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Intern Written Examination Candidate’s 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 Pharmacy Council of New Zealand is a member of the APC.

The intern written examination 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) which include:
- Calculation questions;
- Forensic/ethics questions; and
- Practice-based (clinical) 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 the Intern 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 domains of the *National Competency Standards Framework for Pharmacists in Australia 2010*.

- Domain 1 (Professional and ethical practice) includes the following standards:
  1. Practise legally
  2. Practise to accepted standards

- Domain 4 (Review and supply prescribed medicines) includes the following standards:
  1. Consider the appropriateness of prescribed medicines
  2. Dispense prescribed medicines

- Domain 5 (Prepare pharmaceutical products) includes the following standards:
  1. Consider product requirements

- Domain 6 (Deliver primary and preventative health care) includes the following standards:
  1. Assess primary health care needs
  2. Deliver primary health care
  3. Contribute to public and preventative health

- Domain 7 (Promote and contribute to optimal use of medicines) includes the following standards:
  1. Contribute to therapeutic decision-making
  2. Provide ongoing medication management

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3. Format of the Intern Written Examination

The written examination is a computer-based examination that consists of 125 multiple choice questions to be attempted over a period of three hours. The questions consist of:

- Calculation questions;
- Forensic/ethics questions; and
- Practice-based (clinical) questions.

The questions are based upon Domains 1, 4, 5, 6 and 7 of the National Competency Standards Framework for Pharmacists in Australia 2010 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.

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.

The forensic/ethics (Domain 1) and calculations (Domain 5) questions will appear first in the examination, followed by the remaining clinical based questions (Domains 4, 6 & 7).

Sample material

Attached are:
- Sample calculation questions
- Sample forensic/ethics questions
- Sample practice-based questions
- Sample profiles with questions

There is also a full 125-question practice paper and answer sheet available for interns to use at: http://pharmacycouncil.org.au/content/index.php?id=9.
4. Preparation for Written Examination

The PBA has determined that five areas are suitable for examination in the written examination delivered by the APC. These areas are:

- Domain 1; forensic/ethics questions
- Domain 4; questions relating to the dispensing of medicines
- Domain 5; calculations questions
- Domain 6; questions relating to primary or preventative health care
- Domain 7; questions relating to optimal use of medicines

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.

Candidates must have completed at least 30% of their required hours of supervised practice before attempting the written examination.

Preparation for the written examination should be based on the knowledge and experience acquired during professional education and training. However, the following information may be of some assistance when preparing for the examination.

**Domain 1**
Relevant reference material is the key to this section of forensic and ethics questions. Confirmation, for example, of the correct schedule of a medicine, or ability to supply medicines under various circumstances. Possible alternatives for ethical issues can be sourced using hard copies of the medicines schedules and poisons/controlled substances legislation.

Specifically, the SUSMP and information downloaded from the PBS website *Supplying Medicines – What Pharmacists Need to Know* are valuable references.

**Domain 4**
This area deals with the dispensing of medicines. Information regarding the supply of medicines, information to consumers regarding possible side effects, counselling points and potential interactions will all be material likely to be examined. Again the AMH and APF are valuable references where such information is available.

It is impossible to learn all the above listed information for all medicines. However, an insight as to where such information can be found, accessed easily and understood in the shortest possible time is invaluable in the examination context. The use of tags to highlight sections in the reference
texts and becoming familiar with the reference texts concerning these matters will be beneficial.

**Domain 5**
The questions from this Domain in the written examination are used to determine competency in pharmaceutical calculations. The questions appear in the first part of the examination. Any calculations required after that point in the written examination are not for the purpose of competency assessment in calculations.

When an intern gains general registration with the PBA, the registration allows practice to be undertaken in any and all areas of pharmacy. It is on this basis that the calculations are drawn from all possible areas of pharmacy practice. The calculation questions are not intended to reflect one area of pharmacy practice over another. Interns are expected to be competent with any calculation required for a pharmaceutical matter.

Tables present in the AMH and APF may need to be used. A working understanding of what tables are available, the position of the tables in the texts and how to use the tables will be of considerable assistance in this area. Tables such as BMI, surface area and dose required after initial dosing (gentamycin for example) should be well known to interns.

A review of work undertaken as an undergraduate will be of assistance. Regular practice using examples from any pharmaceutical text will also be worthwhile. It is not necessary to recommend a particular text in this circumstance as any reference containing pharmaceutical calculations will be of use. University libraries have such texts and these can be purchased from university bookshops. Most texts originate in America so the matter of units has to be considered.

**Domain 6**
Examination of a pharmacist’s involvement in primary health care is undertaken in Domain 6.

Useful reference texts in this area are those that relate to community pharmacy and symptoms in the pharmacy. The PSA’s “Non –prescription medicines in the Pharmacy” is such an example. It lists approximately 30 conditions commonly presented to pharmacists by consumers seeking treatment. Conditions such as conjunctivitis, dermatitis, tinea, thrush and minor burns are examples of the sorts of conditions listed and ones that it would be expected a competent pharmacist would deal with as a matter of course. A thorough understanding of the contents of this text will be helpful.

If an intern from a hospital setting would like to commit to further action, then it may be possible to seek short observation sessions (directed primarily at OTC medicines) once a week in a local community pharmacy.
Domain 7
Under the competency framework, this area deals with the optimum use of medicines. How best to use a medicine in a particular patient group (for example the elderly, children or people who are immune-suppressed), what medicine is best for a particular disease state, and under what circumstances is it suitable to use an alternative.

A review of your undergraduate notes may be helpful in this area. Also of considerable assistance will be a steady review of the AMH, APF and Therapeutic Guidelines, in order to refine your existing knowledge and expertise.

5. Examination Delivery

Computer-based delivery

The Intern Written Examination is a computer-based examination.

Computer-based testing tutorial

In order for interns to have the opportunity to use the computer software and become accustomed to its functionality prior to sitting the examination, the APC has an online tutorial available for their use.

As part of the tutorial, interns will be presented with seven questions. This will give them exposure to the format and structure of Intern Written Examination questions.

The tutorial is available at: http://www.pearsonvue.com/apc/tutorial.asp

System requirements and download instructions are also available from the site. Once the software is downloaded, a tutorial icon will appear automatically on the desktop. Interns can then click on the icon to begin the tutorial.

There is also a full 125 question practice paper and answer sheet available for interns to use at: http://pharmacycouncil.org.au/content/index.php?id=9.

Permissible reference material

The Intern Written Examination is an open book exam.

Candidates are permitted to bring in whatever printed materials they wish, however electronic reference materials are not permitted.

Candidates should be aware that there is limited desk space available and should plan accordingly.
In order to reflect current pharmacy practice, the APC advises candidates that the reference materials relevant to the Intern Written Examination include:

- the PBA’s required reference list (http://www.pharmacyboard.gov.au/)
- the Australian Medicines Handbook (AMH)
- the Australian Pharmaceutical Formulary (APF)
- the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP); or is equivalent prior to 1 July 2010 the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)
- drugs and poisons legislation (relevant commonwealth and/or state/territory Acts and Regulations)
- the article Supplying Medicines - What Pharmacists Need to Know: http://www.pbs.gov.au/info/healthpro/explanatory-notes/section1/Section_1_3_Explanatory_Notes

Calculators

Certain questions will require calculation. There are now no restrictions on calculators, and candidates can bring in any type of calculator to the examination. An online calculator will also be available during the examination.

Length of and time allowed for the written examination

The written examination will consist of 125 questions to be answered over a period of three hours.

Delivery

The written examination will be offered seven times per year and will be delivered by computer at testing centres in at least each capital city in Australia. For examination dates, please go the APC website: http://pharmacycouncil.org.au/content/index.php?id=9
Register/enrolment
Candidates must register online for the written examination by visiting the Pearson VUE website: www.pearsonvue.com/apc.

The examination fee is 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 enrol, I will have satisfactorily completed at least 30% of my supervised practice hours in a site approved by AHPRA on behalf of the Pharmacy Board of Australia (PBA). I understand that my enrolment may be cancelled if the PBA cannot confirm the completion of 30% of my approved supervised practice hours.

Candidates are also asked to consent to receive surveys from the APC, however this is optional. The question you will be asked is:

- The Australian Pharmacy Council may use your email address from time to time to send you surveys regarding accreditation and examination statistics. These surveys allow us to monitor the effectiveness of pharmacy education in Australia. By selecting ‘Yes’ you consent to the APC using your email address for this purpose. If you do not wish the APC to send you these surveys, please leave the ‘Yes’ button blank.

Intern Written Exam - malpractice

The APC has a procedure for candidates who engage in examination malpractice. Malpractice can be defined as, but is not exclusive to, the following behaviours:

- Communication with other candidates in the exam room, through verbal, written or other means.
- Use of electronic equipment at the workstation to send or receive information to other candidates and/or external persons.
- Use of unauthorised calculators or resources.
- Writing down or in any other way attempting to record test questions for use or distribution outside of the examination room.
- Copying or looking at the work of another candidate.
- Removing or attempting to remove any exam papers from the room.
- Attempting to access information outside of the exam room (e.g. in the toilets).
- Disruption of the exam through behaviour that affects other candidates.
- Any other behaviour upon the part of the candidate that could reasonably be interpreted as misconduct.
Candidates who engage in behaviours as listed above will be provided with the following written and verbal warning:

- “You have been observed engaging in exam malpractice. A report will be written and forwarded to the APC. You may continue the examination provided you cease the malpractice. Further action may be considered by the APC.”

Candidates who continue to engage in malpractice and/or behaviour that affects other candidates in the room may be excluded from the examination venue by the examination invigilators/proctors.
Privacy Policy

The APC may use or disclose personal information for use by relevant organisations for the purposes of improving educational offerings and/or in circumstances related to public interest for the purposes of law enforcement and public or individual safety.


Special arrangements

Requests for special arrangements to assist candidates to undertake the examination on the examination date must be received, considered and approved by the APC prior to registering for the examination on the Pearson VUE website.

Please contact the APC on 02 6247 8335 or e-mail: exams@pharmacycouncil.org.au to discuss your situation. A written request with documentary evidence supporting your request is required by the APC before any requests can be formally considered.

If you do not apply for and receive approval from APC for special accommodations before registering for the examination, the APC cannot guarantee that any subsequent requests for special accommodations will be able to be approved for the examination.

Illness or significant personal circumstances

For candidates who experience illness or significant personal circumstances leading up to the day of the exam or on the exam day itself, they must make the determination as to whether or not they are able to sit the exam.

If the illness or personal circumstances affect the candidate prior to the examination (e.g. affects their ability to prepare for the exam), the candidate should ring the APC prior to the date of the exam to discuss their situation.

Should candidates with an illness or personal circumstance affecting them on the day of the exam decide to attempt the exam despite the illness or personal circumstance, their results will stand.

Should a candidate decide they are unable to sit the exam on the day, for whatever reason, they need to contact the APC as soon as possible after the examination. The APC will consider the circumstances and any supporting documentation, and may issue a refund of the examination fees.
Candidate identification

In order to register for the exam on the day, candidates must provide two forms of valid identification: one “primary” with a photo and signature (e.g. an Australian/New Zealand driver’s license or passport) and one “secondary” with a signature (e.g. credit card). Candidates who are not able to be positively identified will not be permitted to sit the exam.

Your registered name(s) must exactly match the identification that is presented at the test center or you will not be able to take your exam. Please contact the APC if the name(s) that you have used to register for your examination and the name(s) on your identification(s) do not match.

Other general instructions

All personal items including mobile phones, pagers, briefcases, bags (including handbags), wallets or purses are to be left at the front of the examination room.

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 exam must be accompanied by a supervisor unless the candidates indicate they have completed the exam before the scheduled finishing time and will not be returning to the exam room.

If a candidate has to leave the exam room temporarily to use toilet facilities, no extra time will be allowed.

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

Non-disclosure agreement

Candidates will be required to agree to a non-disclosure statement at the commencement of the exam. This is a statement that they will not disclose any part of the examination content to a third party.
6. Results of the Intern Written Examination

Examination results are processed by the APC. Candidates must achieve an overall result of at least 65% to pass the exam. However, each domain also has a minimum pass mark:

- Domain 1 – 63%
- Domain 4 – 50%
- Domain 5 – 63%
- Domain 6 – 50%
- Domain 7 – 50%

Candidates must achieve at least the minimum pass mark in each domain as well as the overall pass mark in order to pass the exam.

Results will be provided on a ‘pass/fail’ basis only. Unsuccessful candidates will also receive a breakdown of results.

Results will be placed on the APC website here: http://pharmacycouncil.org.au/content/APCGS2/approximately two weeks after the exam.

Results will remain online for four (4) weeks before being removed. If you require the issuance of a results certificate after this point, you will need to pay an administrative fee of $80.00 before another certificate can be issued to you.

To obtain results, candidates must select the appropriate examination session. They will 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 telephone, fax or e-mail.

Candidates are reminded to ensure their current Provisional Registration Number has been entered in their Pearson VUE examination registration account, in order to access examination results. Pearson VUE accounts must be updated with this information before the examination date. Pearson VUE accounts can be accessed via the Pearson VUE website: www.pearsonvue.com/apc.
7. APC Appeals Policy

The APC has an Appeals Policy and candidates are requested to familiarise themselves with the content of this policy. The policy can be obtained from the APC Website:

http://pharmacycouncil.org.au/content/index.php?id=31
8. Sample Practice-Based Questions

For a complete 125 question practice paper with answer sheet, go to:

1. Attention deficit hyperactivity disorder (ADHD) may be treated with behaviour management, educational programs, parental counselling and medications. Which ONE of the following medications is NOT generally used in the treatment of ADHD in children?

A Methylphenidate  
B Dexamphetamine  
C Imipramine  
D Clonazepam  
E Clonidine  

Correct answer: D

2. A patient phones the pharmacy complaining of nausea and pale stools. Which ONE of the following medicines is the MOST likely cause of this patient’s symptoms?

A Naproxen 1 g i daily cc  
B Methotrexate 2.5 mg iii weekly cc  
C Omeprazole i daily  
D Prednisolone 5 mg i mane  
E Folic acid 5 mg i daily  

Correct answer: B

3. A male patient, age 45, presents with a prescription for simvastatin 10 mg, take one each day. It is his initial therapy with this drug. When is the optimal time to take this drug?

A In the morning  
B At lunch time  
C Any time during the day, but after meals  
D At night  
E Any time during the day, but before meals  

Correct answer: D
4. A young mother comes into your pharmacy and requests a bottle of trimeprazine syrup to help her six month baby settle at night. She reports that she purchased a bottle previously which worked well, but that it doesn’t seem as effective now.

Which ONE of the following is the MOST appropriate action?

A Change medication to promethazine
B Increase the dose of trimeprazine
C Advise that trimeprazine should not be used in children less than two years of age
D Highlight problems with long-term sedative use
E Advise that trimeprazine loses potency once opened

Correct answer: C

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 ONE 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 0.625 mg Days 1-28  
Medroxyprogesterone 10 mg Days 1-12
Regimen B: Conjugated equine oestrogens 0.625 mg Days 1-28  
Medroxyprogesterone 5 mg Days 1-28

Why is regimen B NOT the preferred hormone replacement therapy option before menopause?

A Because of the increased risk of breast cancer compared with regimen A  
B Because breakthrough bleeding is unpredictable and heavy  
C Because of the increased risk of deep vein thrombosis  
D Because 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 for:

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 ONE 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. What is a common side effect of felodipine?

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. What would the MOST appropriate advice 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 ONE 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 ONE 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 ONE 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, 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 300 mg i nocte
B  Ethinyloestradiol 30/levonorgestrel 150 i daily
C  Omeprazole 20 mg i daily
D  Citalopram 20 mg i daily
E  Naproxen 250 mg i 8 hourly

**Correct answer: B**

19. What is the antihypertensive medication class that should NOT be used for patients with gout?

A  Diuretics
B  β blockers
C  Selective β 1 blockers
D  Calcium channel blockers
E  Angiotensin converting enzyme inhibitors

**Correct answer: A**

20. Which ONE 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 ONE 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 ONE 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 ONE 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 ONE 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 ONE of the following statements is **CORRECT** with regard 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 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 5 mg/mL.

Which ONE of the following is the **MOST** appropriate advice for this patient, with regard 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. What would the **MOST** appropriate recommendation 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. What should you advise 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:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atenolol 50 mg</td>
<td></td>
<td>daily</td>
</tr>
<tr>
<td>Temazepam 10 mg</td>
<td>i</td>
<td>nocte</td>
</tr>
<tr>
<td>Isosorbide mononitrate</td>
<td>i</td>
<td>daily</td>
</tr>
<tr>
<td>Lithium 250 mg</td>
<td>i</td>
<td>tds</td>
</tr>
<tr>
<td>Simvastatin 20 mg</td>
<td>i</td>
<td>nocte</td>
</tr>
<tr>
<td>Docusate with senna</td>
<td>ii</td>
<td>nocte</td>
</tr>
</tbody>
</table>

Which ONE 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 while crossing the road to enter your pharmacy. They immediately ask for your advice. Which ONE 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 ONE 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?

A  Garlic is of value in the treatment of human viral infections
B  Garlic appears to possess some antibacterial and anticoagulant properties
C  Garlic should be regarded as only exerting a placebo effect when used as a therapeutic agent
D  Garlic has proved to be of major benefit in its effects on blood lipids and apolipoproteins
E  Garlic 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 ONE 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 date of sitting the actual examination. The 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

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

PRESENTING COMPLAINT

1. Nausea, dry mouth, blurred vision, headache and constipation

MEDICATION RECORD

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

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**

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 **ONE** 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 **ONE** 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 240 mg 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

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Bob Read</th>
</tr>
</thead>
</table>
| Address      | 3 Lilac Close  
Lavender Bay ACT 2854 |
| Age          | 23       |
| Sex          | Male     |
| Allergies    | Aspirin  |

<table>
<thead>
<tr>
<th>Height</th>
<th>180 cm</th>
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</thead>
<tbody>
<tr>
<td>Weight</td>
<td>80 kg</td>
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</tbody>
</table>

**DIAGNOSIS**

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

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

**MEDICATION RECORD**

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

**PHARMACIST’S NOTES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/4</td>
<td>Compliance not good with beclomethasone</td>
</tr>
</tbody>
</table>
1. What immediate treatment should be included to help reduce pain and swelling in Mr Read’s knee injury i?

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 300 mg 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 ONE 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

Patient Name | James Donell
Address      | 19 Townsend Street, Hackam
Age          | 19
Sex          | Male
Allergies    | Shellfish

Height 190 cm
Weight 90 kg

**DIAGNOSIS**
Presenting complaint

1. Asthma

**MEDICATION RECORD**

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication &amp; strength</th>
<th>Qty</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/12</td>
<td>Budesonide 400 mcg/dose</td>
<td>DPI</td>
<td>ii bd</td>
</tr>
<tr>
<td>1/12</td>
<td>Nedocromil 2 mg/dose</td>
<td>MDI</td>
<td>ii bd</td>
</tr>
<tr>
<td>1/12</td>
<td>Salbutamol 2 mg/2.5mL</td>
<td>30</td>
<td>i qid pm for severe asthma</td>
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</tbody>
</table>

**PHARMACIST’S NOTES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/12</td>
<td>Non-compliance suspected</td>
</tr>
</tbody>
</table>

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 ONE 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 50 mg daily. He asks which adverse effects he may be likely to experience in the following week. What should your advice 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**
Patient Profile

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Roger Benson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>7 Citrus Crescent, Mossy Rock</td>
</tr>
<tr>
<td>Age</td>
<td>74</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
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<tr>
<td>Allergies</td>
<td>Nil known</td>
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<tr>
<td>Height</td>
<td>165 cm</td>
</tr>
<tr>
<td>Weight</td>
<td>60 kg</td>
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**DIAGNOSIS**

**Presenting complaint**
1. Hypertension
2. Angina

**Medical history**
1. Arthritis
2. Peptic ulcer

**LAB/DIAGNOSTIC TESTS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

**MEDICATION RECORD**

<table>
<thead>
<tr>
<th>Date</th>
<th>Drug &amp; Strength</th>
<th>Qty</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/11</td>
<td>Perindopril 4 mg</td>
<td>30</td>
<td>i mane</td>
</tr>
<tr>
<td>8/11</td>
<td>Simvastatin 10 mg</td>
<td>30</td>
<td>i nocte</td>
</tr>
<tr>
<td>8/11</td>
<td>Sotalol 160 mg</td>
<td>100</td>
<td>1/2 bd</td>
</tr>
<tr>
<td>8/11</td>
<td>Isorbide mononitrate 60 mg</td>
<td>30</td>
<td>ii daily</td>
</tr>
<tr>
<td>7/11</td>
<td>Diphenoxylate 2.5 mg &amp; Atropine 0.025 mg</td>
<td>20</td>
<td>i qid</td>
</tr>
<tr>
<td>16/10</td>
<td>Omeprazole 20 mg</td>
<td>28</td>
<td>i bd</td>
</tr>
<tr>
<td>16/10</td>
<td>Naproxen 500 mg</td>
<td>50</td>
<td>i bd</td>
</tr>
<tr>
<td>16/10</td>
<td>Aspirin 300 mg</td>
<td>100</td>
<td>0.5 daily</td>
</tr>
</tbody>
</table>

**PHARMACIST’S NOTES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td></td>
</tr>
</tbody>
</table>

1. Which ONE of Mr Benson’s medications is contraindicated with a peptic ulcer?

A  Perindopril
B  Simvastatin
C  Sotalol
D  Naproxen
E  Omeprazole

**Correct answer: D**
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 taken by Mr Benson, which ONE 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 ONE 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

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Ken Richards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>101 Tarragon Hill, Herbsville</td>
</tr>
<tr>
<td>Age</td>
<td>69</td>
</tr>
<tr>
<td>Sex</td>
<td>Male</td>
</tr>
<tr>
<td>Allergies</td>
<td>Nil known</td>
</tr>
<tr>
<td>Height</td>
<td>175 cm</td>
</tr>
<tr>
<td>Weight</td>
<td>75 kg</td>
</tr>
</tbody>
</table>

**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

**LAB/DIAGNOSTIC TESTS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/11</td>
<td>Haemoglobin 90 g/L</td>
<td>(130-180 g/L)</td>
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</table>

**MEDICATION RECORD**

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

**PHARMACIST’S NOTES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>26/11</td>
<td>Request for medication management review.</td>
</tr>
</tbody>
</table>
1. Which ONE 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 ONE 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 ONE 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 ONE 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

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

**DIAGNOSIS**
Presenting complaint
1. Phlebitis of the leg

Medical history
1. Breast cancer
2. Pulmonary embolus

**LAB/DIAGNOSTIC TESTS**

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/9</td>
<td>Prothrombin Time (INR)</td>
<td>(0.9-1.3)</td>
</tr>
<tr>
<td>22/9</td>
<td>Prothrombin Time (INR)</td>
<td>(0.9-1.3)</td>
</tr>
<tr>
<td>21/9</td>
<td>Sputum - normal flora/heavy growth</td>
<td></td>
</tr>
</tbody>
</table>

**MEDICATION RECORD**

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

<table>
<thead>
<tr>
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<th>Qty</th>
<th>Sig</th>
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</thead>
<tbody>
<tr>
<td>20/9</td>
<td>Warfarin 5 mg</td>
<td>50</td>
<td>as charted</td>
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</tbody>
</table>

**PHARMACIST’S NOTES**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/9</td>
<td>Warfarin diet (Restrict foods high in Vitamin K).</td>
</tr>
</tbody>
</table>
1. Of the following serious side effects, which ONE is the **MOST** likely to occur with simvastatin?

A  Blood dyscrasias  
B  Rhabdomyolysis  
C  Hypocholesterolaemia  
D  Angiodema  
E  Stevens-Johnson syndrome  

**Correct answer: B**

2. 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**

3. Which **ONE** 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**

4. 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. Calculate the body surface area using the ideal bodyweight for a 170 cm female of average frame.

A 1.5
B 1.7
C 1.8
D 2.9
E 3.4

Correct Answer: B

2. You are required to prepare an epidural infusion as follows:

- Bupivacaine 0.125%
- Fentanyl 2 mcg/mL
- Normal saline to 500 mL

If bupivacaine is supplied as 20 ml vials (0.5%), what is the volume of bupivacaine solution require to prepare this infusion?

A 250 mL
B 125 mL
C 25 mL
D 12.5 mL
E 1.25 mL

Correct Answer: B

3. The bioavailability of digoxin in a 250 mcg tablet is 0.60 and the bioavailability of digoxin elixir 0.05 mg/mL is 0.75. What dose of the elixir is equivalent to the 250 mcg tablet?

A 3.0 mL
B 3.75 mL
C 4.0 mL
D 5.0 mL
E 6.25 mL

Correct Answer: C
4. 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**

5. 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**

6. 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**

7. 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**
8. 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, what is the amount of iodine contained in this daily dose of the solution?

A 450 mg  
B 150 mg  
C 45 mg  
D 30 mg  
E 15 mg

**Correct answer: C**

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

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

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

**Correct answer: B**

10. SULPHACETAMIDE EYE-DROPS

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

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

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 ONE the following drugs?
   A    Temazepam
   B    Acitretin
   C    Morphine
   D    Diclofenac
   E    Amoxycillin

   **Correct answer: B**

3. From its date of writing, a prescription for a Schedule 4 poison has a validity period of how long?
   A    1 month
   B    3 months
   C    6 months
   D    12 months
   E    An indefinite period

   **Correct answer: D**

4. Which ONE 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**
5. 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

6. Regulation 24 is a regulation for the provision of medications under the Pharmaceutical Benefits Scheme. What is 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

7. 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
8. 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

9. 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