

IV Fluid and Medication Administration Considerations During Resource Constraints

IV Pump Considerations

- DO NOT administer IV fluids or IV medications via gravity if pump and tubing are available
- IF no pumps and/or tubing are available, collaborate with pharmacy to identify IV medications that can be converted to oral or IV push
- As a last resort collaborate with pharmacy to identify IV fluids and/or IV medications that are safe to administer via gravity

Gravity flow rate calculation (drops/min):

Click the following link to access Calculator in Elsevier's:

<https://www.clinicalkey.com/nursing/#!/tools/calculators/calculator/754>

Manual Calculation:

STEP	ACTION	EXAMPLE
1	Verify Provider order	Normal Saline IV @ 125 mL/h (flow rate)
2	Determine drop factor of IV administration set <ul style="list-style-type: none"> - Macro (10, 12, or 15 drops/mL) - Micro (60 drops/mL) 	12 drops/mL (drop factor)
3	Perform calculation to determine drops/min (drip rate): Drop Factor [drops/mL] X Flow Rate [mL/hr]/60 = DRIP RATE	12 X 125/60 = 25 drops/min (drip rate)

Collaborate with pharmacy and provider to optimize medication dosing regimens during resource constraints

- **Discontinue non-essential medications** (e.g., docusate, multivitamins, home maintenance meds that can be safely held, etc.)
- **Assess medications for conversion from IV to PO**
- **Assess medications for conversion from IVPB to IV push**
- **Standardize medication administration times** (e.g., 09:00, 15:00, 21:00, etc.)
 - Assess timing of medications requiring therapeutic drug monitoring (e.g., vancomycin, aminoglycoside) and minimize lab draws
 - Bundle IV medications, when compatible
- **Reduce medication dosing frequencies**
 - Use once daily Proton Pump Inhibitors (e.g., pantoprazole) instead of twice daily H2 Receptor Antagonists (e.g., famotidine) for stress ulcer prophylaxis
 - Use once daily antibiotics, when appropriate and when culture and susceptibility data are available. (e.g., daily ceftriaxone for susceptible organisms)
- **Convert continuous IV medications to alternate administration modes, when appropriate**
 - From continuous IV insulin to subQ insulin to eliminate hourly glucose checks
 - From continuous IV heparin to oral anticoagulants to minimize lab draws
- **De-escalate broad-spectrum antibiotic regimens, whenever possible, to reduce the number of agents and doses used throughout the day**, after careful consideration of patient-specific factors as well as culture and susceptibility data