

Infusion Drip Rate Formula

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Given a certain amount of liquid, a time period, and a drop factor (gtts/mL), what is the necessary IV flow rate in gtts/min?

This measurement is used when the IV is regulated manually. Because it is not possible to give a patient a fraction of a drop, it is typical to round answers for these problems up or down to the nearest whole number.

Formula:

Volume (mL)	x Drop Factor (gtts/mL) = Y (Flow Rate in gtts/min)
Time (min)	

Example: Calculate the IV flow rate for 1200 mL of NS to be infused in 6 hours. The infusion set is calibrated for a drop factor of 15 gtts/mL.

Volume (mL)	x Drop Factor (gtts/mL) = Y (Flow Rate in gtts/min)
Time (min)	

Convert 6 hours to minutes.

- min ← hr (x by 60)
- 6 hr x 60 = 360 min

1200 mL	x 15 gtts/mL = 50 gtts/min
360 min	

Example: Calculate the IV flow rate for 200 mL of 0.9% NaCl IV over 120 minutes. Infusion set has drop factor of 20 gtts/mL.

Volume (mL)	x Drop Factor (gtts/mL) = Y (Flow Rate in gtts/min)
Time (min)	

200 mL	x 20 gtts/mL = 33 gtts/min
120 min	

