Peter, 22, is travelling to rural parts of Nepal to climb parts of the Himalayas, in 5 weeks. Looking confused, he asks you for help after his GP visit. His Hepatitis A and Typhoid vaccinations are up to date, but his GP has written him out a prescription for *Dukoral Twin Vaccine* (Inactivated Cholera Vaccination), as well as for other travel-related items. He is taking no other medications, has no significant medical history, and has no known allergies. His prescriptions include:

- Dukoral Oral Twin Vaccine – Take 1 dose stat and repeat in 7 days
- Norfloxacin 400mg tab 14 – Take 2 stat prn
- Doxycycline 100mg tab 42 – Take 1 d
- Acetazolamide 250mg tab 100 – Take 0.5 bd prn
- Loperamide 2mg tab 12 – Take 2 stat prn then 1 prn m8

**Question 1**

Peter tells you that his GP mentioned *Dukoral* would help protect against a common form of traveller’s diarrhoea, but he doesn’t understand how, and is unsure of whether to fill the prescription. What is the best response?

a) Your GP has made a mistake; *Dukoral* will not help protect against traveller’s diarrhoea.

b) Traveller’s diarrhoea is most commonly caused by enterotoxigenic *Escherichia coli* (ETEC), which produces a toxin very similar to the cholera toxin. The antibodies that are produced against the cholera toxin as a result of *Dukoral* vaccination will therefore be active against ETEC, and limit symptom progression.

c) Traveller’s diarrhoea is most commonly caused by enterotoxigenic *Clostridium difficile* (ETCD), which produces a toxin very similar to the cholera toxin. The antibodies that are produced against the cholera toxin as a result of *Dukoral* vaccination will therefore be active against ETCD, and limit symptom progression.

d) Traveller’s diarrhoea is most commonly caused by *Rotavirus*, which is structurally very similar to *Vibrio cholerae*. The antibodies that are produced against the cholera toxin as a result of *Dukoral* vaccination will therefore be active against *Rotavirus*, and limit symptom progression.

e) By avoiding street-prepared “local food” and only eating at the hotel, you shouldn’t have a need for *Dukoral*. 
Question 2

Peter tells you that the GP couldn’t recall the directions for doxycycline antimalarial prophylaxis, and to ask the pharmacist. Peter will be travelling for 3.5 weeks. What is your response?

a) When used for prophylaxis of malaria, start taking doxycycline 2 days before entering, and continue for 4 weeks after leaving, an endemic area.

b) When used for prophylaxis of malaria, start taking doxycycline 2 weeks before entering, and continue for 4 weeks after leaving, an endemic area.

c) When used for prophylaxis of malaria, start taking doxycycline 2 days before entering, and continue for 1 week after leaving, an endemic area.

d) When used for prophylaxis of malaria, start taking doxycycline on the day of arrival, and continue for 4 weeks after leaving, an endemic area.

e) Rural Nepal is unlikely to have mosquitos due to the extreme temperatures, and therefore malaria is non-existent, so you do not have to take doxycycline.

Question 3

Acetazolamide has been prescribed in this instance for:

a) Treatment of anxiety

b) Treatment of open-angle glaucoma

c) Prevention of urinary tract infections

d) Prevention of altitude sickness

e) Treatment of traveller’s diarrhoea

Question 4

Considering Peter’s prescribed medications and upcoming trip, what advice would be INAPPROPRIATE to give:

a) Ensure adequate sun protection is maintained for the duration of the doxycycline course as it is a photosensitive drug.

b) Avoid eating uncooked meats and ensure you have access to hand sanitiser.

c) Norfloxacin should be commenced if you experience 3 or more loose stools over an 8 hour period, particularly if associated with nausea and abdominal cramping.

d) Dukoral should be taken on an empty stomach; food should be avoided 1 hour before and 1 hour after administration

e) Loperamide should be continued in the presence of fever and persistent, bloody diarrhoea.

End of questions relating to Peter
Question 5

Which anti-diabetic agent has the highest risk of hypoglycaemia for treatment of Type 2 Diabetes?

a) Glipizide  
   b) Metformin  
   c) Glibenclamide  
   d) Gliclazide  
   e) Sitagliptin

Question 6

Which benzodiazepine has the longest duration of action?

a) Midazolam  
   b) Triazolam  
   c) Temazepam  
   d) Oxazepam  
   e) Nitrazepam

Questions 7-9 relate to Sandra and Zack

Sandra comes to see you today, looking concerned and in pain. She has been breastfeeding her newborn, Zack, for 2 weeks, and in the last couple of days, her breasts have felt tender, warm to touch, and red in certain parts. Today she has felt like she has gotten the flu and has noticed she has had a high temperature. She is unsure of whether to see her GP, and asks your advice.

Question 7

From the following options, which is the most appropriate response for Sandra?

a) Sandra is most likely suffering mastitis; she should take fluconazole 150mg stat, and schedule an appointment to see her GP tomorrow.  
   b) Sandra is most likely suffering mastitis; she will require oral antibiotic treatment. She should see her GP as soon as she can. She should also stop breastfeeding Zack for the duration of the condition.  
   c) Sandra is most likely suffering mastitis; she should also stop breastfeeding Zack immediately and the condition should clear in 48 hours. If it does not, oral antibiotics will be required.  
   d) Sandra is most likely suffering mastitis; she will require oral antibiotic treatment. She should see her GP as soon as she can. She should continue breastfeeding Zack.  
   e) Sandra is most likely suffering mastitis; she and Zack will both require oral antibiotic treatment. She should see her GP as soon as she can. She should also stop breastfeeding Zack for the duration of the condition.
Question 8

Regarding mastitis, which of the following is correct?

a) Mastitis is commonly caused by *S. aureus* and flucloxacillin is an appropriate first-line antibacterial choice.

b) Mastitis is commonly caused by *S. aureus* and azithromycin is an appropriate first-line antibacterial choice.

c) Mastitis is commonly caused by *P. aeruginosa* and flucloxacillin is an appropriate first-line antibacterial choice.

d) Mastitis is commonly caused by *P. aeruginosa* and gentamicin is an appropriate first-line antibacterial choice.

e) Mastitis is commonly caused by *Klebsiella* and trimethoprim is an appropriate first-line antibacterial choice.

Question 9

Sandra returns to the pharmacy later that week with news that Zack has developed oral thrush, and is in quite a bit of discomfort. What is the most appropriate advice you can give Sandra?

a) Sandra should treat herself with fluconazole 150mg stat, available OTC, and continue to breastfeed Zack, as he will receive the antifungal effect as well.

b) Sandra should treat Zack with oral nystatin drops, available OTC, 1ml QDS, and continue until all finished. Sandra should be advised to seek medical treatment if Zack’s condition is recurrent.

c) Sandra should treat Zack with probiotics and schedule a check-up with her GP next week.

d) Sandra should treat Zack with oral nystatin drops, available OTC, 1ml daily, and continue until all finished. Sandra should be advised to seek medical treatment if Zack’s condition is recurrent.

e) Sandra should eliminate any sugar from her diet, which in turn should clear Zack’s oral thrush up within 2-3 days.

End of questions relating to Sandra and Zack

Question 10

Which of the following is an inhibitor of CYP1A2?

a) Fluvoxamine

b) Amiodarone

c) Olanzapine

d) Cigarette smoking

e) Simvastatin
Question 11

Which of the following is an inducer of CYP3A4?

a) Lignocaine
b) Omeprazole
c) Quetiapine
d) Phenytoin
e) Risperidone

Questions 12-16 relate to Jennifer

Jennifer is a regular patient in your pharmacy and you know have got to know her quite well. You spot her looking worried in the Vitamins/Supplements area, and upon helping her, she confides that she is 8 weeks pregnant and suffering badly from nausea and vomiting (“morning sickness”). She would prefer a complementary medicine to try first before seeking “script alternatives”.

Question 12

Which of the following would be a safe and appropriate complementary medicine to recommend Jennifer?

a) Vitamin A
b) Ginger
c) Iodine
d) Vitamin C
e) Green tea extract

Question 13

Jennifer is also concerned about gestational diabetes as her mother is a Type 1 Diabetic. Which of the following are NOT risk factors for developing gestational diabetes?

a) Southeast Asian ethnicity
b) Family history of diabetes in a 1st degree relative
c) Pre-pregnancy weight of >80kg or BMI >28kg/m²
d) Polycystic ovarian syndrome prior to pregnancy
e) Maternal age > 32 years
Question 14

Jennifer has a relatively smooth pregnancy until 26 weeks gestation, where she is diagnosed with pregnancy-induced hypertension (PIH). Her obstetrician, Dr. Prim, is very concerned and wants to try pharmacotherapy as Jennifer’s BP hasn’t dropped below 175/98mmHg. What would be an appropriate first-line anti-hypertensive agent to recommend (assume Jennifer has no known allergies)?

a) Ramipril  
b) Methylldopa  
c) Hydrochlorothiazide  
d) Nifedipine  
e) Prazosin

Question 15

Dr. Prim is also concerned of Jennifer’s increased thromboembolic risk, and asks for your advice on treatment, particularly in light of newer oral treatments that have been developed. What is the most appropriate pharmacological treatment for antenatal thromboprophylaxis?

a) Enoxaparin  
b) Warfarin  
c) Unfractionated heparin  
d) Dabigatran  
e) Rivaroxaban

Question 16

Jennifer reaches 28 weeks, but goes into labour early. Her medical team wish to delay labour; which of the following is not a tocolytic agent (will NOT delay labour)?

a) Nifedipine  
b) Progesterone  
c) Oxytocin  
d) Salbutamol  
e) Magnesium sulphate

End of questions relating to Jennifer
Question 17

Regarding the combined oral contraceptive (COC), which of the following statements is CORRECT?

a) All antibacterial agents reduce COC effectiveness, and as a result, extra contraceptive cover should be recommended.
b) No drug interaction exists between lamotrigine and the COC, and therefore should be recommended first-line.
c) The relative risk of developing a VTE from COC use is lower than compared to non-COC users.
d) Blood pressure and body mass index measurements should be part of a prescriber’s initial assessment for first-time COC patients.
e) The COC should be generally recommended to women who smoke and who are 50 years and over.

Question 18

Regarding various contraceptive choices, which of the following statements is CORRECT?

a) Contraceptive efficacy of the combined transdermal patch may be decreased in women who weigh 50kg or less.
b) If switching from a progesterone only pill, such as Microlut (the “mini-pill”) to a COC such as Levlen, the patient should be advised that additional contraceptive cover IS NOT required.
c) Rifampicin will NOT decrease the contraceptive efficacy of a COC.
d) The bleed experienced during the pill-free week of a CHC is a natural menstrual bleed.
e) COC can be started at any time in the cycle, provided the patient is NOT pregnant.

Question 19

Which of the following kinetic parameters of a drug makes it LESS favourable to pass in to breast milk?

a) High bioavailability
b) The drug is highly plasma protein bound
c) High lipophilicity
d) Low molecular weight
e) The drug is a weak base
Question 20

Which of the following statements is **NOT a sound strategy** for minimising infant exposure to a drug that has passed into the mother’s breast milk?

- a) Choose a drug with the lowest relative infant exposure and safest side-effect profile.
- b) Choose a drug with the lowest half-life possible to minimise the amount of time the drug spends in the breast milk, allowing feeding to return to schedule quickly.
- c) If possible, seek an alternative route of administration to minimise absorption.
- d) Take the dose immediately before or just after breastfeeding to avoid likely maximum milk concentrations.
- e) Advise the mother to take the medication regardless of breastfeeding schedule, and stop breastfeeding only if the infant shows signs of toxicity.

Question 21

With regard to vaccination, which of the following statements is **FALSE**?

- a) The second, full dose of vaccine should be administered again if dosage device breaks during injection, preventing full administration.
- b) When giving different vaccines on the same day, separate injection sites should be used.
- c) A live vaccine and an inactivated vaccine are able to be given on the same day.
- d) The diphtheria and tetanus vaccine (ADT Booster) is safe to use in pregnancy and category A.
- e) Patients using inhaled corticosteroids, such as fluticasone (*Flixotide*), should not be given live vaccines.

**Questions 22 – 25 relate to Brian**

Brian is a regular patient of yours with the following medication history:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracetamol SR</td>
<td>665mg x 2 tds</td>
<td>Joint Pain</td>
</tr>
<tr>
<td>Ramipril</td>
<td>5mg d</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Allopurinol</td>
<td>100mg</td>
<td>Hyperuricaemia</td>
</tr>
<tr>
<td>Sertraline</td>
<td>50mg m</td>
<td>Depression</td>
</tr>
</tbody>
</table>

Brian has been suffering morning stiffness, redness of the joints, and irritability for the past 3 months, and has found it hard to work. He has been seeing his GP, Dr. Chan, regularly, who this morning confirmed a diagnosis of rheumatoid arthritis (RA). You know from your records that Brian is 55 years old, weighs 80kg, is 185cm tall, has no known drug allergies, smokes 25 cigarettes daily, and drinks 4-5 beers on the weekend. He presents with the following script and pathology results:

**Rx Methotrexate 2.5 mg 30**

Take 3 tablets WEEKLY on the same day of each week. Dose to be reviewed in 2 weeks.

Nil Rpts
Relevant pathology (i.e. those results that are abnormal):

- Hb = 115g/L (130-180)
- ESR = 28 mm/Hr (0-20)
- RF = 37 IU/ml (<0.30)
- Anti-CCP antibodies (ACPA) = 60EU (<20EU)
- C-reactive protein = 24 mg/L (0-10)

All other U&Es are within expected ranges. On X-Ray, the GP has confirmed to Brian that he has joint space narrowing, but no erosion has been detected.

**Question 22**

With regard to Brian’s pathology results, which statement is CORRECT?

a) ESR is the most specific and sensitive marker for RA and often is used alone to aid diagnosis.
b) An abnormal C-reactive protein result is only found in patients with RA.
c) The ACPA result can be used to determine the likely severity of the disease progression and guide treatment.
d) A low Hb is completely independent of the RA diagnosis.
e) A RF result within normal range makes a diagnosis of RA impossible.

**Question 23**

With regards to Brian’s methotrexate prescription, which of the following counselling points is INCORRECT?

a) Confirm baseline pathology has been performed, such as a complete blood count, liver function, and renal function.
b) Ensure Brian is aware of future pathology, which may include monitoring his blood count, liver and renal function, every 2-4 weeks for the first 3 months of therapy.
c) Provide clear instructions on the dosage, confirming that the dose is to be taken once weekly on the same day of each week.
d) Methotrexate can take 6-9 months to become effective due to its long half-life, and as such, a benefit may not be seen until then.
e) If serious GI adverse effects occur, but the medication is effective, it is possible to divide the oral dose into 3 and give at 0,12 and 24 hours on the chosen day of the week.

**Question 24**

Brian has been following up with his GP every 2-3 weeks, and after 4 months, he has been stabilised at 20mg weekly of methotrexate. Some stiffness has started to return, and now Dr. Chan would like to add in another oral agent to help slow RA progression. Dr. Chan notes that there is a wide choice, and asks your opinion. Which of the following is the best option to recommend?

a) Azathioprine 50mg bd
b) Diclofenac 50mg tds
c) Prednisolone 5mg d
d) Auranofin 3mg d
e) Tocilizumab 20mg weekly
Question 25

2 years pass, however, Brian’s RA has progressed to the point where he has been referred to a rheumatologist, who has prescribed etanercept 50mg injection once weekly (Enbrel). What is etanercept’s mode of action?

a) Prevents full activation of CD28 T-lymphocytes, thereby reducing cytokine production and inflammation.
b) TNF-α antagonist.
c) Inhibits pyrimidine synthesis.
d) Folate antagonist.
e) Reduces B-lymphocyte induced T-cell activation.

End of questions relating to Brian

Question 26

Metformin is most commonly associated with the depletion of which vitamin?

a) Vitamin B1
b) Vitamin B6
c) Vitamin B12
d) Vitamin D
e) Vitamin E

Question 27

Which of the following medications can commonly cause constipation?

1. Verapamil
2. Codeine
3. Bisacodyl
4. Ondansetron
5. Amoxycillin

a) Drugs 3, 4, 5
b) Drugs 1, 2, 3 and 4
c) Drugs 1, 2, 4
d) Drugs 2, 4, 5
e) Drugs 2, 3, 4

Question 28

Which of these antibacterial agents will be effective against Pseudomonas aeruginosa infections?

a) Clarithromycin
b) Rifampicin
c) Ciprofloxacin
d) Dicloxacillin
e) Cephalexin
Question 29

Which of the following are factors that would affect wound healing?

a) Age
b) Hydration and temperature of the wound
c) Obesity
d) Vascularity
e) All of the above

Question 30

When a wound is described as “sloughy”, what is the best course of treatment to ensure adequate healing?

a) Immediate debridement
b) Apply a compression bandage to the wound and irrigate with saline daily
c) Apply a Tulle Gras dressing such as Jelonet every day for 5 days
d) Apply Povidone Iodine solution, such as Betadine, and cover with a bandage
e) Irrigate with saline every 2-4 hours and keep wound elevated

Question 31

A concerned mother brings her 14 year old daughter into your pharmacy. Both of her eyes have been incredibly itchy all day, and are producing large amounts of tears. Upon asking, you find out that there has been no yellow discharge and her eyes have not been stuck together. Her mother is aware of a breakout of conjunctivitis at school and asks for a bottle of Chlorsig, as this is what other parents have been given.

From this scenario above, what is the most appropriate course of action for you, the pharmacist?

a) Supply chlorsig and fexofenadine (Telfast) to the mother to stop her from worrying as it is likely her daughter will develop white, purulent discharge in the next 24 hours.
b) Supply a cold and flu preparation as it is likely her daughter is suffering a common cold.
c) Refer to the nearest GP as it is likely her daughter is suffering from viral conjunctivitis
d) Supply chlorsig as it is likely her daughter is suffering from bacterial conjunctivitis
e) Supply ketotifen (Zaditen) as it is likely her daughter is suffering from allergic conjunctivitis
Questions 32 – 35 relate to Mrs Ciccone

You are performing a ward round where you meet Mrs Ciccone, who has been admitted due to worsening confusion and nausea. Your notes read:

- Age = 72
- Weight = 60kg
- Height = 154cm
- Smoking status = ceased 30 years ago.
- Allergy: Sulphonamides
- BP = 149/76 mmHg
- Social History: Husband deceased 2 years ago, pensioner, lives in retirement village, doesn’t drive, 2 daughters and 2 sons who do not regularly visit.

Your medication history reveals:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metformin</td>
<td>500mg bd</td>
<td>Type 2 Diabetes</td>
</tr>
<tr>
<td>Ramipril</td>
<td>2.5mg d</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Atorvastatin</td>
<td>10mg d</td>
<td>Hyperlipidaemia</td>
</tr>
<tr>
<td>Omeprazole</td>
<td>20mg d</td>
<td>GORD</td>
</tr>
<tr>
<td>Aspirin</td>
<td>100mg d</td>
<td>CVD</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>1000mg qds</td>
<td>Osteoarthritis</td>
</tr>
<tr>
<td>Sertraline</td>
<td>50mg d</td>
<td>Depression</td>
</tr>
</tbody>
</table>

Pathology has returned the following results:

- Creatinine = 0.10 mmol/L (0.05-0.12)
- Fasting blood glucose = 8.9 mmol/L (<5.5 mmol)
- HbA1c% = 8.6mmol/L (<7mmol/L)
- Total Cholesterol = 6.0 mmol/L (<5 mmol)
- Potassium = 4.1 mmol/L (3.5-5.0 mmol/L)
- Sodium = 131mmol/L (135-145 mmol/L)

Urinalysis reveals no growing cultures. You ascertain that Mrs Ciccone’s bowel motions are normal.

Question 32

Mrs Ciccone is diagnosed with drug-induced hyponatraemia. Which drug is most likely to be implicated?

a) Sertraline  
b) Metformin  
c) Ramipril  
d) Omeprazole  
e) Paracetamol
Question 33

Mrs Ciccone’s consulting physician also notes concern over fasting blood glucose levels and HbA1c% results and asks for your advice. What would be the most appropriate change to her regimen?

a) Cease metformin and begin insulin treatment whilst in hospital.
b) Change metformin release rate to extended release and keep dose the same.
c) Add in glibenclamide as it convenient to dose once daily, but warn about hypoglycaemia.
d) Change metformin release rate to extended release, increase dose by 500mg n, and examine diet.
e) Increase metformin dose to 1000mg bd, and add in glipizide 5mg bd.

Question 34

Over 3 days, Mrs Ciccone’s blood pressure remains elevated, which prompts you to have a discussion with her physician about optimising treatment. You both decide to increase Ramipril to 5mg d, but you both want to have a second-line agent ready to put in her discharge care plan. Which of the following is the least appropriate second-line anti-hypertensive for Mrs Ciccone?

a) Lercanidipine
b) Prazosin
c) Hydrochlorothiazide
d) Verapamil
e) Monoxidil

Question 35

Whilst in hospital, Mrs Ciccone develops a venous pressure ulcer on her right leg. What is the best course of treatment?

a) Use Iodosorb powder to dry up exudate and re-vascularise through surgical means
b) Apply a hydrocolloid dressing and keep the leg elevated
c) Order compression therapy with graduated compression stockings
d) Wrap the wound in Melolin and paper tape, and recommend a course of flucloxacillin
e) Apply paraffin-impregnated gauze to the wound and consider compression stockings if not healed in 48 hours

End of questions relating to Mrs Ciccone

Question 36

Which of the following is a contraindication to the use of oral retinoids?

a) Hypertension
b) Pacemaker
c) Breastfeeding
d) Psoriasis
e) Previous VTE
Questions 37 – 40 relate to Kylie

Kylie comes to see you in the pharmacy after returning from an appointment with her neurologist, Dr. Clever. She has just been diagnosed with early stage Parkinson’s disease (PD). With Kylie’s consent, Dr. Clever decides to start pharmacotherapy. Kylie has no other medical conditions and no medical allergies, and uses occasional paracetamol for headaches.

Question 37

Which of the following is not a key diagnostic feature of PD?

- a) Tremor
- b) Bradykinesia
- c) Shuffling gait
- d) Rigidity
- e) Hypersalivation

Question 38

Which of the following would be an appropriate initial treatment regimen for Kylie?

- a) Levodopa+benserazide 200mg/50mg tab (Madopar 250) 1 qds
- b) Levodopa+benserazide 50mg/12.5mg tab (Madopar Rapid 62.5) 1 d
- c) Levodopa+benserazide 100mg/25mg tab (Madopar 125) 1 bd
- d) Amantadine 100mg cap (Symmetrel) 1 bd
- e) Levodopa+carbidopa+entacapone 100mg/25mg/200mg tab (Stalevo 100/25/200) 1 qds

Question 39

2 years pass and Kylie’s symptoms have worsened. Dr. Clever decides to add Pramipexole (Sifrol) into Kylie’s regimen. What drug class does Pramipexole belong to?

- a) MAO-B inhibitor
- b) Selective serotonin re-uptake inhibitor
- c) Catechol-O-methyltransferase inhibitor
- d) Dopamine agonist
- e) Dopa decarboxylase inhibitor
Question 40

Which of the following medications may be associated with worsening symptoms in a patient diagnosed with Parkinson’s disease?

1. Metoclopramide
2. Promethazine
3. Chlorpromethazine
4. Amoxycillin
5. Methyldopa
6. Domperidone

a) Drugs 1, 2, 3, 4
b) Drugs 1, 2, 3, 5
c) Drugs 1, 2, 3, 6
d) Drugs, 1, 2, 4, 5
e) Drugs 1, 3, 5, 6

End of questions relating to Kylie

Question 41

Which of the following antidepressants is least likely to present withdrawal symptoms upon sudden discontinuation?

a) Citalopram
b) Paroxetine
c) Venlafaxine
d) Fluoxetine
e) Mirtazapine

Question 42

When a patient changes antidepressant therapy from sertraline 100mg to mirtazapine 30mg, which of the following is the best professional advice to offer?

a) Stop sertraline immediately, wait 2 days, then start mirtazapine.
b) Stop sertraline immediately and start mirtazapine on the same day, preferably at night.
c) Slowly withdraw sertraline, reducing the dose by 25% each week, wait 2-4 days after ceasing, then start mirtazapine at night.
d) Slowly withdraw sertraline, reducing the dose by 25% each 1-2 days, wait 2-4 days after ceasing, then start mirtazapine at night.
e) Slowly withdraw sertraline, reducing the dose by 50% each 5 days, wait 2-4 days after ceasing, then start mirtazapine at night.
Questions 43 – 46 relate to Lauren

Patient Profile

Patient Name: Lauren Shaznay
Age: 28
Sex: Female
Allergies: Nil Known
Height: 175cm
Weight: 78kg

Lauren has just been diagnosed with primary generalised myoclonic epilepsy, after experiencing two seizure episodes in the past 3 weeks, with subsequent EEGs confirming the diagnosis. Lauren’s treating specialist wants to begin treatment with sodium valproate (Epilim) as soon as possible.

Question 43

What would be an appropriate initial sodium valproate dose for treatment of epilepsy in Lauren’s case?

a) Take 200mg daily, increasing by 100mg every week until a ceiling of 1000mg is reached, or side-effects are experienced first.
b) Take 300mg twice daily, increasing by 200mg daily every three days according to response.
c) Take 500mg twice daily, increasing by 200mg daily every three days according to response.
d) Take 200mg four times a day, increasing by 200mg every five days according to response.
e) Take 400mg daily, increasing by 100mg prn in presence of a new seizure event.

Question 44

With regard to Lauren initiating sodium valproate therapy, which of the following counselling points should be discussed with Lauren BEFORE prescribing?

a) Sodium valproate is Australian pregnancy category B1, and Lauren should be advised to have regular GP appointments if she was to fall pregnant.
b) Sodium valproate is Australian pregnancy category D, and considering Lauren is of childbearing potential age, a family planning discussion must take place before consenting to treatment. If possible, an alternative medication should be offered if Lauren has plans to become pregnant.
c) Sodium valproate is Australian pregnancy category C, and considering Lauren is of childbearing potential age, a family planning discussion must take place before consenting to treatment. If possible, an alternative medication should be offered if Lauren has plans to become pregnant.
d) Sodium valproate is Australian pregnancy category D, and considering Lauren is of childbearing potential age, a family planning discussion must take place before consenting to treatment. Lauren should be advised to abstain from intercourse as this is the only contraceptive measure that is 100%.
e) Sodium valproate is Australian pregnancy category A, and is safe to use in pregnancy.
Question 45

If Lauren’s specialist wanted to add a second-line agent into her regimen to control her myoclonic seizures, which of the following medications would be likely to worsen her myoclonic seizures?

a) Levetriacetam  
b) Clonazepam  
c) Clobazam  
d) Topiramate  
e) Carbamazepine

Question 46

With regards to initial counselling on side-effects and monitoring of sodium valproate, which of the following is the most appropriate response?

a) Sodium valproate should be taken on an empty stomach, preferably once daily, and the enteric coated tablets may be crushed if the patient cannot swallow.  
b) Sodium valproate should be taken with food to minimise stomach upset, may cause drowsiness, may increase appetite leading to weight gain, and symptoms of fever, rash and jaundice should be reported to the prescriber straight away.  
c) Sodium valproate should be taken on an empty stomach, may cause drowsiness, may increase appetite leading to weight gain, and symptoms of fever, rash and jaundice should be reported to the prescriber straight away.  
d) Sodium valproate should be taken with food to minimise stomach upset, may cause drowsiness, does not increase appetite, and symptoms of fever, rash and jaundice should be reported to the prescriber straight away.  
e) Sodium valproate should be taken with food to minimise stomach upset, may cause drowsiness, can be ceased abruptly if needed, does not interfere with other medication, and symptoms of fever, rash and jaundice should be reported to the prescriber straight away.

End of questions relating to Lauren

Question 47

Which of the following antipsychotic medications is most likely to cause hyperprolactinaemia?

a) Quetiapine  
b) Clozapine  
c) Aripiprazole  
d) Asenapine  
e) Risperidone
Question 48

With regard to Long-acting (depot) antipsychotic injections, which of the following statements is INCORRECT?

a) Initial antipsychotic therapy should never be commenced with a long-acting injection as dose titration is almost impossible and acute adverse effects may be persistent.

b) Long acting injections are most useful for patient who are non-compliant to oral medications due to forgetfulness or compromised insight.

c) It can take a timeframe of months to become stabilised on a long-acting injection.

d) If therapeutic effects are consistently diminished in the period approaching the next dose, the prescriber should consider shortening the dosing interval between injections.

e) Test doses are generally not recommended for long-term injections when being given to a patient for the first time.

Questions 49 – 54 relate to Daisy

Daisy is a regular Dose Administration Aid (DAA) patient of your pharmacy, who collects her pack every 2 weeks. This is generally her only social outing, and she relies on her family to transport her. Her packing chart reveals the following regular medications that she takes:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perindopril</td>
<td>10mg n</td>
<td>CHF and hypertension</td>
</tr>
<tr>
<td>Bisoprolol</td>
<td>10mg n</td>
<td>CHF</td>
</tr>
<tr>
<td>Frusemide</td>
<td>20-40mg bd prn</td>
<td>Oedema</td>
</tr>
<tr>
<td>Digoxin</td>
<td>125mcg d</td>
<td>CHF</td>
</tr>
<tr>
<td>Spironolactone</td>
<td>25mg d</td>
<td>CHF</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>1000mg qds</td>
<td>OA</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>10mg d</td>
<td>Depression</td>
</tr>
<tr>
<td>Insulin Glargine</td>
<td>20iu n</td>
<td>T2DM</td>
</tr>
<tr>
<td>Insulin Lispro</td>
<td>12iu tds</td>
<td>T2DM</td>
</tr>
<tr>
<td>Thyroxine</td>
<td>150mcg d</td>
<td>Hypothyroidism</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>75mg n</td>
<td>Neuropathy</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>30mg n prn</td>
<td>Insomnia</td>
</tr>
<tr>
<td>Risedronate</td>
<td>150mg monthly</td>
<td>Osteoporosis</td>
</tr>
<tr>
<td>Morphine Sulphate CR</td>
<td>60mg bd</td>
<td>Chronic pain</td>
</tr>
<tr>
<td>Atorvastatin</td>
<td>40mg d</td>
<td>Hyperlipidaemia</td>
</tr>
</tbody>
</table>

Daisy’s GP also provides you with some of her latest pathology:

- Potassium 3.4 mmol/L (3.5-5.0mmol/L)
- Creatinine 0.12 mmol/L (0.05-0.12mmol/L)
- Urea 10 mmol/L (3-8mmol/L)
- Sodium 135mmol/L (135-145mmol/L)
- Triglycerides 6mmol/L (<2mmol/L)
- Vitamin D 13 nmol/L (>25nmol/L)
- Fasting BGL 5.2 mmol/L (<5.5mmol/L)
- HbA1c% = 8%
Social History:

Age: 70
Sex: Female
Allergies: Nil known
Height: 154cm
Weight: 62kg
Smoking history: never
Alcohol history: occasional glass of red wine on special occasions

Question 49

The MOST appropriate option for the management of Daisy’s hypertriglyceridaemia is:

a) Bile acid binding resins (*Questran Lite*) started at 4g bd
b) Ezetimibe started at 10mg d
c) Atorvastatin increased to 80mg d
d) Fenofibrate started at 48mg d increasing to 96mg d
e) Nicotinic Acid started at 500mg tds

Question 50

Daisy’s GP is worried about her low Vitamin D levels, particularly in light of her many co-morbidities, and requests Daisy to talk to you about an appropriate supplementation regimen. Daisy gets less than 10 minutes of sunlight most days due to her frail condition. What is an appropriate regimen of Vitamin D as colecalciferol?

a) Start at 1000IU d and re-test levels in 3-4 months, increase daily dose if required.
b) Alternate doses of 1000IU and 2000IU daily, re-test levels in 3-4 months, and increase to 2000IU daily if needed.
c) Start at 3000IU d and retest levels in 2 months, then increase up to a total daily dose of 5000IU if needed.
d) Start at 1000IU d and encourage Daisy to spend more time in the sunlight each day.
e) Start at 2000IU d and retest levels in 6 months, whilst encouraging more daytime activity.

Question 51

When Daisy was diagnosed with hypothyroidism, what would her pathology markers most likely have resembled?

a) TSH high; T4 high
b) TSH normal; T4 high; Total free iodine low
c) TSH low; T4 high
d) TSH low; T4 low
e) TSH high; T4 low
Question 52

Daisy’s GP wants to lighten her tablet burden and convert her pain relief to a fentanyl transdermal patch (Durogesic). What is an appropriate initial prescription?

a) 12 mcg/hr patch replaced every 72 hours  
b) 12 mcg/hr patch replaced every 7 days  
c) 25 mcg/hr patch replaced every 72 hours  
d) 25 mcg/hr patch replaced every 7 days  
e) Fentanyl transdermal patches are contraindicated in diabetic patients

Question 53

Regarding congestive heart failure (CHF), which of the following statements is INCORRECT?

a) The patient must be euvoalaemic before the addition of a β-blocker, such as bisoprolol, to an ACE-Inhibitor, such as perindopril.  
b) Water-restricted diets often form an integral part of treatment of congested heart failure.  
c) Frusemide is often prescribed PRN in CHF patients so that they can dose themselves based on observations kept in a fluid diary.  
d) The ejection fraction in diastolic heart failure can often be normal.  
e) To treat constipation in CHF patients, psyllium husk is the preferred choice due to less stimulation on the bowel.

Question 54

Daisy takes pregabalin for neuropathic pain. Which of the following statements regarding pregabalin is INCORRECT?

a) Pregabalin is an analogue of GABA.  
b) Dose adjustment is not necessary in renal failure.  
c) Pregabalin has analgesic, anxiolytic and anticonvulsant activity.  
d) Pregabalin reduces the release of glutamate and substance P.  
e) Dizziness and drowsiness are common side effects.

End of questions relating to Daisy

Question 55

A concerned father brings his 21 year old to the pharmacy for your advice. His son is heavily sweating, flushed, experiencing tremor and confused. His pulse is racing and pupils are enlarged. The toxidrome he is most likely experiencing is:

a) Narcotic  
b) Muscarinic  
c) Serotonergic  
d) Anticholinergic  
e) Nicotinic
Question 56

You are working in the emergency ward and are asked how to effectively treat a 35 year old male patient who has overdosed with amitriptyline. What is the correct response?

a) Recommend emergency gastric decontamination.

b) Recommend gastric lavage (also known as “stomach pumping”).

c) Recommend supportive care and close monitoring of electrolytes and vitals.

d) Recommend immediate administration of flumazenil.

e) Recommend immediate administration of naloxone.

Question 57

You are in charge of your pharmacy’s harm reduction service, where you offer methadone and buprenorphine dosing. With respect to methadone, which of the following statements is INCORRECT?

a) Methadone has a long acting half-life, estimated to be 85 hours.

b) Methadone is rapidly absorbed with peak concentrations seen 1-5 hours after the dose.

c) Methadone is metabolised by CYP3A4 and as such ketoconazole inhibits its metabolism.

d) Methadone dosing usually starts at 30-40mg, with the dose being increased gradually until the patient feels well.

e) Methadone doses of >60mg daily will block the euphoric effects of other opioids.

Question 58

P-glycoprotein is responsible for transporting which of the following medications across various cell membranes?

a) Doxorubicin

b) Tacrolimus

c) Dexamethasone

d) Digoxin

e) All of the above

Question 59

Which of the following medications does NOT prolong the QT-interval (assuming therapeutic doses)?

a) Domperidone

b) Erythromycin

c) Cisapride

d) Citalopram

e) Cephalexin
Question 60

Brimonidine, a common treatment for glaucoma, belongs to which drug class?

- a) Carbonic anhydrase inhibitor
- b) Prostaglandin analogue
- c) α₂-agonist
- d) β-blocker
- e) Cholinergic

Question 61 – 65 relate to Shirley

Shirley is a very regular customer of your pharmacy, and of late you have noticed she has been increasingly forgetful and easily irritated. Today, she is brought in to the pharmacy by her daughter, Ruth, after an eventful visit with her geriatrician. She has been diagnosed with Alzheimer’s disease, and there was talk of prescribing donepezil 5mg, however, she presents with a script for risperidone 500mcg d prn instead.

Her dispensing history reveals the following medication profile:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin</td>
<td>10mg d</td>
<td>Hyperlipidaemia</td>
</tr>
<tr>
<td>Amitriptyline</td>
<td>50mg n</td>
<td>Insomnia and depression</td>
</tr>
<tr>
<td>Oxybutynin</td>
<td>5mg n</td>
<td>Incontinence</td>
</tr>
<tr>
<td>Trimethoprim</td>
<td>300mg n</td>
<td>UTI prophylaxis</td>
</tr>
<tr>
<td>Omeprazole</td>
<td>20mg bd</td>
<td>Gastritis</td>
</tr>
<tr>
<td>Coloxyl and Senna</td>
<td>1 prn</td>
<td>Constipation</td>
</tr>
<tr>
<td>Oxycodone CR</td>
<td>5mg n prn</td>
<td>Pain</td>
</tr>
</tbody>
</table>

Pharmacist comments:

- 7 days ago: Presented quite confused, did not know what amitriptyline was prescribed for despite being on this medication for over 5 years and counselled through MedsCheck.
- 10 days ago: MedsCheck performed.
- 14 days ago: Commenced trimethoprim 300mg d due to recurrent UTI; no allergy to medication reported
- 28 days ago: Commenced oxycodone CR 5mg n prn due to worsening bone pain, generally just at night. GP will reassess need and titrate dose and regimen to bd if required. Recommended coloxyl and senna bowel prophylaxis.

Shirley has no known allergies and does not take any other medications or supplements. Apart from that mentioned in pharmacist comments, the patient has been on the above regimen for at least 5 years.
Question 61

Shirley’s daughter asks you to phone the prescriber to ask for a script for donepezil (Aricept). Which of the following is INCORRECT regarding the use of donepezil in Alzheimer’s disease?

a) Donepezil provides a modest level of improvement in cognitive symptoms of Alzheimer’s disease, but is not curative.
b) Donepezil is metabolised by CYP2D6.
c) Listed adverse effects of donepezil include bradycardia and diarrhoea.
d) Donepezil works on the cholinergic hypothesis, decreasing the breakdown of acetylcholine, thereby reducing the apparent deficiency of cholinergic neurotransmitter activity.
e) Donepezil is associated with an average improvement of 3.2 of MMSE score within the first 2 months of use.

Question 62

If donepezil was to be initiated, choose the following statement that best describes the interaction between itself and amitriptyline.

a) Amitriptyline is an anticholinergic medication and will therefore increase the therapeutic effect of donepezil. Donepezil should be commenced at 2.5mg d as a therapeutic response has already been established with amitriptyline.
b) Amitriptyline is an anticholinergic medication, which is known to antagonise the therapeutic effect of donepezil. The need for amitriptyline should reassessed and mirtazapine considered as a suitable replacement.
c) Amitriptyline is a potent inhibitor of the CYP isozyme system that donepezil is metabolised by, and therefore the combination should be avoided.
d) Amitriptyline is also anticholinesterase inhibitor, which when given in combination with donepezil will lead to cholinergic toxidrome.
e) Amitriptyline is an anticholinergic medication, which is known to antagonise the therapeutic effect of donepezil. Amitriptyline should be continued however as it might cause distress to Shirley if it were to be discontinued.

Question 63

The prescriber informs you that he would prefer to manage Shirley’s agitation with low dose risperidone as prescribed, and will consider donepezil depending on response. Which of the following statements regarding behavioural symptom treatment in dementia is INCORRECT?

a) If Shirley was diagnosed with Dementia with Lewy Bodies, risperidone would be contraindicated as it is more likely to cause life-threatening extrapyramidal side-effects in these patients.
b) Other possible causes of Shirley’s agitation could include unresolved pain, continual infection, dehydration, and constipation.
c) There is no conclusive evidence that any antipsychotic is more efficacious than one another for treatment of behavioural symptoms of dementia.
d) Risperidone is less likely to cause tardive dyskinesia than haloperidol.
e) Benzodiazepines have some evidence of efficacy in this setting and are suitable long-term management options for symptom control.
Question 64

Shirley has suffered from urinary urge incontinence for many years, and oxybutynin has been effective for her, despite an irritable dry mouth “that never goes away”. Which of the following statements regarding this condition and its treatment is CORRECT?

a) Urge incontinence is characterised by weakness of pelvic floor muscles or sphincter dysfunction.
b) Oestrogen replacement is an effective alternative to oxybutynin for treatment for urge incontinence, and should be used in this setting.
c) Urge incontinence is seen immediately following effort or exertion, such as sneezing or coughing.
d) Oxybutynin reduces involuntary detrusor contractions mediated by acetylcholine and has been shown to improve quality of life compared to treatment with bladder training alone.
e) Appropriate second line medications for urge incontinence treatment in women are selective alpha-2 blockers.

Question 65

Follow up routine-pathology shows that Shirley is deficient in Vitamin B12. Which one of her medications is likely to have caused this deficiency?

a) Atorvastatin  
b) Coloxyl and Senna  
c) Trimethoprim  
d) Omeprazole  
e) Oxycodone

End of questions relating to Shirley

Question 66

Which of the following is NOT a pharmacokinetic change associated with the elderly population?

a) Increased shunting of the portal circulation leading to a decreased first pass metabolism and increased drug bioavailability.  
b) Decline in plasma protein leading to increased free active drug.  
c) Decrease in renal function leading to impaired clearance of drugs eliminated by the kidneys.  
d) Increased volume of distribution for lipid-soluble drugs.  
e) Increased beta-receptor sensitivity leading to increased side-effects from CNS medications.
Questions 67 – 69 relate to Joe

Patient profile:

Name: Joe Dart  Weight: 87kg
Age: 56  Height: 182cm

Joe was discharged from hospital 3 days ago and presents to your pharmacy with the following script:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Directions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perindopril 5mg + Indapamide 1.25mg (Coversyl Plus)</td>
<td>1 d</td>
<td>NEW</td>
</tr>
<tr>
<td>Atorvastatin 80mg (Lipitor)</td>
<td>1 d</td>
<td>NEW</td>
</tr>
<tr>
<td>Dipyridamole 200mg + Aspirin 25mg (Asasantin)</td>
<td>1 bd</td>
<td>NEW</td>
</tr>
</tbody>
</table>

Joe has no known drug allergies.

**Question 67**

What is the likely diagnosis that Joe was hospitalised for out of the following?

a) Myocardial Infarction  
b) Ischaemic Stroke  
c) Phaeochromocytoma  
d) Primary hyperaldosteronism  
e) Atrial Fibrillation

**Question 68**

What is dipyridamole's mode of action?

a) Irreversibly inhibits cycloxygenase, thereby inhibiting platelet aggregation.  
b) Binds reversibly to the P2Y₁₂ receptor, inhibiting platelet aggregation.  
c) Inhibits platelet function by inhibiting phosphodiesterase, which increases platelet cAMP.  
d) Converts plasminogen to plasmin, which catalyses the breakdown of fibrin.  
e) Prevents binding of fibrinogen to platelet by occupying the glycoprotein IIb/IIIa receptor, thereby blocking platelet aggregation.
Question 69

Upon counselling Joe, you discover he is currently smoking over 30 cigarettes a day. After his health scare, he is looking to give up, and asks for your advice on cessation techniques. With regards to stages of behavioural change and pharmacist interventions, which is the most appropriate response to assist Joe?

a) Joe is in the pre-contemplation stage of behavioural change, and should be referred to his GP to discuss different treatments.
b) Joe is in the contemplation stage of behavioural change, and motivational interviewing techniques should be employed by the pharmacist to encourage Joe to continue moving through the cycle, with the assistance of a suitable NRT product.
c) Joe is in the action stage of behavioural change, and motivational interviewing techniques should be employed by the pharmacist to encourage Joe to continue moving through the cycle, with the assistance of a suitable NRT product.
d) Joe should be given a CMI for Champix and encouraged to see his GP.
e) Joe should be encouraged to cease smoking straight away using the “cold turkey” method due to his recent hospitalisation.

End of questions relating to Joe

Question 70

Rivaroxaban has recently been listed on the PBS for prevention of stroke or systemic embolism in patients with non-valvular atrial fibrillation with one or more risk factors. Which of the following is INCORRECT regarding rivaroxaban?

a) INR is not a measure of rivaroxaban’s anticoagulant effect.
b) Rivaroxaban is a Factor Xa Inhibitor.
c) Rivaroxaban is contraindicated in patients with a CrCl of <15ml/min
d) Rivaroxaban’s action will be decreased when given with St. John’s Wort.
e) Rivaroxaban is not a P-glycoprotein substrate.

Question 71

In what conditions should anti-embolism stockings (compression stockings) be avoided?

i. Peripheral arterial disease
ii. Phlebitis
iii. Varicose Veins
iv. Peripheral neuropathy
v. Cardiac Failure
vi. Deep Vein Thrombosis

a) i, ii, v
b) i, v, vi
b) ii, iii, v
d) i, iv, v
e) iii, iv, vi
Question 72

The “triple whammy” drug interaction is one of the most commonly seen in pharmacy practice. Which statement best describes the mechanism of the interaction?

a) ACE-Inhibitors dilate efferent renal arterioles, NSAIDs vasoconstrict afferent renal arterioles, and loop diuretics lead to volume depletion, thereby decreasing renal function.

b) ACE-Inhibitors dilate afferent renal arterioles, NSAIDs vasoconstrict efferent renal arterioles, and loop diuretics lead to volume depletion, thereby decreasing renal function.

c) NSAIDs inhibit CYP3A4, which decreases ACE-Inhibitor metabolism, leading to renal toxicity.

d) Loop diuretics cause bilateral renal artery stenosis, which is worsened by the combination of an ACE-Inhibitor and NSAID.

e) ACE-Inhibitors dilate efferent renal arterioles, whilst NSAIDs vasoconstrict efferent renal arterioles, and loop diuretics lead to volume depletion, thereby decreasing renal function through competitive antagonism.

Question 73

Which of the following would you NOT expect to see in a patient with CHRONIC kidney disease?

a) Hyperphosphataemia
b) Hyperparathyroidism
c) Proteinuria
d) 1,25 cholecalciferol deficiency
e) Hypokalaemia

Questions 74 – 77 relate to Nicholas

Patient Profile:

Patient Name: Nicholas Huxtable
Age: 68
Height: 189cm
Weight: 90kg
Smoking history: 30 cigarettes/day for 30 years, ceased 1 month ago when found it difficult to walk to the shop to buy more cigarettes.

Dispensing history:

28/02/2013: Ventolin MDI OTC
14/03/2013: Ventolin MDI OTC
05/06/2013: Augmentin Duo Forte 875/125mg 1 bd + 1 rpt
10/06/2013: Augmentin Duo Forte 875/125mg 1 bd + Nil Rpts
12/07/2013: Ventolin MDI OTC
Pharmacist Notes:

14/03/2013 – Asthma Inhaler Check performed – recommended referral to GP due to constant wheezing
12/07/2013 – Healthcare professional referral letter generated – increased wheezing and suspected pharmacy shopping for OTC Ventolin

Nicholas presents with the following script on 01/08/2013 from his GP, Dr. Breathless.

| Rx Salbutamol MDI 100mcg/dose – 2-4 puffs qds prn, qty 2x200 doses and 5 rpts |
|-----------------|-----------------|-----------------|
| Rx Ipratropium MDI 21mcg/dose – 2 puffs qds prn, qty 2x200 doses and 5 rpts |
| Rx Augmentin Duo Ft 875mg/125mg – 1 bd, qty 10 and 1 rpt |

He has no known allergies.

Nicholas has recently been diagnosed with COPD
FEV₁ = 59% predicted post bronchodilator.

**Question 74**

With regard to COPD, which of the following statements is **INCORRECT**?

a) COPD is characterised by airway obstruction that is fully reversible.
b) Airway obstruction associated with COPD is usually the result of an abnormal inflammatory response of the lungs to noxious gases, most commonly cigarette smoke.
c) Typically, COPD affects middle-aged and older patients.
d) It is important to assess for the possibility of the co-existence of asthma and COPD to minimise mismanagement of either disease.
e) The possibility of COPD should be considered in all smokers and ex-smokers over the age of 35 presenting with symptoms of coughing, breathlessness and sputum production.

**Question 75**

Nicholas shows symptomatic improvement with regular use of his short acting bronchodilators for 3 months, but then slowly starts to deteriorate, with wheezing and breathlessness becoming worse.
His spirometry results are 54% predicted post bronchodilator. What regimen would you expect to see after Nicholas’ visit to Dr. Breathless?

a) No change to therapy.
b) Salbutamol 100mcg MDI + Tiotropium 18mcg inhaler + Fluticasone 500mcg/Salmeterol 50mcg Accuhaler.
c) Salbutamol 100mcg MDI + Tiotropium 18mcg inhaler + Eformoterol 12mcg
d) Salbutamol 10mcg MDI + Fluticasone 500mcg/Salmeterol 5mcg Accuhaler + Theophylline 300mg
e) Salbutamol 100mcg MDI + Tiotropium 100mcg inhaler + continuous oxygen treatment.
Question 76

Which of the following would NOT be an appropriate recommendation for Nicholas?

a) Yearly influenza vaccination
b) Up-to-date pneumococcal vaccination with Pneumovax-23
c) Physiotherapist referral to assist with sputum clearance
d) Prophylactic antibiotic therapy
e) BMD to account for increased osteoporosis risk

Question 77

Theophylline is sometimes considered for maintenance treatment of COPD. When combined with $\beta_2$-agonists, which electrolyte imbalance is most commonly seen and must be closely monitored?

a) Hyperkalaemia
b) Hypernatraemia
c) Hypokalaemia
d) Hyponatraemia
e) Hyperphosphataemia

Question 78

Helicobacter pylori ($H. pylori$) is one of the most common bacterial infections worldwide and infects about 1/3 of adult Australians. Which of the following statements regarding $H. pylori$ is CORRECT?

a) $H. pylori$ is not an accepted cause of gastric ulcer disease.
b) Bismuth based triple therapy is considered to be first line treatment due to PBS-savings.
c) Post-treatment assessment of eradication of $H. pylori$ is best done with a breath test, but prior to testing, proton-pump inhibitors should be suspended for 2 weeks to minimise false-negative results.
d) A 98–99% eradication rate of $H. pylori$ has been reported in Australia each year.
e) Ad hoc antibacterial and acid-suppressing regimens are just as effective as clinically-trialled combinations, such as that found in Nexium HP7.

Question 79

You are working in the surgical ward and are asked by a junior anaesthetist to help design a patient’s post-operative nausea and vomiting (PONV) prophylaxis plan. Which of the following is not a risk factor for PONV?

a) History of PONV or motion sickness
b) Female gender
c) Non-smoking status
d) Obesity
e) Use of volatile anaesthetic
Suzy presents at the pharmacy suffering severe allergic rhinitis, and asks for your opinion. She usually gets the condition every springtime, and it tends to last for 2-3 weeks, with her main symptoms including nasal blockage, itch and impaired smell. She is not pregnant or breastfeeding, and has no known drug allergies or medical conditions. Which would be the most appropriate treatment for Suzy?

a) Pseudoephedrine tablets, 60mg, 1 qds prn
b) Xylometazoline nasal spray, 0.05%, 1 spray into each nostril bd prn
c) Fluticasone nasal spray, 50mcg/dose, 2 sprays into each nostril d initially, reducing to 1 spray into each nostril d with symptom control
d) Fexofenadine 180mg d for the duration of symptoms
e) Levocabastine nasal spray, 0.5mg/mL, 2 sprays into each nostril bd, increasing to a maximum of qds prn.

End of Module