Medical Dosage Calculations 11th edition Emeritus Solutions Manual

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Chapter

2 Safe and Accurate Drug Administration

Chapter Overview



Chapter 2 is a general introduction to the drug administration process. It introduces the student to the role of the person who administers patient medication and the various forms and routes by which medications are administered. The student will begin to develop a vocabulary of terms necessary to understand pertinent information about drugs and their administration, which will aid in understanding the responsibilities of administering drugs safely. Safety, documentation, and accuracy are stressed throughout the text. Recent *Joint Commission* recommendations are included, and the "Six Rights" of medication administration are discussed extensively. The student will learn how to interpret drug prescriptions, medication orders, medication administration records (MAR), drug labels and package inserts, and military time. The roles of the FDA and other organizations concerned with decreasing medication errors are discussed.

Instructor's Notes

- The PowerPoint slides are particularly useful in presenting the material in this chapter. Slides of drug prescriptions, medication orders, medication administration records, drug labels, and package inserts can be projected as the instructor explains their various components.
- Demonstrate actual examples of various forms of drugs (inhalers, tablets, capsules, patches, suppositories), if available.
- Students who have learned this material in other courses may review this chapter quickly.
- Discuss the abbreviations to be avoided in medication orders and documentation (the "Do Not Use List").

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- Emphasize the importance of the need to be vigilant regarding drugs that "Look Alike-Sound Alike."
- The *Nurse Alert* newsletter of the Institute of Safe Medication Practice is a good reference for medication safety issues; see Appendix B.
- Interpreting a drug order is very important for the rest of the course and should be stressed.
- If the Internet is accessible in the classroom, pharmaceutical company Web sites can be used to view actual package inserts (prescribing information) for drugs.

Key Terms

automated medication dispensing cart (ADC)
A.M./P.M.
bar code
b.i.d.
body surface area (BSA)
buccal
capsule
computerized physician order entry (CPOE)
controlled substance
delayed-release (DR)
dosage strength
dry powder inhaler (DPI)
elixir
enteral
enteric-coated
epidural
extended release (XL)
Federal Drug Administration (FDA)
generic name
inhalation
Institute for Safe Medication Practice (ISMP)
intracardiac (IC)
intradermal (ID)
intramuscular (IM)
intrathecal
intravenous (IV)
local/systemic
lot number
medication administration record (MAR)
medication order
metered dose inhaler (MDI)
meters squared (m^2)
military time
national drug code (NDC)
nebulizer
oral (PO)
package insert
parenteral
pharmacist
Physician's Desk Reference (PDR)
prescriber
prescription
prn
q.i.d.
registration symbol (®)
route
safe dose range
side effect
standing order
stat
subcutaneous (subcut)
sublingual (SL)
suspension
sustained release (SR)
syrup
tablet
t.i.d.
topical
trade name
trademark (™)
transdermal
unit dose
United States Pharmacopoeia (USP)

Answers to Chapter 2 Additional Exercises

1. montelukast
2. Zocor
3. 100 mL
4. 200 mg/5 mL
5. 80 mg/20 mg per mL
6. (a) Anusol supp
   (b) 6 A.M.
   (c) 4
   (d) Bonivar, Humulin N, Humulin R
   (e) December 16
7. (a) Omnicef & Glucophage
   (b) 4
   (c) 25 mg/h, transdermal
   (d) by mouth
   (e) 2

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8. (a) milnacipran HCl, tablets
   (b) fibromyalgia
   (c) 12.5 milligrams
   (d) No, Savella is not approved for use in pediatrics
   (e) 200 milligrams daily

9.

Standard Time	Military Time
7:30 A.M.	0730h
5:43 P.M.	1743h
12 midnight.	2400h
8:20 P.M.	2020h
12:57 P.M.	1257h
10:30 P.M.	2230h
3:32 P.M.	1532h
4:15 A.M.	0415h
12:04 A.M.	0004h
9:12 A.M.	0912h

10. (a) Administer Norvasc (amlodipine) ten milligrams by mouth daily. Do not administer if the systolic blood pressure is less than 100.
    (b) Administer morphine sulfate five milligrams subcutaneously every four hours as needed for moderate to severe pain.
    (c) Administer Methergine (methylergonovine maleate) two-tenths milligram intramuscularly immediately, then administer two-tenths milligram by mouth every six hours for six doses.
    (d) Administer Ceftin (cefuroxime axetil) one and five-tenths grams by intravenous piggyback thirty minutes before surgery, then administer seven hundred fifty milligrams by intravenous piggyback every eight hours for twenty-four hours.
    (e) Administer heparin five thousand units subcutaneously every twelve hours.

11. (a) Route
    (b) Frequency
    (c) Dose and frequency
    (d) Frequency
    (e) Dose and frequency

12. (a) 60 mg
    (b) 60 mg
    (c) 60 mg
    (d) 20 mg

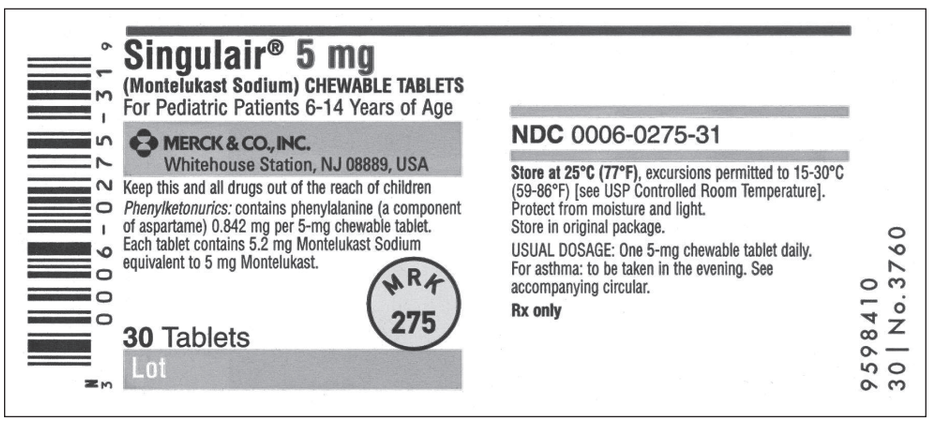
Chapter 2 Examination Questions

Study the drug labels shown in • Figure 2.1 and supply the following information:

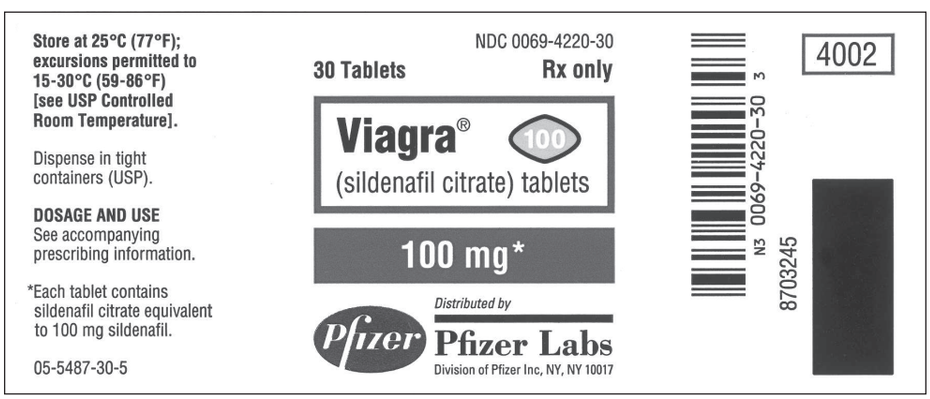
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(a)



(b)



(c)

• **Figure 2.1**
Drug Labels for Questions 1–5.

1. What is the generic name of Viagra?

   _____

2. How many capsules are in the Tikosyn container?

   _____

3. What is the strength of the Singulair tablets?

   _____

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4. What is the route of administration for dofetilide?

5. What is the dosage strength for the drug whose NDC number is 0069 5810 60?

Study the portion of a MAR in • Figure 2.2 and answer questions 6–10 below.

Order	time	18	19	20	21
nifedipine 20 mg po b.i.d.	0900h	*AD*	*AD*	*AD*	*AD*
	1700h	*BK*	*BK*	*BK*	*BK*
digoxin 0.25 mg po daily	0900h	*X*	*AD*	*AD*	*AD*
sucralfate 1 g po q.i.d.	0900h	*AD*	*AD*	*AD*	*AD*
	1300h	*BK*	*BK*	*BK*	*BK*
	1700h	*BK*	*BK*	*BK*	*BK*
	2100h	WW	WW	WW	WW

• **Figure 2.2**

6. How many drugs were administered at 1 P.M. on the 18th?

7. On what date and time was the digoxin first administered?

8. What are the initials of the nurse who administered the nifedipine at 5:00 P.M. on the 20th?

9. What was the route of administration of the sucralfate?

10. How many doses of nifedipine were administered on the 19th?

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NOC 0005-9208-23 – Bottle of 100

• **Figure 2.3**

Portion of a package insert for questions 11–12.

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11. What is the generic name of the drug?

_____

12. What is the form of the drug?

_____

13. Interpret the following order: *Precose (acarbose) 75 mg po b.i.d.*

_____

14. What is missing from the following order: *Paxil (paroxetine) 50 mg daily*

_____

15. Order: *Zyvox (linezolid) 600 mg po q12h*. How many mg will you administer?

_____

For the partial orders in questions 16–20, indicate how many milliliters you would administer.

16. 60 mL daily

_____

17. 60 mL b.i.d.

_____

18. 60 mL t.i.d.

_____

19. 60 mL daily in two divided doses

_____

20. 60 mL q12h

_____

Answers to Chapter 2 Examination Questions

1. sildenafil citrate
2. 60 capsules
3. 5 mg per tablet
4. By mouth
5. 250 mcg per capsule or 0.25 mg per capsule
6. 1 (sucralfate)
7. 19th at 9:00 A.M.
8. BK
9. By mouth
10. 2
11. Demeclocycline HCl
12. Capsule
13. Administer Precose (acarbose) 75 mg by mouth two times a day
14. Route of administration
15. 600 mg
16. 60 mL
17. 60 mL
18. 60 mL
19. 30 mL
20. 60 mL

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