Prescribing – Infusions

Adapted from MedEd Third Year slides

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What is this question?

Different drugs will have different preparations depending on when they are given, what the indication is, and how quickly you want them to work.

Infusions refer to IV fluids that have the drug inside them, so that the patient is receiving a steady dose of the drug over a longer period of time. There may be many reasons for doing this depending on the presentation, and we are going to explore how to write a drug infusion chart in this guide.

You will note that there are two parts to this question type, a once only and a continuous infusion chart. We will explore the different indications for both charts, and how to find the information to fill them out.

Step 1: Fill out patient details

It's important that you double check this after you've written all this information, and then check once again when you've finished the question.

All the information needed should be given in the question stem, or at the front of question booklet.

Step Two: Once only Infusion

This is for drugs that are given as a one off, you want them given quickly via IV.

Here you want to include:

- The date
- The drug name
- The Route

Next you need to look in the BNF to find the:

- Amount of drug when given by intravenous infusion (in miligrams or mililitres – this will be found in the indication and under medicinal forms to find the specific solution)
- The dilutent (this will be under directions for administration)
- The infusion rate (this can be calculated once you have the total amount of fluid and the time over which it should be given)

For example:

- 200mg of Drug A is needed (this is the *amount of drug*) at a concentration of 5mg/ml.
- Drug A exists in a medicinal form of 10mg per 1ml
- Therefore you need 20mls of solution in order to get 200mg of drug (at a concentration of 10:1).
- However you want a concentration of 5:1, half of what you currently have. Therefore you need to double to amount of solution to 40mls (giving you a halved concentration). This is our *total volume of drug*.

- The BNF also tells you that the dilutent is 0.9% sodium chloride (this is the *dilutent*)
- The instructions also tell you that the maximum infusion rate is 5mg/min.
- Therefore the time over which the entire 200mg will be given in 200/5 = 40 minutes

- The infusion rate is calculated per hour.
- Therefore 40 divided by 40 times 60 = 60 minutes (1 hour)
- 40mls (our total volume) divided by 40 times 60 = 60 mls (per hour)

We will not be giving 60mls as the infusion will run out before we get to this point, but it is just the speed/rate at which the drug is administered.

What you now have is the:

Drug Name – Drug A
Drug Amount – 200mg
Dilutent – 0.9% Sodium Chloride
Total Volume – 40 millilitres
Route – IV
Infusion Rate – 60ml/hour

Hopefully this makes a bit more sense now as to where you find this information in the BNF and how you calculate the total volume and infusion rate – as these are things that students find the trickiest.

Step 3: Continuous Infusion

This is used for longer term fluids, say if someone needs a medication given over a long period of time. For that reason, it has an administrative record section (you do not need to fill out any of this).

At this point it's important for you to go back and check your work.

Additional Information for this question