

I.V. ML/HR PROBLEMS

1. The doctor orders 1,000 mL D₅W to infuse in 10 hr. Figure the mL/hr rate of flow.
2. You are to set the I.V. infusor at mL/hr. The doctor has ordered 750 mL of lactated Ringers over the next 5 hr. At what mL/hr flow rate will you set the infusor?
3. Cathy is to have 500 mL D₅ in 1/2 NS over the next 6 hr. Figure the mL/hr rate of flow.
4. If Ton Yo is to have 1,000 mL of I.V. solution over the next 12 hours. What will be the mL/hr rate of flow?
5. Figure Larry Wright's mL/hr flow rate if he is receiving 1,800 mL of I.V. over the next 24 hr.
6. Amy Moore is to have a 50 mL I.V. piggyback in 30 min. via the pump. Calculate the mL/hr flow rate.
7. David Fantail is on the I.V. pump. He is to have a 100 mL piggyback in 45 min. Calculate the mL/hr flow rate.

Answers - I.V. Flow Rate

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|----|-----------|----|-----------|
| 1. | 100 mL/hr | 5. | 75 mL/hr |
| 2. | 150 mL/hr | 6. | 100 mL/hr |
| 3. | 83 mL/hr | 7. | 133 mL/hr |
| 4. | 83 mL/hr | | |

CALCULATIONS

DROPS/MINUTE I.V. FLOW RATE (gtt/min)

1. The doctor orders 1,000 mL of I.V. fluid to infuse in 8 hours. The drop factor is 15. Figure the gtt/min flow rate.
2. The doctor orders 500 mL of I.V. fluid to infuse in 6 hours. Utilizing the label from the infusion set (tubing), figure the gtt/min flow rate.

mini drop
60 gtt/mL

3. The doctor orders 750 mL to infuse at 50 mL/hr. The drop factor is 20. What is the gtt/min flow rate?
4. The doctor orders 750 mL to infuse in 10 hours. The drop factor is 60. Figure the gtt/min flow rate.
5. The doctor orders 1,000 mL I.V. solution to infuse in 12 hours. Utilizing the following label, figure the gtt/min flow rate.

15 drops/mL

6. See problem 5. Figure the gtt/min. if the drop factor is 60.
7. The doctor orders 450 mL of I.V. fluids to infuse in 6 hours. Utilizing the following label, figure the gtt/min flow rate.



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8. The doctor orders 1,000 mL to infuse at 45 mL/hr. The drop factor is 15. Figure the gtt/min rate of flow.
9. See problem 8. Figure the gtt/min flow rate if the drop factor is 60.
10. The doctor orders a piggyback (I.V.) for his patient. You have a 50 mL bag of fluid to infuse in 30 minutes. The drop factor is 15. Figure the gtt/min flow rate.

Answers - I.V. Flow Rate - Drops Per Minute

1. 31 gtt/min
2. 83 gtt/min
3. 17 gtt/min
4. 75 gtt/min
5. 21 gtt/min

6. 83 gtt/min
7. 12.5 or 13 gtt/min
8. 11 gtt/min
9. 45 gtt/min
10. 25 gtt/min

TITRATED I V PROBLEMS

1. Give Mr. Jones 30,000 u of Heparin in 750 mL D₅W. Infuse it at 25 mL/hr. Calculate the u/hr flow rate.
2. Dr. Smith orders 25,000 u of Heparin in 1 L* of I.V. solution. It is to infuse at 60 mL/hr. Calculate the hourly Heparin dosage.
3. Ken Thompson is receiving an I.V. of 500 mL with 25,000 u of Heparin. It is infusing at 1,000 u/hr. Calculate the mL/hr flow rate.
4. Ordered: 50,000 u of Heparin in 1 L of I.V. solution. It is to infuse at 1,000 u/hr. Calculate the mL/hr flow rate.
5. Your patient is on the I.V. pump. He is to have 45,000 u of Heparin in 1* L of I.V. solution. It is infusing at 25 mL/hr. Calculate the hourly Heparin dose he is receiving.
6. Terry Jones has 20,000 u of Heparin in 500 mL of I.V. solution. It is infusing at 40 mL/hr. Calculate the hourly Heparin dose he will receive.
7. Ordered: 1,000 u of Heparin/hr. Your patient has an I.V. of 500 mL with 20,000 u of Heparin running. Calculate the mL/hr flow rate.
8. A solution of 1,000 mL with 20,000 u of heparin is infusing at 50 mL/hr. Calculate the hourly Heparin dose he is receiving.
9. Give 500 mg of medication in 500 mL of D₅W at a rate of 15 mL/hr. Calculate the mg/hr your patient will receive.
10. Your patient is to receive 500 mg of medication in 250 mL of I.V. solution over the next 45 min. How will you set the pump? Remember, I.V. pumps are set in mL/hr. How many mg/hr will your patient receive?
11. Ordered: 40,000 u Heparin in 1,000 mL D₅W. Infuse it at 25 mL/hr. Calculate the u/hr flow rate.

Answers - Titrated I.V. Problem

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|---------------|--------------------------|
| 1. 1,000 u/hr | 7. 25 mL/hr |
| 2. 1,500 u/hr | 8. 1,000 u/hr |
| 3. 20 mL/hr | 9. 15 mg/hr |
| 4. 20 mL/hr | 10. 333 mL/hr, 666 mg/hr |
| 5. 1,125 u/hr | 11. 1,000 u/hr |
| 6. 1,600 u/hr | |