

NR 340 Week 1 Medication Calculation Exam

Directions: The purpose of this packet is to prepare you for the medication calculation exam that is taken on the first day of class. Complete the medication calculation practice exam prior to the first day of class if needed. In critical care, amounts are specific. If the calculation is not a whole number, then answers are rounded off to the nearest 10th decimal place. Pumps can be programmed to allow for a 10th decimal place. If the calculation is for drops per minute then it is rounded off to the nearest whole number because drops cannot be divided. Good Luck!

- Your patient is ordered a dopamine drip at 7mcg/kg/min. He weighs 120 pounds. Your dopamine is supplied in a concentration of 400mg per 250ml D5W.

At how many ml/hr should the IV pump be set?

7mcg	250 mL	1mg	1 kg	120 lbs	60 min	=
Kg/min	400 mg	1000 mcg	2.2 lbs	1	1 hr	
12600000	≤	/	/			
880000						

14.318181 (Round to the nearest 10th decimal place) =
 14.3ml/hr

2. Your patient is on Nitroprusside (Nipride) to keep his systolic blood pressure less than 180mmHg. The physician orders state to begin the infusion at 0.1mcg/kg/min and to titrate up every 3 to 5 minutes to desired effect. Maximum dose to be given is 5mcg/kg/min. Your patient weighs 150 pounds. The medication comes supplied as 50mg in 250ml D5W.

At how many ml/hr should the IV be started?

0.1 mcg	250 ml	1 mg	1 kg	150 lbs	60 min	=
Kg/min	50 mg	1000 mcg	2.2 lbs	1	1 hr	
/	/	/	/			
225000	=					
110000						
<p>2.0454545 (Round to the nearest 10th decimal place) = 2.0 mL/hr because trailing zeroes are not used the answer is 2 ml/hr</p>						

What is the maximum ml/hr that the nipride can be run at?

5 mcg	250 mL	1 mg	1 kg	150 lbs	60 min	=
Kg/min	50 mg	1000 mcg	2.2 lbs	1	1 hr	
11250000	=					
110000						
102.27272 (Round to the nearest 10 th decimal place)= 102.3 ml/hr						

3. The physician orders Fentanyl 3mcg/kg IVP at a rate of 2mcg/kg/min for analgesia prior to inserting an endotracheal tube. The patient weighs 50 kg. The Fentanyl is supplied as 100mcg/ml.

How many ml of Fentanyl will you give?

3 mcg	1 mL	50 kg	=
Kg	1000 mg	1	
150			
100	=		

1.5 ml

How long will it take you to push the medication?

$$\frac{3 \text{ mcg/kg} / \cancel{\text{min}}}{2 \text{ mcg/kg} / \cancel{\text{min}}} =$$

1.5 minutes

4. Your patient is ordered heparin per heparin protocol. The patient has been receiving heparin at 1500 units/hour. The PTT result is 40. Per the heparin

protocol you should increase the heparin drip by 2 units/kg/hr. Your patient weighs 110 pounds. The Heparin bag is labeled 25000 units in 500 ml D5W.

How many ml/hr is your patient currently receiving?

1500 Units	500 mL	=
hr	25,000 Units	
750000	=	
25000		

30 ml/hr There is no need to round to the nearest decimal place because it is already a whole number.

How many units/hour will the patient be receiving when you increase the rate?

2 Units	1 kg	110 lbs	=
Kg/hr	2.2 lbs	1	
220	=		
2.2			
