Dosage Calculations Practice Quiz

Time: 30 min.

Topics:
- Calculations of single (individual) dosing, 24-hour (total) dosing, total dose given in a specific number of days.
- Metric conversions.
- Reading medication labels.
- Medical abbreviations (particularly for frequency of administration).

Helpful formulas:

1. **Single (individual) dosing:**

   \[ x = \frac{D}{H} \times Q \]

   \(x\) = single (individual) dose (in tablets or mL)
   \(D\) = desired dose (i.e. what is ordered)
   \(H\) = dose on hand (i.e. what is on the label)
   \(Q\) = quantity (amount of medication per tablet or per mL, for liquid)

   Note: Final answer is in tablets or milliliters.

2. **Twenty-four-hour (total) dosing:**

   \[ y = D \times \text{administration frequency in 24 hours} \]

   \(y\) = 24-hour (total) dose (in mg!!!)
   \(D\) = desired dose (i.e. what is ordered in mg!)
   Administration frequency abbreviations:
   - BID = twice per day
   - TID = three times per day
   - QID = four times per day
   - q6h = every 6 hours (i.e. 4 times per day)
   - q8h = every 8 hours (i.e. 3 times per day)
   - q12h = every 12 hours (i.e. 2 times per day)
   — etc.

   Note: Final answer is in milligrams!

Instructions:
- Calculators are NOT allowed.
- You must show your work.
- Include the correct units in your final answer.
- There are 8 questions in total.
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Practice Questions:

1. The doctor orders, “Aspirin 650 mg PO Q6H x 14 days.” You have Aspirin 325 mg tablets on hand.
   a) What is the individual dose?
   b) What is the 24-hour dose (in mg)?
   c) What is the total dose for 14 days (in g)?

2. The nurse practitioner orders, “Phenytoin 100 mg PO TID.” You have the following on hand:
   a) How much will you give in a single dose?
   b) What is the 24-hour dose?
   c) What is the total dose for 3 days?

3. You get the following order for medication: “Gabapentin 0.5 g PO BID.” The label below shows what you have available on hand:

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a) What is the individual dose?

b) What is the 24-hour dose?

c) How many single doses ordered does the bottle contain?

4. The medication label says “Amoxicillin for Oral Suspension, USP equivalent to 250 mg per 5 mL.” The doctor orders 125 mg to be taken orally every 4 hours.

a) What is the single dose to be given?

b) What is the 24-hour dose?

c) If the patient continues to take the medication for one week, what is the total dose?

5. The medication order asks for 400 mcg of Fentanyl to be administered via an IM injection. The dose on the label says 250 mcg/5 mL.

a) How many milliliters will you administer in a single dose?

b) If the patient get the injection twice per day, what is the 24-hour dose (in micrograms)?
c) What is the weekly total dose (in milligrams)?

6. Dr. Bow orders an individual dose of 0.2 mg to be administered q8h. The stock strength on hand is 100 mcg per tablet.
   a) What is the single dose that you should administer?
   
b) What is the daily dose?
   
c) What is the total dose for 5 days?

7. The doctor’s order and medication on hand are shown below:
   Order: “Augmentin 250 mg PO Q8H.”

   a) What is the individual dose?
   
   b) What is the 24-hour dose?
   
   c) How many individual doses does one bottle of medication contain?
8. The doctor’s order is for 75 mg of Thorazine to be administered IV q4h. Use the medication label below to answer questions a) to c).

![Medication Label]

a) How many milliliters will you administer in a single dose?

b) What is the total daily dose?

c) What is the 72 hour dose?

Answers:

1. a) 2 tabs  b) 2600 mg  c) 36.4 g
2. a) 2 tabs  b) 300 mg  c) 900 mg
3. a) 10 mL  b) 1 g  c) 47 doses
4. a) 2.5 mL  b) 500 mg  c) 3500 mg
5. a) 8 mL  b) 800 mcg  c) 5.6 mg
6. a) 2 tabs  b) 0.6 mg  c) 3 mg
7. a) 10 mL  b) 750 mg  c) 7 full individual doses
8. a) 3 mL  b) 18 mL  c) 54 mL