



ASPAN

American Society of PeriAnesthesia Nurses

Clinical Practice: Frequently Asked Question

Q: Looking for a method to calculate IV fluid replacement for children and adults for the NPO hours, operative and post anesthesia period?

A: Intake and output is an important component of assessment in the postoperative patient.¹ The goal of fluid management in the postoperative surgical patient is to provide adequate tissue perfusion without harming the patient.

While intravenous maintenance fluid therapy may be all that is needed for the postoperative patient who had a surgical procedure that did not adversely affect their hemodynamic status, the postoperative patient with extensive traumatic or surgical tissue injury, burns, critical illness, or sepsis would require resuscitative fluid therapy in addition to maintenance therapy to compensate for preoperative and intraoperative losses, the stress response to surgery, the underlying disease state, ongoing fluid and blood loss.²

ASPAN does not have a specific recommendation for calculating IV fluid replacement for children and adults. The prescription of maintenance and resuscitative fluids is prescribed by the anesthesiologist.

One approach for calculating IV fluid replacement may be found in *Drain's Perianesthesia Nursing: A Critical Care Approach*³:

- Hourly maintenance is generally calculated as the patient's weight in kilograms plus 40 (e.g., 75 kg + 40 = 110 mL/h).
- During surgery, the insensible loss rate of 2 mL/kg is replaced along with the maintenance rate.
- For minimal trauma, 4 mL/kg/h is added.
- For moderate trauma, 6 mL/kg/h is added
- For severe trauma, 8 to 10 mL/kg/h is added. A colloid solution is also often added if the blood loss is greater than 20% of the patient's total blood volume.

In determining guidelines for IV fluid management in the PACU, collaboration between the PACU staff, the anesthesia department, the pharmacy, the medical staff, and administration is essential to establish clear policies and protocols.

References:

1. American Society of PeriAnesthesia Nurses. 2023-2024 perianesthesia nursing standards, practice recommendations and interpretive statements. Cherry Hill, NJ; ASPAN.
2. Lorente JV, Hahn RG, Jover JL, Del Cojo E, Hervías M, Jiménez I, Uña R, Clau-Terré F, Monge MI, Llau JV, Colomina MJ, Ripollés-Melchor J. Role of Crystalloids in the Perioperative Setting: From Basics to Clinical Applications and Enhanced Recovery Protocols. *J Clin Med*. 2023 Sep 12;12(18):5930. doi: 10.3390/jcm12185930.
3. Drain's. Malina, D. P. (2024). Fluids and Electrolytes. In *Drain's Perianesthesia Nursing: A Critical Care Approach* (8th ed., p. 165).

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