

Vascular Access: INS Standards in the PeriAnesthesia Setting

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Our Worldwide Locations



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12 Ohio Hospitals



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28 Ohio Ambulatory Centers



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Care for Patients

255K SURGERIES & PROCEDURES	309K ADMISSIONS & OBSERVATIONS
2.4M UNIQUE PATIENTS	884K EMERGENCY DEPARTMENT VISITS
10M OUTPATIENT VISITS	59K VIRTUAL VISITS

YEAR-END 2019

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History

- Late 1400's-Pope
- 1600's-quill and pigs bladder
- 1800's-Cholera epidemic
- 1876-Dr. Sidney Ringer

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Modern IV Therapy

Timeline:

- 1950: Dr. David Mass...
- 1964: Deseret
- 1970-1980's

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Shift in scope of Practice

- First nurse to administer IV therapy
- She became the first IV nurse and formed the first IV team.
- Co-founded the National Intravenous Therapy Association (NITA)
- First professional organization exclusively for nurses - today ...


The Infusion Nurses Society

Ada Plumer, 1994

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Infusion Nurses Society

- 1981 Venipuncture Hyperalimentation Standards (1981) in NITA Journal



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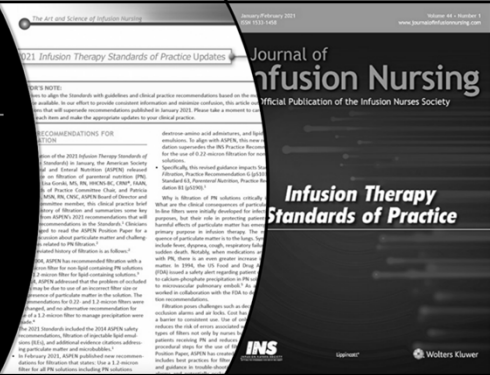
Standards of Care

- Infusion Nurses Society (INS)
- American Society for Parenteral and Enteral Nutrition (ASPEN)
- Association of Vascular Access (AVA)
- Oncology Nurses Society (ONS)
- Center for Disease Control and Preventions (CDC)

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Infusion Therapy Standards of Practice

- Expectations of practice applicable to infusion therapy in ALL settings
- 66 standards
- 1,000s of references
- One of the most widely used resources guiding clinical practice



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Strength of the Body of Evidence

- Developed in 2011 Standards of Practice
- Regulatory Standards eliminated
- Ranking I-V
- Anatomy and Physiology

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Planning for Vascular Access Placement

- PreAccess Assessment
- Patient History
- Therapy Goals
- Examine Patient
- Consider Access Options
- Educate patient
- Place vascular access device

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IV Therapy

- Fluid Administration/ Resuscitation
- Chemotherapy
- Biotherapy
- Blood Administration
- Antibiotic Therapy
- Nutrition Support




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INFUSION THERAPY PRACTICE

19

Standard 2

Special Patient Populations



Neonatal, Pediatrics,
Pregnant and Older Adults


Adult Patients

Older Adult Patients

20

Standard 5

Clinician Competency



Competency Assessment and Validation

Clinician Responsibilities

Competency

Organizational responsibilities

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PATIENT AND CLINICIAN SAFETY

22

Standard 11

Adverse Events and Serious Adverse Events

Reporting System



Just Culture

23


Standard 13

Medication Verification

"Rights"

Integrate Technology

Labeling



24

INFECTION PREVENTION AND CONTROL

25



Standard 16

Hand Hygiene

26

ANTT®

Standard 18

Aseptic Non Touch Technique

New Standard

27

Five Practice Terms

- Key-Site
- Key-Part
- General Aseptic Field
- Critical Aseptic Field
- Micro Critical Aseptic Field

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Compounding and Preparation

Standard 20

Commercially available prefilled syringes

Prefilled flush syringes

Labeling

Single/multi dose vial

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INFUSION EQUIPMENT

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Vascular Visualization

Standard 22

- NIR
- Ultrasound



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VAD SELECTION AND PLACEMENT

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VAD Planning

Standard 26

- Device
- Duration of Therapy
- Medication

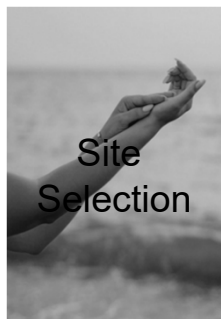


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Site Selection


27-Short PIV catheters

- Arm Preference per Patient
- Avoid ventral surface of wrist
- Avoid areas of flexion
- Avoid compromised areas
- Forearm

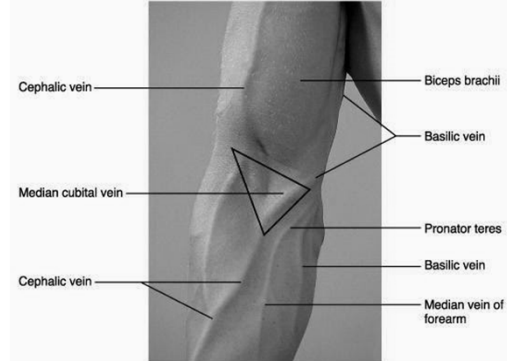


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LIMB ALERT



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Cephalic vein

Median cubital vein

Cephalic vein

Biceps brachii

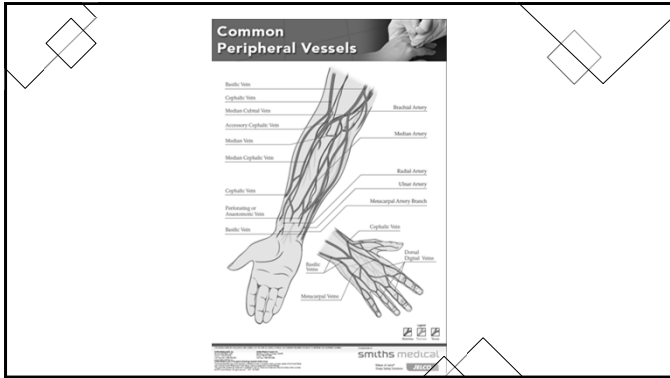
Basilic vein

Pronator teres

Basilic vein

Median vein of forearm

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Standards 32

Local Anesthetics

Behavioral Interventions

Fear of Needles

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Standard 33-Vascular Access Site Preparation and Skin Antisepsis

Hair

Skin Antisepsis

39

VAD Placement

Standard 34

Attempts

New Device

ANTT®

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VAD MANAGEMENT

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NEW

Standard 35

New Standard

Medication Withdrawn from glass ampules


Parenteral Nutrition


Blood and Blood Components


42

What are the clinical consequences of particulate matter?

-


 Filtration poses challenges: decreased flow rates, occlusion alarms and air locks

 Cost is a barrier to consistent use

 Use of only 1.2-micron filters reduces the risk of errors associated with using 2 different types of filters and reduces cost.

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Needless Connectors

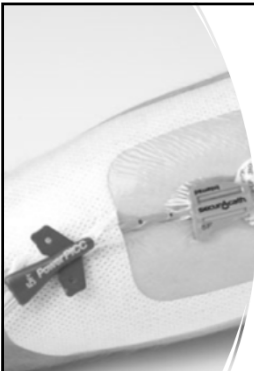


Standard 36

Use them

Disinfection

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Procedure

Standard 38 –VAD Securement Stabilization

- properly secure to prevent complications and unintentional loss of access
- consider engineered stabilization device
- MARS!

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VAD Assessment


Standard 42

Care Bundle

Assessment per policy


Dressing Change

Avoid BP measurement



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Administration Set Changes



Standard 42

- Minimize use of add on devices
- Avoid use of stopcocks
- IV solutions-every 96 hours (other than lipids, TPN, blood)
- Detached secondary sets-every 24 hours
- No looping

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Administration Set Management


Standard 43

Frequency

Stopcocks

Propofol

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Standard 44

Order of blood draw

Limit tourniquet time

Avoid hemolysis

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Standard 45

VAD Removal

Assess need

Remove if clinically indicated

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VAD RELATED COMPLICATIONS

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Standard 46

Phlebitis

Assessment

Risk Factors

Standardized Scale

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Site of Observation	Score	Stage/Action
Intravenous site appears healthy.	0	No signs of phlebitis
One of the signs is evident.	1	- Slight pain near cannulated site. - Slight redness. Possible first sign of phlebitis. - Observe cannula
Two of the signs are evident	2	- Pain - Redness Early stage of phlebitis - Resite cannula
All of the following signs are evident	3	- Pain - Redness - Swelling Medium stage of phlebitis - Resite cannula - Consider treatment
All of the signs are evident	4	- Pain - Redness - Swelling - Palpable venous cord. Advanced stage - Resite cannula - Consider treatment
All of the signs are evident	5	- Pain - Redness - Swelling - Palpable venous cord. - Pyrexia. Advanced stage - Resite cannula - Consider treatment

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Standard 47

Infiltration and Extravasation

Risk

Assessment

Interventions

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Complications

Infiltration vs Extravasation

Infiltration Scale	Clinical Criteria
0	No symptoms
1	Skin flushed; Edema less than 1 inch in any direction; Cool to touch, with or without pain
2	Skin flushed; skin temperature; edema 1-4 inches in any direction; Cool to touch, with or without pain
3	Skin flushed; numbness; edema extends greater than 4 inches in any direction; Mild to moderate pain; Possible numbness
4	Skin flushed; tenderness; Edema extends greater than 8 inches in any direction; Deep aching edema; Circulatory impairment; Moderate to severe pain; Infiltration of any amount of blood products, vesicant or irritant

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Vesicant Non Vesicant or Irritant

Identify	Identify vesicant nature of antineoplastic and non cytotoxic medications prior to administration
Produce	Vesicant medications can produce varying degrees of tissue damage
Produce	Vesicant and non vesicant solutions can produce compartment syndrome

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Infiltration and Extravasation

- Assess all VADS
- Recognize Risk Factors
- Recognize differences between vesicant, non vesicant, irritant solution
- Identify causes of infiltration/extravasation
- Limit amount of solution that enters the tissue
- Immediately stop the infusion
- If extravasation, detach all administration sets and aspirate from the catheter hub prior to catheter removal.

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Infiltration and Extravasation

- Follow Established Treatment Protocol
- Use Appropriate Method for Clinical Management
- Do not rely on the alarm from Electronic Infusion Pump
- Educate Patient and Caregivers
- Document
- Monitor the Site
- Review Incidents

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Nerve Injury

Standard 48

- Assessment
- Common Sites
- Surgical Implications

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Complications

Standard 50- Infections

- CLABSI
- CRBSI

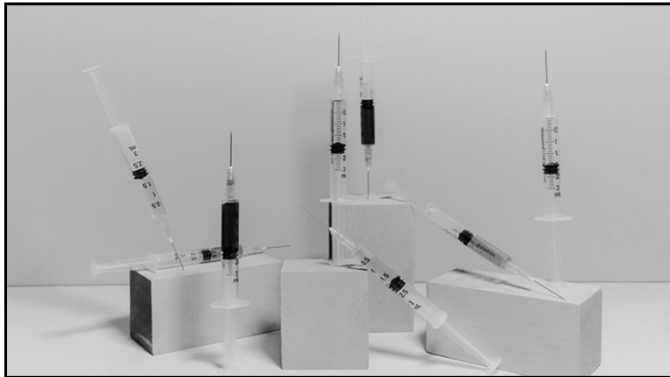
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Catheter Associated Skin Injury	Standard 55
	Assessment
	Definitions
	Skin Health
	Prevention.

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OTHER INFUSION DEVICES

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INFUSION THERAPIES

64

PCA	Standard 62
	Assessment
	Risk Factors
	Standardized Concentrations
	Continuous Monitoring

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Blood Administration	Standard 64
	Technology
	Filtered Tubing
	Normal Saline
	Assess and Monitor

66

Moderate Sedation

Standard 65

- Nurse Practice Act
- Medications
- Reversal Agents
- Monitor

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ISMP Recommendations

- Acquisition and Distribution of Adult IVP Medications

ISMP
INSTITUTE FOR SAFE MEDICATION PRACTICES

February 2022 • Volume 29 Issue 2

Nurse AdviseERR
Educating the Healthcare Community About Safe Medication Practices

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ISMP Safe Practice Guidelines for Adult IV Push Medications

- Pharmacy Compounding
- Aseptic-"pop-off vials"
- Dilution
- Do not withdraw
- Do not dilute
- Do not draw from IV bag
- Labeling
- Discard

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ISMP Targeted Medication Safety Best Practices for Hospitals 2022-2023

- Best Practice #3 Weigh patient
- Best Practice #7 Sequester NMB
- Best Practice #9 Reversal Agents
- Best Practice #14 Learn from Others
- Best Practice #15 Verify Opioid Status
- Best Practice #18 Maximize Technology
- Best Practice #19 High-Alert Medications

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Intravenous therapy

Many healthcare workers have a legal and moral accountability for intravenous therapy after reading a warning on a vial.

Intravenous therapy: current practice and nursing concerns

IV Therapy: Lawsuit Alleges Complications From Too Rapid Infusion Rate

Controversial Surgery: An Infant's Unlucky Nursing Care To Patient's Strain

Legal Ramifications

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Legal

- Most Common Injuries Resulting in Litigation**
 - Too many device attempts
 - Infiltration/Extravasation not recognized or treated
 - Thrombosis not recognized or treated
 - Negligent nerve damage
 - Failure to notify LIP of problems that develop

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Categories of Negligence


- Failure to Document
- Failure to Monitor
- Failure to perform or follow Standard of Care
- Failure to notify LIP



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What's a PeriAnesthesia Nurse to Do?

- Now you know
- Policy and Procedures
- Best Practices
- Remain Current



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