Medical Math

Student Workbook

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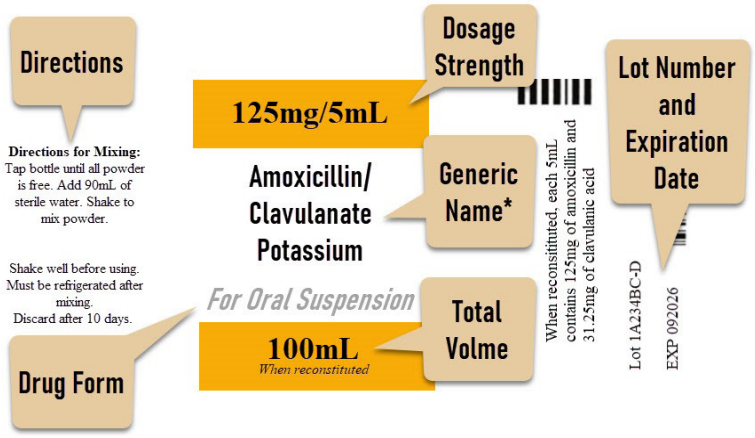
Methods and Oral Medications

Reading Labels

Did you know?

In 1906, the U.S. government passed the Food and Drugs Act, prohibiting anyone from selling mislabeled or dangerous drugs. It was not until 1979 that the Food and Drug Administration passed the Content and Format of Labeling for Human Prescription Drugs Rule, establishing a required format for drug labels.

Example:



For Practice:

Practice Questions

1) What is the name of this medication?

2) What form does it come in?

3) What is the medication strength?

4) What is the total volume?

5) Is there anything else you should know about the medication?

Pediatric Dosages Pre-Quiz

Read each question and calculate the correct answer. Solve using any method.

1) Administer clarithromycin 7.5 mg/kg PO every 12 hours. The child weighs 25 kg. How many milligrams should be administered?

a) 85.2 mg
b) 187.5 mg
c) 412.5 mg
d) 1875 mg

2) Administer Narcan 0.01 mg/kg stat for a neonate who weighs 3300 grams. The vial supplied is 0.4 mg/mL. How many mL should be administered?

a) 0.08 mL
b) 0.8 mL
c) 8 mL
d) 80 mL

3) Ampicillin is labeled 250 mg/5 ml and comes in a bottle containing 120 ml. A child is discharged on 250 mg 6 hours. How many teaspoons would you instruct the mother to give every 6 hours?

a) ¼ teaspoon
b) ½ teaspoon
c) ¾ teaspoon
d) 1 teaspoon

4) Administer acetaminophen 15 mg/kg PO every 6 hours PRN for fever. The child weighs 6.7 kg and the label on the bottle of acetaminophen reads: 100 mg/mL. How many mL should be administered?

a) 0.5 mL
b) 1 mL
c) 6 mL
d) 10 mL

5) Administer Oxacillin 50 mg/kg PO every 6 hours. The child weighs 22 lbs. and the label on the bottle reads: Oxacillin 250 mg/5 mL. How many mL should be administered?

a) 2 mL
b) 4.4 mL
c) 5 mL
d) 10 mL

Injection Calculations

Intradermal, Intramuscular, IV Push, and Subcutaneous Dosages

Did you know?

Syringes come in a variety of calibrations. Tuberculin syringes (0.5 mL and 1 mL) are calibrated to the hundredths. A 3 mL standard syringe is calibrated to the tenths. Both 5 mL and 10 mL syringes are calibrated every two tenths (0.2). Syringes larger than 20 mL are calibrated to whole numbers. Knowing this can assist you with rounding doses.

- Review order paying attention to route
- Review supply focusing on dosage strength
- IV push medications are given over a specific
    - » Not used in calculating dose
- Calculate like oral meds

Volume	Dose	Rounding	Syringe
Less than 1 mL	Does not calculate evenly to tenths (example: 0.543)	Round to hundredths	Use 0.5 mL or 1 mL
Greater than or equal to 0.5 mL but less than 1 mL	Calculates to tenths (example: 0.5)	Do not round – leave at tenths	Use 1 mL or 3 mL
1 mL to 3 mL	Example: 1.534	Round to tenths	Use 3 mL

Practice Questions

1) The order reads: Atropine 0.3 mg IM now. The label on the vial reads: Atropine 400 mcg/mL. How many mL should be administered? Solve using any method.

2) Order reads to inject Laviv 0.1 mL ID per centimeter of facial wrinkle. The client has a 12 cm of wrinkles to be treated. The label on the vial reads: Laviv 18 million cells in 1.2 mL. How many vials would be needed? Solve using any method.

Infusion Calculations Pre-Quiz

Read each question and calculate the correct answer. Solve using any method.

6) 40 mEq KCL is infusing in 100 mL of Normal Saline over 45 minutes. The drop factor is 10 gtts/mL.What is the drip rate?

a) 22 gtts/min
b) 53 gtts/min
c) 45 gtts/min
d) 75 gtts/min

7) Order is for 750 mL of Normal Saline to infuse with a flow rate of 100 mL/hr. If started at 0600, when will the infusion be complete?

a) 1330
b) 1350
c) 1430
d) 1450

8) Order is for 750 mL of Normal Saline to infuse with a flow rate of 100 mL/hr. It was started at 0600. How much will be remaining at 0900?

a) 300 mL
b) 450 mL
c) 500 mL
d) 650 mL

9) At 1730, 1000 mL of D5 1/2 NS started to infuse at 200 mL/hr. What is time will the infusion be finished?

a) 2100
b) 2230
c) 2300
d) 2430

10) At 1730, 1000 mL of D5 1/2 NS started to infuse at 200 mL/hr. How much will be remaining after at 2000?

a) 100 mL
b) 150 mL
c) 275 mL
d) 300 mL

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