PREMIUM EDITION FOR NURSING STUDENTS

# *NURSING DOSAGE CALCULATION*

NOTES READY TO STUDY

LEICAD

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# NURSING DOSAGE CALCULATION

## Conversions

- 1 mg = 1000 mcg
- 1 g = 1000 mg
- 1 kg = 1000 g
- 1 kg = 2.2 lbs
- 1 oz = 30 ml
- 1 ml = 1 cc
- 1 L = 1000 ml
- 1 tsp = 5 ml
- 1 tbsp = 15 ml ( 3 tsp )
- 1 cup = 8 ft oz

### Abbreviations:

- g = gram
- mg = milligram
- mcg = microgram
- kg = kilogram
- lbs = Pound
- oz = Ounce
- mL = milliliter
- tsp = teaspoon
- tbsp = tablespoon

## Rounding

Less than 1.0 = round to nearest hundredth.
Greater than 1.0 = round to nearest tenth.

## Dimensional Analysis

Determine the unit that you are calculating.(Tablets) Determine the quality available. (1 tablet) Determine the dose available. (300 mg) Determine the desired dose. (600 mg)

$$\frac{\text{Quantity}}{\text{Available dose}} \times \frac{\text{Desired dose}}{X}$$

$$\frac{1\text{ Tablet}}{300\text{ mg}} \times \frac{600\text{ mg}}{X}$$

## Comprehensive:

Please Remember Conversions & Units

How many milliliter in 9oz (ounce)?

$$\frac{9oz}{1} \times \frac{30mL}{} = 270mL 1oz$$

How many micrograms in 30 mg (milligram)?

$$\frac{30mg}{1} \times \frac{1{,}000mcg}{1mg} = 30{,}000mcg$$

How many milligram in 10 tsp (teaspoon)?

$$\frac{10tsp}{1} \times \frac{5mL}{1tsp} = 50mL$$

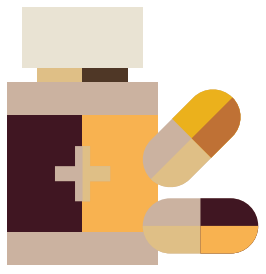
How many microgram in 0.5 g (gram)?

$$\frac{0.5g}{1} \times \frac{1000mg}{1g} \times \frac{1000mcg}{} = 50{,}000mcg$$

How many kilogram in 170 lbs (Pound)?

$$\frac{170lbs}{1} \times \frac{1kg}{2.2lbs} \times \frac{170}{2.2} = 77.3kg$$

## Solid Dose Medication:



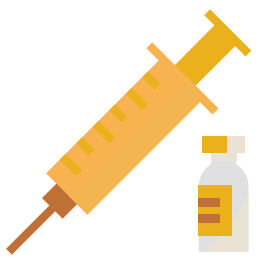
Order: 0.5mgdaily

Supplied: 25 mg/2mL 5

tab/dose

$$\frac{0.5mg}{1} \times \frac{1{,}000mcg}{1mg} \times \frac{1tab}{100} \times \frac{500}{100} = 5$$

## Oral Liquid Medication:



Order: : 50mg 4 hours

Supplied: 25 mg/2mL

0.8 tab/dose

$$\frac{50mg}{1} \times \frac{2mL}{1mg} \times \frac{1tab}{5mL} \times \frac{100}{125} = 0.8$$

# *COMPREHENSIVE DOSAGE CALCULATION*

## *IV Medication:*

Order: 1mg IV

Supplied: 0.4 mg/mL

2.5mL

$$\frac{1MG}{1} \times \frac{1mL}{0.4mg} \times \frac{1}{0.4} = 2.5\ ml$$

## *IV Flow Rates: (mL/hr)*

Order: 2L (over 48 hours)

42mL/hr

$$\frac{2L}{48hrs} \times \frac{1000mL}{1L} = \frac{2000}{48} \quad 41.66$$

## *IV Flow Rates: (gtts/min*

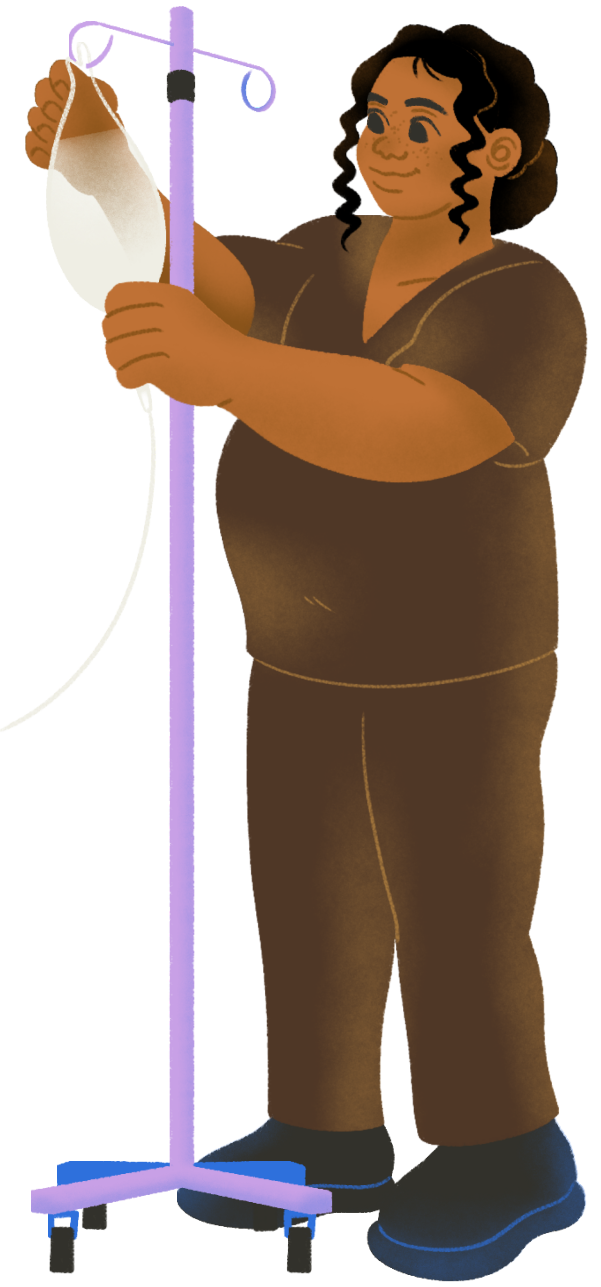
*10 drops/mL approx*

Order: 2L (over 48 hours)

Drip Factor: 15 gtts/mL

10mL

$$\frac{1hr}{60min} \times \frac{2L}{48hrs} \times \frac{1000ml}{1L} \times \frac{15gtt}{1ml} = \frac{30,000}{2,880} \quad 10.41gtts/min$$



## *Weight Based Calculation*

Order: 2mcg/kg/min

Weight: 130 lbs Supplied:

250mg/250mL

$$\frac{130lbs}{1} \times \frac{1kg}{2.2lbs} \times \frac{2mcg/min}{1kg} \times \frac{1mg}{1000mcg} \times \frac{250mL}{250mg} = \frac{65,000}{550,000} \quad 0.11818mL/min$$

$$\frac{60min}{1hr} \times \frac{0.11818}{1min} = \frac{7.0908}{1} \quad 7mL/hr$$