This is an official CAOP Examination sample paper produced by the Australian Pharmacy Council Ltd (APC) for practice purposes only.

All questions in this sample paper are no longer used in live or actual examinations and have been chosen to allow candidates to gain exposure to the type of content and layout of questions on the examination. Live or actual CAOP Examinations delivered contemporaneously will vary from this sample paper.

The CAOP Examination is 106-questions long (105 multiple choice questions and 1 short answer question) and candidates have 3 hours to complete it.

Due to the frequent changes to the scope and content within the practice of pharmacy in Australia, the APC does not guarantee that the information in this paper is accurate or relevant once published publicly.

The actual CAOP Examination is delivered by computer and candidates should visit the APC website for further information, including a link to an online tutorial:

1 The molecular weight of potassium chloride (KCl) is 74.5.

What volume in mL of potassium chloride injection (30% w/v) should be added to 1 litre of 0.9% sodium chloride infusion to achieve a potassium concentration of 40 mmol/L?

A 2 mL
B 2.6 mL
C 10 mL
D 20 mL
E 26 mL

2 The starting dose of vancomycin for infants less than one week old (average body weight of 2.5 kg) is 15 mg/kg every 18 hours.

How many mL of an injection containing 500 mg/25 mL should be administered to obtain this dose?

A 1.875 mL
B 3.75 mL
C 3.33 mL
D 18.75 mL
E 37.75 mL

3 Pilocarpine HCl 2 %
Purified water q.s. 30 mL

Sig: ii drops three times a day into left eye

What is the TOTAL daily dose of pilocarpine hydrochloride in the prescription given above? (Assume that the dropper is calibrated to deliver 20 drops to the mL.)

A 6 mg
B 12 mg
C 24 mg
D 120 mg
E 240 mg
4 You are required to prepare 500 g of zinc and salicylic acid paste using the following formulas.

To make zinc paste:

White soft paraffin  50 g
Zinc oxide  25 g
Starch  25 g

To make zinc and salicylic acid paste:

Salicylic acid  2 g
Liquid paraffin  2 g
Zinc paste  96 g

What quantity of zinc oxide and salicylic acid are required for this formulation?

A Zinc oxide 250 g, salicylic acid 10 g
B Zinc oxide 120 g, salicylic acid 10 g
C Zinc oxide 75 g, salicylic acid 10 g
D Zinc oxide 120 g, salicylic acid 5 g
E Zinc oxide 75 g, salicylic acid 5 g

5 A prescription requires you to dilute a steroid cream, containing 0.5% of the active ingredient, to an aqueous cream containing 0.1% of the active ingredient.

How many grams of aqueous cream base would you need to add to 100 g of the 0.5% strength?

A 50 g
B 100 g
C 200 g
D 250 g
E 400 g
6 How many grams of potassium chloride should be used to compound this prescription?

Potassium chloride sufficient to give a total daily dose of 30 millimoles of potassium
Raspberry syrup 120 mL
Water to 250 mL
Take 10 mL daily

[Atomic weight of potassium = 39] [Atomic weight of chlorine = 35.5]
A 1 g
B 3 g
C 5 g
D 28 g
E 56 g

7 In an intensive care ward, a chart reads: “KCl 40 mmol in 1 litre of normal saline. Infuse at 20 mmol/h.”

What is the flow rate in mL/min?
A 0.5 mL/min
B 0.83 mL/min
C 5 mL/min
D 8.3 mL/min
E 50 mL/min

8 What is the volume of cetrimide solution 40% required to prepare 2 litres of cetrimide 1:200?
A 2.5 mL
B 5 mL
C 12.5 mL
D 25 mL
E 50 mL
Itraconazole oral liquid interacts with all of the following EXCEPT:

A  Fluoxetine
B  Warfarin
C  Cyclosporin
D  Simvastatin
E  Digoxin
PATIENT PROFILE

Patient Name: Matt East
Address: 46 Mary Wesley Crescent
         Uringa
Age: 5 months
Sex: Male
Height: 60 cm
Weight: 5 kg
Allergies: Penicillin - rash

Diagnosis
Presenting Complaint: 1. Bilateral acute otitis media with fever
Medical History: 1. Atopic dermatitis

Laboratory / Diagnostic Tests
Date Test Reference Range

Medication Record
Date Medication Quantity Sig
23/7 Betamethasone 0.02 % 100 g Apply to arms bd

Pharmacist’s Notes
None.
10 What is the MOST likely bacterial organism responsible for Matt's ear infection?
A  Haemophilus influenzae
B  Staphylococcus aureus
C  Pseudomonas aeruginosa
D  Mycoplasma pneumoniae
E  Campylobacter jejuni

11 Which ONE of the following is the MOST appropriate antibiotic treatment for Matt?
A  Cefuroxime
B  Amoxycillin
C  Ciprofloxacin ear drops
D  Cephalexin

12 Five days later, Mrs East brings Matt into the pharmacy with red, irritated nappy rash that has spread into his skin folds.
Which ONE of the following statements of advice is LEAST appropriate to give Mrs East?
A  Apply miconazole/zinc oxide ointment for seven days
B  Use barrier cream at each nappy change
C  Use unscented nappy wipes
D  Apply his eczema cream to the nappy rash until cleared
E  Leave nappies off for as long as possible
Mrs East also tells you that Matt has had loose bowel motions for the past four days. What is the MOST appropriate advice to give Mrs East?

A  Stop breastfeeding, give water and see a doctor
B  Give electrolyte replacement fluids to supplement breastfeeding
C  Continue breastfeeding and see a doctor as soon as possible
D  Stop breastfeeding and give electrolyte replacement
E  Express breast milk and dilute with boiled water

*** END OF PATIENT PROFILE ***
14 Which ONE of the following statements is LEAST accurate regarding emergency contraception?

A  A single dose of 1.5 mg of levonorgestrel is effective if taken within 72 hours of unprotected intercourse

B  Copper IUDs continue to provide contraceptive effect for the rest of the cycle

C  750 microgram of levonorgestrel is effective if taken within 72 hours of unprotected intercourse and then repeated 12 hours later

D  Oral levonorgestrel, single dose regimen, is the method of choice for emergency hormonal contraception

E  Emergency contraception should be used with caution in women who are breastfeeding

15 If a patient misses a dose of a progesterone-only oral contraceptive pill and the pill is more than three hours overdue, for how many days (following the missed dose) does she have to take the pill before she is fully covered?

A  Remainder of the month

B  Two days

C  Seven days

D  14 days

E  28 days
PATIENT PROFILE

Patient Name: Richard Bore
Address: 2/14 Jasmine Drive
         Flowervale
Age: 56
Sex: Male
Allergies: Nil known
Height: 180 cm
Weight: 91 kg

Diagnosis
Presenting Complaint: 1. Mycobacterium infection

Medical History: 1. Hypercholesterolaemia
                 2. Diabetes
                 3. Ischaemic heart disease
                 4. Rheumatoid arthritis
                 5. Atrial fibrillation

Laboratory / Diagnostic Tests

<table>
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Medication Record

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<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/10</td>
<td>Methotrexate tablets 10 mg</td>
<td>50</td>
<td>ii weekly</td>
</tr>
<tr>
<td>24/9</td>
<td>Simvastatin tablets 20 mg</td>
<td>30</td>
<td>i nocte</td>
</tr>
<tr>
<td>3/9</td>
<td>Glipizide tablets 5 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>3/9</td>
<td>Metformin tablets 500 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>25/8</td>
<td>Glyceryl trinitrate patches 25 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>25/8</td>
<td>Metoprolol tablets 50 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>1/7</td>
<td>Beclomethasone nasal spray</td>
<td>1</td>
<td>i bd each nostril</td>
</tr>
<tr>
<td>1/7</td>
<td>Warfarin 5 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
</tbody>
</table>

Pharmacist's Notes
Nil
Mr Bore is diagnosed with a mycobacterium infection. He presents with a prescription for rifampicin 600 mg bd. This antibiotic might lead to:

A Decreased control of his hypercholesterolaemia because rifampicin can induce the metabolism of simvastatin
B Decreased glycaemic control due to induction of metabolism of metformin
C Increased risk of lactic acidosis due to inhibition of metabolism of metformin
D Increased toxicity of methotrexate due to inhibition of metabolism
E Migraine headaches due to inhibition of metabolism of glyceryl trinitrate

Although Mr Bore tolerates his medication well, his glycaemic control worsens (HbA1c increases to 9%). Which ONE of the following is the MOST appropriate therapeutic option?

A Introduce insulin therapy
B Increase dose of metformin to 2 g daily
C Increase dose of glipizide to 20 mg daily
D Introduce pioglitazone
E Introduce acarbose

What additional counselling should you give Mr Bore about his diabetes?

A Conduct daily urine testing
B Completely avoid eating all sugars
C Have regular liver function tests and eye tests
D Have regular kidney function tests and eye tests
E Have monthly glycosylated haemoglobin (HbA1c) tests
19 What laboratory tests should be used to monitor Mr Bore while on treatment with methotrexate?

A Full blood count, liver function, plasma electrolytes
B Full blood count, renal function, liver function
C Thyroid function, full blood count, renal function
D Full blood count, cardiac function, plasma electrolytes
E Cardiac function, renal function, plasma electrolytes

20 Due to unacceptable side-effects with methotrexate, Mr Bore's consultant rheumatologist changes his treatment to leflunomide 100 mg daily for 3 days, reducing to 20 mg daily.

You contact the prescriber because:

A Leflunomide increases the metabolism of metoprolol, the dose of which may need to be altered
B Leflunomide, via its active metabolite, inhibits the enzyme that metabolises warfarin, which may lead to bleeding
C Leflunomide inhibits the enzyme that metabolises simvastatin, the dose of which may need to be reduced
D Leflunomide, via its active metabolite, induces the metabolism of metformin with the possible outcome being lactic acidosis
E Glipizide increases the metabolism of leflunomide, the dose of which may need to be increased

*** END OF PATIENT PROFILE ***
21 Which ONE of the following medications should be infused slowly to avoid a histamine-induced reaction?

A Cyclosporin  
B Vancomycin  
C Erythromycin  
D Acyclovir  
E Amoxycillin  

22 A suitable maintenance dose of methotrexate, in a patient with rheumatoid arthritis and a creatinine clearance less than 40 mL/min, is:

A 5 - 15 mg each day  
B 25 - 50 mg each day  
C 30 - 50 mg weekly  
D 2 - 15 mg weekly  
E 5 - 25 mg 3 x weekly  

23 Which ONE of the following groups does NOT contain a significant drug interaction?

A Cyclosporin, ramipril, phenytoin  
B Digoxin, amiodarone, frusemide  
C Amitriptyline, lithium, fosinopril  
D Allopurinol, colchicine, naproxen  
E Digoxin, erythromycin, diltiazem
PATIENT PROFILE

Patient Name: Diane Morgan
Address: 14 Briarwood Road
         Maxwell
Age: 25
Sex: Female
Allergies: Nil known
Height: 158 cm
Weight: 68 kg

Diagnosis
Presenting Complaint: 1. Vaginal discharge

Medical History:
1. 1st pregnancy
2. Urinary tract infection (UTI)

Laboratory / Diagnostic Tests

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

Medication Record

| Date | Medication | Quantity | Sig |

Pharmacist’s Notes
30 weeks pregnant
Mrs Morgan presents at the pharmacy asking to speak to the pharmacist. She complains of ‘thrush’ and further describes it as a white, clumpy vaginal discharge and pain on urination. Although she has had ‘thrush’ before, it has been over one year since her last bout.

Which ONE of the following over-the-counter medications would be MOST appropriate to treat thrush in Mrs Morgan?

A Clotrimazole solution
B Clotrimazole pessaries
C Oral fluconazole
D Clotrimazole topical cream
E Oral itraconazole

Mrs Morgan later presents with a prescription for the treatment of her UTI. Of the following medications, which ONE is the MOST appropriate choice for Mrs Morgan?

A Norfloxacin
B Sodium citro-tartrate granules
C Erythromycin
D Cephalexin

Mrs Morgan asks what she can use for a runny nose which the doctor has told her was caused by a virus.

Which ONE of the following is the MOST appropriate option with regard to efficacy and safety?

A Pseudoephedrine tablets
B Beclomethasone nasal spray
C Oxymetazoline nasal spray
D Expectorant cough syrup
E Fexofenadine tablets
27 Which ONE of the following over-the-counter oral medications is **MOST** likely to cause problems for Mrs Morgan and her unborn foetus?

A Dextromethorphan  
B Aspirin  
C Guaiphenesin  
D Dexchlorpheniramine

28 After the birth of the baby, Mrs Morgan (who is breastfeeding) presents to the pharmacy with a prescription for an oral contraceptive. Which ONE of the following is the **MOST** appropriate recommendation?

A Levonorgestrel 50 mcg; ethinyloestradiol 30 mcg  
B Levonorgestrel 30 mcg  
C Norethisterone 30 mcg  
D Ethinyloestradiol 35 mcg; norethisterone 100 mcg  
E Mestranol 50 mcg; norethisterone 1000 mcg

*** END OF PATIENT PROFILE ***
PATIENT PROFILE

Patient Name: James Wood  
Address: 29 Gramps Cres  
Adina  
Age: 72  
Height: 167 cm  
Sex: Male  
Weight: 60 kg  
Allergies: Ibuprofen (rash)

Diagnosis

Presenting Complaint: 1. Skin discolouration, itchy rash

Medical History: 1. Ischaemic heart disease  
2. Alcohol related liver cirrhosis  
3. Thrombocytopenia  
4. Portal hypertension  
5. Hypoalbuminaemia  
6. Duodenal ulcer

Laboratory / Diagnostic Tests

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/5</td>
<td>Albumin 20 g/L</td>
<td>(32-45 g/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>ALP 124 units/L</td>
<td>(25-100 U/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>ALT 160 units/L</td>
<td>(&lt;35 U/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>AST 135 units/L</td>
<td>(&lt;40 U/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>GGT 225 units/L</td>
<td>(&lt;50 U/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>Haemoglobin 121 g/L</td>
<td>(130-180 g/L)</td>
</tr>
<tr>
<td>10/5</td>
<td>INR 1.6</td>
<td>(0.9-1.3)</td>
</tr>
<tr>
<td>10/5</td>
<td>Platelets 97 x 10⁹/L</td>
<td>(150-400 x 10⁹ /L)</td>
</tr>
</tbody>
</table>

Medication Record

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<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/5</td>
<td>Aspirin 100 mg</td>
<td>28</td>
<td>i daily</td>
</tr>
<tr>
<td>10/5</td>
<td>Frusemide 40 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>10/5</td>
<td>Glyceryl trinitrate 600 microgram</td>
<td>100</td>
<td>i s/l prn</td>
</tr>
<tr>
<td>10/5</td>
<td>Multivitamins</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>10/5</td>
<td>Omeprazole 20 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>10/5</td>
<td>Paracetamol/codeine 500 g/30 mg</td>
<td>50</td>
<td>i bd prn</td>
</tr>
<tr>
<td>10/5</td>
<td>Propranolol 40 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>10/5</td>
<td>Spironolactone 100 mg</td>
<td>100</td>
<td>i daily</td>
</tr>
<tr>
<td>10/5</td>
<td>Thiamine 100 mg</td>
<td>100</td>
<td>i daily</td>
</tr>
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</table>

Pharmacist's Notes

10/5  History of alcohol abuse.
29. Which ONE of the following is the MOST likely cause of this patient's raised INR?

A. Aspirin  
B. Spironolactone  
C. Low haemoglobin  
D. Low platelets  
E. Liver failure

30. What parameters should be monitored for patients on spironolactone?

A. Potassium and creatinine  
B. AST and GGT  
C. Albumin and potassium  
D. Creatinine and INR  
E. Platelets and red blood cells

31. Mr Wood is started on lactulose 20 mL every two hours until diarrhoea occurs. What is the MOST likely indication?

A. Pseudomembranous colitis  
B. Thrombocytopenia  
C. Hepatic encephalopathy  
D. Constipation  
E. Hypoalbuminaemia
With regard to his current symptoms, which other laboratory test is **MOST** appropriate to be ordered for Mr Wood?

A. Creatine kinase  
B. Bilirubin  
C. Ferritin  
D. Cholesterol  
E. Vitamin B12

*** END OF PATIENT PROFILE ***
A male customer wants to purchase a salbutamol metered aerosol for his asthma. You know he is a regular customer and has a long history of asthma. However, this is his second request for salbutamol in the past week.

What is the main complication arising from his increased use of the medication?

A  It has a relatively high risk of causing cardiac arrest
B  It can mask the deterioration of his asthma
C  There is a high risk of him becoming habituated to the salbutamol
D  It can cause dangerous hypotension
E  It can cause bradycardia

For an acute angina attack and treatment with sublingual medication, which ONE of the following is INCORRECT?

A  Sit or lie down before using sublingual tablets or spray, as they may cause dizziness
B  Call an ambulance if symptoms are severe, get worse, or last for 10 minutes
C  The recommended dose of sublingual spray is 400-800 micrograms (1-2 sprays), repeated once after 5 minutes if necessary
D  The recommended dose of sublingual tablets is 600 micrograms (1 tablet) repeated every 3-4 minutes until pain is resolved, to a maximum of 2 or 3 tablets
E  For prevention of acute angina before activity, swallow ½ to 1 sublingual tablet 5 to 10 minutes prior to activity

An elderly female customer with poor eyesight presents at your pharmacy with a new prescription for verapamil slow release tablets 240 mg, half twice a day. You contact the prescriber to discuss the prescription.

In this situation, which ONE of the following is the MOST appropriate change that should be made to the patient's medication?

A  Verapamil slow release capsules 240 mg i daily
B  Verapamil tablets 80 mg i bd
C  Verapamil tablets 120 mg i bd
D  Verapamil tablets 40 mg i bd
Which medication displays a significant pharmacokinetic interaction with amiodarone?

A  Verapamil
B  Warfarin
C  Sotalol
D  Atorvastatin
E  Thyroxine
PATIENT PROFILE

Patient Name: John Porter
Address: Room A, Emergency Ward
Age: 4
Sex: Male
Allergies: Amoxycillin (rash)
Height: 120 cm
Weight: 18 kg

Diagnosis
Presenting Complaint:
1. Lethargy
2. Stiff neck
3. High fever
4. Photophobia
5. Sore throat

Medical History:
1. Non-specific cough
2. Fever
3. Ear pain

Laboratory / Diagnostic Tests

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Medication Record

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<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>14/7</td>
<td>Erythromycin 40 mg/mL</td>
<td>100 mL</td>
<td>5 mL q6h</td>
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</table>

Pharmacist's Notes
14/7 Patient consulted GP and was treated for a throat infection.
16/7 Patient rapidly deteriorated and developed lethargy, stiff neck, high fever, photophobia and inconsolable crying.
Patient presented to hospital emergency ward. Patient was pyrexial with temperature of 39.2 degrees and non-blanching purpuric rash. Chest was clear but he still has a red sore throat.
Provisional diagnosis: Meningococcal septicaemia.
Immunisation status: up-to-date.
37 Which ONE of John's signs and symptoms is NOT an expected sign of meningitis?

A  Stiff neck
B  Sore throat
C  Lethargy
D  High fever

38 Which ONE of the following organisms would be the MOST likely cause of John's symptoms?

A  *Escherichia coli*
B  *Haemophilus influenzae type B*
C  *Staphylococcus aureus*
D  *Streptococcus pneumoniae*
E  *Neisseria meningitidis*

39 John's signs and symptoms are consistent with septicaemia and he is admitted to the Intensive Care Unit for treatment, with high dose intravenous antibiotics.

Which ONE of the following antibiotics would be the MOST appropriate choice?

A  Cefotaxime
B  Ceftazidime
C  Cefazolin
D  Gentamicin
E  Vancomycin
Later that day, John's mother presents to the pharmacy with a prescription for rifampicin 600 mg bd for two days, for meningococcal prophylaxis for herself and her husband.

Which ONE of the following statements is LEAST appropriate? Rifampicin:

A  Is an enzyme inhibitor and interacts with a number of drugs
B  Should be avoided in late pregnancy because of potential risk of neonatal bleeding
C  Can cause permanent staining of soft contact lenses
D  Is best taken 30 minutes before food to enhance absorption
E  Requires additional contraceptive measures, if using hormonal contraception

*** END OF PATIENT PROFILE ***
41 What is the recommended dose and duration of amoxycillin therapy for the treatment of acute otitis media in a five year old child?

A 62.5 mg tds for 5 days
B 62.5 mg tds for 14 days
C 62.5 mg tds for 10 days
D 250 mg tds for 5 days
E 250 mg tds for 14 days

42 A 2 year old child has a honey-coloured crusted lesion beside her mouth that has been present for three days. The child also has a small blister on her hand that looks like a burn. The child has no other symptoms.

What is the MOST likely cause of the lesions?

A Herpes zoster
B Mollacum contagiosum
C Vitiligo
D Tinea corporus
E Impetigo

43 A female customer presents you with her first prescription for alendronate 70 mg once a week. In counselling her, which ONE of the following statements is INCORRECT?

A Alendronate should be taken in the morning with water, 30 minutes before breakfast
B If a dose is forgotten, it should be taken as soon as it is remembered later that day, but after a meal in order to avoid gastric distress
C Do not lie down for at least 30 minutes after taking alendronate
D Calcium supplements, antacids and other oral medications should not be taken at the same time as alendronate
E Side effects of alendronate include abdominal pain, headache, oesophageal ulcer and musculoskeletal pain
Which ONE of the following statements regarding the use of griseofulvin is INCORRECT?

A  Patients should be advised to avoid alcohol
B  It is best taken with a meal high in carbohydrate
C  Exposure to intense artificial or natural sunlight should be avoided
D  Men should be advised not to father a child during therapy or for six months after treatment
E  It should be avoided during pregnancy and while breastfeeding
PATIENT PROFILE

Patient Name: James Joyce
Address: Room 4A, Chandler Ward
Age: 7 1/2
Sex: Male
Height: 125 cm
Weight: 20 kg
Allergies: Penicillin (anaphylaxis)

Diagnosis
Presenting Complaint: 1. Left lower quadrant abdominal pain (possible appendicitis)
Medical History: 1. Asthma

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<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/7</td>
<td>Diclofenac suppositories 25 mg</td>
<td>10</td>
<td>i PR tds prn for pain</td>
</tr>
<tr>
<td>5/7</td>
<td>Morphine infusion</td>
<td>20</td>
<td>30 microgram/kg/hr</td>
</tr>
<tr>
<td>5/7</td>
<td>Paracetamol suppositories 250 mg</td>
<td>24</td>
<td>i PR q4-6h prn (max 4 in 24 hr)</td>
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<tr>
<td>5/6</td>
<td>Montelukast 5 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>5/6</td>
<td>Salbutamol MDI</td>
<td>2</td>
<td>ii puffs qid prn</td>
</tr>
</tbody>
</table>

Pharmacist's Notes
5/7  Admitted 5/7 - Ultrasound confirmed appendicitis. Patient to theatre for the removal of appendix - found to be perforated. Postoperatively admitted to the surgical ward. Patient has a pain score 4 out of 10.
45 Which ONE of the following is NOT a common adverse effect of morphine?

A  Nausea
B  Itch
C  Respiratory depression
D  Constipation
E  Seizures

46 James complains of shortness of breath. Which ONE of the following medicines is MOST likely responsible?

A  Morphine
B  Paracetamol
C  Diclofenac
D  Montelukast

47 Which ONE of the following antibiotics would be the MOST suitable to use as part of James’ post-operative antibiotic regimen?

A  Clindamycin
B  Meropenem
C  Ampicillin
D  Ticarcillin/clavulanic acid
E  Cefotaxime
Two days post operatively, James is starting to tolerate an oral diet and he is changed from rectal diclofenac to oral ibuprofen tds for pain. He is also changed from intravenous morphine to oral codeine 20 mg 4-6 hourly when required.

Which ONE of the following statements about codeine is INCORRECT?

A. Its metabolism displays significant polymorphism
B. It is an opioid considered equipotent with morphine
C. Constipation is a frequently seen adverse effect of codeine
D. There is a ceiling dose beyond which no extra effect is seen
E. Its effect is largely dependent on its metabolism to morphine

Which ONE of the following statements regarding the use of NSAIDs is INCORRECT?

A. NSAIDs should be used with caution in patients who are dehydrated
B. NSAIDs should be used with caution in patients with renal impairment
C. NSAIDs should be used with caution in patients with a history of asthma
D. NSAIDs should be used with caution in patients who are already taking codeine
E. NSAIDs should be used with caution in patients with a history of gastrointestinal bleeding

*** END OF PATIENT PROFILE ***
50 With regard to the following combinations of medications and potential side effect, which combination is **LEAST** likely to match?

A  Phenytoin + gingival hyperplasia  
B  Carbamazepine + agranulocytosis  
C  Lamotrigine + Stevens-Johnson syndrome  
D  Sodium valproate + renal failure  
E  Vigabatrin + visual field defects  

51 Benzoyl peroxide used to treat acne acts as a/an:

A  Antifungal  
B  Emollient  
C  Keratolytic  
D  Antiviral  
E  Retinoid  

52 Which ONE of the following pairs of medications is **MOST** likely to be prescribed together?

A  Colchicine and allopurinol  
B  Cabergoline and ergometrine  
C  Amiodorone and sotalol  
D  Lithium and NSAIDs  
E  St John’s Wort and digoxin
53. Which ONE of the following statements is **CORRECT** with regard to vaginal thrush?

A. Vaginal antifungals should not be used during pregnancy
B. The most common causative organism is *Candida glabrata*
C. Single doses of azole antifungals are effective for frequent episodes
D. When treating with an azole, treatment should cease when symptoms abate
E. Excessive use of vaginal antifungals may cause allergic vaginal and vulval reactions

54. Therapeutic drug monitoring of medications is **LEAST** appropriate for medications with:

A. A narrow therapeutic range
B. A target concentration range
C. Little pharmacokinetic variability
D. An available cost effective medicine assay
E. A strong relationship between plasma concentrations and clinical effects

55. Laboratory test results indicate a patient's potassium level to be 5.5 mmol/L. The patient's ECG shows no change.

Which ONE of the following statements is **CORRECT**?

A. This patient's potassium level is high and requires immediate administration of IV calcium gluconate
B. This patient's potassium level is within normal limits, but requires ongoing monitoring
C. This patient's potassium level is low and oral supplementation should be prescribed
D. This patient's potassium level is low and requires immediate IV supplementation
E. This patient's potassium level is high and requires investigation
Gemfibrozil is contraindicated in:

A  The elderly
B  Hyponatremia
C  Acidosis
D  Pregnancy
E  Heart failure
PATIENT PROFILE

Patient Name: Ron Clooney
Address: 39 Wallis Street
          Nanna Hill
Age: 38  Height: 180 cm
Sex: Male  Weight: 80 kg
Allergies: Penicillin

Diagnosis
Presenting Complaint: 1. Constipation
Medical History: 1. Prostate cancer
                 2. Nausea

Laboratory / Diagnostic Tests

Medication Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/7</td>
<td>Paracetamol 500 mg</td>
<td>100</td>
<td>ii qid prn</td>
</tr>
<tr>
<td>25/7</td>
<td>Paracetamol 500 mg/codeine phosphate 15 mg</td>
<td>20</td>
<td>ii qid prn</td>
</tr>
<tr>
<td>25/7</td>
<td>Paracetamol 500 mg/codeine phosphate 30 mg</td>
<td>20</td>
<td>ii qid prn</td>
</tr>
<tr>
<td>25/7</td>
<td>Morphine sulfate SR 30 mg cap</td>
<td>20</td>
<td>i bd</td>
</tr>
</tbody>
</table>

Pharmacist's Notes
Nil
57 Which ONE of the following is the **MOST** significant potential toxicity problem for Mr Clooney?

A  An overdose of paracetamol  
B  An overdose of codeine  
C  An overdose of opiates  
D  An overdose of morphine  
E  An overdose of oxycodone

58 In counselling Mr Clooney, you should advise him to take the morphine tablets:

A  As required **AND** any combination of paracetamol, with or without codeine up to a maximum of 4 g total paracetamol per day, regularly  
B  Regularly, **AND** in combination with paracetamol, up to a maximum of 4 g total paracetamol per day, as required  
C  As required, **OR** any combination of paracetamol, with or without codeine up to a maximum of 4 g total paracetamol per day, as required  
D  Regularly, **OR** any combination of paracetamol, with or without codeine up to a maximum of 4 g total paracetamol per day, regularly

59 Which ONE of the following measures is the **MOST** appropriate to control Mr Clooney's nausea?

A  Esomeprazole  
B  Dimenhydrinate  
C  Metoclopramide  
D  Reduce morphine dose  
E  Change morphine to oxycodone
Which ONE of the following is the MOST appropriate advice to give Mr Clooney about managing his constipation?

A  Take lactulose when necessary
B  Take bisacodyl tablets at night
C  Take a docusate enema twice daily
D  Take docusate and senna tablets regularly
E  Take sterculia and frangula granules regularly

*** END OF PATIENT PROFILE ***
Which ONE of the following supportive statements concerning breastfeeding is INCORRECT?

A  Breastfeeding provides an optimal nutritional diet
B  Breastfeeding provides protection against infections
C  Breastfeeding provides protection against allergies
D  Breastfeeding provides an inexpensive and convenient nutrition source
E  Breastfeeding provides a complete diet up to 12 months of age

When used as a nasal decongestant, pseudoephedrine acts by which ONE of the following mechanisms?

A  Indirect stimulation of the muscarinic receptors in the nasal mucosa
B  Direct stimulation of the adrenoreceptors in the nasal mucosa
C  Direct and indirect stimulation of adrenoreceptors in the nasal mucosa
D  Direct and indirect stimulation of the muscarinic receptors in the nasal mucosa
E  Direct stimulation of the muscarinic receptors in the nasal mucosa

Which ONE of the following statements is NOT appropriate when counselling a patient taking metformin?

A  Take with meals to reduce stomach upset
B  Adverse effects, such as nausea, vomiting and diarrhoea are common; refer to your doctor if the adverse effects do not decrease in intensity after one week
C  Drinking alcohol decreases blood glucose, masking signs of hypoglycaemia and increases the risk of serious side effects
D  Limit alcohol intake and eat something when drinking alcohol
PATIENT PROFILE

Patient Name: Greg Yurko  
Address: Canley Hospital, Emergency Department, Room 4
Age: 25  
Sex: Male  
Height: 178 cm  
Weight: 73 kg

Allergies: Nil known

Diagnosis
Presenting Complaint: 1. Amitriptyline overdose
Medical History: 1. Acute depression

Laboratory / Diagnostic Tests

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/4</td>
<td>Amitriptyline 50 mg</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

Pharmacist's Notes

9/6  Patient admitted for amitriptyline overdose.
What is the main treatment for amitriptyline overdose?

A. Maintain airway and monitor cardiac function for 24 hours
B. Give activated charcoal within one hour of ingestion, monitor airways and cardiac function
C. Ipecac syrup, followed by monitoring of airways and cardiac function
D. Milk or water, followed by monitoring of airways and cardiac function
E. Flumazenil and naloxone, followed by monitoring of airways and cardiac function

Alternative antidepressants for a patient at risk of overdose would be all of the following EXCEPT:

A. Moclobemide
B. Dothiepin
C. Citalopram
D. Sertraline
E. Venlafaxine

Mr Yurko has been taking St John’s Wort for depression in addition to the amitriptyline. Why should concurrent administration of these two medications be discouraged?

A. Additive sedative effects
B. An increased risk of haemorrhage
C. Reduced elimination of the amitriptyline
D. Increased risk of profuse sweating and agitation
E. Increased anticholinergic side effects
Symptoms of abrupt withdrawal from amitriptyline include all of the following **EXCEPT:**

A  Runny nose

B  Sleep disturbance

C  Dry mouth

D  Abdominal cramping

E  Hypersalivation

*** END OF PATIENT PROFILE ***
A diabetic patient has just been diagnosed with hyperlipidemia. Dietary measures have failed. Monotherapy is preferred to encourage compliance.

Lipid levels:
- Cholesterol 6.5 mmol/L (NR < 5.5)
- Triglycerides 3.2 mmol/L (NR < 2.2)

Which ONE of the following medications is the **BEST** option?

A  Gemfibrozil
B  Cholestyramine
C  Atorvastatin
D  Probucol
E  Ezetimibe

A customer comes into the pharmacy with her 12 month old daughter. She explains that her daughter has had the recommended immunisation to date. However, she is now in two minds about MMR (measles, mumps, rubella) vaccine due to recent adverse reports about immunisation.

Which ONE of the following statements is **INCORRECT**?

A  A child who may have had measles can be vaccinated with MMR since the risk of adverse effects is not increased
B  A child may develop a fine rash a few days after immunisation with MMR (subclinical measles is not infectious)
C  Immunisation against measles before 12 months of age may not be effective due to residual maternal antibodies
D  Paracetamol is not routinely used at the time of immunisation, but may be recommended for fever or pain
E  There are no possible long term health consequences following an episode of measles
PATIENT PROFILE

Patient Name: Sandra Whitely
Address: Room number 24
Age: 8
Sex: Female
Allergies: Cephalosporins - rash
Height: 130 cm
Weight: 25 kg

Diagnosis
Presenting Complaint:
1. Infected eczema
2. Scabies

Medical History:

Laboratory / Diagnostic Tests

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/9</td>
<td>Blood culture</td>
<td>(Staph. aureus positive cultures)</td>
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</table>

Medication Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>17/9</td>
<td>50 % white soft paraffin / 50 % liquid paraffin mixed with glycerin 10 % in sorbolene cream</td>
<td>500 g</td>
<td>2-4h prn (to limbs &amp; face)</td>
</tr>
<tr>
<td>17/9</td>
<td>Triclosan soap &amp; bath oil</td>
<td></td>
<td>daily (at bath time)</td>
</tr>
<tr>
<td>17/9</td>
<td>Betamethasone valerate 0.02 %</td>
<td>100 g</td>
<td>bd (5/7 days on - 2/7 off)</td>
</tr>
<tr>
<td>17/9</td>
<td>Cetirizine 1 mg/mL</td>
<td>75 mL</td>
<td>5 mL bd</td>
</tr>
<tr>
<td>17/9</td>
<td>Flucloxacillin 250 mg</td>
<td>24</td>
<td>qid</td>
</tr>
<tr>
<td>17/9</td>
<td>Hydrocortisone 1 % cream</td>
<td>50 g</td>
<td>bd (5/7 days on-2/7 off)</td>
</tr>
<tr>
<td>17/9</td>
<td>Paracetamol 500 mg</td>
<td>100</td>
<td>q4h prn</td>
</tr>
<tr>
<td>17/9</td>
<td>Permethrin 5 %</td>
<td>30 g</td>
<td>nocte</td>
</tr>
<tr>
<td>17/9</td>
<td>Wet dressing - aluminium acetate</td>
<td>500 g</td>
<td>q4h (to trunk) 2-4hrly (continuously to crusted areas)</td>
</tr>
</tbody>
</table>

Pharmacist’s Notes
17/9 Mother also treated with permethrin.
70 Which ONE of the following statements **WOULD** be included in advice on treating Sandra's scabies with permethrin cream?

A. Apply to the whole body, including the face, scalp and ears  
B. Ensure that the patient's skin is clean, dry and cool before application  
C. Cream should be washed off after 4 hours  
D. Ensure the whole tube is applied to the body  
E. Reapplication after 24 hours improves treatment

71 Regarding Sandra's severe topical bacterial infections and eczema, which ONE of the following is the **BEST** treatment option?

A. Topical antibiotics and corticosteroid creams, to decrease itchiness  
B. A combination of topical and systemic antibiotics with corticosteroid creams  
C. Symptomatic topical relief and an oral steroid to reduce inflammation  
D. An oral antibiotic given with an antihistamine to reduce eczema related itch  
E. A combination of corticosteroid creams, symptomatic relief and systemic antibiotics

72 What is the **MOST** likely reason for Sandra being prescribed flucloxacillin?

A. She had a proven *Staphylococcus aureus* infection  
B. Flucloxacillin has a synergistic effect with permethrin in treating scabies  
C. Flucloxacillin is a safer medication, with fewer side effects, than cephalosporins  
D. Patients with cephalosporins allergies are highly unlikely to also be allergic to flucloxacillin  
E. Cephalosporins are not active against *Staphylococcus aureus*
Sandra was ordered two steroid creams. What is the **MOST** likely reason for this?

A. A less potent steroid is more suitable for application to the face

B. It is safer to use a less potent steroid when the rash is less severe

C. Different steroid creams, when combined, potentiate the anti-inflammatory effects without increasing harmful effects

D. Coexisting skin atrophy will increase systemic absorption and consequent side effects of more potent corticosteroids

E. Moderately potent steroids can only be used for a few days in children

*** END OF PATIENT PROFILE ***
74 Which ONE of the following is MOST likely to increase the INR of patients on warfarin?

A  Rifampicin
B  Griseofulvin
C  Carbamazepine
D  Sulfamethoxazole/trimethoprim
E  Cefaclor

75 Which ONE of these medications should be administered MORE frequently than once daily?

A  Amlodipine
B  Piroxicam
C  Warfarin
D  Sotalol
E  Glimepiride

76 The dosage of doxycycline taken for malaria prophylaxis is:

A  100 mg daily, starting 2 days before entering area and continuing for 2 - 4 weeks after leaving area
B  100 mg daily, starting 2 days before entering area and continuing for duration of trip
C  50 mg weekly, starting 2 days before and continuing for 2 - 4 weeks after leaving the area
D  50 mg weekly, starting 2 weeks before entering malaria area and continuing after leaving area, for a maximum period of 12 months.
E  50 mg daily, starting 2 days before entering area and continuing after leaving area for a maximum period of 12 months
A moderately overweight male patient has a history of taking antacid tablets containing aluminium hydroxide/magnesium hydroxide/simethicone for upper abdominal pain he usually has after a meal.

Which ONE of the following symptoms would require immediate referral to a doctor?

A  A burning sensation in the oesophagus
B  Discomfort from constipation
C  Wind and colic pain
D  Bad breath and no other symptoms
E  Difficulty swallowing food
PATIENT PROFILE

Patient Name: Margaret Chamberlain
Address: Room number 3
Age: 53
Sex: Female
Height: 151 cm
Weight: 61 kg

Allergies:
- Penicillin (rash)
- Co-trimoxazole (rash)

Diagnosis

Presenting Complaint:
1. Recurrent urinary tract infections
2. Gastro-oesophageal reflux

Medical History:
1. Schizophrenia
2. Depression
3. Hyperlipidaemia

Laboratory / Diagnostic Tests

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>ALP 204 U/L</td>
<td>&lt;35 U/L</td>
</tr>
<tr>
<td>1/4</td>
<td>ALT 90 U/L</td>
<td>&lt;35 U/L</td>
</tr>
<tr>
<td>1/4</td>
<td>AST 90 U/L</td>
<td>&lt;40 U/L</td>
</tr>
<tr>
<td>1/4</td>
<td>Cholesterol 8.4 mmol/L</td>
<td>(&lt;5.5mmol/L)</td>
</tr>
<tr>
<td>1/4</td>
<td>ESR 30 mm/hr</td>
<td>&lt;20 mm/hr</td>
</tr>
<tr>
<td>1/4</td>
<td>HDL 0.9 mmol/L</td>
<td>1.0-2.2 mmol/L</td>
</tr>
<tr>
<td>1/4</td>
<td>Lithium 0.3 mmol/L</td>
<td>0.4-1.0 mmol/L</td>
</tr>
<tr>
<td>1/4</td>
<td>Total cholesterol/HDL ratio 9.3</td>
<td>&lt;3.5</td>
</tr>
<tr>
<td>1/4</td>
<td>Triglycerides 4.7 mmol/L</td>
<td>1.7 mmol/L</td>
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</table>

Medication Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>Lithium carbonate 250 mg</td>
<td>100</td>
<td>i bd</td>
</tr>
<tr>
<td>1/4</td>
<td>Ranitidine 150 mg</td>
<td>60</td>
<td>i bd</td>
</tr>
<tr>
<td>20/3</td>
<td>Pravastatin 10 mg</td>
<td>30</td>
<td>i nocte</td>
</tr>
<tr>
<td>15/3</td>
<td>Amitriptyline 25 mg</td>
<td>50</td>
<td>v nocte</td>
</tr>
<tr>
<td>15/3</td>
<td>Benztropine 2 mg</td>
<td>60</td>
<td>Half bd</td>
</tr>
<tr>
<td>7/2</td>
<td>Clozapine 100 mg</td>
<td>100</td>
<td>ii nocte</td>
</tr>
</tbody>
</table>

Pharmacist’s Notes

1/4 Uses Ural® sachets (sodium citro-tartrate granules) two or three times a day, when urinary tract infections occur.
Norfloxacin 400mg i bd (several courses over last 12 months).
Taking St John’s Wort.
Mrs Chamberlain suffers from hay fever. She asks you for a suitable product to relieve her symptoms. Which ONE of the following would be MOST appropriate?

A  Pseudoephedrine 60 mg tds
B  Promethazine 50 mg daily
C  Loratadine 10 mg daily
D  Oxymetazoline 0.5% nasal spray prn
E  Pheniramine 45.3 mg bd

Which ONE of the following combinations of medications is MOST likely to cause serotonin syndrome?

A  Benztropine and lithium
B  Lithium and pravastatin
C  Benztropine and St John's Wort
D  Lithium and St John's Wort
E  Lithium and clozapine

Due to Mrs Chamberlain's recurrent urinary tract infections, hexamine hippurate 1 g bd has been ordered.

Which ONE of the following would need to be ceased to optimise use of this agent?

A  Benztropine 1 mg bd
B  Sodium citro-tartrate granules
C  Norfloxacin 400 mg bd
D  Lithium carbonate 250 mg bd
E  St John's Wort
Mrs Chamberlain has recently complained of a sore throat and painful gums. A blood test shows evidence of leukopenia.

Which ONE of the following is MOST likely to be responsible for this effect?

A  Lithium carbonate
B  Clozapine
C  Benztropine
D  Ranitidine
E  Pravastatin

*** END OF PATIENT PROFILE ***
Which ONE of the following factors is LEAST likely to contribute to a patient’s “dry eye”?

A  Severe photophobia
B  Medication for glaucoma
C  Rheumatoid arthritis
D  Systemic dehydration
### PATIENT PROFILE

**Patient Name:** Katherine Trial  
**Address:** 72 South Road, North Marden  
**Age:** 65  
**Sex:** Female  
**Height:** 162 cm  
**Weight:** 80 kg  
**Allergies:** Nil known

### Diagnosis

**Presenting Complaint:** 1. Type 2 diabetes

**Medical History:** 1. Ischaemic heart disease (IHD)  
2. Hypercholesterolaemia

### Laboratory / Diagnostic Tests

<table>
<thead>
<tr>
<th>Date</th>
<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/05</td>
<td>Creatinine 110 micromol/L</td>
<td>(60-120 micromol/L)</td>
</tr>
<tr>
<td>07/05</td>
<td>Fasting blood sugar level 9.6 mmol/L</td>
<td>(&lt;7.8 mmol/L)</td>
</tr>
<tr>
<td>07/05</td>
<td>HbA1C 11.2%</td>
<td>(&lt;7%)</td>
</tr>
</tbody>
</table>

### Medication Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/05</td>
<td>Aspirin 100 mg</td>
<td>112</td>
<td>i mane</td>
</tr>
<tr>
<td>07/05</td>
<td>Atorvastatin 10 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>07/05</td>
<td>Gliclazide 80 mg</td>
<td>100</td>
<td>ii bd</td>
</tr>
<tr>
<td>07/05</td>
<td>Irbesartan 150 mg</td>
<td>30</td>
<td>i mane</td>
</tr>
<tr>
<td>07/05</td>
<td>Temazepam 10 mg</td>
<td>25</td>
<td>i nocte</td>
</tr>
</tbody>
</table>

### Pharmacist’s Notes

07/05  Family history of IHD and diabetes. Patient has been experiencing muscle pain.  
Smoker - heavy.
The doctor wishes to add another agent to Mrs Trial’s diabetic medication, to help control her blood glucose levels. Which ONE of the following is the **MOST appropriate**?

A  Metformin  
B  Insulin  
C  Pioglitazone  
D  Sitagliptin  
E  Glimepiride

When is the **MOST appropriate** time to take atorvastatin?

A  In the morning with food  
B  At lunchtime  
C  In the evening  
D  Any time of the day irrespective of food  
E  Any time of the day with food

Which ONE of the following is the **MOST appropriate** test(s) for monitoring the adverse effects of atorvastatin in Mrs Trial?

A  Creatinine kinase  
B  Creatine kinase and aminotransferase  
C  Magnesium  
D  Gamma glutamyl transferase  
E  Bilirubin

*** END OF PATIENT PROFILE ***
86  Doxycycline is contraindicated in young children due to:
   A  A high incidence of photosensitivity
   B  A physical incompatibility with milk
   C  Hepatotoxicity in the immature liver
   D  Unavailability of a liquid product
   E  A risk of causing bone deformity

87  An 8 year old girl has been hit in the face with a tennis ball and a nose bleed has resulted. Which ONE of the following actions should you recommend?

   Tilting her head:
   A  Back and pinching the top of her nose
   B  Forward and pinching the top of her nose
   C  Forward and pinching the lower soft part of the nose
   D  Back and applying a cold compress to the nose area
   E  Forward and inserting gauze plugs into each nostril

88  In the case of paracetamol poisoning and treatment with acetylcysteine, which ONE of the following statements is LEAST appropriate?

   A  Beginning treatment within 4 hours of overdose is of no benefit and is likely to result in overtreatment
   B  Upon commencing treatment, rapid IV administration is necessary to decrease chance of hepatotoxicity
   C  If IV access is impossible, acetylcysteine may be given orally
   D  If treatment is started within 8 hours of overdose there is complete protection from hepatotoxicity
   E  Common side effects with rapid IV treatment include flushing, urticaria, itch
An 18 year old female customer suffers from acne and is extremely self-conscious about her condition. Her specialist prescribed isotretinoin capsules 10 mg and an oral contraceptive.

Which ONE of the following statements of advice is LEAST appropriate?

A Improvement of acne may continue for several months after stopping isotretinoin
B Adequate contraception should be used before, during and for one month after, treatment
C Most patients remain acne free after a single course or have long remissions
D Blood should not be donated during treatment and for eight weeks following treatment
E Monitor kidney function tests and lipids at baseline and then as clinically required

A doctor contacts you about a 40 year old woman who has chronic adrenocortical insufficiency. Her treatment is hydrocortisone 20 mg daily. She has just got the flu.

The doctor asks you what would be the MOST appropriate treatment.

A Doubling or trebling of hydrocortisone dosage
B Add 0.1 mg fludrocortisone to her regimen
C Halve the hydrocortisone dosage
D Change to 25 mg daily of cortisol
E Give tetracosactrin 0.25 mg as a single dose
PATIENT PROFILE

Patient Name: Fredrick Moore
Address: 113 Oak Tree Road
         Pine Gap
Age: 67  Height: 180 cm
Sex: Male  Weight: 85 kg
Allergies: Nil known

Diagnosis
Presenting Complaint: 1. Exacerbation of asthma

Medical History: 1. Rheumatoid arthritis
                 2. Hypertension
                 3. Type 2 diabetes

Laboratory / Diagnostic Tests

<table>
<thead>
<tr>
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<th>Test</th>
<th>Reference Range</th>
</tr>
</thead>
</table>

Medication Record

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<tr>
<th>Date</th>
<th>Medication</th>
<th>Quantity</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/12</td>
<td>Prednisolone 25 mg</td>
<td>30</td>
<td>ii daily for 5 days</td>
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<tr>
<td>17/10</td>
<td>Salmeterol 25 microgram/dose MDI</td>
<td>1</td>
<td>i bd</td>
</tr>
<tr>
<td>29/9</td>
<td>Fluticasone 250 microgram/dose MDI</td>
<td>1</td>
<td>i-ii bd</td>
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<tr>
<td>20/9</td>
<td>Meloxicam 7.5 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
<tr>
<td>20/9</td>
<td>Methotrexate 10 mg</td>
<td>50</td>
<td>i weekly</td>
</tr>
<tr>
<td>20/9</td>
<td>Salbutamol 100 microgram/dose MDI</td>
<td>2</td>
<td>ii q4h prn</td>
</tr>
<tr>
<td>16/4</td>
<td>Amlodipine 10 mg</td>
<td>30</td>
<td>i daily</td>
</tr>
</tbody>
</table>

Pharmacist’s Notes
18/12  Poor compliance with inhalers due to arthritis; dietary controlled diabetes.
91 What is the **MOST** likely effect of long-term high-dose prednisolone for Mr Moore?

A  Hyperkalaemia
B  Decreased glucose tolerance
C  Diabetes insipidus
D  Increased plasma cortisol levels
E  Increased urine output

92 What is the **MOST** appropriate advice to be given to a patient taking salmeterol?

A  Use an extra dose in the event of an asthma attack
B  Rinse mouth out after use
C  Use 5 minutes before mild to moderate exercise
D  Use regularly twice daily
E  Never use in conjunction with salbutamol

93 Which ONE of the following is the **MOST** appropriate description of asthma?

A  Wheezing with a cough
B  Tightness of the airways
C  Shortness of breath after exercise
D  Tightness and congestion of chest
E  Inflammation of airways

94 Given Mr Moore’s poor compliance with inhalers, what would be the best advice to make his treatment more effective?

A  Add montelukast 10 mg daily
B  Add fluticasone 500 / salmeterol 50 two puffs bd
C  Add budesonide 400 / eformoterol 12 one puff bd
D  Cease salmeterol and add fluticasone 500 / salmeterol 50 Accuhaler one puff bd
Mr Moore returns to his doctor two days later, as he is concerned about his elevated Blood Glucose Level (BGL) [random BGL above 12mmol/L]. What is the MOST probable cause of his elevated BGL?

A  Methotrexate (increases gluconeogenesis)
B  Short course high dose prednisolone
C  Long term inhaled corticosteroid therapy
D  Methotrexate induced insulin resistance
E  Increased appetite following high dose oral corticosteroids

Which ONE of the following adverse side effects is MOST likely to occur when meloxicam is combined with methotrexate being used as an antineoplastic agent?

A  Acute renal failure
B  Myelosuppression
C  Gastrointestinal bleeding
D  Hyperglycaemia
E  Stevens Johnson Syndrome

*** END OF PATIENT PROFILE ***
97 Which ONE of the following conditions is **LEAST** likely to be caused by corticosteroids such as prednisolone?

A Diabetes  
B Osteoporosis  
C Mental disturbances  
D Cardiac arrhythmias  
E Muscle wasting

98 Which ONE of the following statements is **CORRECT** with regard to vitamin B6?

A Exceeding the upper point of the recommended range for the intake of vitamin B6 does not lead to toxicity  
B Peripheral neuropathy has been reported to be an adverse reaction of excessive intake of vitamin B6  
C The official upper point of the recommended range for intake of vitamin B6 is 100 mg per day  
D Concomitant use of multivitamins and single-vitamin products does not increase the risk of overdosing

99 In an elderly person, which ONE of the following antidepressants is **MOST** likely to exacerbate postural hypotension?

A Nortriptyline  
B Moclobemide  
C Fluoxetine  
D Paroxetine  
E Amitriptyline
What is the initial management for an obese patient, diagnosed with Type 2 diabetes?

A. Insulin
B. Gliclazide
C. Metformin
D. Gliclazide with metformin
E. Diet modifications and exercise

Which ONE of the following medications is the MOST appropriate first line treatment for depression in an elderly patient who has recently been bereaved?

A. Nortriptyline
B. Tranylcypromine
C. Citalopram
D. Moclobemide
E. Oxazepam

A regular female customer comes into the pharmacy and tells you she has recently been diagnosed with lung cancer. She presents a prescription for controlled-release morphine tablets 10 mg, with directions to take one tablet, twice daily.

Which ONE of the following counselling points is LEAST appropriate?

A. Take tablets every 12 hours
B. Inform the doctor of any breakthrough pain
C. Swallow the tablets whole
D. Drowsiness may be experienced
E. Take lactulose 15 mL twice daily
103 All of the following are advantages of moist wound healing **EXCEPT** for:

A  Scab formation
B  Promotion of granulation
C  The dressing can be left on for up to five days
D  The temperature of the healing environment is kept constant

104 Which **ONE** of the following is an important adverse effect of beta-blockers?

A  Urinary retention
B  Bronchospasm
C  Hyperglycaemia
D  Nasal congestion
E  Muscle cramp

105 Which **ONE** of the following medications has a serious interaction with azathioprine?

A  Probenecid
B  Indomethacin
C  Allopurinol
D  Colchicine
E  Methotrexate
You are working in a rural/country pharmacy. A young woman, Ms Stone, comes in and requests some wart removal solution, povidone-iodine antiseptic solution (e.g. Betadine®) and gauze bandages. During your routine questioning you discover that the solution is for her father-in-law, William Stone.

The woman tells you that he has been bothered by a 'sore' on the sole of his foot for some months, and has asked her to buy the wart remover and antiseptic for him. The woman is not sure what medications her father-in-law takes, but she knows he has all his prescriptions filled at your pharmacy.

When you check the Mr Stone's medication history, you discover the following regular medications: Metformin 1000 mg tds, Gliclazide CR 30 mg 2 mane, Ramipril 5 mg mane.

Write a letter to the patient (Mr Stone) outlining your recommendations and any important information you may have for this situation, including any necessary counselling points.