/9	Tamoxifen 20mg	30	i daily
8/9	Prednisolone 5mg (reducing dose)	60	ii bd (currently)
8/9	Verapamil 80mg	100	i bd
28/8	Simvastatin 5mg	30	i nocte
14/8	Aspirin 100mg	112	i mane
5/7	Dextropropoxyphene 32.5mg/paracetamol 325mg	20	ii q4H prn

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### **ADDITIONAL ORDERS**

<b><u>Date</u></b>	<b><u>Drug &amp; Strength</u></b>	<b><u>Qty</u></b>	<b><u>Sig</u></b>
20/9	Warfarin 5mg	50	as charted

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### **PHARMACIST'S NOTES**

<b><u>Date</u></b>	<b><u>Comment</u></b>
20/9	Warfarin diet (Restrict foods high in Vitamin K).

1. Which of the following blood tests would be indicated at baseline for appropriate management of Mrs Harrison's medication therapy?

- A serum potassium
- B creatine kinase
- C c-reactive protein
- D haemoglobin

**Correct answer: B**

2. Of the following serious side effects, which is the **MOST** likely to occur with simvastatin?

- A blood dyscrasias
- B rhabdomyolysis
- C hypocholesterolaemia
- D angiodema
- E Stevens-Johnson syndrome

**Correct answer: B**

3. In general, which foods are considered to be high in Vitamin K and are **BEST** avoided in large amounts when on warfarin?

- A citrus fruits
- B dairy products
- C breads and cereals
- D green leafy vegetables
- E meat, poultry, fish

**Correct answer: D**

4. Which of the following medications has the **MOST** significant effect on clotting when used in combination with warfarin?

- A tamoxifen
- B prednisolone
- C cefaclor
- D simvastatin
- E aspirin

**Correct answer: E**

5. Adverse reactions related to the anti-oestrogenic action of tamoxifen include

- A breast tenderness
- B vaginal hypertrophy
- C hot flushes
- D light headedness
- E skin rash

**Correct answer: C**

**END OF PATIENT PROFILE ANGELA HARRISON**

## 10. Sample Calculations & Forensic/Ethics Questions

### CALCULATIONS

1. You have dispensed 300 mL of 2% w/v potassium permanganate solution. The physician wants the patient to soak his feet in a 1:1000 solution. How would you instruct the patient to make one litre of this solution? (Assume that you will supply a 50 mL measure with the preparation).

- A add 50 mL to 2 litres of water
- B add 2 x 50 mL to a litre of water
- C take 50 mL and add enough water to make 1 litre of solution
- D take 50 mL and add enough water to make 100 mL of solution
- E take 2 x 50 mL and add enough water to make 1 litre of solution

**Correct answer: C**

2. How much of a 10% injection of a medication is required to make 100 mL of a mixture containing 7.5 mg in 2.5 mL?

- A 3 mL
- B 5 mL
- C 0.03 mL
- D 0.5 mL
- E 30 mL

**Correct Answer: A**

3. A 10 mL ampoule of potassium chloride injection contains 1.49 grams of potassium chloride. What is the concentration of potassium ions in this solution?

(molecular weight of potassium chloride = 74.5)

- A 0.2 mmol/mL
- B 1 mmol/mL
- C 2 mmol/mL
- D 10 mmol/mL
- E 20 mmol/mL

**Correct answer: C**

4. How many mL of alcohol 90% v/v must be added to 200 mL of alcohol 20% v/v, to produce alcohol 70% v/v?

- A 630 mL
- B 700 mL
- C 80 mL
- D 350 mL
- E 500 mL

**Correct answer: E**

5. Iodine Solution Aqueous – iodine 5%, potassium iodide 10% in water - (Lugol's Solution). With a dose of the solution at 0.3 mL three times a day, the amount of iodine contained in this daily dose of the solution is

- A 450 mg
- B 150 mg

- C 45 mg
- D 30 mg
- E 15 mg

**Correct answer: C**

6.     Zinc sulphate           10g  
       Sulphurated potash 10g  
       Glycerin               10g  
       Purified water to    100mL

The weight/mL of glycerin is 1.26g. The volume of glycerin required to make 400mL of the above lotion is

- A 12 mL
- B 32 mL
- C 50 mL
- D 40 mL
- E 8 mL

**Correct answer: B**

7. SULPHACETAMIDE EYE-DROPS

- Sulphacetamide sodium   10g  
Sodium metabisulphite   0.1g  
Disodium edetate         0.05g  
Phenylmercuric nitrate   0.002g  
Water for injections to   100 mL

The phenylmercuric nitrate is available as a sterile aqueous solution containing 3 mg in 10 mL. The volume of this solution required to prepare 15 mL of the above formula is

- A 0.3 mL
- B 1.0 mL
- C 1.5 mL
- D 5.0 mL
- E 10.0 mL

**Correct answer: B**

**FORENSIC/ETHICS**

1. Oxycodone is included in which of the following schedules?

- A Schedule 2
- B Schedule 3
- C Schedule 4
- D Schedule 7
- E Schedule 8

**Correct answer: E**

2. A medical practitioner (unless authorized) must **NOT** prescribe or supply which of the following drugs

- A temazepam
- B acitretin
- C morphine
- D diclofenac
- E amoxicillin

**Correct answer: B**

3. From its date of writing, a prescription for a Schedule 4 poison has a validity of

- A 1 month
- B 3 months
- C 6 months
- D 12 months
- E an indefinite period

**Correct answer: D**

4. Which of the following statements is **INCORRECT**?

Oxycodone tablets

A cannot be dispensed if the prescription on which they are ordered is more than six months old

B must be stored in the drug safe of the pharmacy

C must be accounted for in a drug register in the pharmacy

D can be supplied in an emergency on a pharmacist's authority for up to three days

supply

E a record of transactions must be retained for three years

**Correct answer: D**

5. Which of the following should appear on the manufacturer's package of thyroxine?
- A Pharmacy Only Medicine
  - B Pharmacist Only Medicine
  - C Prescription Only Medicine
  - D Controlled Medicine

**Correct answer: C**

6. What is the correct storage requirement in a pharmacy for morphine ampoules?
- A in the dispensary on the shelves
  - B in a locked cupboard
  - C in a safe in which the pharmacy takings are kept
  - D on the person of the pharmacist
  - E in controlled medicines safe

**Correct answer: E**

7. Regulation 24 is a regulation for the provision of medications under the Pharmaceutical Benefits Scheme. The equivalent regulation under the Repatriation Pharmaceutical Benefits Scheme is referred to as
- A emergency provisions
  - B prior approval provisions
  - C equity of access
  - D hardship conditions apply
  - E physical impairment provisions

**Correct answer: D**

8. Safety Net/Concession Card entitlements, once issued, are valid
- A for any medicine
  - B for a period of two years
  - C only when issued after 1 April each year
  - D for those individuals present when the card was issued
  - E for the period of time remaining in the calendar year in which it was issued

**Correct answer: E**

9. You start your first day as a locum pharmacist and receive a phone call from a lawyer claiming to represent one of your customers. The lawyer requests information regarding the medication that has been prescribed by a particular medical practitioner for their client. What information are you able to hand over to the lawyer?

A no information at any stage

B any information required after written consent has been given by the patient

C any information that the lawyer requests

D any information the lawyer requests, after you can confirm the individual is a lawyer

E any information required, upon the receipt of a court order for the information

**Correct answer: B**

10. You have purchased a quantity of generic paracetamol and codeine tablets, which have now exceeded their expiry date. The proprietor states that you are to repackage them out of their foil and counter-prescribe them to avoid losing any money. Which of the following actions should you take?

A repackage them, as directed by the proprietor

B refuse, advising that this is contrary to good pharmaceutical practice and unethical

C leave them in their foil packs, but cut off the expiry date and batch number

D put them into a specials bin, with a sign advising that they are out of date

E offer them for sale as a “buy one get one free” to sell them quickly

**Correct answer: B**