

DOSAGE CALCULATION FOR INOTROPES

Drug calculation by weight (weight based calculation for inotrope administration)

Patient weight (kg) × mcg/kg/min × 60 mins × vol of diluent (mls) = ml/hour

Total micrograms in bag

- 1) The physician prescribed Dopamine drip at 10mcg/kg/min. The patients weight is 55kg. Dilution is 800mg /500ml. What will be the infusion rate?

Sol: $\frac{Q}{A} \times V$

A **Step 1:** = $\frac{10 \text{ mcg} \times 55 \text{ kg} \times 60}{800 \text{ mg}}$ x 500ml (Substitute the values in the formula)

Step 2: $\frac{10 \text{ mcg} \times 55 \text{ kg} \times 60}{8,00,000 \text{ mcg}}$ x 500ml (Convert the metric units to be same)

= 20.62

Ans = 21 ml/hr

Continuous Infusion (weight based calculation)

When giving a constant amount of medication every minute for an extended period, continuous infusion calculation can be used.

- 1) A patient is ordered to start an IV Dopamine drip at 5 mcg/kg/min. The patient weighs 57 kg. You have a bag of Dopamine that reads 400 mg/250 mL. What will you set the IV pump drip rate (mL/hr) at?

Ans.

Step 1. 5 mcg x 57 Kg x 60 min / 400 mg x 250 mL

Step 2. 5 mcg x 57 Kg x 60 min / 400 mg x 1000 x 250 mL

Step 3. 17100 mcg / 400000 mcg x 250 mL = **10.7 mL / hour**

References:

1. Potter and Perry's Fundamentals of nursing South Asia Second edition: Elsevier; July 2017
2. Carol Taylor, Pamela Lynn Jennifer L. Bartlett Fundamentals of nursing south Asian edition; Volume 1: Wolters Kluwer 2020
3. Padmaja Udaykumar Pharmacology for nurses Fifth edition: Jaypee; 2022
4. GL Chattri Nursing Drug Dosage and their calculations First edition Jaypee: 2017
5. Sheila J. Ogden, Linda K. Fluharty Calculation of drug dosages A workbook text; 11th edition; Elsevier; 2019
6. Muthuvenkatachalam S, Ambili M Venugopal Target High sixth edition; CBS Publisher; Jan 2021
7. Matt Vera BSN RN. Nursing pharmacology practice questions & test bank for NCLEX (500+ questions) [Internet]. Nurseslabs. 2021 [cited 2023 Feb 6]. Available from: <https://nurseslabs.com/nursing-pharmacology-nclex-practice-questions-test-bank/>