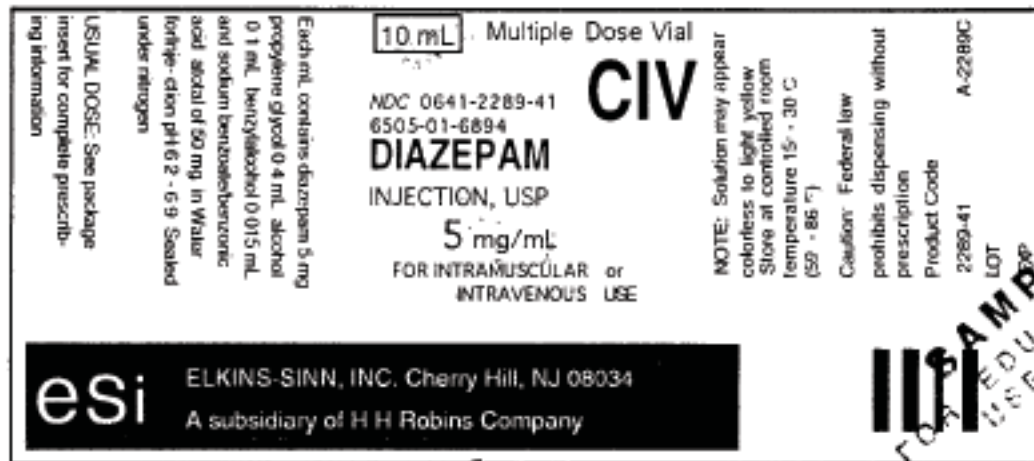


NURSING I

MEDICATION AND I.V. CALCULATION
PRACTICAL EVALUATION #2

DIRECTIONS: This material is to assist you in preparing for your Medication Calculation Exam. Do your calculations without help from anyone. If you will do this, you will know those calculations you can do well and those that require further study.

1. Ordered: Diazepam 7.5 mg I.M. How many mL will you give your client?



10 mL Multiple Dose Vial

NDC 0641-2289-41
6505-01-6894

DIAZEPAM
INJECTION, USP

5 mg/mL
FOR INTRAMUSCULAR or
INTRAVENOUS USE

NOTE: Solution may appear colorless to light yellow. Store at controlled room temperature 15° - 30° C (59° - 86° F).

Caution: Federal law prohibits dispensing without prescription.

Product Code 2289-41
LOT A-2289C

Each mL contains: diazepam 5 mg, propylene glycol 0.4 mL, alcohol 0.1 mL, benzylalcohol 0.015 mL, and sodium benzoate/benzoic acid, total of 50 mg in Water for Injection pH 6.2 - 6.9. Sealed under nitrogen.

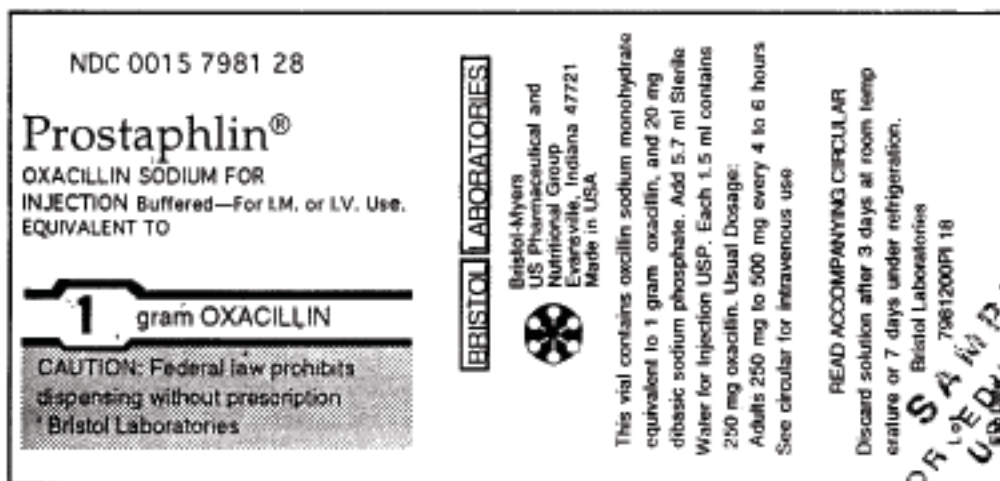
USUAL DOSE: See package insert for complete prescribing information.

esi ELKINS-SINN, INC. Cherry Hill, NJ 08034
A subsidiary of H H Robins Company

FOR SAMPLE USE ONLY

Courtesy of Elkins-Sinn Division of A.H. Robins Company, Cherry Hill, NJ 5/97

2. Ordered: Atropine gr 1/100 S.C. Available you have Atropine 1 mg/1 mL. How many mL will you administer?
3. Ordered: Prostaphlin 0.25 g I.M. q6h. How many mL will you administer?



NDC 0015 7981 28

Prostaphlin®
OXACILLIN SODIUM FOR
INJECTION Buffered—For I.M. or I.V. Use.
EQUIVALENT TO

1 gram OXACILLIN

CAUTION: Federal law prohibits dispensing without prescription
Bristol Laboratories

BRISTOL LABORATORIES
Bristol-Myers
US Pharmaceutical and
Nutritional Group
Evansville, Indiana 47721
Made in USA

This vial contains oxacillin sodium monohydrate equivalent to 1 gram oxacillin, and 20 mg dibasic sodium phosphate. Add 5.7 ml Sterile Water for Injection USP. Each 1.5 ml contains 250 mg oxacillin. Usual Dosage: Adults 250 mg to 500 mg every 4 to 6 hours. See circular for intravenous use.


READ ACCOMPANYING CIRCULAR
Discard solution after 3 days at room temperature or 7 days under refrigeration.

Bristol Laboratories
7981200PI 16

FOR SAMPLE USE ONLY

Courtesy of Bristol-Myers Squibb Co.

- You come on duty at 3 p.m. and your client's I.V. of 1000 mL D5W has a TBA of 500 mL. Considering that it was started at 11 a.m. at a rate of 75 mL/hr, is the I.V. on time, behind, or ahead?
- Ordered: Duracillin A.S. 250,000 u I.M. How many mL will you administer?

| | | |
|--|---|--|
| <p>REFRIGERATE AVOID FREEZING Store Below 8° C (46° F) CAUTION—Federal (U.S.A.) law prohibits dispensing without prescription For Intramuscular Use Only Usual Adult Dose—1 ml intramuscularly once or twice a day. See literature Each ml. contains 300,000 units Crystal- line Penicillin G, Procaine, Jaccellin 1%, sodium citrate 4%, povidone 0.1% with 0.015 percent butylparabon as a preservative</p> <p>SHAKE WELL</p> | <p>NDC 0002-1414-01 10 ml. AMPOULE No. 554</p> <p></p> <p>DURACILLIN® A.S. STERILE PENICILLIN G PROCAINE SUSPENSION USP</p> <p>300,000 Units per ml.</p> | <p>FOR SAMPLES EDUCATIONAL USE ONLY</p> <p>YA 3223 AMX E. Lilly & Co. Indianapolis Ind 46326 U.S.A. Exp. Date/Control No.</p> |
|--|---|--|

Courtesy of Eli Lilly & Co.

- Sara Smith is to have 2,500 mL D5W I.V. over the next 24 hours. Calculate the mL/hr flow rate.
- Marvin Henry is to have Ampicillin 500 mg capsules q6 hr x 3 days. His first dose is at 8 p.m., 3/7. Give the date and time of his last dose.
- Max Baker is to have 500 mL D5W with 15 mEq KCL. How many mL KCL will you add to the I.V.?

| |
|--|
| <p>Potassium Chloride (KCL) 20mEq per 10mL (2mEq per mL)</p> |
|--|

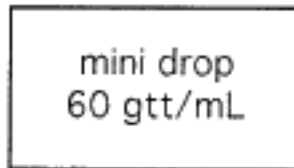
- Thomas Bean is to receive 2 drams of a medication. How many mL will he receive?
- Ordered: gr 1/300 of a medication
Available: gr 1/200/mL
How many mL will you administer? How many minims?

Calculate the drops per minute (gtt/min) flow rates utilizing the following two labels.

(a)



(b)



Order: 1,000 mL D₅ 1/2 N/S in 12 hr.

11. Macro/regular drop (a) _____

12. Micro drop (b) _____

Order: 500 mL D₅W in 8 hr.

13. Macro/regular drop (a) _____

14. Micro drop (b) _____

Order: 1,000 mL 0.9 N.S. at 125 mL/hr

15. Macro/regular drop (a) _____

16. Micro drop (b) _____

Order: 100 mL Piggy back in 50 min.

17. Macro/regular drop (a) _____

18. Micro drop (b) _____

19. Ordered: 25,000 u Heparin in 500 mL I.V. solution to infuse at 25 mL/hr. Calculate the u/hr your client will receive.

20. Ordered: 30 u of Insulin in 250 mL normal saline to infuse at 2 u/hr. Calculate the mL/hr your client will receive.
21. Ordered: 10,000 u of Heparin in 500 mL I.V. solution. Infuse at 25 mL/hr. Calculate the u/hr your client will receive.
22. As you prepare to leave the floor after working 3-11, you check your patient's 1000 mL I.V. that you hung at 8 p.m. Considering it has been infusing at ~~100 mL~~, what will be your TBA? *100 mL/hr*

Look at the following label and answer questions 23-29.

NDC 0015 7981 28

Prostaphlin[®]
 OXACILLIN SODIUM FOR
 INJECTION Buffered—For I.M. or I.V. Use.
 EQUIVALENT TO

1 gram OXACILLIN

CAUTION: Federal law prohibits
 dispensing without prescription
 *Bristol Laboratories

BRISTOL LABORATORIES
 Bristol-Myers
 US Pharmaceutical and
 Nutritional Group
 Evansville, Indiana 47721
 Made in USA

This vial contains oxacillin sodium monohydrate
 equivalent to 1 gram oxacillin, and 20 mg
 dibasic sodium phosphate. Add 5.7 ml Sterile
 Water for Injection USP. Each 1.5 ml contains
 250 mg oxacillin. Usual Dosage:
 Adults 250 mg to 500 mg every 4 to 6 hours
 See circular for intravenous use

READ ACCOMPANYING CIRCULAR
 Discard solution after 3 days at room temp
 erature or 7 days under refrigeration
 Bristol Laboratories
 Lot 7981200P1 1B.
 Exp. Date

Courtesy of Bristol-Myers Squibb Co.

23. What is the trade name?
24. What is the generic name?
25. What form does the medication come in?
26. How much liquid do you add?
27. What is the total amount of drug in the bottle?
28. What is the unit dose?
29. By what route(s) may the medication be administered?

Nursing I
Evaluation #2

1. $\frac{7.5 \text{ mg} \times 1 \text{ ml}}{1 \quad 5 \text{ mg}} = 1.5 \text{ ml}$
2. $\frac{1/100 \text{ gr} \times 1 \text{ ml} \times 60 \text{ mg}}{1 \quad 1 \text{ mg} \quad 1 \text{ gr}} = 0.6 \text{ ml}$
3. $\frac{0.25 \text{ G} \times 1.5 \text{ ml} \times 1000 \text{ mg}}{1 \quad 250 \text{ mg} \quad 1 \text{ G}} = 1.5 \text{ ml}$
4. Ahead
5. $\frac{250,000 \text{ U} \times 1 \text{ ml}}{1 \quad 300,000 \text{ U}} = 0.8 \text{ ml}$
6. $\frac{2500 \text{ ml}}{24 \text{ hrs}} = 104 \text{ ml/hr}$
7. 2PM on 3/10
8. $\frac{15 \text{ mEq} \times 1 \text{ ml}}{1 \quad 2 \text{ mEq}} = 7.5 \text{ ml}$
9. $\frac{2 \text{ dr} \times 4 \text{ ml}}{1 \quad 1 \text{ dr}} = 8 \text{ ml}$
10. $\frac{1/300 \text{ gr} \times 1 \text{ ml}}{1 \quad 1/200 \text{ gr}} = 0.7 \text{ mL}$
11. $\frac{1000 \text{ ml} \times 10 \text{ gtt} \times 1 \text{ hr}}{12 \text{ hr} \quad 1 \text{ ml} \quad 60 \text{ min}} = 14 \text{ gtt/min}$
12. $\frac{1000 \text{ ml} \times 60 \text{ gtt} \times 1 \text{ hr}}{12 \text{ hr} \quad 1 \text{ ml} \quad 60 \text{ min}} = 83 \text{ gtt/min}$
13. $\frac{500 \text{ ml} \times 10 \text{ gtt} \times 1 \text{ hr}}{8 \text{ hr} \quad 1 \text{ ml} \quad 60 \text{ min}} = 10 \text{ gtt/min}$

14. $\frac{500\text{ml}}{8\text{hr}} \times \frac{60\text{gtt}}{1\text{ml}} \times \frac{1\text{hr}}{60\text{min}} = 63\text{gtt/min}$
15. $\frac{125\text{ml}}{1\text{hr}} \times \frac{10\text{gtt}}{1\text{ml}} \times \frac{1\text{hr}}{60\text{min}} = 21\text{gtt/min}$
16. $\frac{125\text{ml}}{1\text{hr}} \times \frac{60\text{gtt}}{1\text{ml}} \times \frac{1\text{hr}}{60\text{min}} = 125\text{gtt/min}$
17. $\frac{100\text{ml}}{50\text{min}} \times \frac{10\text{gtt}}{1\text{ml}} = 20\text{gtt/min}$
18. $\frac{100\text{ml}}{50\text{min}} \times \frac{60\text{gtt}}{1\text{ml}} = 120\text{gtt/min}$
19. $\frac{25\text{ml}}{1\text{hr}} \times \frac{25,000\text{U}}{500\text{ml}} = 1,250\text{Units/hr}$
20. $\frac{2\text{U}}{1\text{hr}} \times \frac{250\text{ml}}{30\text{U}} = 17\text{ml/hr}$
21. $\frac{25\text{ml}}{1\text{hr}} \times \frac{10,000\text{U}}{500\text{ml}} = 500\text{Units/hr}$
22. TBA = 700ml
23. Prostaphlin
24. Oxacillin Sodium
25. Powder
26. 5.7ml
27. 1 Gram
28. 250mg/1.5ml
29. IM or IV