

Metric measures

Solids

1 milligram (mg) = 1,000 micrograms (mcg)

1 gram (g) = 1,000 mg

1 kilogram (kg) = 1,000 g

Liquids

1 milliliter (ml) = 1 cubic centimeter (cc)

1 ml = 1,000 microliters (mcl)

1 cc = 1,000 mcl

1 liter (L) = 1,000 ml

1 L = 1,000 cc

Household to metric equivalents

1 teaspoon (tsp) = 5 ml

1 tablespoon (tbs) = 15 ml

1 ounce (oz) = 30 ml

2 tbs = 30 ml

1 oz = 30 g

1 pound (lb) = 454 g

2.2 lb = 1 kg

1 inch = 2.54 centimeters (cm)

Temperature conversions

To convert Celsius (°C) to Fahrenheit (°F)

Use the following equation:

$$(^{\circ}\text{C} \times 9/5) + 32 = ^{\circ}\text{F}$$

Example: 38 °C times 9/5 is 68.4; 68.4 plus 32 equals 100.4 °F

To convert °F to °C

$$(^{\circ}\text{F} - 32) \times 5/9 = ^{\circ}\text{C}$$

Example: 98.6 °F minus 32 is 66.8; 66.8 times 5/9 equals 37 °C.

Calculating dosages and administration rates

$$\text{Concentration of solution in mg/ml} = \frac{\text{mg of drug}}{\text{ml of solution}}$$

$$\text{Infusion rate in mg/minute} = \frac{\text{mg of drug}}{\text{ml of solution}} \times \text{flow rate (ml/hour)} \div 60 \text{ minutes}$$

$$\text{Concentration of solution in mcg/ml} = \frac{\text{mg of drug} \times 1,000}{\text{ml of solution}}$$

$$\text{Infusion rate in mcg/minute} = \frac{\text{mg of drug} \times 1,000}{\text{ml of solution}} \times \text{flow rate (ml/hour)} \div 60 \text{ minutes}$$

$$\text{Infusion rate in mcg/kg/minute} = \frac{\text{mg of drug} \times 1,000}{\text{ml of solution}} \times \text{flow rate (ml/hour)} \div 60 \text{ minutes} \div \text{weight in kg}$$

$$\text{Infusion rate in ml/hour} = \text{ml of solution} \div 60 \text{ minutes}$$

$$\text{Infusion rate in gtt/minutes} = \frac{\text{ml of solution}}{\text{time in minutes}} \times \text{drip factor (gtt/ml)}$$