

Injection Dosage Calculations

1. An injection of morphine 8 mg is ordered. Ampoules on hand contain 10 mg in 1 mL. What volume must be drawn up the injection?
 - a. 0.6 mL
 - b. 0.8 mL
 - c. 1.25 mL
 - d. 1.5 mL
2. A patient is to be given flucloxacillin 250 mg by injection. Stock vials contain 1 g in 10 mL, after dilution. Calculate the required volume needed for injection.
 - a. 2.5 mL
 - b. 0.25 mL
 - c. 25 mL
 - d. 1.25 mL
3. A patient is to receive an injection of gentamicin 60 mg, IM. What volume is required if ampoules on hand contain 80 mg/2 mL?
 - a. 1.3 mL
 - b. 1.5 mL
 - c. 0.75 mL
 - d. 0.66 mL
4. A patient is to receive an I.V. dose of gentamicin 160 mg. Stock ampoules contain 100 mg in 2 mL. What volume needs to be drawn up for injection?
 - a. 1.6 mL
 - b. 0.6 mL
 - c. 3.2 mL
 - d. 0.8 mL
5. Heparin is available at a strength of 5000 units/5mL. What volume is needed to give 800 units?
 - a. 0.8 mL
 - b. 6.25 mL
 - c. 0.2 mL
 - d. 1.5 mL

6. A patient is to be given ranitidine 40 mg. Stock ampoules have a strength of 50 mg/2mL. Calculate the volume of stock needed for injection.
- a. 1.25 mL
 - b. 0.8 mL
 - c. 1.6 mL
 - d. 0.4 mL
7. A patient is ordered metoclopramide 15 mg, for nausea. The ampoules available contain 10 mg/mL. Calculate the volume of stock to be drawn up for injection.
- a. 1.5 mL
 - b. 0.7 mL
 - c. 2.5 mL
 - d. 0.5 mL
8. A patient is ordered benzylpenicillin 800 mg. On hand is benzylpenicillin 1.2 g in 6 mL. What volume of stock needs to be drawn up for the injection?
- a. 2 mL
 - b. 1 mL
 - c. 4 mL
 - d. 0.8 mL
9. Stock calciparine contains 25,000 units in 1 mL. 15,000 units of calciparine are ordered. What volume of stock needs to be drawn up for the injection?
- a. 1.7 mL
 - b. 0.6 mL
 - c. 1.3 mL
 - d. 0.4 mL
10. Morphine 20 mg is prescribed to a patient. The available stock is 15 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 0.75 mL
 - b. 1.5 mL
 - c. 0.6 mL
 - d. 1.3 mL
11. Naloxone 0.35 mg is ordered. In stock are 0.4 mg/mL. What volume of stock solution needs to be drawn up for the injection?
- a. 1.14 mL
 - b. 0.67 mL
 - c. 0.88 mL
 - d. 1.2 mL

12. 1750 units of heparin are ordered for a patient. In stock are ampoules with 1000 units per mL. What volume of stock solution needs to be drawn up for the injection?
- a. 0.6 mL
 - b. 1.2 mL
 - c. 17 mL
 - d. 1.8 mL
13. Calciparine 7,000 units is ordered. The stock ampoules have 25,000 units in 1 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 0.28 mL
 - b. 3.6 mL
 - c. 1.8 mL
 - d. 0.56 mL
14. Phenobarbitone 70 mg is ordered for a patient. Available stock ampoules contain 200 mg/mL. What volume of stock solution needs to be drawn up for the injection?
- a. 2.85 mL
 - b. 0.70 mL
 - c. 1.4 mL
 - d. 0.35 mL
15. The patient is prescribed 200 mcg of digoxin. Stock available is 500 mcg in 2 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 2.5 mL
 - b. 0.4 mL
 - c. 0.8 mL
 - d. 1.25 mL
16. Capreomycin 800 mg is prescribed. Stock ampoules are available with 1 g in 5 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 0.8 mL
 - b. 2 mL
 - c. 6.25 mL
 - d. 4 mL
17. Vancomycin 800 mg is ordered. The stock ampoule contain 1 g in 5 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 2 mL
 - b. 0.8 mL
 - c. 4 mL
 - d. 0.6 mL

18. Buscopan 25 mg has been prescribed. Available stock is 20 mg in 1 mL. What volume of stock solution needs to be drawn up for the injection?
- a. 1.3 mL
 - b. 0.8 mL
 - c. 1.5 mL
 - d. 0.5 mL
19. Naloxone 0.5 mg has been ordered for a patient. The ampoules available contain 0.4 mg/mL. What volume of stock solution needs to be drawn up for the injection?
- a. 0.8 mL
 - b. 13 mL
 - c. 1.3 mL
 - d. 2.6 mL
20. Heparin 12,000 units, S.C., is ordered. Stock ampoules contain 25,000 units/5 mL. What volume should be drawn up?
- a. 0.5 mL
 - b. 1.2 mL
 - c. 2.1 mL
 - d. 2.4 mL
21. A patient is ordered tramadol hydrochloride 75 mg, IM. Ampoules contain 100 mg in 2 mL. What volume is required for injection?
- a. 0.75 mL
 - b. 1.24 mL
 - c. 1.5 mL
 - d. 2.67 mL
22. A patient is to be given an injection of erythromycin 190 mg. What volume is required if stock ampoules contain 300 mg/10mL?
- a. 1.6 mL
 - b. 6.3 mL
 - c. 0.63 mL
 - d. 4.2 mL
23. The order is for clindamycin phosphate 300 mg IM. What amount of stock solution is required if ampoules contain 150 mg/mL?
- a. 2.5 mL
 - b. 0.2 mL
 - c. 2 mL
 - d. 4.5 mL

24. A patient is ordered atropine sulfate 0.6 mg IM on call to the operating room. The stock in supply is 0.6 mg/mL. What volume is required for this injection?
- a. 1.5 mL
 - b. 0.5 mL
 - c. 1.33 mL
 - d. 1 mL
25. Atropine sulfate 0.4 mg IM is ordered on call to the operating room. Stock ampoules contain 0.4 mg/mL. What volume is to be drawn up for injection?
- a. 0.9 mL
 - b. 1 mL
 - c. 4.5 mL
 - d. 0.2 mL

Answer Key to Infusion: Quiz 1

- Q01 b $8 \text{ mg} \div 10 \text{ mg/mL} = 0.8 \text{ mL}$
- Q02 a $1000 \text{ mg in } 10 \text{ mL}; 100 \text{ mg in } 1 \text{ mL}; 250 \text{ mg} \div 100 \text{ mg/mL} = 2.5 \text{ mL}$
- Q03 b $80 \text{ mg} \div 2 = 40 \text{ mg/mL}; 60 \text{ mg} \div 40 \text{ mg/mL} = 1.5 \text{ mL}$
- Q04 c $100 \text{ mg} \div 2 = 50 \text{ mg/mL}; 160 \text{ mg} \div 50 \text{ mg/mL} = 3.2 \text{ mL}$
- Q05 a $5000 \text{ units} \div 5 = 1000 \text{ units/mL}; 800 \text{ units} \div 1000 \text{ units/mL} = 0.8 \text{ mL}$
- Q06 c $50 \text{ mg} \div 2 = 25 \text{ mg/mL}; 40 \text{ mg} \div 25 \text{ mg/mL} = 1.6 \text{ mL}$
- Q07 a $15 \text{ mg} \div 10 \text{ mg/mL} = 1.5 \text{ mL}$
- Q08 c $1.2 \text{ g} = 1200 \text{ mg}; 1200 \text{ mg} \div 6 = 200 \text{ mg/mL}; 800 \text{ mg} \div 200 \text{ mg/mL} = 4 \text{ mL}$
- Q09 b $15,000 \text{ units} \div 25,000 \text{ units/mL} = 0.6 \text{ mL}$
- Q10 d $20 \text{ mg} \div 15 \text{ mg/mL} = 1.3 \text{ mL}$
- Q11 c $0.35 \text{ mg} \div 0.4 \text{ mg/mL} = 0.88 \text{ mL}$
- Q12 d $1750 \text{ units} \div 1000 \text{ units/mL} = 1.8 \text{ mL}$
- Q13 a $7,000 \text{ units} \div 25,000 \text{ units/mL} = 0.28 \text{ mL}$
- Q14 d $70 \text{ mg} \div 200 \text{ mg/mL} = 0.35 \text{ mL}$
- Q15 c $500 \text{ mcg} \div 2 = 250 \text{ mcg/mL}; 200 \text{ mcg} \div 250 \text{ mcg/mL} = 0.8 \text{ mL}$
- Q16 d $1 \text{ g} = 1000 \text{ mg}; 1000 \text{ mg} \div 5 = 200 \text{ mg/mL}; 800 \text{ mg} \div 200 \text{ mg/mL} = 4 \text{ mL}$
- Q17 c $1 \text{ g} = 1000 \text{ mg}; 1000 \text{ mg} \div 5 = 200 \text{ mg/mL}; 800 \text{ mg} \div 200 \text{ mg/mL} = 4 \text{ mL}$
- Q18 a $25 \text{ mg} \div 20 \text{ mg/mL} = 1.3 \text{ mL}$
- Q19 c $0.5 \text{ mg} \div 0.4 \text{ mg/mL} = 1.3 \text{ mL}$
- Q20 d $25,000 \text{ units} \div 5 = 5,000 \text{ units/mL}; 12,000 \text{ units} \div 5000 \text{ units/mL} = 2.4 \text{ mL}$
- Q21 c $100 \div 2 = 50 \text{ mg/mL}; 75 \text{ mg} \div 50 \text{ mg/mL} = 1.5 \text{ mL}$
- Q22 b $300 \text{ mg} \div 10 = 30 \text{ mg/mL}; 190 \text{ mg} \div 30 \text{ mg/mL} = 6.3 \text{ mL}$
- Q23 c $300 \text{ mg} \div 150 \text{ mg/mL} = 2 \text{ mL}$
- Q24 d $0.6 \text{ mg} \div 0.6 \text{ mg/mL} = 1 \text{ mL}$
- Q25 b $0.4 \text{ mg} \div 0.4 \text{ mg/mL} = 1 \text{ mL}$