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

Presented by MaryAnn Shuman RN, VA-BC thru Brockie Pharmatech

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

ations as the criteria for assuring safe and effective practice.

N may administer immunizing agents and do skin testing only if the following met:

N has received and satisfactorily completed a Board approved educational requires study and supervised clinical practice intended to provide training dministering immunizing agents and for performing skin testings.

n order has been issued by a licensed physician pertaining to an individual o of patients.

policies and procedures under which the LPN may administer immunizing kin testing have been established by a committee representing the nurses, the the administration of the agency or institution employing or having r the LPN. A current copy of the policies and procedures shall be provided east once every 12 months. The policies and procedures shall provide for:

tion of the immunizing and skin testing agents which the LPN may

ation of contraindications for the administration of specific immunizing and nts.

ng, identification, description and explanation of principles, including inical indications, necessary for the identification and treatment of possible s.

on and supervised practice required to insure competency in administering skin testing agents.

ay perform only the IV therapy functions for which the LPN possesses the and ability to perform in a safe manner, except as limited under § 21.145a ibited acts), and only under supervision as required under paragraph (1).

ay initiate and maintain IV therapy only under the direction and licensed professional nurse or health care provider authorized to issue al therapeutic or corrective measures (such as a CRNP, physician, nt, podiatrist or dentist).

e initiation of IV therapy, an LPN shall:

order and identity of the patient.

lergies, fluid and medication compatibilities.

he patient's circulatory system and infusion site.

l equipment.

(v) Instruct the patient regarding the risk and complication of therapy.

(3) Maintenance of IV therapy by an LPN shall include ongoing observation and focused assessment of the patient, monitoring the IV site and maintaining the equipment.

(4) For a patient whose condition is determined by the LPN's supervisor to be stable and predictable, and rapid change is not anticipated, the supervisor may supervise the LPN's provision of IV therapy by physical presence or electronic communication. If supervision is provided by electronic communication, the LPN shall have access to assistance readily available.

(5) In the following cases, an LPN may provide IV therapy only when the LPN's supervisor is physically present in the immediate vicinity of the LPN and immediately available to intervene in the care of the patient:

(i) When a patient's condition is critical, fluctuating, unstable or unpredictable.

(ii) When a patient has developed signs and symptoms of an IV catheter-related infection, venous thrombosis or central line catheter occlusion.

(iii) When a patient is receiving hemodialysis.

(g) An LPN who has met the education and training requirements of § 21.145b (relating to IV therapy curriculum requirements) may perform the following IV therapy functions, except as limited under § 21.145a and only under supervision as required under subsection (f):

(1) Adjustment of the flow rate on IV infusions.

(2) Observation and reporting of subjective and objective signs of adverse reactions to any IV administration and initiation of appropriate interventions.

(3) Administration of IV fluids and medications.

(4) Observation of the IV insertion site and performance of insertion site care.

(5) Performance of maintenance. Maintenance includes dressing changes, IV tubing changes, and saline or heparin flushes.

(6) Discontinuance of a medication or fluid infusion, including infusion devices.

(7) Conversion of a continuous infusion to an intermittent infusion.

(8) Insertion or removal of a peripheral short catheter.

(9) Maintenance, monitoring and discontinuance of blood, blood components and plasma volume expanders.

(10) Administration of solutions to maintain patency of an IV access device via direct push or bolus route.

(11) Maintenance and discontinuance of IV medications and fluids gi controlled administration system.

(12) Administration, maintenance and discontinuance of parenteral nu emulsion solutions.

(13) Collection of blood specimens from an IV access device.

§ 21.145a. Prohibited acts.

An LPN may not perform the following IV therapy functions:

(1) Initiate administration of blood, blood components and plasma volu

(2) Administer tissue plasminogen activators, immunoglobulins, antinc investigational drugs.

(3) Access a central venous route access device used for hemodynamic

(4) Administer medications or fluids via arterial lines.

(5) Administer medications via push or bolus route.

(6) Administer fibrinolytic or thrombolytic agents to declot any IV acce

(7) Administer medications requiring titration.

(8) Insert or remove any IV access device, except a peripheral short cath

(9) Access or program an implanted IV infusion pump.

(10) Administer IV medications for the purpose of procedural sedation o

(11) Administer fluids or medications via an epidural, intrathecal, intraos umbilical route, or via a ventricular reservoir.

(12) Administer medications or fluids via an arteriovenous fistula or graf dialysis.

(13) Perform repair of a central venous route access device or PICC.

(14) Perform therapeutic phlebotomy.

(15) Direct access of implantable devices.

§ 21.145b. IV therapy curriculum requirements.

(a) An IV therapy course provided as part of the LPN education curriculu (relating to specific curriculum requirements for practical nursing programs) alone course offered by a provider shall include instruction of the topics in §

PA Board of Nursing

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

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

RESPONSIBILITIES OF THE REGISTERED NURSE

§ 21.11. General functions.

(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.

§ 21.12. Venipuncture; intravenous fluids.

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

The provisions of this § 21.12 amended October 22, 1976, effective October 23, 1976, 6 Pa.B. 2677; amended September 16, 1983, effective September 17, 1983, 13 Pa.B. 2829. Immediately preceding text appears at serial pages (47492) and (44732).

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 of 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.

INS Standards

- **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 take 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.

Documentation

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 Insyte, 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.

INS Standards

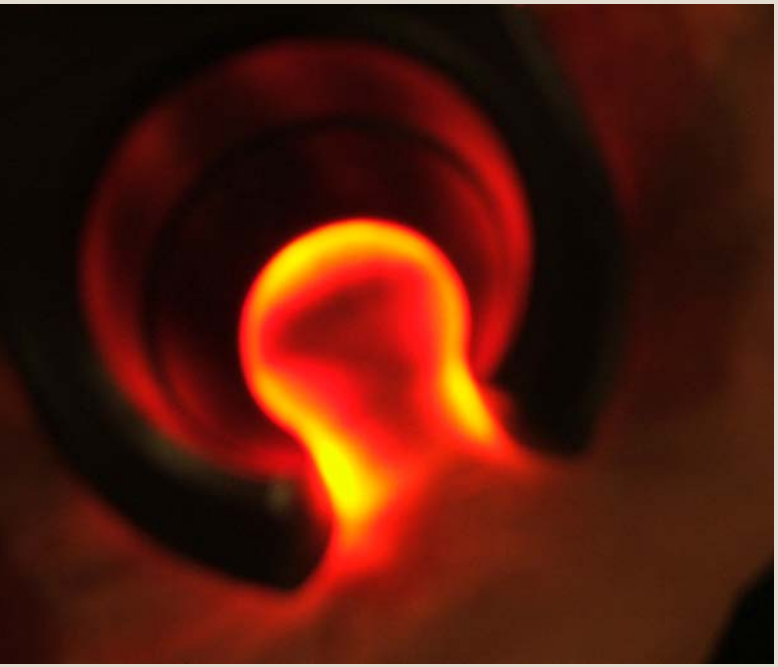
F. Vascular Visualization- Standard # 22

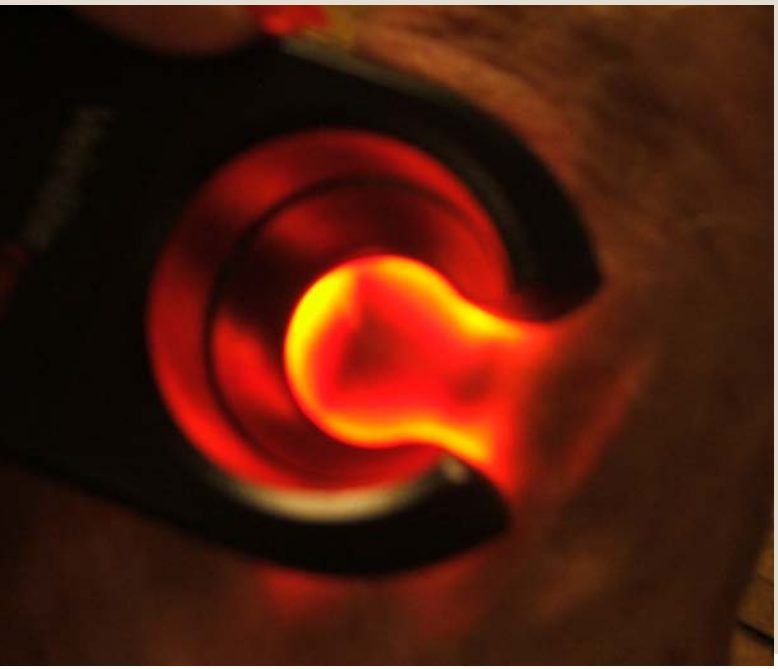
22.1 To ensure patient safety, the clinician is competent in the use of vascular visualization technology for vascular access device insertion. This knowledge includes , but is not limited to , appropriate vessels, size, depth, location and potential complications.

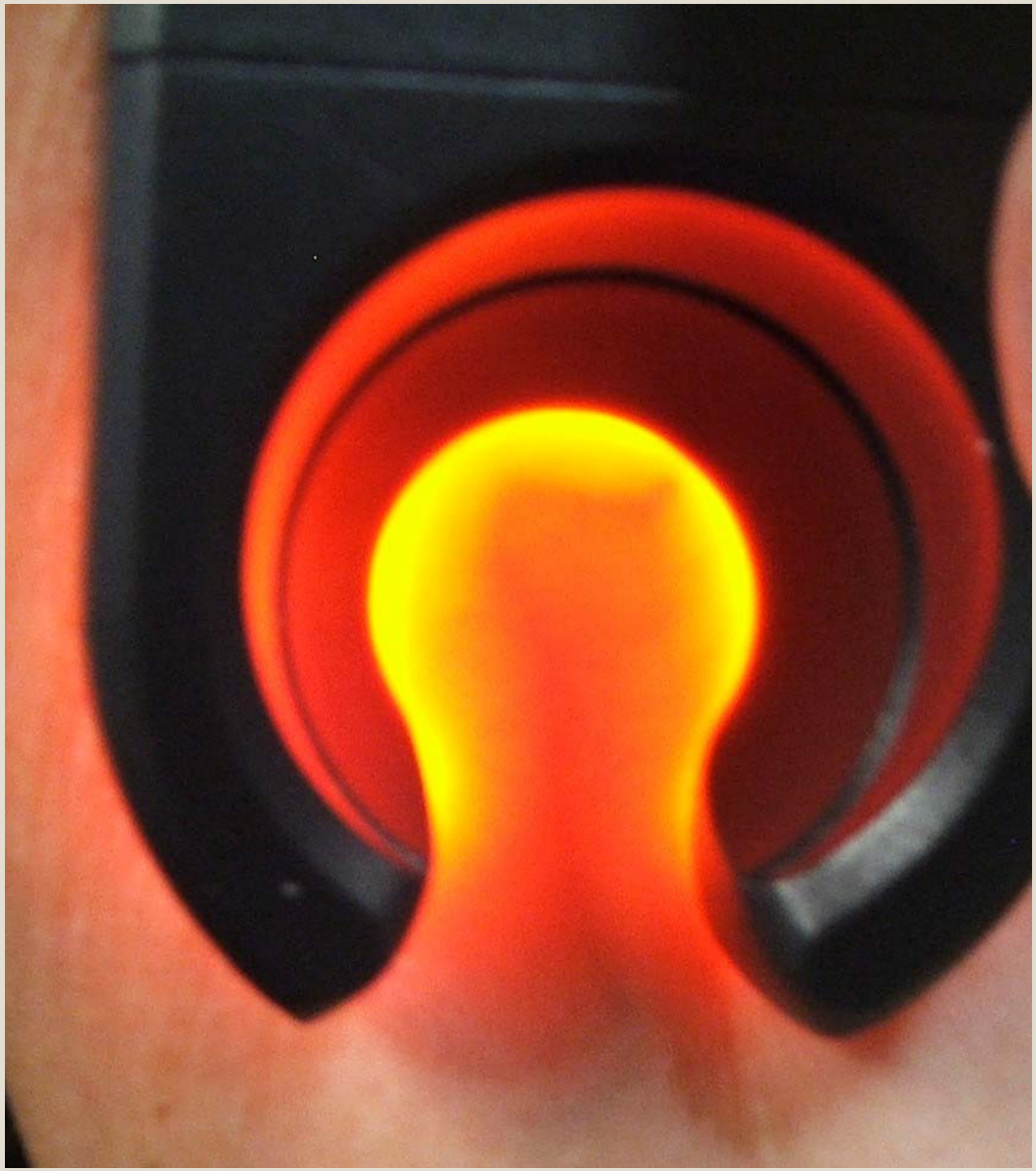
22.2 Vascular visualization technology is used in patients with difficult venous access and/or failed venipuncture attempts.

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 btu 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

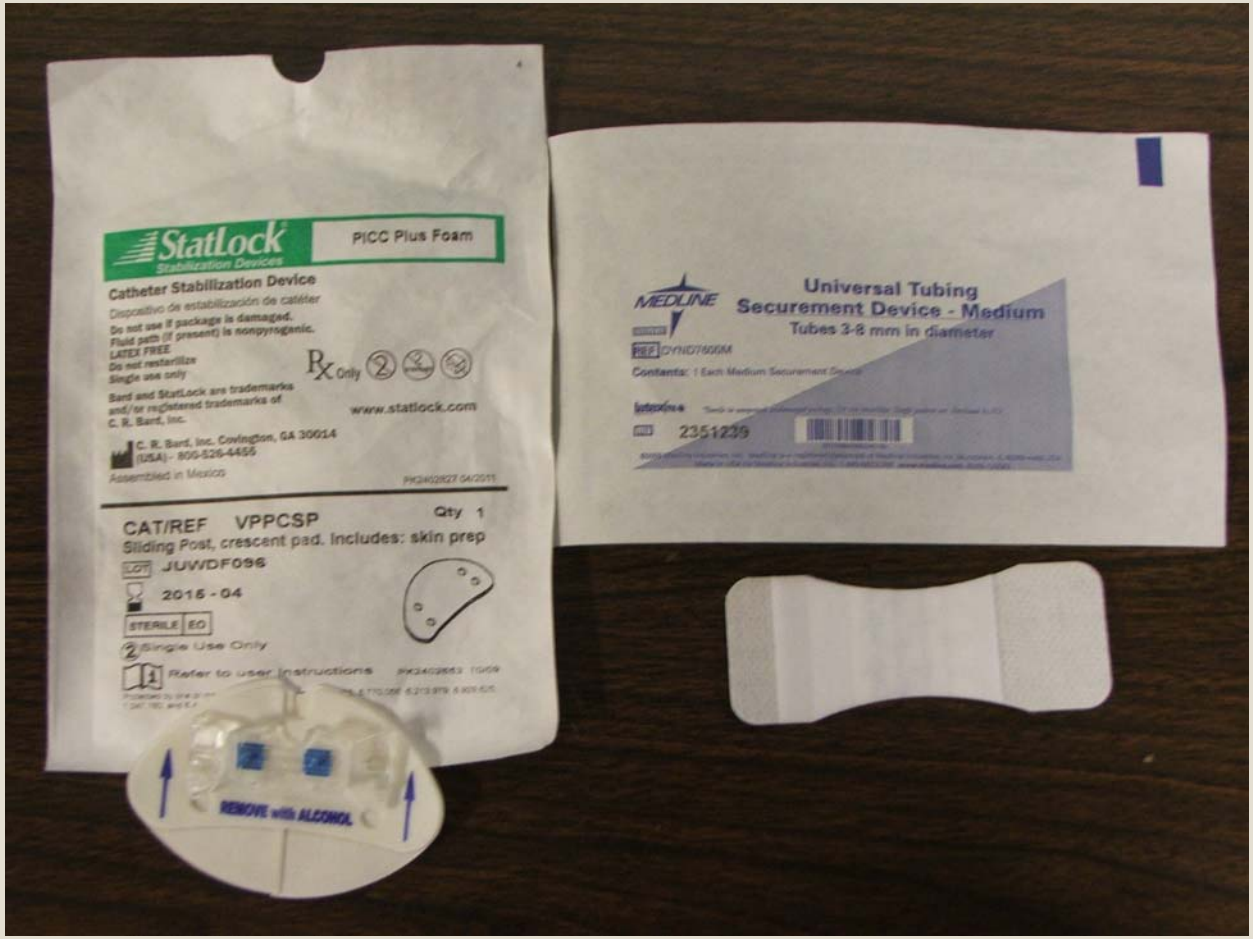
CDC Guidelines

- **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 tht 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"**

CDC Guidlines

-
- **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 thepatient 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 24hours”.**
-

Sutureless Securement Devices



CDC Guidelines

- **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 day**
- **C. Cephalic Vein**

  No longer should we be placing IV catheter into the Cephalci 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.

AVA STANDARDS/GUIDELINES

- **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= IMPLETMENT 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 NEEDLESS 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.

I MPLEMENT INSERTION, CARE, AND MAINTENANCE BUNDLES
to minimize the risk of intraluminal and extraluminal contamination

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

A LWAYS DISINFECT EVERY NEEDLELESS CONNECTOR
prior to each access for solution and medication administration, flushing, or tubing changes

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

E 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)**

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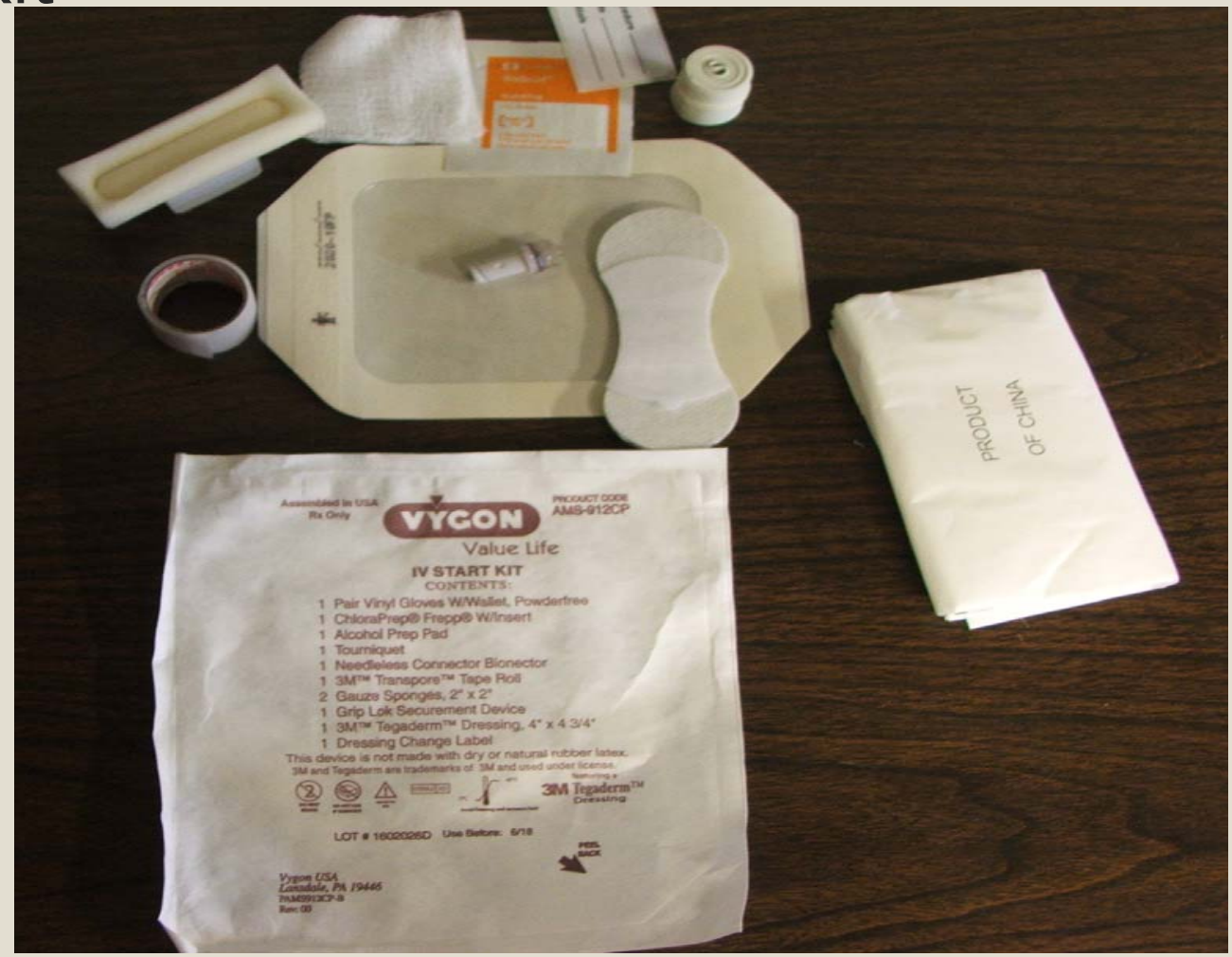
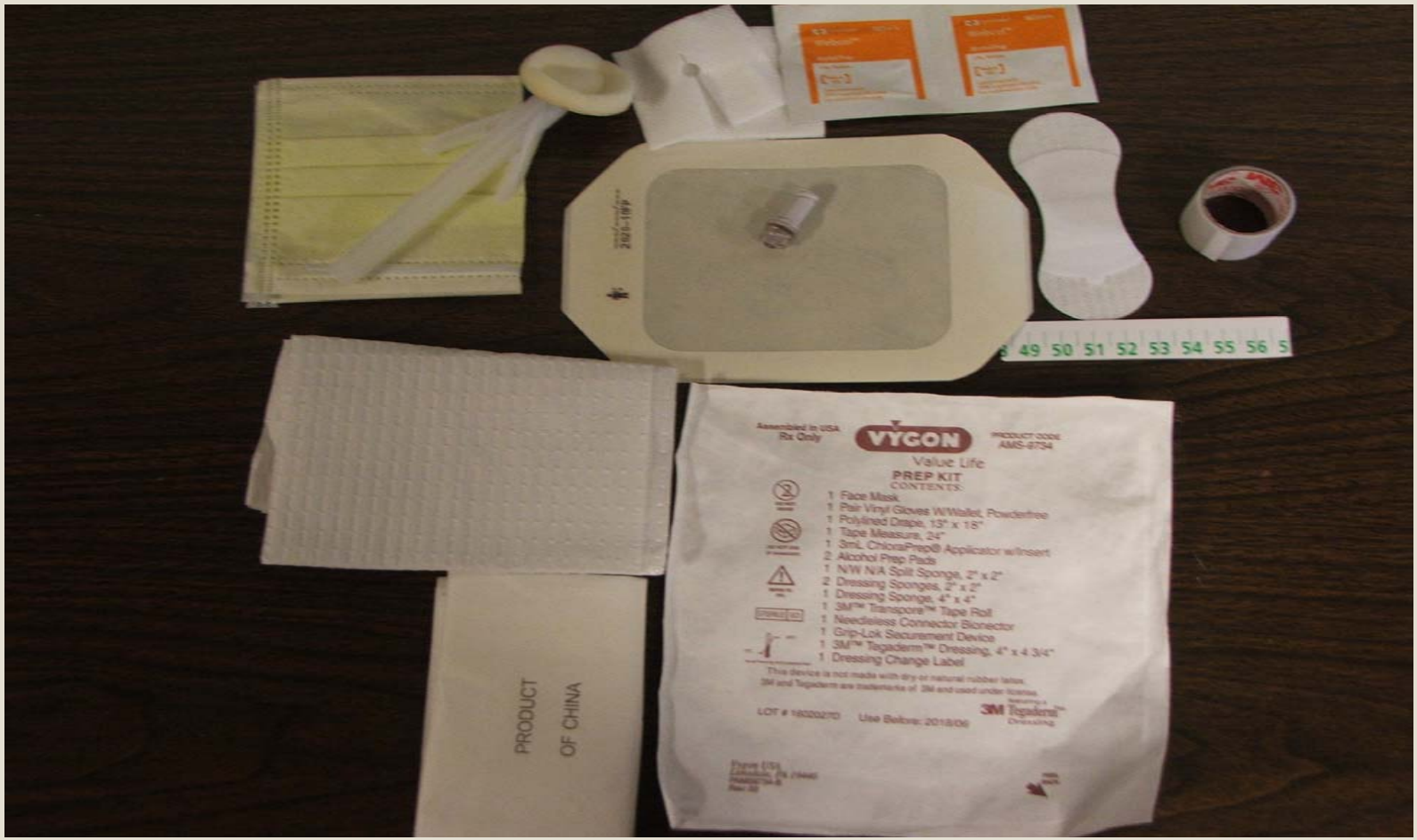
IV Catheter Gauges

IV Start Kit

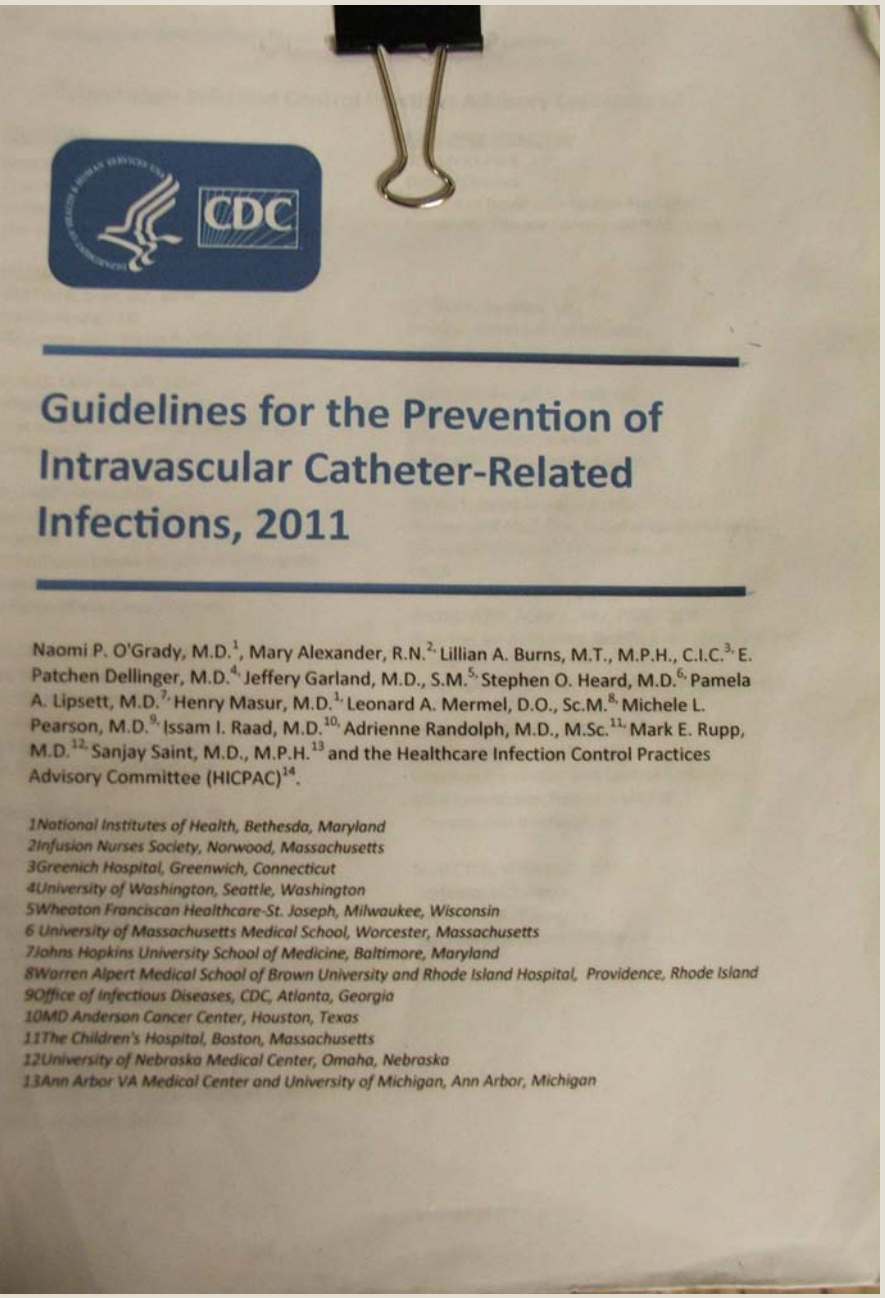

PRODUCT
OF CHINA
Assembled in USA
Rx Only
VYGON
PRODUCT CODE
AMS-912CP
Value Life
IV START KIT
CONTENTS:
1 Pair Vinyl Gloves W/Wallet, Powderfree
1 ChloraPrep® Frepp® W/Insert
1 Alcohol Prep Pad
1 Tourniquet
1 Needleless Connector Bionector
1 3M™ Transpore™ Tape Roll
2 Gauze Sponges, 2" x 2"
1 Grip Lok Securement Device
1 3M™ Tegaderm™ Dressing, 4" x 4 3/4"
1 Dressing Change Label
This device is not made with dry or natural rubber latex.
3M and Tegaderm are trademarks of 3M and used under license.
3M Tegaderm™
Dressing
LOT # 1602026D Use Before: 6/18
PEEL BACK
Vygon USA
Lansdale, PA 19446

Central Dressing Kit



REFERENCES

- **PA BOARD OF NURSING**-Website for Responsibilities of the Registered Nurse(Sections 21.11 and 21.12) and Responsibilities of the LPN (Sections 21.145, 21.145a(Prohibited Acts) and Section 21.145b(IV Therapy Curriculum requirements. PA Bulletin Doc No12-1637.
- **CENTER FOR DISEASE CONTROL**-Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011
- **INFUSION NURSING SOCIETY STANDARDS OF PRACTICE**-January/February 2016 edition
- **ASSOCIATION FOR VASCULAR ACCESS-September** 2016 Convention material and Journal for Vascular Access Publications January 2016 thru December 2016.



Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011

Naomi P. O'Grady, M.D.[1], Mary Alexander, R.N.[2], Lillian A. Burns, M.T., M.P.H., C.I.C.[3], E. Patchen Dellinger, M.D.[4], Jeffery Garland, M.D., S.M.[5], Stephen O. Heard, M.D.[6], Pamela A. Lipsett, M.D.[7], Henry Masur, M.D.[1], Leonard A. Mermel, D.O., Sc.M.[8], Michele L. Pearson, M.D.[9], Issam I. Raad, M.D.[10], Adrienne Randolph, M.D., M.Sc.[11], Mark E. Rupp, M.D.[12], Sanjay Saint, M.D., M.P.H.[13] and the Healthcare Infection Control Practices Advisory Committee (HICPAC)[14].

1National Institutes of Health, Bethesda, Maryland
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8Warren Alpert Medical School of Brown University and Rhode Island Hospital, Providence, Rhode Island
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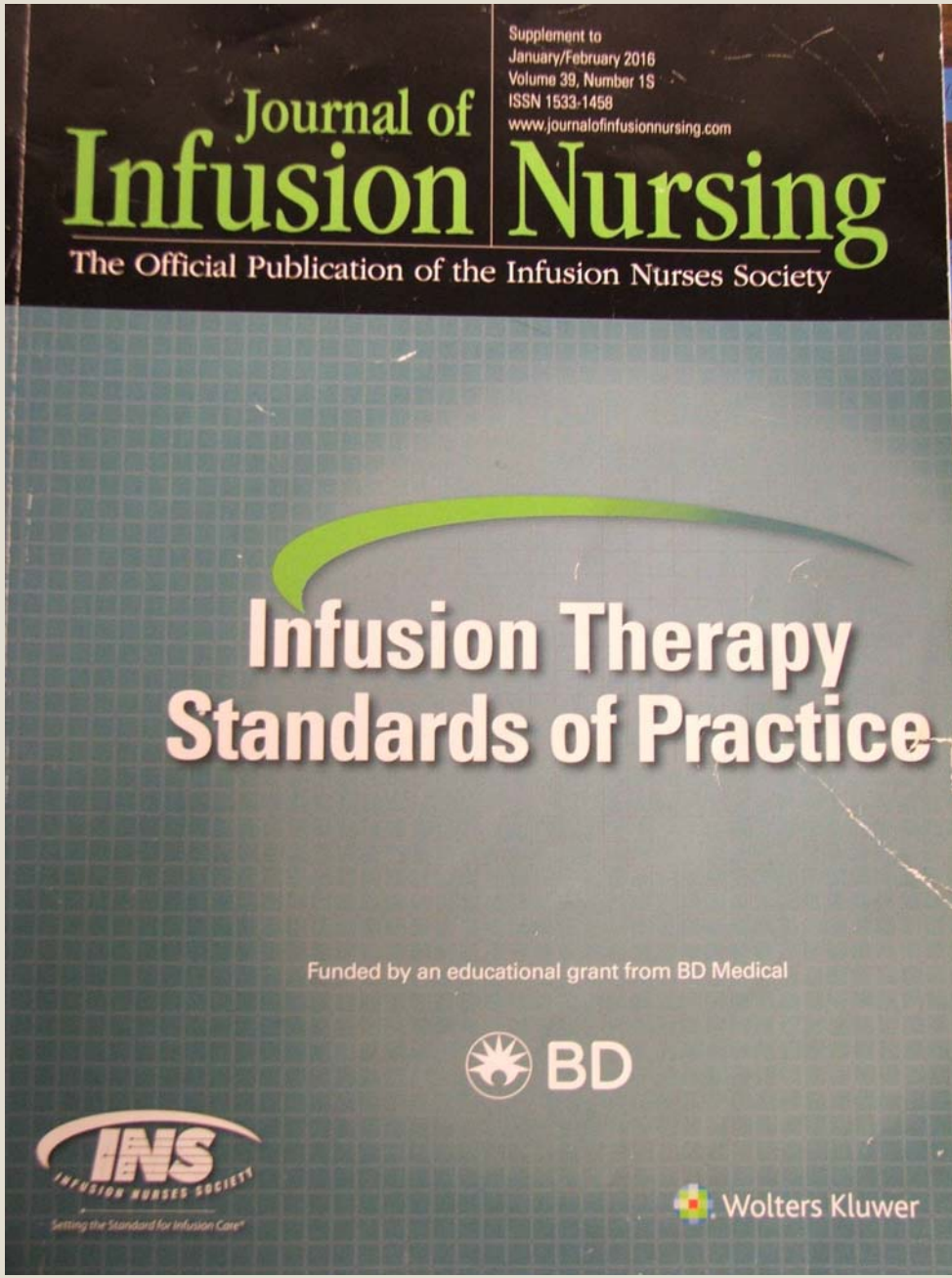
10MD Anderson Cancer Center, Houston, Texas
11The Children's Hospital, Boston, Massachusetts
12University of Nebraska Medical Center, Omaha, Nebraska
13Ann Arbor VA Medical Center and University of Michigan, Ann Arbor, Michigan



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.