

ULM SCHOOL OF NURSING
Calculations for Medication Administration

EQUIVALENTS TO KNOW

$$1 \text{ mg} = 1000 \text{ mcg}$$

$$1 \text{ gm} = 1000 \text{ mg}$$

$$1 \text{ kg} = 1000 \text{ gm}$$

$$1 \text{ kg} = 2.2 \text{ lbs}$$

$$1 \text{ lb} = 16 \text{ ounces}$$

$$2.5 \text{ cm} = 1 \text{ inch}$$

$$5 \text{ mL} = 1 \text{ tsp}$$

$$15 \text{ mL} = 1 \text{ TBSP}$$

$$30 \text{ mL} = 1 \text{ ounce}$$

$$240 \text{ mL} = 8 \text{ ounces}$$

$$1000 \text{ mL} = 1 \text{ qt}$$

$$4 \text{ mL} = 1 \text{ dram}$$

$$1 \text{ gm} = \text{grains XV or grains 15}$$

$$60 \text{ mg} = \text{grains i}$$

$$1 \text{ minum} = 1 \text{ drop} = \text{gtt}$$

$$16 \text{ ounces} = 1 \text{ pt}$$

$$32 \text{ ounces} = 2 \text{ pt} = 1 \text{ qt}$$

$$4 \text{ qt} = 1 \text{ gal}$$

$$1 \text{ cup} = 8 \text{ oz}$$

RULES

1. When calculating height for ALL ages carry cm to hundredths and round to tenths. Drop ALL unnecessary zeroes.

Ex: 182.88 cm = 182.9cm

For ALL ages, calculate height in feet and inches to the nearest fourth or half inch.

Ex: 5' 71/2"; 5' 11 3/4"

2. Round ALL temps to the nearest tenth for ALL ages. Drop unnecessary zeroes.

**Ex: 98.68° F = 98.7° F
31.00° C = 31° C**

3. Age Dependent: for adults: when converting body weight from lbs to Kg, calculate to hundredths and round to tenths, dropping all unnecessary zeros. Pediatric specific to be taught in Peds.

**Ex: 8.272 kg = 8.27 kg
9.368 kg = 9.37 kg
14.20 kg = 14.2 kg**

4. When converting body weight from Kg to lbs, express answer in lbs and nearest half oz.

Ex: 39.47 lbs = 39 lbs, 7 1/2 oz

5. For metric fluid volumes:

- A. If the final volume is less than 1 mL, a zero must precede the decimal; applies to ALL fluid measurements and ages.

Ex: .732 mL = 0.73 mL

- B. If the final volume is > 1, round all fluid measurements to tenths.
If final volume is <1, go to thousandths round to hundredths (all ages).

DROP ALL UNNECESSARY ZEROES.

**Ex: 1.60 mL = 1.6 mL
1.03 mL = 1 mL
1.35 mL = 1.4 mL
0.456 mL = 0.46 mL**

C. EXCEPTION: When mixing several fluid volumes together, the final volume is the actual total of those combined. There is NO rounding. DROP ALL UNNECESSARY ZEROES.

Ex: Drug A = 1.5 mL
Drug B = 0.37 mL
Drug C = 0.15 mL
Total volume = 2.02 mL total

6. When calculating IV flow rates for a pump, the final answer will be rounded to tenths or hundredths according to the pump. When a pump is not available, calculate drops per minute as a whole number.
7. As a general rule: carry milligrams to hundredths and round to tenths. DROP UNNECESSARY ZEROES. Exceptions: pediatric population and certain medications, i.e., lanoxin.

Ex: 7.46 mg = 7.5 mg

8. Use whole numbers and/or fractions ($\frac{1}{2}$ or $\frac{1}{4}$) with tablets. Use only whole numbers with capsules.

Ex: 1 tab; 1 $\frac{1}{2}$ tabs; 2 caps

9. Time:

Military time - four digits, no colon, no a.m./p.m. Ex: 1400

Non-military time - must include colon and a.m./p.m. Ex: 2:00 p.m.

10. UNITS OF MEASUREMENT MUST BE INCLUDED IN ANSWERS.

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Updated 1/07