DEPARTMENT OF NURSING EDUCATION
MEDICATION ADMINISTRATION
STUDY GUIDE

This study guide is provided to you by the Nursing Education Department. The Nursing Department at Boston Medical Center requires successful completion of a medication administration test by all nurses beginning employment at BMC. Good luck.

"5 Rights of Medication Administration"
Right time
Right Patient
Right drug
Right dose
Right route

Metric equivalents:
1 Kg = 2.2 Lbs
1 inch = 2.54 Cm
1 kilogram = 1000 Gms
1 gram = 1000 Mg
1 Mg = 1000 Micrograms
1 liter = 1000 Mls

Calculation Method:
$\frac{H}{V} = \frac{D}{X}$
H: The dosage on hand or in the container
V: The vehicle or the form which the drug comes (tab, capsule or liquid)
D: The desired dose
X: The unknown amount to be given
Cross multiply and solve for X

SAMPLE PROBLEMS

1. Patient ordered to receive 75 Mg of Lopressor. Available are 50 Mg tablets. What should be administered?

$$\frac{50\ \text{Mg}}{1\ \text{tab}} = \frac{75\ \text{MG}}{X}$$ cross multiply

$75\ (1) = 50\ X$

$X = 1.5$ tabs

2. Patient ordered to receive a 5500 unit Heparin Bolus. Available are Vials of Heparin 10,000 units/ 10ccs. How many mls should be administered?

$$\frac{10{,}000\ \text{units}}{10\ \text{mls}} = \frac{5{,}500\ \text{units}}{X}$$

$5500\ (10) = 10000\ X$

$X = 5.5$ mls

3. A 220 Lb patient is ordered to receive a Heparin bolus of 80 units/ Kg. How much Heparin should be given?

Convert pound to Kilos: $\frac{2.2\ \text{Lbs}}{1\ \text{Kg}} = \frac{220\ \text{Lbs}}{X}$

$220\ (1) = 2.2\ X$

$X = 100$ Kg

Multiply 80 units times weight in Kilos: $80\ (100) = 8000$ units

4. An IV infusion of 1000 mls is ordered to run over 24 hours. What is the hourly infusion rate?

   Divide the amount ordered to infusion by the time:

   $\frac{1000}{24}$ = 41.6 or 42ml/hour *

   *Round decimals > .5 up to next whole number.

5. Patient is ordered to receive 300 mg. of Dilantin every day. Available are Dilantin 100mg capsules. What will you administer?

   $\frac{100\text{ mg}}{1\text{ cap}} = \frac{300\text{ mg}}{X}$

   300 (1) = 100 X

   X = 3 capsules

In addition to reviewing calculations, please review general principles for safe administration of medications, including insulin and pain medications. Please be familiar with drug categories of common medications. Thank you.

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Practice Problems

1. Patient is ordered to receive 60 Mg. of oral Cardiazem. Available are 30 MG. tablets. What do you administer?

2. A patient is ordered to receive 7.5 Mg. of IV Lopressor. Available is 5 Mg. in 5 Ml vials. What would you draw up to administer?

3. An IV bolus of 500 mls of normal saline is ordered to run over 4 hours. What rate should be set to run on the infusion pump?

4. How many pounds is an 80 Kg. Patient?

5. A patient is ordered to receive 5 Mg of Morphine. Available are vials of Morphine 10 Mg in 1 ml. What do you give the patient?

Match the drug name with the drug category.

6. Motrin _____ A. Antihistamine
7. Keflex _____ B. Antidepressant
8. Prozac _____ C. Antibiotic
9. Benadryl _____ D. Beta-blocker
10. Atenolol _____ E. non-steroidal anti-inflammatory

ANSWER KEY

1. 2 tabs
2. 7.5 mls
3. 125 ml/hr
4. 176 lbs
5. .5 ml
6. E
7. C
8. B
9. A
10. D

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