

NATIONAL INSTITUTES OF HEALTH  
CLINICAL CENTER  
NURSING and PATIENT CARE SERVICES

**Standard of Practice: Care of the Patient Receiving an Intravenous Infusion**

**Essential Information**

1. Intravenous Therapy Competency Required.
2. Refer to the SOP: Care of the Patient with a Peripheral Venous Access Device (PIV) or SOP: Care of the Patient with a Central Venous Access Device (CVAD) for site care.
3. When appropriate and available electronic channels labels and Guardrails™ should be utilized with infusion pumps.

**I. Assessment**

- A. Intravenous therapies, in the adult population, are assessed every four hours and with change of caregiver.
- B. Intravenous therapies in the pediatric population and high risk patients (i.e. risk for infection, skin impairment, infiltration, or dislodgement) are assessed every hour and with change of caregiver.
- C. Assessment of intravenous therapy will include
  1. Patency of CVAD or PIV
  2. Verification of fluids and additives
  3. Infusion flow rate
  4. Patient's response to therapy
  5. Expiration date of fluids and tubing

**II. Interventions**

- A. Needle-less and luer-lock systems will be used with all intravenous devices and infusions.
- B. KVO rates, if warranted, should be calculated by the LIP based on patient condition. Adult recommendations for KVO rate in CVADs should not be less than 20ml/hour via infusion pump and no less than 0.3 ml/hour via ambulatory pump. A peripheral line KVO rate should not be less 10ml/hour.<sup>2</sup> Pediatric recommendations are per LIP order.
- C. Check with a pharmacist for drug and solution compatibility prior to starting administration when compatibility or stability is not known.
- D. Infusion caps are changed every 72 hours when catheter in use, after blood is withdrawn or given through the cap, or every 4 to 6 hours during serial blood tests.<sup>1,2</sup> For CVADs not in use, infusion caps are changed every 7 days.
- E. Tubing/Stopcocks:
  1. Primary and secondary intravenous administration tubing is labeled with the time and date of hanging and the nurse's initials if there is a change in caregiver or if the anticipated infusion time is greater than 24 hours.
  2. Primary and secondary intravenous administration tubing is changed every 72 hours, regardless of patient's immune status.<sup>1,2</sup>
  3. For CVADs tubing is changed to the hub.
  4. For all new CVADs insertions (including accessing ports) all new tubing, fluids, and associated devices will be utilized.
  5. Intravenous administration tubing for PPN/TPN/lipids is changed every 24 hours.<sup>1,2</sup>
  6. Stopcock devices are changed with the intravenous tubing.<sup>1</sup> If utilized for serial blood testing, they are changed every 4 to 6 hours.
- F. All Intravenous solutions
  1. Will be changed every 24 hours unless otherwise specified by treatment protocols or physicians order.
  2. Will be labeled with a fully completed Clinical Center "IV Bag Label", containing expiration date/time, infusion start date/time, RN initials and patient admission label or patient's full name and date of birth.

3. Solutions in a container specific for an ambulatory infusion device may have an extended expiration date based on drug stability.
- G. Patient teaching
1. Purpose of therapy
  2. Signs and symptoms of complications
  3. Trouble shooting guide for occlusion and battery alarm
  4. Emergency management of catheter disconnection/breakage.
  5. Containing spills from patient education handout [http://www.cc.nih.gov/ccc/patient\\_education/pepubs/handhaz.pdf](http://www.cc.nih.gov/ccc/patient_education/pepubs/handhaz.pdf)

### III. Documentation

- A. Assessment of intravenous therapies in the inpatient adult population, is documented a minimum of every eight hours and in accordance with patient's clinical status, as directed in section I. Assessment.
- B. Assessment of intravenous therapies, in the pediatric population and high risk patients (i.e. risk for infection, skin impairment, infiltration, or dislodgement) are documented every four hours, as directed in section I. Assessment.
- C. Patient/Family teaching
- D. Interventions provided as appropriate and related to:
  1. Drug or fluid container and tubing changes
  2. Infusion cap change
  3. Response to interventions

### IV. References

1. O'Grady, N., Alexander, M., et al. (2002). Guidelines for the prevention of intravascular catheter-related infections. MMWR, 51 (RR-10).
2. Infusion Nursing Standards of Practice (2006) *Journal of Infusion Nursing*. 29(1S) 55-57.

Approved:

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