Module 1-10 questions Module 2-10 questions Worksheet

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1. Infuse ceftriaxone 1 gram over 45 minutes. The drug is supplied as 1gram/50ml. The drip factor is 15. How many gtt/min will you infuse?

$\frac{50\ mL \times 15\ gtt}{45\ min} = \frac{750}{45} =$ **17 gtt/min**

2. The physician writes an order to give 1000mL of normal saline over 8hrs. How many mL/hr will you infuse? $\frac{1,000\ mL}{8\ hrs} =$ **125 mL/hr**

3. Infuse vancomycin hydrochloride 1.5 gram over 3 hours (180 min). The drug is supplied as 1.5 gram/250mL. The drip factor is 15. How many gtt/min will you infuse?

$\frac{250\ mL \times 15\ gtt}{180\ min} = \frac{3,750}{180} =$ **21 gtt/min**

4. An order has been written to give cefazolin 1gram over 30 minutes. The drug is supplied as 1 gram/50mL. The gtt factor is 60. How many gtt/min will you infuse?

$\frac{50\ mL \times 60\ gtt}{30\ min} = \frac{3,000}{30} =$ **100 gtt/min**

5. The nurse is to give Ciprofloxacin 500mg IV over 1 hr. (60 min) The drug is supplied as 1gram/250mL. The gtt factor is 15. How many gtt/min will you infuse?

$\frac{250\ mL \times 15\ gtt}{60\ min} = \frac{3,750}{60} =$ **63 gtt/min.**

6. An order is received for Fentanyl 75mcg IV now. The drug is supplied as 100mcg/2mL (50 mcg/mL). How many mL will you give? $\frac{75}{50} =$ **1.5 mL**

7. Infuse 1000 mLs normal saline over 4 hrs. How many mL/hr will you set on the pump?

$\frac{1000}{4} =$ **250 mL/hr**

8. The patient is to receive metoprolol 5mg for chest pain. The drug is supplied as 20mg/5mL (4 mg/mL). How many mL will you give? (Do not round your final answer)

$\frac{5}{4} =$ **1.25 mL**

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9. The order is to give midazolam 2mg IV now. The drug is supplied as 10mg/mL. How many mL will you give? $\frac{2}{10} = 0.2\ mL$

10. Infuse Doripenem 500mg IV over 8 hrs. (480 min) The drug is supplied as 500mg/100mL. The drip factor is 60. How many gtt/min will you infuse?

$$\frac{1{,}000\ mL \times 60\ gtt}{480\ min} = \frac{60{,}000}{480} = 125\ gtt/min$$

Worksheet 2

1. The patient is receiving Nipride, currently infusing at 142 mL/hr. The IV bag of Nipride reads 50 mg in 500 mL D5W. The patient weighs 175 lbs. (79.5454545kg) How many mcg/kg/min are infusing? Round to the nearest tenth.

$$\frac{100\ mcg/mL \times 142\ mL/hr}{79.5454545\ kg \times 60} = \frac{14{,}200}{4{,}772.72727} = 3.0\ mcg/kg/min$$

2. The physician has ordered Dobutrex for a patient. The order states to start the Dobutrex at 1 mcg/kg/min, and titrate as needed. The IV bag of Dobutrex contains 250 mg in 500 mL D5W. (0.5mg/mL = 500mcg/mL) The patient weighs 70 kg. How many mL/hr should the IV pump be set at to achieve the starting dose? Round to the nearest whole number.

$$\frac{70\ kg \times 1\ mcg/kg/min \times 60\ min/hr}{500\ mcg/mL} = \frac{4{,}200}{500} = 8.4\ mL/hr$$

3. The patient is currently receiving Nitroglycerine at 12 mL/hr. The bottle reads 100 mg Nitroglycerine in 250 mL D5W. How many mcg/min is the patient receiving? ($\frac{100}{250} = 0.4\ mg = 400\ mcg/mL$)

$$\frac{400\ mcg/mL \times 12\ mL/hr}{60\ min} = \frac{4800}{60} = 80\ mcg/min$$

($\frac{12\ mL}{60\ min} = 0.2\ mL/min$)

4. The physician orders Heparin infusion at 500 units/hr. The bag of Heparin reads 25,000 units in 250 mL D5W. How many mL/hr should be showing on the IV pump? ($\frac{25{,}000\ u}{250\ mL} = 100\ u/mL$)

$$\frac{500\ u/hr}{100\ u/mL} = 5\ mL/hr$$

5. The physician has ordered Dopamine to start at 2 mcg/kg/min. The patient weighs 165 lbs. (= 75kg) The bag of Dopamine reads 800 mg in 500 mL D5W. What rate would the nurse set on the infusion pump? Round to the nearest tenth. ($\frac{800}{500} = 1.6\ mg = 1600\ mcg/mL$)

$$\frac{75\ kg \times 2\ mcg/kg/min \times 60\ min/hr}{1{,}600\ mcg/mL} = \frac{9{,}000}{1600} = 5.6\ mL/hr$$

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6. The physician in the previous questions has now written an order to increase the Dopamine to 4 mcg/kg/min. Using the information in the previous question, what rate would the nurse set on the IV pump? Round to the nearest tenth.

$$\frac{75\text{kg} \times 4\text{mcg/kg/min} \times 60\text{min/hr}}{1600\text{mcg/mL}} = \frac{18000}{1600} = 11.3\text{ mL/hr}$$

7. The patient is on an Insulin drip infusing at 5 units/hr. The bag is labeled 100 units insulin in 250 mL NS. At what rate should the pump be infusing? Round to the nearest whole number.

$\frac{100}{250} = 0.4\text{ u/mL}$

$$\frac{5\text{u/hr}}{0.4\text{u/mL}} = 12.5 = 13\text{ mL/hr}$$

8. The patient is on a Dopamine drip infusing at 35 mL/hr. The label reads 400 mg dopamine in 500 mL D5W. The patient weighs 62 kg. How many mcg/kg/min is the patient receiving? Round to the nearest tenth.

$\frac{400}{500} = 0.8\text{ mg/mL} = 800\text{mcg/mL}$

$$\frac{800\text{mcg/mL} \times 35\text{mL/hr}}{62\text{kg} \times 60\text{min}} = \frac{28{,}000}{3{,}720} = 7.5\text{mcg/kg/min}$$

9. The physician has ordered Rocephin 1 gram IV over 30 minutes. Pharmacy has sent a bag labeled Rocephin 1 gram in 50 mL/ D5W. The IV tubing delivers 15 gtt/mL. How many drops per minute (gtt/min) will the nurse deliver?

$$\frac{50\text{mL} \times 15\text{gtt}}{30\text{min}} = \frac{750}{30} = 25\text{ gtt/min}$$

10. The patient is to receive Cipro 400 mg IV over 1 hour. You receive a bag from the pharmacy labeled Cipro 400 mg in 100 mL D5W. The IV tubing delivers 12 gtt/mL. How many drops per minute (gtt/min) will the nurse deliver?

$$\frac{100\text{mL} \times 12\text{gtt}}{60\text{min}} = \frac{1200}{60} = 20\text{ gtt/min}$$