

IV & Infusion Cheat Sheet

IV Formulas

CALCULATION	FORMULA
Flow rate (mL/hr)	Volume (mL) ÷ time (hr)
Drip rate (gtt/min)	[Vol (mL) ÷ time (min)] × drop factor
Infusion duration	Volume (mL) ÷ rate (mL/hr)
mcg/kg/min → mL/hr	(dose × kg × 60) ÷ conc (mcg/mL)
Concentration (mcg/mL)	(mg in bag × 1,000) ÷ volume (mL)

Fluid Balance & Output

MEASURE	VALUE
Fluid balance	Total intake – total output
Normal 24 hr balance	–200 to +500 mL
Target urine output (adult)	0.5–1.0 mL/kg/hr (≈30–50 mL/hr)
Insensible losses	≈500–1,000 mL/day (unmeasured)
Weight change	≈1 kg per 1 L fluid

Standard Rates — 1,000 mL Bag

OVER	ML/HR	10 GTT	15 GTT	20 GTT	60 GTT
4 hr	250	42	63	83	250
6 hr	167	28	42	56	167
8 hr	125	21	31	42	125
10 hr	100	17	25	33	100
12 hr	83	14	21	28	83
24 hr	42	7	10	14	42

Short Infusions (Piggyback)

VOLUME	15 MIN	30 MIN	60 MIN	90 MIN
50 mL	200 mL/hr	100 mL/hr	50 mL/hr	33 mL/hr
100 mL	400 mL/hr	200 mL/hr	100 mL/hr	67 mL/hr
250 mL	1,000 mL/hr	500 mL/hr	250 mL/hr	167 mL/hr

Vasopressor Rates (70 kg)

DRUG & BAG	CONC.	DOSE	RATE
Dopamine 400 mg/250 mL	1,600 mcg/mL	5 mcg/kg/min	13.1 mL/hr
Dopamine 400 mg/250 mL	1,600 mcg/mL	10 mcg/kg/min	26.3 mL/hr
Dobutamine 250 mg/250 mL	1,000 mcg/mL	5 mcg/kg/min	21.0 mL/hr
Nitroprusside 50 mg/250 mL	200 mcg/mL	0.5 mcg/kg/min	10.5 mL/hr
Milrinone 20 mg/100 mL	200 mcg/mL	0.375 mcg/kg/min	7.9 mL/hr

Always confirm the concentration on the bag in front of you — it varies by unit and pharmacy. High-alert infusions need an independent double-check.