**Section 1**

Consider the following clinical scenarios and *assume that the patient is on no prescribed medication when you see them, even if this seems unrealistic*. Consulting the BNF as needed, please write a valid and relevant in-patient prescription in each case. Write the dosage frequency using x1, x3 daily etc rather than od or tds. You do not need to write up IV fluids. You may write drug names in capitals but this is not compulsory. *Remember that there are almost always several acceptable drugs for any clinical indication.*

**1a** A 62-year-old man with type 2 diabetes and hypertension is admitted with a 3-day history of increasing cough and shortness of breath, and a temperature of up to 38.2°C. His BMI is approximately 31kg/m2. On examination there are signs of right lower lobe consolidation. Blood pressure varies between 144/91 and 163/103 mm Hg. Electrolytes and creatinine are within the normal range. Random blood glucose is 14. 3 mmol/L, fasting total cholesterol is 6.1 mmol/L, HDL cholesterol 0.96 mmol/L and triglycerides 3.4 mmol/l.

*Pneumonia: beta-lactam and/or macrolides, oxygen +/- bronchodilators*

*Hypertension: eg ACEI + CCB*

*Diabetes: metformin OR insulin given high figure*

*Dyslipidaemia: statinfibrate evidence base poor*

**1b** A 73-year-old woman is admitted with a fractured neck of femur following a fall. She had been lying on the floor of her flat for at least 24 hours and was found to have a calf deep vein thrombosis and a lower urinary tract infection. There were no other abnormalities found on admission and she was not known to have any other illnesses before her accident. She has moderately severe pain and surgery is planned but for the moment she is **not** “ nil by mouth”.

*Analgesia: opioids*

*DVT: LMW heparin*

*UTI: eg amoxicillin, nitrofurantoin*

*No warfarin pre-op*

**Section 2**

Consider the following prescriptions in the context of the given brief clinical scenarios, assuming that these are the drugs prescribed long-term before admission to hospital. Comment on them briefly, *in the form of bullet points and a total of no more than 150 words*, with regard to therapeutic appropriateness and possible risks for patient safety. Please look up the BNF as ne

**2a.** A 65-year-old man has COPD and permanent atrial fibrillation with mild heart failure. He is admitted with an infective exacerbation of the COPD.

**Prescription:**

Verapamil modified release 120 mg x1 daily

Bisoprolol 5 mg x1 daily

Clarithromycin 500 mg x 2 daily

Warfarin 4 mg x 1 daily (INR 2.8)

Lisinopril 20 mg x1 daily

Furosemide 40 mg x1 daily

*Beta-blocker: relative contra-indication in COPD-but changing*

*Beta-blocker + verapamil: contra-indicated*

*Clarithromycin+ warfarin: CYP450 interaction*

*Possible hypotension with multiple drugs*

*Lack of specific COPD therapy*

In no more than 150 words comment on the appropriateness and safety of the following prescribed drug regimes.

**2b** A 72-year-old woman has Parkinson’s disease and develops nausea on initiation of treatment. She has had isolated systolic hypertension for at least 5 years. A few weeks later she develops distressing visual hallucinations. Her blood pressure is 117/62 mm hg seated and 98/55 mm Hg standing.

**Prescription:**

Co-careldopa 250/25 1 tablet x 4 daily

Metoclopramide 10 mg x 3 daily

Prochlorperazine 5 mg x 1 at bedtime

Irbesartan 150 mg x 1 daily

*Postural hypotension, hallucinations: high dose of cocareldopa*

*Consider lower dose of irbesartan and/or whether should be used at all*

*Metoclopramide and prochlorperazine both anti-emetic*

*Both worsen symptoms of PD*

*Atypical antipsychotic preferred in PD to either of above*

**Section 4**

You can show how you worked out the answers to these problems but indicate very clearly your **final** answer, as **only** this will be marked.

**4a** Dopamine is to be administered at a dose of 5 mcg/kg/min to a patient weighing 75 kg. The stock solution contains 400 mg dopamine in 250 ml. At what rate should the infusion pump be set in **ml/hour**?

*14.06 (14) ml/hr*

(3.75%)

**4b** An ampoule of adrenaline contains the drug at a dilution of 1:10,000. What quantity, in milligrams, is contained in 0.4 ml of this solution?

*0.04 mg*

**4c** Dobutamine is made up to a concentration of 4 mg/ml in 5% dextrose. The infusion pump is set at a rate of 12 ml/hour. What dose of dobutamine is the patient getting, in **mcg/min**?

*800 mcg/min*

**4d** An immunosuppressant drug should be given by mouth at a total daily dose of 200 mcg/kg, divided into two doses 12 hours apart. It is available in 4 mg tablets. How many tablets should you give, on each occasion, to a man weighing 80 kg?

*Two*