

# Elizabeth Orosco Calculation Worksheet #4

1. Ordered is flucloxacillin 250mg IM. Available is 1 G in 10 mL. How much should the nurse administer in mL?

$$1g = 1000 \text{ mg}$$

$$\frac{DV}{H} = \frac{250 \text{ mg} \times 10 \text{ mL}}{1000 \text{ mg}} = \boxed{2.5 \text{ mL}}$$

2. Order: Administer 160 mg IV. Available is 100 mg/2 mL. How much should the nurse administer in mL?

$$\frac{DV}{H} = \frac{160 \text{ mg} \times 2 \text{ mL}}{100 \text{ mg}} = \boxed{3.2} \text{ or } \boxed{3 \text{ mL}}$$

3. Azulfidine 1.5 g has been ordered every 12 hrs. Available are 500mg tablets. How many tablets should the nurse administer per day?

$$1.5g = 1500 \text{ mg}$$

$$\frac{DV}{H} = \frac{1500 \text{ mg} \times 1}{500 \text{ mg}} = 3 \times 2 = \boxed{6 \text{ tablets}}$$

4. Ergotrate maleate 200 mcg is ordered po daily. Available is 0.2 mg. How many tablets should the nurse administer?

$$200 \text{ mcg} = 0.2 \text{ mg}$$

$$\frac{DV}{H} = \frac{0.2 \text{ mg} \times 1}{0.2 \text{ mg}} = \boxed{1 \text{ tablet}}$$

5. From 0700 to 1900 the nurse calculates the patient's total intravenous fluid intake as ? milliliters. An IV is infusing at 50 mL/hour. At 0900 the patient will receive IVPB of 125 mL for 30 minutes. What is the total amount in mL the patient will receive during this time?

$$12 \text{ hours} \rightarrow 11 \text{ hours} \times 50 = 550 + 125 + 25 = \boxed{700 \text{ mL}}$$

6. Solumedrol 1.5 mg/kg is ordered for a child weighing 42 lb. Solumedrol is available as 75 mg / 1 mL is available. How many mL must the nurse administer?  $1.5 \text{ mg} \times 19.1 = 28.65 \text{ mg}$

$$42 \div 2.2 = 19.1 \text{ kg}$$

$$\frac{DV}{H} = \frac{28.65 \times 1 \text{ mL}}{75 \text{ mg}} = \boxed{0.38 \text{ mL}} \text{ or } \boxed{0.4 \text{ mL}}$$

7. Give patient 17.1 mg of dopamine in 223 mL of D5W to be infused at a rate of 17,221 mcg/hr. Calculate the flow rate in mL/hr.

$$\frac{17,100}{17,221 \text{ mcg/hr}} \times 223 = 224.577$$

$$\boxed{224.58 \text{ mL/hr}}$$

8. Calculate the IV flow rate for 0.2 L of D5W IV over 462 min. Infusion set has drop factor of 59 gtts/mL. What is the IV flow rate in gtts/min?

$$0.2 \text{ L} \rightarrow 200 \text{ mL}$$

$$\frac{200 \text{ mL} \times 59 \text{ gtts/mL}}{462 \text{ min}} = \frac{11,800}{462} = 25.5$$

$$\text{or } \boxed{26 \text{ gtts/min}}$$

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9. Ordered Lasix 24 g IV push now. Available: 22,000,000 mcg in 12 mL. How much will the nurse draw up?

$$\begin{aligned} 24 \text{ g} &\rightarrow 24,000 \text{ mg} \\ 22,000,000 &\rightarrow 22,000 \text{ mg} \end{aligned} \quad \frac{Dv}{H} = \frac{24,000 \text{ mg} \times 12 \text{ mL}}{22,000 \text{ mg}} = 13.09 \text{ or } 13.1 \text{ mL}$$

10. Calculate the IV flow rate for 392 mL of D5W IV over 582 min. Infusion set has drop factor of 74 gtts/mL. What is the IV flow rate in gtts/min?

$$\frac{392 \text{ mL} \times 74 \text{ gtts/mL}}{582 \text{ min}} = 49.84 \text{ or } 50 \text{ gtts/min}$$

11. The total volume ordered is 225 mL N/Saline 0.9% IV. The time over which it is to be given is 40 minutes. The drop factor is 15. How many drops per minute will be delivered?

$$\frac{225 \text{ mL} \times 15 \text{ gtts}}{40 \text{ min}} = \frac{3,375}{40} = 84.37 \text{ or } 84 \text{ gtts/min}$$

12. Ordered 7 g of Amoxicillin. Amoxicillin is available as 0.016 kg per 20 mL. How much will the nurse draw up?

$$\frac{7 \text{ g}}{16 \text{ g}} \times 20 \text{ mL} = 8.75 \text{ mL}$$

13. Potassium chloride is available as 0.016 kg per tablet. Potassium Chloride (K-Dur), 24,000,000 mcg, is ordered. How many tablets would the nurse administer?

$$\frac{0.016 \text{ kg}}{16,000} = 1.5 \text{ tablets}$$

14. Aggrastat at 23.8 mg in 129 mL is to be infused at 3 mcg/kg/hr in a patient who weighs 82 kg. At what flow rate in mL/hr will you set the pump?

$$\begin{aligned} 3 \text{ mcg} \times 82 &= 246 \text{ mcg} \\ \frac{0.246 \text{ mg/hr} \times 129 \text{ mL}}{23.8 \text{ mg}} &= 1.3 \text{ mL/hr} \end{aligned}$$

15. Administer 0.06 g of codeine po now. Available are 30 mg tablets. How many tablets should the nurse administer?

$$\frac{60 \text{ mg}}{30 \text{ mg}} = 2 \text{ tablets}$$

16. Administer Nafcillin 0.5 g, IM, q6h. Using the following drug label, how many milliliters should the nurse give per dose? Do not round.

$$\begin{aligned} 0.5 \text{ g} &= 500 \text{ mg}, 250 \text{ mg} \\ \frac{500 \text{ mg} \times \text{mL}}{250 \text{ mg}} &= 2 \text{ mL} \end{aligned}$$

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NDC 0015-7226-20  
EQUIVALENT TO

**NAFILLIN SODIUM  
FOR INJECTION, USP**

Buffered-For IM or IV Use  
CAUTION: Federal law prohibits  
dispensing without prescription.



When reconstituted with 6.6 mL diluent, (SEE INSERT: INTRAMUSCULAR ROUTE), each vial contains 8 mL solution. Each mL of solution contains nafcillin sodium, as the monohydrate, equivalent to 250 mg nafcillin, buffered with 10 mg sodium citrate. Read accompanying circular for complete stability data.  
Usual Dosage: Adults—500 mg every 4 to 6 hours. Read accompanying circular for directions for IM or IV use.

APOTHECON®  
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722630DRL-2



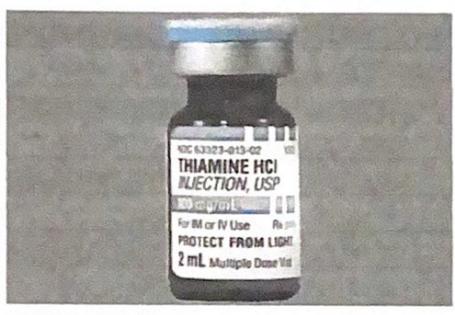
17. Administer Prednisone (Deltazone) 6 mcg/kg/min. The patient weighs 165 lb. Available is 250 mL D<sub>5</sub>W with Deltazone 50 mg. How many milliliters per hour will the nurse need to run the infusion?

$165 \text{ lb} \div 2.2 = 75 \text{ kg}$   
 $6 \text{ mcg} \times 75 = 450 \text{ mcg} \rightarrow 0.45 \text{ mg}$   
 $\frac{0.45 \text{ mg}}{50 \text{ mg}} \times 250 \text{ mL} = 2.25 \times 60 = 135 \text{ mL/hr}$

18. Administer Dobutamine 250 mg in 100 mL of D<sub>5</sub>W at 15 mcg/kg/min. Patient weighs 120 lb. Calculate the flow rate in milliliters per hour. Round to the nearest tenth.

$120 \div 2.2 = 54.5 \text{ kg}$   
 $54.5 \text{ kg} \times 15 \text{ mcg} = 817.5 \text{ mcg} = 0.8 \text{ mg}$   
 $\frac{0.8 \text{ mg}}{250 \text{ mg}} \times 100 = 0.32 \times 60 = 19.2 \text{ or } 19 \text{ mL/hr}$

19. 8 mL of normal saline is added to a 2 mL vial of Thiamine. How many mg of Thiamine are in each milliliter of fluid?



100 mg

KAD DCM

12 hours



20. Administer 1 G of erythromycin IVPB every 8 hrs x 5 days. The patient will receive how many micrograms for the course of treatment?

$8 \times 3 = 24$  3 times a day x 5 days = 15 times  
 $1 \text{ g} = 1,000,000 \text{ mcg} \times 15 = 15,000,000 \text{ mcg}$

21. A nurse calculates the patient's total intravenous (IV) fluid intake from 0700 to 1900. An IV of NS is infusing at 75 mL/hr. The patient also receives 3 IVPB of 100 mL for 30 minutes. What is the total amount of IV fluid intake for this time frame?

$12 / 10 \times 75 = 750 + 300 + 37.5 = 11,087.50 \text{ mL}$

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22. A patient needs 2 g of a medication. It comes in 250 mg doses. How many doses should be administered? How many hours will it take if the patient can have one dose every 6 hours?

$$\frac{2000 \text{ mg}}{250 \text{ mg}} = 8 \text{ doses, } 48 \text{ hours}$$
$$8 \times 6 = 48$$

23. The total volume to be administered from an IV drip is 1,250 mL over 10 hours. How many milliliters per minute should be given?

$$\frac{1,250 \text{ mL}}{10 \text{ hours}} \times \frac{1 \text{ hr}}{60 \text{ min}} = 2.08 \text{ mL/min} \text{ or } 2 \text{ mL/min}$$

24. A child who weighs 14 kg is ordered 55 mcg/kg IV, 2 hours before surgery. The solution strength is 2 mg/mL. How many mL should be administered?

0.4 mL

Round to the 100<sup>th</sup>.  $0.055 \times 14 = 0.77 \text{ mg}$

$$0.77 \text{ mg} \times 2 \text{ mg} = 0.39 \text{ or } 0.4 \text{ mL}$$

25. A patient is receiving 875 g of a medication in 1L of IV fluid. How many g per mL is the patient receiving? Round to the 10<sup>th</sup>.

$$\frac{875 \text{ g}}{1000 \text{ mL}}$$

K H D - D CM  
1 0 0 0 mL

↓

$$0.875 = 0.9 \text{ g/mL}$$