Dosage Calculations VII – IV Rates (BSN)

IV Formulas:

**Drip Rate:**

\[ \text{IV gtts/min} = \frac{\text{total mLs infused} \times \text{gtts factor}}{\text{time in minutes}} \]

**Flow Rate:**

\[ \text{IV mL/hr} = \frac{\text{total IV fluid (mLs)}}{\text{time (mins or hrs)}} \]

Questions:

***Not all information provided is needed for each question; only choose the information necessary to answer each question.***

1) A doctor orders 2 mg/kg of a drug ABC to a patient who weighs 60 kg. The drug is to be placed in a 100 cc NS bag before being administered over an hour.
   a. What is the flow rate (mL/min)?
   b. How many mL will be administered in 15 mins?

2) A patient is to receive 200 mg of drug Z over 30 mins Q12H. The drug is available as a 0.5 gram tablet which must be reconstituted in 50 cc before administration in a 1 L bag using a 15 gtts tubing.
   a. How many mg of the drug did the patient receive in 30 mins?
   b. How many mL of the reconstituted drug do you draw?

3) A patient is being administered 1 L of an IV drug over 12 hours. The drug is being administered with a 30 gtts tubing.
   a. What is the drip rate (gtts/min)?
   b. How much has been infused into the patient in the first 3 hours?

4) An order of 50 mg drug Y is given to a patient in the ER every 4 hour. The drug comes pre-made in a NS bag as a 50 mg/500 mL solution. The Parenteral Drug Therapy Manual (PDTM) recommends diluting this to 25 mg/500 mL solution before administration.
   a. What is the flow rate (mL/hr)?
   b. What is the drip rate (gtts/min) when using a 15 gtts tubing?

SOLUTIONS:  
1a) 1.67 mL/min  
2a) 200 mg  
3a) 42 gtts/min  
4a) 250 mL/hr  
b) 63 gtts/min

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