



Strategies for IV Fluid Conservation in the ICU

1. **Promote oral hydration and nutrition.** Encourage the use of oral rehydration solutions whenever clinically appropriate to reduce reliance on IV fluids. Consider reducing the duration of nothing-by-mouth status when clinically appropriate (e.g., in the perioperative setting).
2. **Validate clinical necessity and assess for fluid responsiveness.** Ensure that IV fluid administration is indicated. Dynamic measurements (e.g., passive leg raise, stroke volume variation, pulse pressure variation) or point-of-care ultrasonography are validated methods for assessing fluid responsiveness.
3. **Consider fluid-restrictive strategies where appropriate.** Fluid-restrictive strategies (after initial resuscitation) are equivalent to liberal fluid administration in selected patients.
4. **Avoid waste.** Use smaller bags for lower rate infusions. When switching between IV solutions, evaluate the clinical necessity and consider completing the current bag before switching to the new solution. Avoid discontinuing and restarting fluids during transitions of care.
5. **Optimize fluid management protocols.** Adjust protocols in the electronic health record to ensure regular reassessment of IV fluid orders. Consider automatic stop times (i.e., 24 hours) for maintenance IV solutions.
6. **Optimize communication between prescribing clinicians and bedside nurses.** Use structured communication strategies to verify that IV fluids are still indicated before priming or starting a new bag.
7. **Use just-in-time fluid preparation strategies.** Avoid pre-priming bags for procedures and evaluate the supply of fluids in warmers.
8. **Evaluate keep-vein-open (KVO) practices.** Assess the need for KVO orders and use the lowest reasonable rate. Consider catheter locks where appropriate.
9. **Use push-dose medications.** Where appropriate, use push-dose medications instead of infusions to conserve IV fluids, keeping in mind that, in some patients, IV push administration may compromise pharmacodynamic goals (e.g., augmented renal clearance, organisms with high minimum inhibitory concentrations, class 3 obesity).
10. **Use oral medications where appropriate.** Consider IV-to-oral conversion of medications, including electrolyte replacement when gastrointestinal absorption is not compromised.
11. **Centralize IV fluid stock.** Centralize the stock of IV fluids to ensure appropriate distribution and minimize waste. Use inventory dashboards to quantify supplies across health systems. Do not stockpile. Have a continuity of operations plan (COOP) or emergency operations plan (EOP) that addresses shortages, and revisit it frequently.
12. **Prioritize critical care needs.** Prioritize the use of crystalloid fluids for resuscitation and critical care, reserving them for major surgical procedures and emergencies. Do not withhold fluids in patients who could benefit.