



HESI

DOSAGE CALCULATIONS QUIZ

150 QUESTIONS AND

CORRECT SOLVED ANSWERS

(2024 • 2025)

A+

NAME	AGE	SEX	HT	WT
SMITH, JANE	65	F	5'8"	145
DOE, JOHN	72	M	6'2"	180
WILSON, BOB	58	M	5'10"	160
GREEN, LUCAS	45	M	6'0"	175
BROWN, EMMA	30	F	5'5"	120



HESI DOSAGE CALCULATIONS

QUIZ 150 QUESTIONS AND CORRECT SOLVED ANSWERS (2024/2025)

GRADED A+

QUESTION 1

A patient with hypertension who weighs 72.4 kg is receiving an infusion of nitroprusside (Nipride) 50 mg in D5W 250 ml at 75 ml/hour. How many mcg/kg/minute is the patient receiving? (Enter numeric value only. If rounding is required, round to the nearest tenth.) - **ANSWER- 3.5**

Calculate the mg/hour infusing, $50 \text{ mg} : 250 \text{ ml} = X : 75 \text{ ml}$ $250X = 3750$ and $X = 15 \text{ mg/hour}$ Next, convert mg/hr to mcg/hour, $15 \text{ mg/hour} = 15 \text{ mg} / 1000 \text{ mcg} = 15,000 \text{ mcg/hour}$, then divide by 60 min = 250 mcg/minute Lastly, $250 \text{ mcg} / 72.4 \text{ kg/min} = 3.45 = 3.5 \text{ mcg/kg/minute}$

QUESTION 2

A patient receives a prescription for an intravenous infusion 0.45% sodium chloride 500 ml to be infused over 6 hours. The nurse should program the infusion pump to deliver how many ml/hour? (Enter numeric value only. If rounding is required, round to the nearest whole number.) - **ANSWER- 83**

Calculate using Volume/Time: $500 \text{ ml} / 6 \text{ hours} = 83.3 \text{ ml/hour}$

QUESTION 3

The healthcare provider prescribes a continuous intravenous infusion of dextrose 5% and 0.45% sodium chloride with KCl 20 mEq/1000 ml to be delivered over 8 hours. The nurse should program the infusion pump to deliver how many ml/hour? (Enter numeric value only. If rounding is required, round to the nearest whole number.) - **ANSWER- 125**

Using the formula volume/time: $1000 \text{ ml} / 8 \text{ hours} = 125 \text{ ml/hour}$

QUESTION 4

A patient with cardiogenic shock weighs 220 lb and is receiving dopamine at the rate of 3 mcg/kg/minute. The solution strength available is dopamine 400 mg in 250 ml of D5W. The nurse should set the infusion pump to deliver how many ml/hour? (Enter numeric value only. If rounding is required, round to the nearest tenth.) - **ANSWER- 11.3**

First, convert pounds to kg, $220 \text{ lb} : X = 2.2 \text{ lb} : 1 \text{ kg} = 100 \text{ kg}$ Next, calculate the dosage per minute, $3 \text{ mcg/kg/min} \times 100 \text{ kg} = 300 \text{ mcg/min}$ Convert mcg/min to mcg/hour, $300 \text{ mcg/min} \times 60 \text{ min} = 18,000 \text{ mcg/hour}$ Convert mcg/hr to mg/hour, $18,000 \text{ mcg/hr} = 18.0 \text{ mg/hour}$ Calculate the rate, $400 \text{ mg} : 250 \text{ ml} = 18 \text{ mg} : X \text{ ml}$ $400X = 4500$ $X = 11.25 = 11.3 \text{ ml}$.

So, 18 mg/11.3 ml should be infused at 11.3 ml/hour.

QUESTION 5

A patient who has a sinus infection is receiving a prescription for amoxicillin/clavulanate potassium (Augmentin) 500 mg PO q8 hours. The available form is 250 mg amoxicillin/125mg clavulanate tablets. How many tablets should the nurse administer for each dose? (Enter numeric value only.) - **ANSWER- 2**

Using Desired/Available formula: $500 \text{ mg}/250 \text{ mg} \times 1 \text{ tablet} = 2$

QUESTION 6

A child who is scheduled for a kidney transplant receives a prescription for basiliximab (Simulect) 20 mg IV 2 hours prior to surgery. The medication is available in a 20 mg vial that is reconstituted by adding 5 ml sterile water for injection, and administered in a 50 ml bag of normal saline over 30 minutes. The nurse should program the infusion pump to deliver how many ml/hour? (Enter the numeric value only.) -

ANSWER-110

After reconstituting the medication vial, the nurse adds the 5 ml of medication to the 50 ml of sterile water to result in a 55 ml volume to infuse in 30 minutes. Using the formula, $\text{Volume}/\text{Time} = 55 \text{ ml} / 0.5 \text{ hours} = 110 \text{ ml/hour}$

QUESTION 7

A patient who weighs 70 kg is receiving a dopamine solution of 800 mg/500 ml normal saline at 5 ml/hour. How many mcg/kg/minute is the patient receiving? (Enter the numeric value only. If rounding is required, round to the nearest tenth.) - **ANSWER- 1.9**

To change ml/hour to mcg/kg/minute, use the formula: $\text{desired rate} (5 \text{ ml/hour}) / \text{volume available} (500 \text{ ml}) \times \text{dose available} (800 \text{ mg}) = 8 \text{ mg/hour}$. Next, convert milligrams/hour to mcg/kg/minute: $\text{mg} (8) \times 1000 / \text{kg} (70) / 60 \text{ minutes} = 1.904 = 1.9 \text{ mcg/kg/minute}$.

QUESTION 8

The nurse is preparing to administer Hepatitis B Vaccine, Recombinant (Energix-B) 5 mcg IM to a school-aged child. The vaccine is labeled, 10

mcg/ml. How many ml should the nurse administer? (Enter numeric value only. If required, round to the nearest tenth). - **ANSWER- 0.5**

Use ratio and proportion, 5 mcg : X ml :: 10 mcg : 1ml $10X = 5 X = 0.5ml$

QUESTION 9

A patient with hypertension receives a prescription for carteolol (Cartel) 7.5mg PO daily. The drug is available in 2.5 mg tablets. How many tablets should the nurse administer? (Enter numeric value only.) - **ANSWER- 3**

Using D/H: $7.5mg / 2.5mg = 3$ tablets

QUESTION 10

A patient's daily PO prescription for aripiprazole (Abilify) is increased from 15 mg to 30 mg. The medication is available in 15 mg tablets, and the patient already received one tablet today. How many additional tablets should the nurse administer so the patient receives the total newly prescribed dose for the day? (Enter numeric value only.) - **ANSWER- 1**

**30 mg (total dose) - 15 mg (dose already administered) = 15 mg that still needs to be administered.
Using the Desired/Have formula: $15 mg / 15 mg = 1$ tablet**

QUESTION 11

A patient with multiple sclerosis is prescribed Dantrolene (Dantrium) 0.1 grams PO. Dantrolene is available in 100 mg capsules.

QUESTION 12

How many capsules should the nurse administer? (Enter numeric value only.) - **A**

Using the conversion of 1 gram = 1000 mg: 0.1 gram = 100 mg $100 mg = 1$ capsule

QUESTION 13