

Medical Calculations- Division 1 Nurse

1. Name the 5 rights of medication administration:

- a)
- b)
- c)
- d)
- e)

2. Conversions

- a) 320mcg.....mg
- b) 25mg.....G
- c) 750mcg.....G
- d) 2mg.....mcg
- e) 75mg.....mcg
- f) 22G.....mg
- g) 36mL.....L

Drug Calculations – Please show all workings

3. Mr infarct is ordered 1mg per kg of clexane s/c B.D. He weighs 90kg.

- **How much clexane will he require?**

- Clexane comes in pre-dosed marked syringes of 20mg, 40mg, 60mg, 80mg, & 100mg. **What do you do?**

His initial dose was given in Emergency department on admission at 1600hrs.
What time would you give his next dose?

4. Mrs Flutter is ordered digoxin 250mcg. In her drawer she has 0.0625mg.

- **Work out what dose to give her**

You attempt to give her the above pills and she refuses, saying “No Dear, they are not the right tablets. I don’t take that many and they are the wrong colour.”

- **How would you deal with this situation?**

5. Mr Palpitation has been ordered Sotolol 40mg. In his drawer you find Sotolol 160mg.

- **Work out what dose you would give him**

6. A patient with a background history of chronic back pain is admitted to your ward. She is ordered a variety of analgesics including:

Paracetamol
Panadeine or
Panadeine Forte 4-6/24 PRN
Ibuprofen 200-400 6/24 PRN

After having administered 1G of Paracetamol and 400mg of ibuprofen at 0800hrs, she complains of pain at 1100hrs.

- **What is your response?**

7. Mr Wound has been admitted with a staph wound infection following recent surgery, he also has a history of significant renal impairment.

He is ordered Vancomycin 750mg IV today, with his dose being titrated each day according to his Vancomycin levels.

- a. Why do we need to do daily Vancomycin levels and titrate his dose?
- b. Vancomycin is stocked in 1 Gram vials, how would we dilute and administer 750mg dose?

8. Mr Dry is ordered 1000 litre of Normal Saline stat.

- a. At what rate would you set the infusion pump?

Following his stat litre Mr Dry is ordered a 4 hourly bag and then a 6 hourly bag of Normal Saline.

- b. Calculate the rate in mL/hour required for the following two bags.
- c. There are no more pumps available, calculate the drip rate for the two bags (using a standard giving set of 20 drops/min)

9. Mr Fibrillation is ordered a loading dose of Digoxin of 500mcg IV

This seems like a large amount to you.

- a. What do you do?
- b. Ampoules of Digoxin come in 0.25mg/ml. Calculate the amount you need to draw up in mls.

- c. The medication order states that the digoxin should be made up in 100ml normal saline and administered over 10minutes. Calculate the rate required.

10. Graeme has osteomyelitis and is ordered intravenous flucloxacillin 2 grams qid.

- a) You only have 500mg vials on your ward the moment. How many vials would be required to make up his dose?

- b) How would you determine exactly how to administer this dose safely?

- c) Some times antibiotics have a pH that is very irritating to the internal vessel wall, fluclox is one of these. How do we minimise the impact of this?