

MEDICATION FORMULAS

Our medication quiz is comprised of general knowledge, patient safety and math calculation questions. Prior to beginning the medication quiz, it is strongly recommended that you review the following formulas and examples provided below.

Convert pounds to kilograms:

To convert pounds to kilograms, divide the weight by 2.2 pounds.

$$\frac{150 \text{ pounds}}{2.2 \text{ pounds}} = 68.1 \text{ kilograms}$$

Convert teaspoons to ml.

Ordered: 4 teaspoons
How many ml will be given?

One teaspoon equals 5 ml.

1 teaspoon: 5 ml

4 teaspoons: X ml

X = 20 ml

Answer = 20 ml

Insulin formula for computing a 70/30 ratio:

The order reads:

“Hold the regular insulin and give one half of the NPH dose”.

The patient’s usual dose of insulin is 20 units of 70/30 insulin.

Step One:

Find out what percentage of the 70/30 is NPH:

$$20 \text{ units} \times .70 = 14 \text{ units}$$

Step Two:

$$\frac{1}{2} \text{ of } 14 \text{ units} = 7 \text{ units}$$

Answer = Administer 7 units of NPH insulin

Ratio and Proportion Calculation

How to use ratio and proportion to calculate doses:

Give 100 mg of drug. How many tablets will you give?

$$\frac{\text{Desired}}{\text{Have}} \qquad \frac{100 \text{ mg} = X}{50 \text{ mg} = 1 \text{ tablet}}$$

$$X = 2 \text{ tablets}$$

Method to Calculate IV Drip Rate

One Method for calculating Drip Rate:

Example:

1000 ml to run for 12 hours:

Step One: Calculate hourly rate – 1000 divided by 12

Step Two: Multiply hourly rate by drip factor divided by minutes per hour (time)

$$\frac{1000}{12} \times \frac{10 \text{ (drops per ml)}}{60 \text{ (minutes per hour)}}$$

$$83 \times \frac{1}{6} = 14 \text{ drops per minute}$$

Answer: 14 drops per minute

Another Method to Calculat IV Drip Rate

Example:

Multiple the **total amount of solution** to be given by the **drip factor** (15), **divided** by the **total number of minutes** that the IV must run:

$$\frac{1000}{\text{_____}} \times 15 = 15,000$$

(8 hr * 60) 480 minutes

$$\frac{15000}{480} \text{ or } \frac{1500}{48} = 31.25 \text{ (round down from 31. 25 dpm)}$$