PADONA 2017
INFUSION NURSING SOCIETY STANDARDS(INS), CENTER FOR DISEASE CONTROL (CDC) AND ASSOCIATION FOR VASCULAR ACCESS GUIDELINES

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Disclosures

- I am an employee of Brockie Healthcare, Inc.
- Brockie Pharmatech is a division of Brockie Healthcare, Inc.
- I am listed as an Educator for Genetech, Inc for Cathflo in-services.
- I am listed as an Educator for TransLite LLC, the manufacture of Veinlite.
Venous Access Devices

- A. Peripheral catheters
  - 1. Short/Midlines

- B. Central Venous Catheters
  - 1. Tunneled & Non-tunneled
  - 2. Implanted ports
  - 3. PICCs (Tunneled and non-tunneled)
PA Board of Nursing

A. LPN

1. Allowed
   ○ a. Insertion/Removal
   ○ b. IV Fluids
   ○ c. Maintenance
   ○ d. Blood Draws

2. Prohibited acts
   a. Administration types
      1. Arterial
      2. Epidural
      3. Intrathecal
      4. Intraosseous
      5. Ventricular Reservoirs/AV Fistula/Shunt

An LPN may not perform the following IV therapy functions:

(1) Initiate or maintain IV therapy only under the direction and discretion of a professional nurse or physician authorized to initiate or maintain therapeutic or corrective measures (such as a CRNP, physician assistant, podiatrist or dentist).

(2) Initiate or maintain IV therapy only under the direction and discretion of a professional nurse or physician authorized to initiate or maintain therapeutic or corrective measures (such as a CRNP, physician assistant, podiatrist or dentist).

(3) Initiate or maintain IV therapy only under the direction and discretion of a professional nurse or physician authorized to initiate or maintain therapeutic or corrective measures (such as a CRNP, physician assistant, podiatrist or dentist).

(4) Initiate or maintain IV therapy only under the direction and discretion of a professional nurse or physician authorized to initiate or maintain therapeutic or corrective measures (such as a CRNP, physician assistant, podiatrist or dentist).

§ 21.145b. IV therapy curriculum requirements.

(1) An IV therapy course provided as part of the LPN education curriculum (relating to specific curriculum requirements for practical nursing programs) shall include instruction in the topics in § 21.145b.

(2) An IV therapy course provided as part of the LPN education curriculum (relating to specific curriculum requirements for practical nursing programs) shall include instruction in the topics in § 21.145b.

(3) An IV therapy course provided as part of the LPN education curriculum (relating to specific curriculum requirements for practical nursing programs) shall include instruction in the topics in § 21.145b.

(4) An IV therapy course provided as part of the LPN education curriculum (relating to specific curriculum requirements for practical nursing programs) shall include instruction in the topics in § 21.145b.

(5) An IV therapy course provided as part of the LPN education curriculum (relating to specific curriculum requirements for practical nursing programs) shall include instruction in the topics in § 21.145b.
PA Board of Nursing

- b. Medication
  - 1. Immunoglobulins
  - 2. Antineoplastic
  - 3. Investigational
  - 4. Titrated medication
- c. Therapeutic Phlebotomy

- B. RN
  - 1. Education
  - 2. Proficiency

(a) The registered nurse assesses human responses and plans, implements and evaluates nursing care for individuals or families for whom the nurse is responsible. In carrying out this responsibility, the nurse performs all of the following functions:

(1) Collects complete and ongoing data to determine nursing care needs.

(2) Analyzes the health status of the individuals and families and compares the data with the norm when possible in determining nursing care needs.

(3) Identifies goals and plans for nursing care.

(4) Carries out nursing care actions which promote, maintain and restore the well-being of individuals.

(5) Involves individuals and their families in their health promotion, maintenance and restoration.

(6) Evaluates the effectiveness of the quality of nursing care provided.

(b) The registered nurse is fully responsible for all actions as a licensed nurse and is accountable to clients for the quality of care delivered.

(c) The registered nurse may not engage in areas of highly specialized practice without adequate knowledge of and skills in the practice areas involved.

(d) The Board recognizes standards of practice and professional codes of behavior, as developed by appropriate nursing associations, as the criteria for assuring safe and effective practice.


Performing of venipuncture and administering and withdrawing intravenous fluids are functions regulated by this section, and these functions may not be performed unless:

(1) The procedure has been ordered in writing for the patient by a licensed doctor of the healing arts.

(2) The registered nurse who performs venipunctures has had instruction and supervised practice in performing venipunctures.

(3) The registered nurse who administers parenteral fluids, drugs or blood has had instruction and supervised practice in administering parenteral fluids, blood or medications into the vein.

(4) A list of medications which may be administered by the registered nurse is established and maintained by a committee of physicians, pharmacists and nurses from the employing agency or the agency within whose jurisdiction the procedure is being performed if no employing agency is involved.

(5) The intravenous fluid or medication to be administered is the fluid or medication specified in the written order.

(6) The blood is identified as the blood ordered for the patient.

(7) An accurate record is made concerning the following:

(i) The time of the injection.

(ii) The medication or fluid injected.

(iii) The amount of medication or fluid injected.

(iv) Reactions to the fluid.

Source


Cross References

This section cited in 49 Pa. Code § 21.412 (relating to interpretations regarding venipuncture, intravenous fluids, resuscitation and respiration—statement of policy); 49
INS Standards

A. Special Population-Standard #2
To ensure patient safety, the clinician providing infusion therapy for special populations (neonatal, pediatric, pregnant and older adult populations) is competent in clinical management of such populations, including knowledge of anatomical and physiological differences, safety considerations, implications for vascular access device (VAD) planning and management and infusion administration.

B. Scope of Practice- Standard #3
3.1 The role, responsibilities and accountability for each type of clinician involved with infusion therapy delivery, according to the applicable regulatory boards, are clearly defined in organizational policy.

3.3 Clinicians delivering any type of infusion therapy and vascular access device (VAD) insertion, use, maintenance and removal are qualified and competent to perform the identified functions.

Registered Nurse (RN) must: A. Complete an organized educational program on infusion therapy due to the lack and/or inconsistency of infusion therapy in basic nursing curricula or other facilities where they worked. B. Do not accept assignments and tasks when one concludes that she or he is inadequately prepared to perform the assignment or task (refer to Standard 5, Competency and Validation).
INS Standards

C. Competency Assessment and Validation-Standard #5

5.1 As a method of public protection to ensure patient safety, the clinician is competent in the safe delivery of infusion therapy and vascular access device (VAD) insertion and/or management within her or his scope of practice.

5.2 The clinician is responsible and accountable for attaining and maintaining competence with infusion therapy administration and VAD insertion and/or management within her or his scope of practice.

5.3 Competency assessment and validation is performed initially and on an ongoing basis.

D. Informed Consent

9.1 Obtain informed consent for all invasive procedures and treatments in accordance with local or state laws and organizational policy.

9.3 The clinician performing the invasive procedure facilitates the process and obtains informed consent.

9.5 The patient or surrogate has the right to accept or refuse treatment.
E. Documentation in the Medical Record—Standard #10

10.1 Clinicians document their initial and ongoing assessments or collection of data, diagnosis or problem intervention and monitoring, the patient’s response to that intervention, and plan of care for infusion therapy. Expected side effects and unexpected adverse event that occur with actions taken and patient response are documented.

10.2 Documentation contains accurate, complete chronological and objective information in the patient medical record regarding the patient’s infusion therapy and vascular access with the clinician’s name licensure or credential to practice, date and time.

10.3 Documentation is LEGIBLE, TIMELY, ACCESSIBLE TO AUTHORIZED PERSONNEL AND EFFICIENTLY RETRIEVABLE.

Documentation includes, but is not limited to the following: patient, caregiver or legally authorized representative’s understand of and responses to therapy; specific site preparation, infection prevention and using a standardized tool for documenting adherence to recommended practices; the type, length and gauge/size of the vascular access device inserted, date and time of insertion, number of attempts and the insertion methodology, including visualization and guidance technologies and identification of the insertion site by anatomical descriptors, laterality, landmarks or appropriately marked drawings.
This is a sample of charting on starting a Peripheral IV:

Spoke with __________________ that I was here to start an IV on you as your Doctor has ordered an IV to be started on you because: (you have an infection and the best way to get rid of it is to get antibiotics thru the IV line OR you are getting dehydrated and your Doctor has ordered IV fluids for you to give you extra fluids to help you feel better). When I asked ________________ if it was ok to start the IV, ________________ said “that’s ok”. Assessment of both hands and lower arms then the Right forearm was prepped per Peripheral IV Insertion policy/procedure. Inserted a BD Inyte, 22g x 1” catheter into the right cephalic vein approximately 1” above the wrist without difficulty. Insertion site was covered with a transparent dressing and the site is clean, dry and no signs of active bleeding seen. When I asked __________________ if she/he was having any pain or discomfort, ________________she/he said “no it didn’t hurt at all”. Physician will be notified of any s/sx of complications.

This is a sample of charting on an IV Insertion site each shift:

Observed insertion site of (Peripheral IV catheter or PICC catheter) and no signs of bleeding, redness, drainage and resident denies any pain or discomfort at the site or on the arm where the IV catheter is placed. Resident is receiving: 0.9 Sodium Chloride continuously via IV pump at 80 ml/hr. or Resident is receiving antibiotic administration intermittently via IV catheter per Physician order.
F. Vascular Visualization- Standard # 22

22.1 To ensure patient safety, the clinician is competent in the use of vascular visualization technology for vascular access device insertion. This knowledge includes, but is not limited to, appropriate vessels, size, depth, location and potential complications.

22.2 Vascular visualization technology is used in patients with difficult venous access and/or failed venipuncture attempts.

22.3 Vascular visualization technology is employed to increase the success with peripheral cannulation and decrease the need for central vascular access devices (CVAD) insertion when other factors do not require a CVAD.

Consider nIR light technology to identify peripheral venous sites and facilitate more informed decisions about vein selection such as: bifurcating veins, tortuosity of veins and palpable but nonvisible veins.
CDC Guidelines

- A. Femoral Insertions
- B. Tunneled Central Catheters
- C. Suture less Securement Devices
- D. Of Peripheral IV Catheters
- E. Replacement of Administration equipment
- F. Training/Proficiency
  - 1. IV Therapy
CDC Guidelines

A. Femoral Insertions

“In adults, use an upper-extremity site for catheter insertion. Replace a catheter inserted in a lower extremity site to an upper extremity site as soon as possible.”

“Avoid using the femoral vein for Central Venous Access in adult patients”

B. Tunneled central venous catheters

“Implanted into the Subclavian, Axillary, Internal Jugular veins by a Physician or a Vascular Access Specialist who has been educated and deemed competent in the insertion”

“A Totally Implantable Port will be tunneled beneath skin and have a subcutaneous port that needs accessed with a non-coring needle. It can be implanted in the Subclavian, Axillary or Internal Jugular veins” These ports can also be specifically designated for Dialysis or Chemotherapy only therapy”
C. Sutureless Securement Devices

“Use a suturless securement device to reduce the risk of infection for intravascular catheters. Securement device should be under the transparent dressing and is to be changed whenever the transparent dressing is changed.”

D. Replacement of Peripheral IV Catheters

“There is no need to replace peripheral catheters more frequently than every 96 hours to reduce risk of infection and phlebitis in adults.” In 2016 with the statement that Adult population is now a special population like neonatal, Peripheral IV Catheters in the elderly with limited vein access and fragile skin should be changed only when clinically indicated.

“Remove peripheral venous catheters if the patient develops signs of phlebitis (warmth, tenderness, erythema or palpable venous cord), infection, or a malfunctioning catheter”.

E. Replacement of Administration Equipment

“In patients no receiving blood, blood products or fat emulsions, replace administration sets that are continuously used, including secondary sets and add-on devices no more frequently than 96 or 5 days but at least every 7 days.”

“Intermittent tubing not connected to a continuous tubing must be changed every 24 hours”.

Sutureless Securement Devices
F. Training/Proficiency IV Therapy

“Educate healthcare personnel regarding the indications for Intravascular catheter use, proper procedures for the insertion and maintenance of Intravascular catheters, and appropriate infection control measures to prevent Intravascular Catheter-related infections.”

“Periodically assess knowledge of and adherence to guidelines for all personnel involved in the Insertion and maintenance of Intravascular catheters.”

“Designate only trained personnel who demonstrate competence for the insertion and maintenance of Peripheral and Central Intravascular catheters.”
AVA Standards/Guidelines

- A. Visualization/Blind Sticks
- B. Antecubital space
- C. Anatomical insertion sites
- D. Competency
- E. September 2016 AVA Convention Legal recommendations
AVA Standards/Guidelines

- **A. Visualization**
  - “No Blind Sticks” Visualization from a device such as a near Infrared device should be used to make sure there are no bifurcations, thrombosis or sclerotic areas where the IV catheter will be placed.

- **B. Antecubital space**
  - “Last Resort” The antecubital space should be saved for Acute/Emergency use. This area can develop phlebitis/thrombosis/occlusion due to the movement of the short catheter. If any infiltration or complications at the site of a peripheral IV Cath in the antecubital, another catheter should not be placed below that site for a minimum of 3 days.

- **C. Cephalic Vein**
  - No longer should we be placing IV catheter into the Cephalic Vein directly at the wrist. We can insert into the Cephalic vein 2 finger breaths above the wrist or 2 finger breaths below the wrist only due to complications with the catheter at the wrist itself.
D. Competency

The nurse doing Peripheral/Central IV catheter insertion and or care/maintenance should have the education and proficiency in all aspects of the care especially with specialty catheters (Implanted Ports) and De-clotting drugs (Cathflo, tPA). Competency is to be determined initially and on an ongoing basis to maintain adherence to facility policies.

E. I SAVE THAT LINE

I= IMPLEMENT INSERTION, CARE AND MAINTENANCE BUNDLES to minimize the risk of intraluminal and extra luminal contamination.

S= SCRUPULOUS HAND HYGIENE is necessary before an after contact with any Vascular Access Device

A= ALWAYS DISINFECT EVRY NEEDLELESS CONNECTOR prior to each access for solution and medication administration, flushing or tubing changes

V= VEIN PRESERVATION is achieved by assessing for the best device and site selection to reduce the risks for complications, such as thrombosis formation

E= ENSURE PATENCY by flushing all lumens following institution policy. If lack of blood return or sluggish flow is encountered, take measures to restore patency.
I SAVE That Line!

Follow these important principles when inserting, using, and maintaining any vascular access device.

**IMPLEMENT INSERTION, CARE, AND MAINTENANCE BUNDLES**
- to minimize the risk of intraluminal and extraluminal contamination

**CRUPULOUS HAND HYGIENE**
- is necessary before and after contact with any vascular access device

**WAYS DISINFECT EVERY NEEDLELESS CONNECTOR**
- prior to each access for solution and medication administration, flushing, or tubing changes

**EIN PRESERVATION**
- is achieved by assessing for best device and site selection to reduce the risk for complications, such as thrombus formation and infection

**NSURE PATENCY**
- by flushing all lumens following institution policy. If lack of blood return or sluggish flow is encountered, take measures to restore patency

"KEEP PATIENTS FREE OF INFECTION!"

For more information, contact the Association for Vascular Access (AVA) at www.avainfo.org or call 1-801-792-9079 or 1-877-924-AVA1 (2821)
IV Catheter Gauges
Central Dressing Kit
REFERENCES


- **CENTER FOR DISEASE CONTROL** - Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011

- **INFUSION NURSING SOCIETY STANDARDS OF PRACTICE** - January/February 2016 edition


1National Institutes of Health, Bethesda, Maryland
2Infusion Nurses Society, Norwood, Massachusetts
3Greenwich Hospital, Greenwich, Connecticut
4University of Washington, Seattle, Washington
5Wheaton Franciscan Healthcare-St. Joseph, Milwaukee, Wisconsin
6University of Massachusetts Medical School, Worcester, Massachusetts
7Johns Hopkins University School of Medicine, Baltimore, Maryland
8Warren Alpert Medical School of Brown University and Rhode Island Hospital, Providence, Rhode Island
9Office of Infectious Diseases, CDC, Atlanta, Georgia
10MD Anderson Cancer Center, Houston, Texas
11The Children’s Hospital, Boston, Massachusetts
12University of Nebraska Medical Center, Omaha, Nebraska
13Ann Arbor VA Medical Center and University of Michigan, Ann Arbor, Michigan
Conclusions

- The Older Population has now been listed as a special population due to their poor skin integrity/vein accessibility and non-compliance with IV Therapy.
- Preserve the veins by helping our residents to get the best line for them and their therapy.
- Maintain the patentency of line by: 1. checking for blood drawback with each infusion 2. treating partial occlusions before they become total occlusions 3. Pulsatile flushing on all lines.
- PICC lines in upper arm and possibility of Air Embolism on catheter removal.
- On-going competency and following your Policy/Procedures.