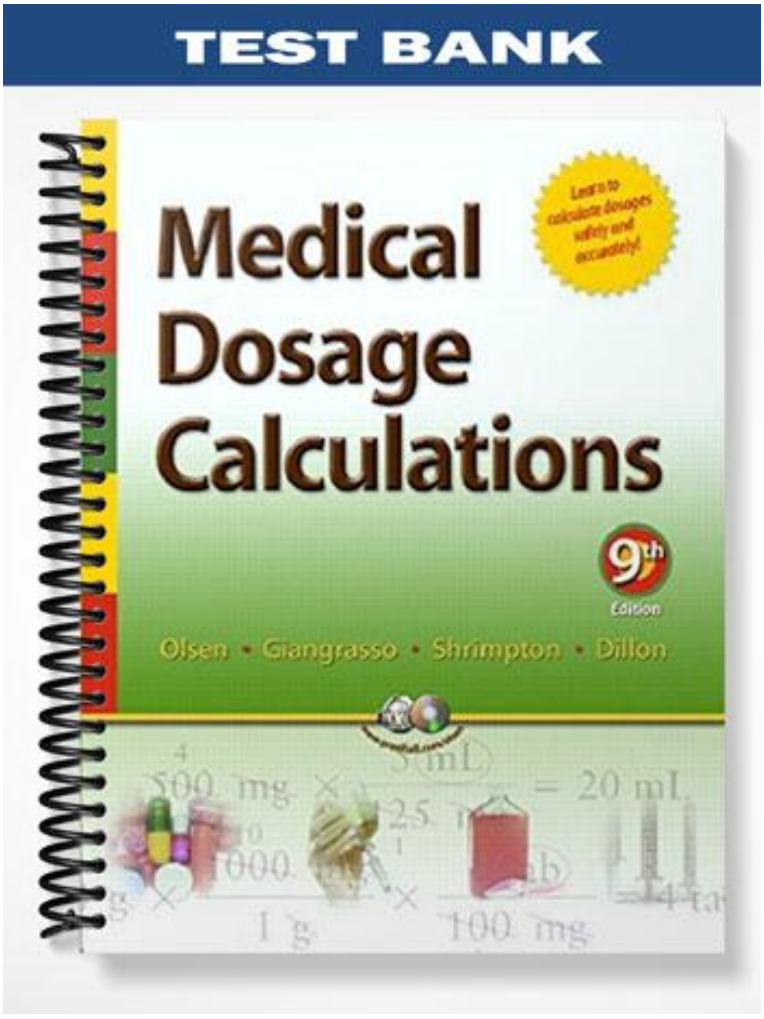
TEST BANK


Learn to calculate dosages safely and accurately!
Medical Dosage Calculations
9th Edition
Olsen • Giangrasso • Shrimpton • Dillon

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

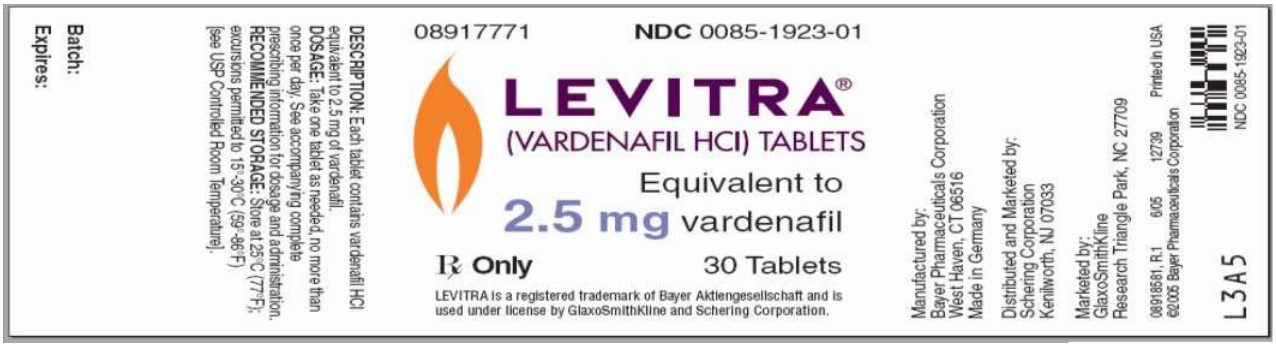


Figure 2-**A1** Drug label for Levitra

1) Read the label in Figure 2-A1 and find the following information: 1) _____

a) Trade name of the drug
b) Generic name of the drug
c) Form of the drug
d) Strength of the drug

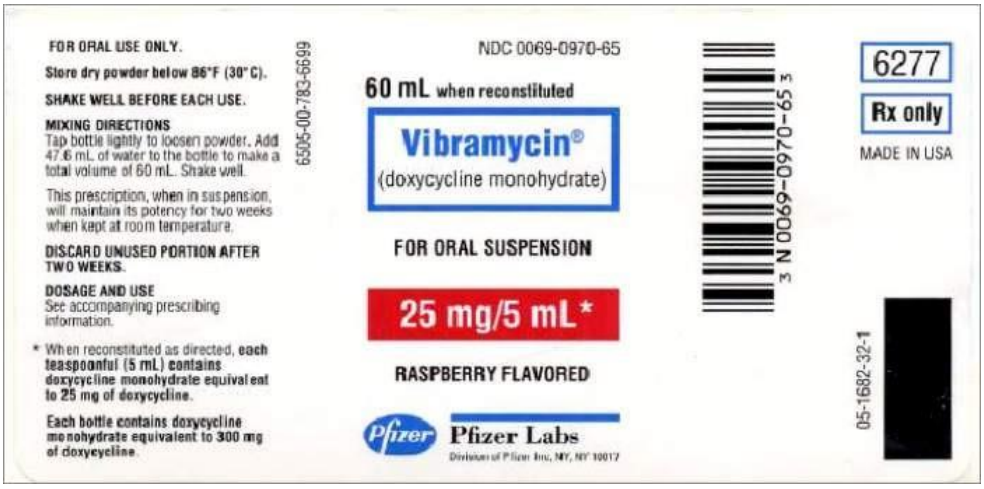


Figure 2-A2 Drug label for Vibramycin

2) Read the label in Figure 2-A2 and find the following information: 2) _____

a) Trade name of the drug
b) Generic name of the drug
c) Form of the drug after reconstitution
d) Strength of the drug

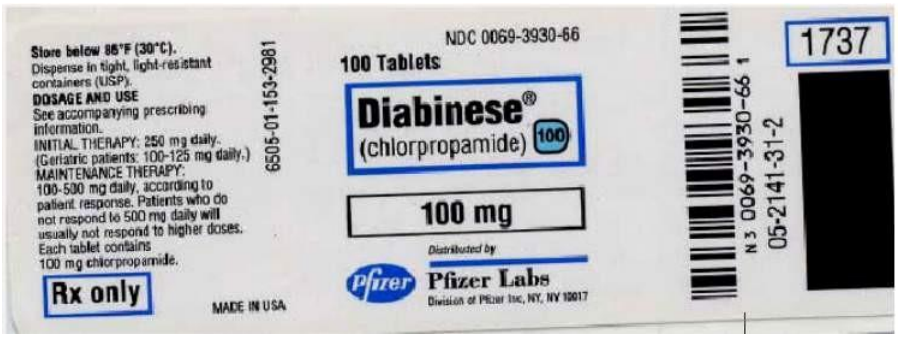


Figure 2-A3 Drug label for Diabinese

3) Read the label in Figure 2-A3 and find the following information: 3) _____

a) Trade name of the drug
b) Generic name of the drug
c) Form of the drug
d) Strength of the drug

Figure 2-A4 Drug label for Genotropin

4) Read the label in Figure 2-A4 and find the following information: 4) _____

a) Trade name of the drug
b) Generic name of the drug
c) Route of Administration of the drug

5) A physician's Order Sheet contains the following entry: 5) _____
ceftazidime 200 mg IM q.i.d.

a) What is the name of the drug to be administered?
b) How much of the drug will be administered per dose?
c) How often will the drug be administered?
d) What is the route of administration?

6) A physician's Order Sheet contains the following entry: 6) _____
clarithromycin 7.5 mg/kg po q12h

a) What is the name of the drug to be administered?
b) How much of the drug will be administered per dose?
c) How often will the drug be administered?
d) What is the route of administration?

7) A physician's Order Sheet contains the following entry: 7) _____
digoxin 600 mcg IV stat

a) What is the name of the drug to be administered?
b) How much of the drug will be administered per dose?
c) How often will the drug be administered?
d) What is the route of administration?

8) A physician's Order Sheet contains the following entry: 8) _____
heparin sodium 5000 units subcutaneously q8h

a) What is the name of the drug to be administered?
b) How much of the drug will be administered per dose?
c) How often will the drug be administered?
d) What is the route of administration?

Medication	Hours	12/08	12/09	12/10	12/11	12/12
Demerol 75 mg IV q3h prn severe pain	**1800**	**AB**				
Tylenol 650 mg po q4h prn fever > 104°	**1600** **2000**	**AB** **AB**				
Lasix 80 mg IV stat	**0900**		**GH**			
Slow-K 8 mEq po b.i.d.	**0900** **0600**		**GH** **GH**	**GH** **GH**	**GH** **RK**	

Figure 2-C1 Portion of a Medication Administration Record

9) Read the MAR in Figure 2-C1 and find the following information: 9) _____

a) Which drug(s) was administered on 12/09?
b) Which drug was administered at 6 pm on 12/08?
c) What are the initials of the person who administered the Slow-K at 6 am on 12/11?
d) Which drug had to be administered immediately?
e) What is the route of administration of the Tylenol?

Medication	Hours	10/20	10/21	10/22	10/23	10/24
	0900	**MB**	**MB**	**MB**	**JO**	**JO**
digoxin 0.125 mg po daily	**0900**	**MB**	**MB**	**MB**	**JO**	**JO**
furosemide 40 mg po daily	**0900**	**MB**	**MB**	**MB**	**JO**	**JO**
metoclopramide HCl 15 mg po stat and	**0500**	**GP**	**X**	**X**	**X**	**X**

q.i.d. a.c. and hs	0730 1130 1630 2100	MB MB BM BM	MB MB BM BM	MB MB BM BM	JO JO PD PD	JO JO PD PD
nitroglycerin 0.3 mg SL q 3-5 **min PRN (max 3 doses in 15 min**						

Figure 2-C2 Portion of a Medication Administration Record

10) Read the MAR in Figure 2-C2 and find the following information: 10) _____

a) Which drug(s) was administered at 1:00pm?
b). Which drug(s) was administered at 9:00 am on 10/22?
c) What are the initials of the person who administered the nitroglycerin at 7:00pm?
d) Which drug was administered immediately?
e) What is the route of administration of the nitroglycerin?

Medication	**Hours**	**11/01 Sun.**	**11/02 Mon.**	**11/03 Tues.**	**11/04 Wed.**	**11/05 Thurs.**	**11/06 Fri.**	**11/07 Sat.**
amlodipine 5 mg po daily	**10:00am**	**SL**	**SL**	**SL**	**LK**	**LK**		
Epogen 2000 units Subcutaneously three times a week(M/W/F)	**10:00am**	**X**	**SL**	**X**	**LK**	**X**		
Humulin N NPH insulin U-100 46 units subcut ac breakfast	**6:30am**	**JL**	**JL**	**JL**	**MW**	**MW**		
Colace 100mg po b.i.d.	**10:00am** **2:00pm**	**SL** **SL**	**SL** **SL**	**SL** **SL**	**LK** **LK**	**LK** **LK**		
Acetaminophen 650 mg po PRN Temp 102° or higher								

Figure 2-C3 Portion of a Medication Administration Record

11) Read the MAR in Figure 2-C3 and find the following information as recorded on the MAR: 11) _____

a) Which drug was administered at 0630h?
b) Which drug was administered at 1400h on 11/02?
c) How many doses of Epogen did the patient receive from 11/1 through 11/5?
d) Which drugs were administered subcutaneously on November 5th?
e) Did the patient have a temperature greater than 102°F from 11/1 through 11/5?

Medication	**Hours**	**9/11**	**9/12**	**9/13**	**9/14**	**9/15**	**9/16**	**9/17**

ampicillin 1 g IVPB q6h	**0600** **1200** **1800** **2400**	**X** **X** **X** **CF**	**CF** **CK** **CK** **CR**	**CF** **CK** **CK** **CR**	**CR** **CR** **CK** **CK**	**CR** **CR** **CK** **DF**		
digoxin 0.125 mg po daily	**0900**	**SS**	**CK**	**CK**	**CR**	**CR**		
Coumadin 5 mg po daily	**0900**	**SS**	**CK**	**CK**	**CR**	**CR**		
furosemide 40 mg IM stat	**1900**	**X**	**X**	**CK**	**X**	**X**		

Figure 2-C4 Portion of a Medication Administration Record

12) Read the MAR in Figure 2-C4 and find the following information: 12) _____

a) Which drug(s) was administered at 7:00pm?
b) Which drug(s) was administered at 9:00am on September 13th?
c) How many doses of ampicillin has the patient received?
d) Which drug was administered immediately?
e) What is the route of administration for the ampicillin?

DOSAGE AND ADMINISTRATION

ZONEGRAN (zonisamide) is recommended as adjunctive therapy for the treatment of partial seizures in adults. Safety and efficacy in pediatric patients below the age of 16 have not been established. ZONEGRAN should be administered once or twice daily, except for the daily dose of 100 mg at the initiation of therapy. ZONEGRAN is given orally and can be taken with or without food. Capsules should be swallowed whole.

Adults over Age 16: The prescriber should be aware that, because of the long half-life of zonisamide, up to two weeks may be required to achieve steady state levels upon reaching a stable dose or following dosage adjustment. Although the regimen described below is one that has been shown to be tolerated, the prescriber may wish to prolong the duration of treatment at the lower doses in order to fully assess the effects of zonisamide at steady state, noting that many of the side effects of zonisamide are more frequent at doses of 300 mg per day and above. Although there is some evidence of greater response at doses above 100–200 mg/day, the increase appears small and formal dose-response studies have not been conducted.

The initial dose should be 100 mg daily. After two weeks, the dose may be increased to 200 mg/day for at least two weeks. It can be increased to 300 mg/day and 400 mg/day, with the dose stable for at least two weeks to achieve steady state at each level. Evidence from controlled trials suggests that ZONEGRAN doses of 100–600 mg/day are effective, but there is no suggestion of increasing response above

400 mg/day (see **CLINICAL PHARMACOLOGY, Clinical Studies** subsection). There is little experience with doses greater than 600 mg/day.

Patients with Renal or Hepatic Disease: Because zonisamide is metabolized in the liver and excreted by the kidneys, patients with renal or hepatic disease should be treated with caution, and might require slower titration and more frequent monitoring (see **CLINICAL PHARMACOLOGY** and **PRECAUTIONS**).

HOW SUPPLIED

ZONEGRAN is available as a 100 mg two-piece hard gelatin capsule consisting of a white opaque body with a red opaque cap. The capsules are printed with a company logo and "ZONEGRAN 100" in black. They are supplied in:

Bottles of 100	NDC #59075-680-10
Bottles of 1000	NDC #59075-680-11
Blisters of 100	NDC #59075-680-81

Store at 25° C (77° F), excursions permitted to 15–30° C (59–86° F) [see USP Controlled Room Temperature], in a dry place and protected from light.

US Patent #4,172,896.

Figure 2-D1 Portion of the package insert for Zonegran

13) Read the package insert in Figure 2-D1 and answer the following: 13) _____

a) What is the trade name of the drug?
b) What is the generic name of the drug?
c) How many times per day may Zonegran be administered?
d) What is the **initial** recommended maximum adult daily dose of Zonegran?
e) What is the maximum strength for Zonegran capsules?

INDICATIONS AND USAGE

DETROL LA Capsules are once daily extended release capsules indicated for the treatment of overactive bladder with symptoms of urge urinary incontinence, urgency, and frequency.

CONTRAINDICATIONS

DETROL LA Capsules are contraindicated in patients with urinary retention, gastric retention, or uncontrolled narrow-angle glaucoma. DETROL LA is also contraindicated in patients who have demonstrated hypersensitivity to the drug or its ingredients.

PRECAUTIONS

General

Risk of Urinary Retention and Gastric Retention: DETROL LA Capsules should be administered with caution to patients with clinically significant bladder outflow obstruction because of the risk of urinary retention and to patients with gastrointestinal obstructive disorders, such as pyloric stenosis, because of the risk of gastric retention (see **CONTRAINDICATIONS**).

Controlled Narrow-Angle Glaucoma: DETROL LA should be used with caution in patients being treated for narrow-angle glaucoma.

Reduced Hepatic and Renal Function: For patients with significantly reduced hepatic function or renal function, the recommended dose for DETROL LA is 2 mg daily (see **CLINICAL PHARMACOLOGY, Pharmacokinetics in Special Populations**).

DOSAGE AND ADMINISTRATION

The recommended dose of DETROL LA Capsules are 4 mg daily. DETROL LA should be taken once daily with liquids and swallowed whole. The dose may be lowered to 2 mg daily based on individual response and tolerability, however, limited efficacy data is available for DETROL LA 2 mg (see **CLINICAL STUDIES**).

For patients with significantly reduced hepatic or renal function or who are currently taking drugs that are potent inhibitors of CYP3A4, the recommended dose of DETROL LA is 2 mg daily (see **CLINICAL PHARMACOLOGY** and **PRECAUTIONS, Drug Interactions**).

HOW SUPPLIED

DETROL LA Capsules 2 mg are blue-green with symbol and 2 printed in white ink. DETROL LA Capsules 4 mg are blue with symbol and 4 printed in white ink. DETROL LA Capsules are supplied as follows:

Bottles of 30		Bottles of 500	
2 mg Capsules	NDC 0009-5190-01	2 mg Capsules	NDC 0009-5190-03
4 mg Capsules	NDC 0009-5191-01	4 mg Capsules	NDC 0009-5191-03
Bottles of 90		Unit Dose Blisters	
2 mg Capsules	NDC 0009-5190-02	2 mg Capsules	NDC 0009-5190-04
4 mg Capsules	NDC 0009-5191-02	4 mg Capsules	NDC 0009-5191-04

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature]. Protect from light.

Figure 2-D2 Portion of the package insert for Detrol

14) Read the package insert in Figure 2-D2 and answer the following: 14) _____

a) What is the trade name of the drug?
b) What is the drug used for?
c) How many times per day may the drug be administered?
d) What is the maximum daily dose?
e) Name three conditions for which the drug is contraindicated.

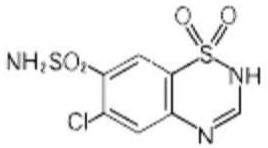
ORAL SUSPENSION

DIURIL®

(CHLOROTHIAZIDE)

DESCRIPTION

DIURIL® (Chlorothiazide) is a diuretic and antihypertensive. It is 6-chloro-2*H*-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide. Its empirical formula is $C_7H_6ClN_3O_4S_2$ and its structural formula is:



It is a white, or practically white, crystalline powder with a molecular weight of 295.72, which is very slightly soluble in water, but readily soluble in dilute aqueous sodium hydroxide. It is soluble in urine to the extent of about 150 mg per 100 mL at pH 7.

Oral Suspension DIURIL contains 250 mg of chlorothiazide per 5 mL, alcohol 0.5 percent, with methylparaben 0.12 percent, propylparaben 0.02 percent, and benzoic acid 0.1 percent added as preservatives. The inactive ingredients are D&C Yellow 10, flavors, glycerin, purified water, sodium saccharin, sucrose and tragacanth.

INDICATIONS AND USAGE

DIURIL is indicated as adjunctive therapy in edema associated with congestive heart failure, hepatic cirrhosis, and corticosteroid and estrogen therapy.

DIURIL has also been found useful in edema due to various forms of renal dysfunction such as nephrotic syndrome, acute glomerulonephritis, and chronic renal failure.

DIURIL is indicated in the management of hypertension either as the sole therapeutic agent or to enhance the effectiveness of other antihypertensive drugs in the more severe forms of hypertension.

Use in Pregnancy. Routine use of diuretics during normal pregnancy is inappropriate and exposes mother and fetus to unnecessary hazard. Diuretics do not prevent development of toxemia of pregnancy and there is no satisfactory evidence that they are useful in the treatment of toxemia.

CONTRAINDICATIONS

Anuria.

Hypersensitivity to this product or to other sulfonamide-derived drugs.

Pediatric Use

There are no well-controlled clinical trials in pediatric patients. Information on dosing in this age group is supported by evidence from empiric use in pediatric patients and published literature regarding the treatment of hypertension in such patients. (See DOSAGE AND ADMINISTRATION, *Infants and Children*.)

Geriatric Use

Clinical studies of DIURIL did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function (see WARNINGS).

HOW SUPPLIED

No. 3239 — Oral Suspension DIURIL, 250 mg of chlorothiazide per 5 mL, is a yellow, creamy suspension, and is supplied as follows:

NDC 0006-3239-66 bottles of 237 mL.

Storage

Oral Suspension DIURIL: Keep container tightly closed. Protect from freezing, –20°C (–4°F) and store at room temperature, 15-30°C (59-86°F).

Figure 2-D3 Portion of the package insert for Diuril

15) Read the package insert in Figure 2-D3 and answer the following: 15) _____

a) What is the trade name of the drug?
b) What is the generic name of the drug?
c) Might this drug be used for a patient with hypertension?
d) What form is the drug?

ALDOMET® (Methyldopa) 7843431

OVERDOSAGE

Acute overdosage may produce acute hypotension with other responses attributable to brain and gastrointestinal malfunction (excessive sedation, weakness, bradycardia, dizziness, lightheadedness, constipation, distention, flatus, diarrhea, nausea, vomiting).

In the event of overdosage, symptomatic and supportive measures should be employed. When ingestion is recent, gastric lavage or emesis may reduce absorption. When ingestion has been earlier, infusions may be helpful to promote urinary excretion. Otherwise, management includes special attention to cardiac rate and output, blood volume, electrolyte balance, paralytic ileus, urinary function and cerebral activity.

Sympathomimetic drugs [e.g., levarterenol, epinephrine, ARAMINE* (Metaraminol Bitartrate)] may be indicated. Methyldopa is dialyzable.

The oral LD_{50} of methyldopa is greater than 1.5 g/kg in both the mouse and the rat.

DOSAGE AND ADMINISTRATION

ADULTS

Initiation of Therapy

The usual starting dosage of ALDOMET is 250 mg two or three times a day in the first 48 hours. The daily dosage then may be increased or decreased, preferably at intervals of not less than two days, until an adequate response is achieved. To minimize the sedation, start dosage increases in the evening. By adjustment of dosage, morning hypotension may be prevented without sacrificing control of afternoon blood pressure.

When methyldopa is given to patients on other antihypertensives, the dose of these agents may need to be adjusted to effect a smooth transition. When ALDOMET is given with antihypertensives other than thiazides, the initial dosage of ALDOMET should be limited to 500 mg daily in divided doses; when ALDOMET is added to a thiazide, the dosage of thiazide need not be changed.

Maintenance Therapy

The usual daily dosage of ALDOMET is 500 mg to 2 g in two to four doses. Although occasional patients have responded to higher doses, the maximum recommended daily dosage is 3 g. Once an effective dosage range is attained, a smooth blood pressure response occurs in most patients in 12 to 24 hours. Since methyldopa has a relatively short duration of action, withdrawal is followed by return of hypertension usually within 48 hours. This is not complicated by an overshoot of blood pressure.

Occasionally tolerance may occur, usually between the second and third month of therapy. Adding a diuretic or increasing the dosage of methyldopa frequently will restore effective control of blood pressure. A thiazide may be added at any time during methyldopa therapy and is recommended if therapy has not been started with a thiazide or if effective control of blood pressure cannot be maintained on 2 g of methyldopa daily.

Methyldopa is largely excreted by the kidney and patients with impaired renal function may respond to smaller doses. Syncope in older patients may be related to an increased sensitivity and advanced arteriosclerotic vascular disease. This may be avoided by lower doses.

PEDIATRIC PATIENTS

Initial dosage is based on 10 mg/kg of body weight daily in two to four doses. The daily dosage then is increased or decreased until an adequate response is achieved. The maximum dosage is 65 mg/kg or 3 g daily, whichever is less. (See PRECAUTIONS, *Pediatric Use*.)

HOW SUPPLIED

No. 3341 — Tablets ALDOMET, 125 mg, are yellow, film coated, round tablets, coded MSD 135 on one side and ALDOMET on the other. They are supplied as follows:

NDC 0006-0135-68 bottles of 100.

No. 3290 — Tablets ALDOMET, 250 mg, are yellow, film coated, round tablets, coded MSD 401 on one side and ALDOMET on the other. They are supplied as follows:

NDC 0006-0401-68 bottles of 100
(6505-00-890-1856, 250 mg 100's)
NDC 0006-0401-82 bottles of 1000
(6505-00-931-6646, 250 mg 1000's).

No. 3292 — Tablets ALDOMET, 500 mg, are yellow, film coated, round tablets, coded MSD 516 on one side and ALDOMET on the other. They are supplied as follows:

NDC 0006-0516-68 bottles of 100
(6505-01-003-4119, 500 mg 100's)
NDC 0006-0516-74 bottles of 500
(6505-01-199-8339, 500 mg 500's).

Storage

Store Tablets ALDOMET in a well-closed container at controlled room temperature [15-30°C (59-86°F)].

Figure 2-D4 Portion of the package insert for Aldomet

16) Read the package insert in Figure 2-D4 and answer the following: 16) _____

a) What is the generic name of the drug?
b) What is the drug used for?
c) What is the maximum daily dose for children?
d) How is the drug excreted?

17) If an IV starts at 1800 hours and lasts for 12 hours, at what time will it finish (expressed as standard time)? 17) _____

18) An IV which is ordered to infuse in eight hours began infusing at 0700 h. At

what time, (expressed as standard time) will it be completed?

18) ___ ___ ___ ___ _

19) A patient is to receive a medication q6h. The first dose was administered at 10:00 am on Thursday. Write the days and times for the next three doses (expressed as military time). 19) _____

20) A patient is to receive a medication every twelve hours. The first dose was administered at 2100 h. At what time will the next dose be administered (expressed as military time)? 20) _____

1) a) Levitra
   b) vardenafil HCl
   c) tablets
   d) 2.5 mg per tablet
2) a) Vibramycin
   b) doxycycline monohydrate
   c) oral suspension
   d) 25 mg per 5 mL
3) a) Diabinese
   b) chlorpropamide
   c) tablet
   d) 100 mg per tablet
4) a) Genotropin
   b) somatropin (rDNA origin)
   c) subcutaneous
5) a) ceftazidime
   b) 200 milligrams
   c) four times per day
   d) intramuscular
6) a) clarithromycin
   b) 7.5 milligrams for every kilogram of body weight
   c) every twelve hours
   d) by mouth
7) a) digoxin
   b) 600 micrograms
   c) once, immediately
   d) intravenous
8) a). heparin sodium
   b) 5000 units
   c) every eight hours
   d) subcutaneous
9) a) Lasix and Slow-K
   b) Demerol
   c) RK
   d) Lasix
   e) by mouth
10) a) nitroglycerin
   b) digoxin and furosemide
   c) PD
   d) metoclopramide HCl
   e) under the tongue
11) a) Humulin N NPH insulin
   b) Colace
   c) Two
   d) Humulin N NPH insulin
   e) No
12) a) furosemide
   b) Coumadin and digoxin
   c) 17
   d) furosemide
   e) intravenous piggy back

13) a) Zonegran
b) zonisamide
c) once or twice
d) 100 mg
e) 100 mg

14) a. Detrol LA
b. to treat symptoms of an overactive bladder with symptoms of urge urinary incontinence, urgency, and frequency.
c. once daily
d. 4 mg
e. urinary retention, gastric retention, or uncontrolled narrow-angle glaucoma

15) a). Diuril
b) chlorothiazide
c) Yes
d) Oral suspension

16) a) methyldopa
b) to treat hypertension
c) 65 mg daily
d) By the kidneys

17) 6:00 am on the next day

18) 3:00 pm on the same day

19) 1600h on Thursday, 2200h on Thursday, and 0400h on Friday

20) 0900h on the next day