

## Med/Math practice problems:

1. **Patient:** A 6.5 kg, toddler, with the diagnosis of acute otitis media.

**Prescribed Medication:** Administer 275 mg amoxicillin (Amoxil) every 12 hours

**Medication Reference**

**Recommended Dose:** Acute otitis media: 80 to 90 mg/kg/day divided every 12 hours

**Concentration of Suspension:** Amoxicillin suspension 250mg / 5 ml

The recommended range is \_\_\_\_\_ mg to \_\_\_\_\_ mg every 12 hours.

The nurse will administer \_\_\_\_\_ ml of amoxicillin every 12 hours

2. **Patient:** 15 kg, 3-year-old

**Prescribed Medication:** Administer 1.1 grams of ceftriaxone (Rocephin), IV every 12 hours

**Medication Reference**

**Recommended Dose:** 50 to 75 mg/kg of body weight/24 hr as a single dose or in equally divided doses every 12 hours (25 to 27.5 mg/kg every 12 hours). Do not exceed a total dose of 2 gm/24 hours

The nurse would

- A. administer the medication.
- B. contact the primary care provider regarding a dose below the recommended range.
- C. contact the primary care provider regarding a dose exceeding the recommended range.

- 3. Patient:** 16 kg child
- Prescribed Medication:** 640 mg meropenem (Merrem), IVPB every 8 hours
- Label on IVPB:** Meropenem 640 mg in 25 ml normal saline.

**Medication Reference**

- Recommended Dose:** 40 mg/kg every 8 hours
- Dilution/Concentration:** 2.5 to 50 mg/ml
- Rate of Administration:** Intermittent infusion may be given over 15 to 30 minutes by IV pump

The prudent nurse will

- A. administer the medication at 50 ml/hr.
- B. administer the medication at 125 ml/hr.
- C. contact the pharmacist regarding the concentration.
- D. contact the primary care provider regarding the ordered dose.

- 4. Patient:** 20 kg child

**Prescribed Medication:** Administer 6 ml of acetaminophen with codeine elixir (Tylenol with codeine) by mouth every 4 to 6 hours, as needed for pain.

**Medication Reference**

- Recommended Dose:** Pediatric dose of acetaminophen is 10 to 15 mg/kg/dose every 4-6 hours as needed. Do not exceed 5 doses in 24 hours
- Pediatric dose of codeine is 0.5 to 1 mg/kg/dose every 4 to 6 hours as needed; maximum: 60 mg/dose

**Received From Pharmacy:** An oral syringe labeled acetaminophen with codeine elixir, 6 ml. Each 5 ml delivers 120 mg acetaminophen and 12 mg of codeine.

The prudent nurse will

- A. administer 6 ml of the medication.
- B. notify the primary care provider the prescribed dose is less than the recommended dose.
- C. notify the primary care provider the prescribed dose exceeds the recommended dose.

**5. Patient:** 18 kg child with bacteremia and bacterial meningitis

**Prescribed Medication:** Administer ranitidine (Zantac) 18 mg, IV, every 6 hours

**Medication Reference**

**Recommended Dose:** 2 to 4 mg/kg/24 hours in equally divided doses every 6 to 8 hours. Do not exceed 50 mg/dose

**Dilution:** Dilution of solution must be no greater than 2.5 mg/ml

**Rate of Administration:** Too rapid administration has precipitated rare instances of bradycardia, tachycardia, and PVCs. Administer each 50 mg dose over 15 to 20 minutes

Medication Label

Medication: Ranitidine, 18 mg

Mixed in: 10 ml normal saline

Calculate the therapeutic range:

Is the concentration of the medication acceptable?

Is the rate of administration correct?