

Practice Problem Set #8

1. Many health care practitioners recommend delay of vaccine administration for children with an oral temperature of $> 38.0^{\circ}\text{C}$. A child comes in to your pharmacy for his scheduled vaccination. He has a runny nose, so you check his ear temperature (on oral setting). It reads 100.2°F . Will you vaccinate this child?

_____ yes. His temperature is: _____ $^{\circ}\text{C}$

_____ no. His temperature is: _____ $^{\circ}\text{C}$

2. The mother asks for a product to help with the child's runny nose, and you suggest pseudoephedrine, an oral decongestant available in a 15mg/5ml concentration. The maximum recommended dose for a child is 1mg/kg po q6h prn. You weigh the child and find he is 27 pounds. How many milliliters (round to the nearest 0.2ml) should this mother give her child for each dose?

_____ ml

3. A 66 year-old, 160 lb., 5'2" female patient is to receive Timentin (an antibiotic) for a skin infection. The dosage recommendations are as follows:

CrCl	dosing recommendation
>60 ml/min	3.1g IV q4h
30-60 ml/min	2g IV q4h
10-30 ml/min	2g IV q8h
<10 ml/min	2g IV q12h

The patient's latest lab shows a serum creatinine of 1.0 mg/dL. Please calculate this patient's creatinine clearance and identify the dose you will recommend.

CrCl: _____ ml/min

dose: _____ g IV q_____h

4. A 5'10" 170-pound male patient is to receive doxorubicin, an anticancer agent. at a dose of 45 mg/m^2 You remember from your calculations book that:

$$\text{BSA in m}^2 = H^{0.3964} \times W^{0.5378} \times 0.024265$$

where height is in centimeters and weight in kilograms

Please calculate the total amount of drug he should receive.

_____ mg

5. You carry 20mg vials in your pharmacy which, when reconstituted with water, make a final solution of 2mg/ml. How many milliliters of this solution will need to be infused into the patient in question #4 in order to deliver the dose you just calculated?

_____ ml

6. The same patient in question #4 is also to receive dexamethasone $6\text{mg}/\text{m}^2/\text{day}$, orally, on days 1 through 15 of this chemotherapy cycle. You carry dexamethasone tablets in your pharmacy in the following strengths: 0.5mg, 0.75mg, 1.5mg, and 4mg. You will want to give him enough tablets to last him for the *whole* cycle. Please identify the following information that you will place on the prescription label (note: the # refers to the total number of tablets that you will place in the prescription vial):

Dexamethasone _____ mg tablets, # _____

Directions: Take _____ tablets daily until all tablets are gone.

7. Six months later, the patient noted in question #4 above is having problems swallowing tablets. You consult with the physician and decide to change him from his oral pain tablets to a patch, which can be placed on the skin (drug is then absorbed into the body from the patch through the skin). The pain tablets that the patient is currently taking is morphine 60mg po q8h. You will change this to a Fentanyl transdermal patch. Facts and Comparisons gives you the following information:

oral morphine dose mg/day	Fentanyl transdermal patch $\mu\text{g}/\text{hr}$
45-134	25
135-224	50
225-314	75
315-404	100

Please circle the Fentanyl transdermal product strength that you will dispense:

25 $\mu\text{g}/\text{hr}$ 50 $\mu\text{g}/\text{hr}$ 75 $\mu\text{g}/\text{hr}$ 100 $\mu\text{g}/\text{hr}$

The World Health Organization recommends the following solution for patients who have lost fluid and electrolytes through diarrhea or vomiting:

90 mEq/L sodium	MW: 23
20 mEq/L potassium	MW: 39
30 mEq/L bicarbonate	MW: 61
80 mEq/L chloride	MW: 35.5
2.5% glucose	MW: 180

In your pharmacy, you dispense a package of 20 mEq of KCl and directions for common household items that can be placed into an empty 1-liter container, filled with water to the one liter mark, mixed, and then consumed by the patient. The common household ingredients that the patient will add are table salt, baking soda, and sugar. Table salt, baking soda, and sugar weigh 6g, 5g, and 4g, respectively, per teaspoonful.

8. How many teaspoonfuls of sugar will the patient need to add to each liter of the solution? (For the purposes of this question assume that glucose and sucrose are interchangeable).

_____ teaspoonful(s)

9. How much table salt will the patient need to add to each liter of the solution?

_____ teaspoonful(s)

10. How much baking soda will the patient need to add to each liter of the solution?

_____ teaspoonful(s)