



Seeds of SUCCESS

ADVANCEMENTS UNLIMITED



Basic Dosage and Calculations



STUDY GUIDE

Weight-Based Dosage Calculations

- **Formula:** $\text{Dose} = (\text{Weight in kg}) \times (\text{Dose ordered per kg})$
- **Conversion:** $1 \text{ kg} = 2.2 \text{ lbs}$
- **Pediatric Dosage Formula:** $(\text{Weight in kg}) \times (\text{Safe Dose Range per kg})$
- **Safety Tip:** Double-check for pediatric and geriatric patients



IV Drug Calculations

- **Flow Rate Formula:** $\text{mL/hr} = \frac{\text{Total Volume (mL)}}{\text{Time (hr)}}$
- **Drop Rate Formula:** $\text{gtt/min} = \frac{(\text{Total Volume} \times \text{Drop Factor})}{\text{Time (min)}}$
- **Infusion Time:** $\text{Time (hr)} = \frac{\text{Total Volume}}{\text{Flow Rate (mL/hr)}}$
- **Safety Tip:** Monitor for signs of infiltration and adverse reactions



Liquid Medication Calculations

- **Formula:** $\text{Volume Needed} = \frac{(\text{Desired Dose} \div \text{Available Dose}) \times \text{Available Volume}}$
- **Pediatric Liquid Dosage:** $(\text{Weight in kg}) \times (\text{Safe Dose Range per kg}) \div \text{Frequency}$
- **Safety Tip:** Use calibrated devices for accurate measurement



Important Formulas

- $\text{Desired Dose} \div \text{Available Dose} \times \text{Quantity} = \text{Amount to Administer}$
- $\text{mg/kg/day} = \frac{\text{Total Daily Dose}}{\text{Based on Weight}}$
- $\text{IV Push Rate} = \frac{\text{Total mL}}{\text{Recommended Time (min)}}$



Abbreviations

- **BID** = Twice a day
- **TID** = Three times a day
- **QID** = Four times a day
- **PRN** = As needed
- **AC** = Before meals
- **PC** = After meals



Tablet/Pill Dosage Calculations

- **Formula:** $\text{Tablets Needed} = \frac{\text{Dose Ordered}}{\text{Dose Available}}$
- **Divided Dose Formula:** $\frac{\text{Total Daily Dose}}{\text{Number of Doses per Day}}$
- **Safety Tip:** Confirm pill strength and avoid crushing unless indicated



Injection Calculations

- **Formula:** $\text{Dose} = (\frac{\text{Desired Dose}}{\text{Available Dose}}) \times \text{Volume}$
- **Example:** Ordered 100 mg, Available 50 mg/mL $\rightarrow (100 \div 50) \times 1 = 2 \text{ mL}$
- **Insulin Calculation:** $(\text{Blood Sugar} - \text{Target Blood Sugar}) \div \text{Sensitivity Factor}$
- **Safety Tip:** Verify medication concentration and route (IM, SubQ, IV)



Rounding Guidelines

- Round to the nearest tenth for liquids (e.g., 2.76 mL $\rightarrow$ 2.8 mL)
- Round to the nearest whole number for tablets (e.g., 1.4 tablets $\rightarrow$ 1 tablet)
- **IV Rates:** Round to the nearest whole number unless specified otherwise



Key Conversions

- 1 tsp = 5 mL
- 1 tbsp = 15 mL
- 1 oz = 30 mL
- 1 kg = 2.2 lbs
- 1 L = 1000 mL
- 1 grain = 60 mg
- 1 mg = 1000 mcg



Safety Reminders

- Always double-check calculations and medication orders
- Document time, dose, route, and patient response accurately
- Confirm patient allergies before administration
- Label all syringes and IV lines properly



PREPARE TODAY. CARE TOMORROW.

You can. You will. We're here to help you succeed!

Faith

YOU MUST REGISTER ON WEBSITE TO ATTEND.

NO WALK-INS



Call or Text:

901-921-6647



Register & Learn More:

SOSADVANCEMENTSUNLIMITED.COM