



IU Health

Central Line Insertion Training Program

Preventing Infections:
A Standardized Approach to Vascular Access



Indiana University Health

Central Line Insertion Training Program

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Central Line Insertion Training Program

Program Summary

The IU Health Vascular Access Program focuses on reinforcing best practices in vascular access to help reduce the risk of complications and central line associated bloodstream infections (CLABSI).

The instruction focuses on four major topics of vascular access —aseptic techniques & indications and guidelines, central line insertion techniques, ultrasound-guided instructions, and troubleshooting/managing complications. Instruction was developed by a multi-disciplinary group of physician peers, designed to incorporate both discussion and hands-on simulation while integrating evidence-based strategies.

For those with experience inserting central lines, this program affords opportunities to enhance practical skills and knowledge, as well as standardizes the approach across our system. For the new inserter, it provides a foundational knowledge required for vascular access. Learners of all skill levels can benefit by reinforcing the importance of aseptic techniques that are crucial to preventing patient harm.

Note: Pre-work is an integral part of this program, and is a requirement before attending the class. The pre-work is accessible upon online course registration.

Central Line Insertion Training Program

Course Learning Objectives

At the conclusion of this training course, participants will be able to:

Maximum aseptic techniques and indications/guidelines, including:

- Understanding of IU Health consent forms and use
- Demonstrate proper hand hygiene
- Demonstrate closed gloving and proper donning of sterile attire
- Apply maximal sterile barrier precautions
- Describe proper skin preparation
- Demonstrate securement/dressing of the catheter
- Explain importance of a 2nd observer for auditing and completion of the insertion checklist
- Recall central line indications and guidelines

Central line insertion techniques, including:

- Review of CVC insertion kits, supplies, forms, and time-out procedure
- Describe key components of sterility to include hand hygiene, skin preparation, and sterile field precautions
- Explain central venous catheter insertion, securement, and dressing techniques
- Recall Local anesthesia and injection technique simulations
- Demonstrate needle and guidewire insertion
- Identify correct vessel dilation technique, execute correct catheter insertion process
- Explain guidewire removal technique, catheter securement process
- Explain proper flushing techniques
- Apply a central line sterile dressing
- Safely remove a fenestrated drape
- Explain the time-out process and its importance
- Explain the purpose and importance of an observer to be present for support and documentation, both during and after the procedure

Central Line Insertion Training Program

Course Learning Objectives (continued)

At the conclusion of this training course, participants will be able to:

CVC Complications/Troubleshooting, including:

- Describe potential contraindications to CVC placement
- Identify and manage CVC complications
- Describe anatomic variance issues in the internal jugular vein location
- Recognize accidental arterial puncture and arterial dilation

Ultrasound-guided venous access, including:

- Understand basic ultrasound concepts review
- Perform modified Seldinger insertion technique
- Identify vessels and vessel health using a 6 point Rapid Central Vein Assessment (RACEVA) protocol
- Identify anatomical structures, sliding lung and sandy beach to r/o pneumothorax
- Assess vessels using six criteria
- Understand insertion techniques, vessel identification/access/management, and needle angles

Central Line Insertion Training Program

Course Agenda

Registration

Welcome, Introductions, and Course Overview

Basic course goals and objectives

Review pre-work/answer questions (if requested)

Simulation Stations

- ♦ Station 1: Aseptic Technique on Insertion
Indications and Guidelines
- ♦ Station 2: Central Line Insertion Techniques
- ♦ Station 3: CVC Complications
- ♦ Station 4: Ultrasound-Guided Central Venous Access
(mandatory for new inserters; optional for those experienced)

Q & A Discussion

Adjournment



Central Line Insertion Training Program

STATION ONE

Aseptic Technique on Insertion

Central Line Insertion Training Program

Station One (Page 1 of 2)

Presentation Title:	Aseptic Technique on Insertion Indications and Guidelines
Presentation Objectives:	Ensure participants have a thorough understanding of maximum sterile barriers and aseptic techniques on insertion to prevent central line associated blood-stream infections (CLABSI).
Specific Learning Objectives:	Upon the completion of Station One, the attendee will: <ul style="list-style-type: none">• Demonstrate proper hand hygiene• Demonstrate closed gloving and proper donning of sterile attire• Describe rationale and perform maximal sterile barrier precautions• Apply skin preparation• Demonstrate catheter securement/dressing• Understand the importance of a 2nd observer for auditing and completion of the insertion checklist• Describe the seven indications for central line insertion• Describe optimal central line placements
Learning Methodology:	Demonstration Discussion
Evaluation Methods:	Immediate feedback Attendee Evaluation Form
Duration:	30 Minutes
Resource Requirements:	<ul style="list-style-type: none">◆ Alcohol based hand sanitizer or sterile scrub (29610) 4 per cart◆ IU Health CVC kit (96589)◆ Ultrasound probe and cover kit◆ Sterile Gloves◆ Saline Flushes◆ Central line dressing kit◆ Gown, hat and mask◆ IU Health CVC Insertion Checklist (see appendix)

Central Line Insertion Training Program

Station One (Page 2 of 2)

Major References

MMWR Guidelines for hand hygiene in healthcare setting. <http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf> . Accessibility verified April 20, 2011.

MMWR Guidelines for the prevention of intravascular catheter-related infections. <http://www.cdc.gov/hipac/pdf/guidelines/bsi-guidelines-2011.pdf>

Accessibility verified April 20, 2011.

Implement the central line bundle.

IU Health Policies:

Central Venous Access Devices IV 1.01A

Adult/Pediatric Central Vascular Line Insertion IC 1.17

Universal Protocol Checklist

Central Line Insertion Checklist

Station One—Aseptic Techniques

Curriculum Detail

Introduction:

Aseptic technique is crucial to the prevention of CLABSI. This station is to ensure participants have a thorough understanding of maximum sterile barriers and aseptic technique on insertion to prevent central line associated bloodstream infections (CLABSI).

Activities:

1. Hand Hygiene

- Remove all jewelry

- Wash hands with soap/water immediately prior to a dedicated procedure

- May use alcohol-based hand sanitizer alone (located in the kit) if hands not visibly soiled before donning gloves

2. Demonstrate closed gloving and proper donning of sterile attire

- Reinforce key points to ensure sterility is maintained while donning

- Second observer to assist with donning of sterile attire

3. Maximal sterile barrier precautions

- Demonstrate and explain rationale

4. Apply skin preparation

- Thirty-second scrub on dry skin

- Allow to dry naturally, minimum of 30 seconds (dry time is die time)

- Use a longer scrub time for wet areas

5. Demonstrate securement/dressing of the catheter

- Appropriate dressing may/may not be in the CVC insertion kit. Some units use a specialized dressing.

- Ensure dressing covers the insertion site area

- Time & date the dressing

- Dressing can remain in place up to 7 days, should be assessed daily by nursing staff

- Use the 'pantsing' technique to secure the dressing

- Use a 'Biopatch' or CHG impregnated dressing per institutional protocol

Station One—Aseptic Techniques

Curriculum Detail

6. Central Line Insertion Checklist/Indications

Review elements of the insertion checklist, explain the purpose and importance of a 2nd observer to be present for support and documentation, both during and after the procedure (see appendix)

Review second page guidelines of insertion checklist

Only place central lines for the following indications:

Seven Approved Indications:

- ◇ Dialysis/Apheresis
- ◇ Emergent large volume resuscitation
- ◇ Long-term antibiotics (anticipate >2 weeks)
- ◇ Hemodynamic monitoring
- ◇ Trans venous pacing
- ◇ Infusion or frequent phlebotomy in unavailable peripheral access
(determined by VAT/IR **after peripheral access is unsuccessfully attempted**)
- ◇ Central line-only recommended infusions
(Vestigants, TPN, chemo, pressors, higher conc. potassium)

7. Central Line Placement

- Review sites for central line placement, with emphasis on optimal and sub-optimal considerations
- EJ's should be low on the neck, so catheter tip is nearer the great vessels of the heart
- PICC lines are generally not optimal for ICU patients
- Femoral lines are very high risk for causing a central line associated bloodstream infection and should be avoided if possible.



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STATION TWO

Central Line Insertion Techniques

Central Line Insertion Training Program

Station 2 (Page 1 of 2)

Presentation Title:	Central Line Insertion Techniques
Presentation Objectives:	<p>Ensure participants have a thorough understanding of central line insertion techniques</p> <ul style="list-style-type: none">• Discuss contents and thorough review of CVC insertion kits, supplies, forms, and time-out procedure.• Reinforce key components of sterility to include hand hygiene, skin preparation, and sterile field precautions.• Demonstrate central venous catheter insertion, securement, and dressing techniques.
Specific Learning Objectives:	<p>Upon the completion of Station Two, the attendee will:</p> <ul style="list-style-type: none">• Identify and discuss application of the IU Health consent form• Explain the time-out process and it's importance• Explain the purpose and importance of a 2nd observer to be present• Explain need of local anesthesia and simulate injection technique• Demonstrate needle insertion for vessel cannulation, and directly visualize the needle through the vessel• Demonstrate correct guide wire insertion• Perform correct vessel dilation technique• Execute correct catheter insertion process• Demonstrate guidewire removal technique• Conduct catheter securement process• Demonstrate proper flushing techniques• Perform central line sterile dressing application• Demonstrate safe fenestrated drape removal
Learning Methodology:	<p>Discussion Demonstration</p>
Evaluation Methods:	<p>Immediate feedback Attendee Evaluation Form</p>
Duration:	<p>60 Minutes</p>

Central Line Insertion Training Program

Station 2 (page 2 of 2)

Presentation Title:	Central Line Insertion Techniques
Resource Requirements:	<p><u>Forms:</u></p> <ul style="list-style-type: none">♦ IU Health Procedural Consent Form♦ IU Health CVC Insertion Checklist <p><u>Supplies:</u></p> <ul style="list-style-type: none">♦ CVC Kit (includes gown/mask/cap/CHG)♦ Ultrasound and probe cover kit♦ Sterile Gloves♦ Saline Flushes♦ Central Line Dressing Kit♦ Skin/vessel blocks (simulating patient's skin)♦ Simulated Ultrasound Probe♦ Table/desk (simulate at patient in the supine position)
Major References:	<p>MMWR Guidelines for hand hygiene in healthcare setting. http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf . Accessibility verified April 20, 2011.</p> <p>MMWR Guidelines for the prevention of intravascular catheter-related infections. http://www.cdc.gov/hipac/pdf/guidelines/bsi-guidelines-2011.pdf Accessibility verified April 20, 2011.</p> <p><u>IU Health Policies:</u></p> <p>Central Venous Access Devices IV 1.01A</p> <p>Adult/Pediatric Central Vascular Line Insertion IC 1.17</p> <p>Universal Protocol Checklist</p> <p>Central Line Insertion Checklist</p>

Station 2—Central Line Insertion Techniques

Curriculum Detail

Activities:

1. IU Health consent form

Discuss application and completion requirements

Who can consent

Complete every blank line

2 Pre-Insertion

Explain the time-out process and consent form, and their importance

Second observer is important to assist and ensure completion of insertion checklist

NOTE: Ensure sterility is maintained during entire procedure

3. Local Anesthesia

Remind learners of need to use local anesthesia on patients

Simulate anesthesia injection technique

4. Vessel Cannulation

Demonstrate and have participants:

-Insert needle into the simulated skin and vessel

-Directly visualize the needle through the vessel

Focus on:

-Aligning marks on the syringe with the vessel bevel

-Ensure learners have the bevel up toward the skin

5. Guide Wire Insertion

Demonstrate and have participants:

-Review function of Raulerson syringe

-Insert the wire through the back of the syringe

Focus on:

-Observing wire insertion

-Maintain guide wire control when threading wire

Continued onto next page

Station 2—Central Line Insertion Techniques

Curriculum Detail (continued)

Activities:

6. Vessel Dilation

Demonstrate and have participants:

- Remove the needle, nick the skin, and insert dilator over the wire

Focus on:

- Guidewire control, while avoiding advancing the scalpel or the dilator too deep.
- Maintaining the same angle of insertion with the dilator that was used with the initial needle to prevent bending the guidewire.

7. Catheter Insertion

Demonstrate and have participants:

- Insert catheter to the appropriate length

Focus On:

- Maintain guidewire control at all times

8. Guidewire Removal

Demonstrate and have participants:

- Remove the wire, ensuring the catheter stays in place

9. Catheter securement

Demonstrate and have participants:

- Suture the catheter and hub in place

Focus on:

- Location selection that will promote sterile dressing changes by avoiding areas that are difficult to dress (e.g. ear, jawline, etc).

10. Flushing techniques

Discuss:

- Aspirating and flushing from each port
- Placing needle-less ports

11. Dressing

Demonstrate and have participants:

- Apply central line sterile dressing
- Remove fenestrated drape safely



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STATION THREE

Central Venous Access

Complications/Troubleshooting

Central Line Insertion Training Program

Station 3 (Page 1 of 2)

Presentation Title:	CVC Complications/Trouble Shooting
Presentation Objectives:	Ensure participants have a thorough understanding of identifying and managing CVC complications.
Specific Learning Objectives:	<p>Upon completion of Station Three, the attendee will be able to:</p> <ul style="list-style-type: none">• Describe anatomic variance issues in the internal jugular vein location.• Demonstrate techniques used to determine whether a catheter is intravenous or intra-arterial.• Describe potential contraindications to CVC placement.• Identify signs and symptoms of:<ul style="list-style-type: none">-pneumothorax-air embolism-infection-thrombosis/bleeding-wire kinking-catheter misplacement issues-accidental arterial puncture and arterial dilation• Discuss management of complications

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Station 3 (page 2 of 2)

Presentation Title:	CVC Complications/Trouble Shooting
Learning Methodology:	Lecture Demonstration Discussion
Evaluation Methods:	Instructor feedback Attendee Evaluation Form
Duration:	45 Minutes
Resource Requirements:	None
Major References	<u>IU Health Policies:</u> Central Venous Access Devices IV 1.01A Adult/Pediatric Central Vascular Line Insertion IC 1.17 Universal Protocol Checklist Central Line Insertion Checklist

Station Three—CVC Complications/Troubleshooting

Curriculum Detail

Activities:

1. Anatomic variances

Describe anatomic variance issues in the internal jugular vein location.

2. Catheter location

Recognize techniques used to determine whether a catheter is intravenous or intra-arterial.

Techniques include: ultrasound identification, transduction, and blood gas analysis.

3. Contraindications

Describe potential contraindications to CVC placement, such as infection, trauma, coagulopathy, vessel stenosis, and suspected proximal vessel injury.

Discuss vessel site selection in relation to respective contraindications.

4. Risk Factors

Identify risk factors for signs and symptoms of:

- pneumothorax
- air embolism
- Infection
- thrombosis/bleeding
- wire kinking
- catheter misplacement issues
- accidental arterial puncture and arterial dilation

5. Management of Complications

Discuss management of possible complications

6. Present-on-admission (POA) lines

Critically evaluate all lines POA:

- Remove if not needed
- Remove or obtain blood cultures at the time of admission if there's a risk the line/access device is infected



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STATION FOUR

*Ultrasound-Guided
Central Venous Access*

Central Line Insertion Training Program

Station 4 (Page 1 of 2)

Presentation Title:	Ultrasound-guided Central Venous Access
Presentation Objectives:	Ensure participants have a basic understanding of utilizing ultrasound to guide central venous access.
Specific Learning Objectives:	<p>Review ultrasound machine function and operation.</p> <p><u>Use ultrasound to:</u></p> <p>Demonstrate modified seldinger insertion technique.</p> <p>Identify vessels/vessel health using 6-point Rapid Central Vein Assessment (RACEVA) Protocol:</p> <ul style="list-style-type: none">• Mid neck internal jugular• Base of neck internal jugular• Brachiocephalic• Supraclavicular subclavian vein and artery, and external jugular• Intraclavicular short axis• Intraclavicular long axis <p>Demonstrate vessel assessment using the following six criteria:</p> <ul style="list-style-type: none">• Caliber• Depth• Respiratory variation• Compression by artery• Proximity to pleura• Exit site considerations <p>Review anatomical structures, sliding lung and sandy beach to r/o pneumonothorax</p> <p>Using ultrasound guidance to:</p> <ul style="list-style-type: none">• Demonstrate inserting needle into vessel, demonstrating different angles for needle insertion• Visualize needle tip during insertion• Demonstrate confirmation of wire in vessel by ultrasound

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Station 4 (page 2 of 2)

Presentation Title:	Ultrasound-guided Central Venous Access
Learning Methodology:	Demonstration Discussion
Evaluation Methods:	Instructor feedback Attendee Evaluation Form
Duration:	60 Minutes
Resource Requirements:	<ul style="list-style-type: none">• Ultrasound Machine/probe• Alcohol based hand sanitizer• IU Health CVC kit• Ultrasound probe and cover kit• Exam Gloves• Sterile Gloves• Saline Flushes• Central line dressing kit• Gown, hat and mask• IU Health CVC Insertion Checklist• +/- Live model
Major References	<p>Milling TJ, Rose J, Briggs WM, Birkhahn R, et al. Randomized, controlled clinical trial of point-of-care limited ultrasonography assistance of central venous cannulation: The Third Sonography Outcomes Assessment Program (SOAP-3) <i>Trial. Crit Care Med</i> 2005; 33(8):1784-1769.</p> <p>Moore CL, Copel JA. Point-of-care ultrasonography. <i>N Engl J Med</i> 2011; 364:749-57.</p> <p>Hind D, Calvert N, McWilliams R, et al. Ultrasonic locating devices for central venous cannulation: meta-analysis. <i>Br J Med</i> 2003; 327:361-368.</p> <p>Randolph AG, Cook DJ, Gonzales CA, Pribble CG. Ultrasound guidance for placement of central venous catheters: a meta-analysis of the literature. <i>Crit Care Med</i> 1996; 24:2053-2058.</p> <p>Lichtenstein D, Saifi R, Augarde R, et al. The internal jugular veins are asymmetric. Usefulness of ultrasound before catheterization. <i>Intensive Care Med</i> 2001; 27:301-305.</p> <p>Cajozzo M, Quintini G, Cocchiera G, et al. Comparison of central venous catheterization with and without ultrasound guide. <i>Transfusion and Apheresis Science</i></p>

Station 4—Ultrasound-Guided Central Venous Access

Curriculum Detail

Activities:

1. Ultrasound machine

- Review ultrasound machine function and operation
- Use a sheath on the ultrasound probe if possible
- Always use sterile gloves
- When finished, wipe the probe with an approved disinfectant, even if utilizing a sheath.

2. Vessel Identification

Identify vessels/vessel health using 6-point Rapid Central Vein Assessment (RACEVA) Protocol on either live model or Blue Phantom CVC trainer:

- Mid neck internal jugular
- Base of neck internal jugular
- Brachiocephalic
- Supraclavicular subclavian vein and artery, and external jugular
- Intraclavicular short axis
- Intraclavicular long axis

3. Vessel Assessment

Demonstrate vessel assessment using the following six criteria:

- Caliber
- Depth
- Respiratory variation
- Compression by artery
- Proximity to pleura
- Exit site considerations

4. Anatomical Structures

Review anatomical structures, sliding lung and sandy beach to r/o pneumothorax if live model is available

6. Use ultrasound guidance to:

- Demonstrate inserting needle into vessel, demonstrating different angles for needle insertion
- Visualize needle tip during insertion
- Demonstrate confirmation of wire in vessel by ultrasound

7. Ultrasound and Infection Prevention



Appendix

- . IU Health consent forms**
- . Central line device type guidelines**
- . Central line insertion checklist**
- . Attestation of course completion**
- . Supply list**

IU Health Consent Form

30737
CH-3494 (JAN 12)
Effective 2012



Indiana University Health

CONSENT FOR BEDSIDE PROCEDURE (Page 1 of 1)

By signing this form, I agree to the procedure(s) listed here:

- | | | |
|---|--|---|
| <input type="checkbox"/> Arthrocentesis | <input type="checkbox"/> Insertion of Arterial Line | <input type="checkbox"/> Paracentesis |
| <input type="checkbox"/> Aspiration | <input type="checkbox"/> Insertion of Central Lines Including PICC | <input type="checkbox"/> Percutaneous Endoscopic Gastrostomy Tube |
| <input type="checkbox"/> Biopsy | <input type="checkbox"/> Insertion of Chest Tube | <input type="checkbox"/> Percutaneous Needle Aspiration |
| <input type="checkbox"/> External Ventricular Drain | <input type="checkbox"/> Insertion of Pulmonary Artery Catheter | <input type="checkbox"/> Thoracentesis |
| <input type="checkbox"/> Incision & Drainage | <input type="checkbox"/> Intra Cranial Pressure Monitoring | <input type="checkbox"/> Other: _____ |

to be done by _____, members of Indiana University Health Medical Staff or other appropriate licensed personnel.

From this point on:

- all procedures will be called the "Procedure".
- the people performing the Procedure will be called "Treating Practitioner".

The exceptions to my consent are:

I understand and agree that:

- Residents and students may help with my care.
- Medical staff other than the Treating Practitioner may do part of my Procedure.
- Industry representatives may be in the room to consult during my Procedure.
- The Treating Practitioner may do other procedures not listed here if they are needed.
- A bad outcome may occur. A bad outcome does not mean care was not appropriate.
- The Anesthesiologist or Treating Practitioner may give me an anesthetic. I have been told about the risks of anesthesia. These include death, injury to my teeth, throat and mouth, other injury and damage to my dentures.
- Parts of my body taken out during the procedure can be thrown away or used for research as long as my name is not used.
- Pictures may be taken and used for teaching as long as my name is not used.
- I have talked with the Treating Practitioner about:
 - ◊ The Procedure
 - ◊ The risks
 - ◊ Risks, benefits and results of other treatments
 - ◊ Why I need it
 - ◊ The chances of success
 - ◊ What could happen if I do not have the Procedure
 - ◊ The expected outcome
- I have been told about other choices, including:
 - ◊ Not having the Procedure
 - ◊ Medicine
 - ◊ Other choices: _____
 - ◊ Other procedures
 - ◊ Therapy
- I have been told about risks of the Procedure, which include:
 - ◊ Bleeding
 - ◊ Damage to parts of my body
 - ◊ Other risks: _____
 - ◊ Infection
 - ◊ Scarring
 - ◊ Injury
 - ◊ Death

Signature of Patient/Surrogate

Time Signed

Date Signed

If Signed by Surrogate, Relationship to Patient

OPTIONAL

Additional Adult Witness Signature

Time Signed

Date Signed

TREATING PRACTITIONER USE ONLY

I have discussed with the patient the nature of the proposed care, treatment, services, medications, interventions or procedures; the potential benefits, risks or side effects, including potential problems related to recuperation; the likelihood of achieving care, treatment and service goals; the reasonable alternatives to the proposed care, treatment and service; the relevant risks, benefits and side effects related to alternatives, including the possible results of not receiving care, treatment and services; and when indicated, any limitations on the confidentiality of information learned from or about the patient.

Signed: _____ Date: _____ Time: _____

DOCUMENTATION OF EMERGENT/URGENT PROCEDURE

This procedure was performed emergently.

Signed: _____ Date: _____ Time: _____



**CONSENT FOR BEDSIDE
PROCEDURE (Page 1 of 1)**
(SPANISH VERSION 33310)

Medical Record Copy

M-1

IU Health Consent Form

35258
CH-1096 (JAN 12)
Effective 2012



Indiana University Health

CONSENT FOR PROCEDURE

By signing this form, I agree to the procedure(s) listed here. _____

to be done by _____,
members of Indiana University Health medical or other licensed personnel staff.

From this point on

- all procedures will be called the "procedure"; and
- the persons performing the procedure will be called "treating practitioner".

The exceptions to my consent are as follows:

I understand and agree to the following items.

- Residents and students may help with my care.
- Medical staff other than the treating practitioner may do part of my procedure.
- Industry representatives may be in the room to consult during my procedure.
- The treating practitioner may do other procedures not listed here if they are needed.
- A bad outcome may occur. A bad outcome does not mean care was not appropriate.
- The anesthesiologist or treating practitioner will give me an anesthetic. I have been told about the risks of anesthesia. These include death, injury to my teeth, throat and mouth, other injury and damage to my dentures.
- I agree to get blood and/or blood products any time during this hospital stay if the treating practitioner thinks I need it. I have been told about the risk of getting blood. I have been told if there are other choices. If I need blood or blood products, I agree to the risks that include allergic reactions, infections (hepatitis and AIDS), intravascular fluid overload, and chemical imbalances.
- Parts of my body taken out during surgery can be thrown away or used for research so long as my name is not used.
- Pictures may be taken and used for teaching as long as my name is not used.
- I have talked with the treating practitioner about the procedure, why I need it, the expected outcome, the risks, the chances of success, risks, benefits and results of other treatments, and what could happen if I do not have the procedure.
- I have been told about other choices, including not having the procedure, other procedures, medicine, and therapy.
Other choices: _____
- I have been told about the risk of the procedure, which include but are not limited to bleeding, infection, injury, scarring, damage to parts of my body, and death. Other risks: _____

Signature of Patient/Surrogate

Time Signed

Date Signed

If Signed by Surrogate, Relationship to Patient

OPTIONAL

Additional Adult Witness Signature

Time Signed

Date Signed

TREATING PRACTITIONER USE ONLY

I have discussed with the patient the nature of the proposed care, treatment, services, medications, interventions or procedures; the potential benefits, risks or side effects, including potential problems related to recuperation; the likelihood of achieving care, treatment and service goals; the reasonable alternatives to the proposed care, treatment and service; the relevant risks, benefits and side effects related to alternatives, including the possible results of not receiving care, treatment and services; and when indicated, any limitations on the confidentiality of information learned from or about the patient.

Signed: _____ Date: _____ Time: _____

DOCUMENTATION OF EMERGENT/URGENT PROCEDURE

This procedure was performed emergently.

Signed: _____ Date: _____ Time: _____



CONSENT FOR PROCEDURE

(Page 1 of 1)
(SPANISH VERSION 64208)

Medical Record Copy

M-1

Central line device type guidelines

AHC Central Line Guidelines				
Device Type	Proposed duration of infusion			
	< 5- 7 days	7-14 days	15-30 days	>31 days
Peripheral IV Catheter	No preference between PIV and us-guided PIV for use < 5 days			
Midline	Midlines proposed duration is ≤ 14 days			
Non-tunneled / acute central venous catheter	Central venous catheter preferred to PICCs for use between 5 to ≤ 14 days. After 7 days begin planning for removal, PICC or tunneled CVC if longer term therapy needed			
PICC	PICC use appropriate if proposed duration is > 7 d; PICCs preferred to tunneled catheters for durations of 15-31 d			
Tunneled catheter			Tunneled catheters neutral for use > 15 d	Use tunneled for > 31d
Ports				Use Ports for > 31d
		Appropriate	Neutral	Inappropriate



Indiana University Health

AHC Central Line Insertion ChecklistPatient
Sticker

Insertion Date		Insertion Time	
Unit of insertion		Insertion Name:	
Occupation of inserter	<input type="checkbox"/> Attending MD <input type="checkbox"/> Fellow <input type="checkbox"/> Resident <input type="checkbox"/> Intern <input type="checkbox"/> Med Student <input type="checkbox"/> NP <input type="checkbox"/> PA <input type="checkbox"/> VAT <input type="checkbox"/> Interventional Radiology <input type="checkbox"/> Other: _____		
Service line of inserter		Supervising MD	
Type of central line	<input type="checkbox"/> Non-tunneled CVC <input type="checkbox"/> PICC <input type="checkbox"/> Tunneled <input type="checkbox"/> Dialysis <input type="checkbox"/> Introducer/sheath <input type="checkbox"/> Pulm. Artery Cath <input type="checkbox"/> Apheresis Cath		
Line location	<input type="checkbox"/> Right <input type="checkbox"/> Left <input type="checkbox"/> Jugular <input type="checkbox"/> Subclavian <input type="checkbox"/> Femoral <input type="checkbox"/> Upper Extremity <input type="checkbox"/> Umbilical <input type="checkbox"/> Chest <input type="checkbox"/> Other: _____		
Number of lumens/size	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	Catheter size: _____ French	
Reason for Insertion:	<u>Central line indication:</u> <input type="checkbox"/> Dialysis/Apheresis <input type="checkbox"/> Emergent large volume resuscitation <input type="checkbox"/> Trans venous pacing <input type="checkbox"/> Hemodynamic Monitoring <input type="checkbox"/> Long term Abx (>2 wks) <input type="checkbox"/> CL-only infusions (vesicants, TPN, Chemo, Pressors, ↑ conc. Potassium) <u>Additional Info:</u> <input type="checkbox"/> Replace malfunctioning central line <input type="checkbox"/> Replace for suspected CL infection <input type="checkbox"/> Other: _____		
Complicating factors around placement/procedure	<input type="checkbox"/> Emergency placement <input type="checkbox"/> Coagulopathy <input type="checkbox"/> Multiple failed attempts <input type="checkbox"/> Femoral site required <input type="checkbox"/> Other/Explain _____		
Ultrasound guidance used	<input type="checkbox"/> Yes <input type="checkbox"/> No	Placement confirmed: <input type="checkbox"/> US <input type="checkbox"/> CXR <input type="checkbox"/> Transducer <input type="checkbox"/> Other _____	
Infection Prevention/Safety Practices of Inserter:	Yes	No	If ANY answer is NO, Call a <u>time-out</u> Procedure must be stopped, corrected, & restarted <input type="checkbox"/> Check if procedure is stopped, corrected and restarted appropriately.
Hand Hygiene performed BEFORE donning gloves			
Barriers Used:			
• Mask & Cap			
• Sterile gown			
• Sterile gloves			
• Full sterile drape			
• Sterile field maintained			
• All others in room: mask and cap			
• Chloraprep (or Betadine if allergic to CHG) <u>minimum 30 second</u> site scrub			
All Guidewires and stylets removed			
Sterile dressing applied by: (print name and title)			
Form completed by: (print name and title)			



Central Line Insertion Guidelines

Central lines should only be placed
if peripheral IV's are not adequate



Use two (2) patient identifier prior to line placement.



It is strongly encouraged that two (2) people are present during insertion, to help assist as well as validate the checklist components for patient safety.



Stop the non-emergent insertion procedure if sterile technique or any other infection Prevention/safety components are not followed. Even one small breach in this procedure can cause a CLABSI.



Avoid using femoral lines whenever feasible, due to the increased bacterial burden.



Consider inserting the Central Venous Catheter under ultrasound guidance to help reduce the number of attempts and complications.



Place an occlusive dressing as soon as procedure is completed. Open insertion sites are the perfect time for bacteria to colonize this site and cause infection. Cover the insertion site as soon as possible.



Assess daily for continued need.
Remove promptly if no longer needed or line de-escalation to a peripheral site is possible.
Reducing line use reduces the patient's risk of infection.



Indiana University Health

Attestation of Completion

Central Line Insertion Training Program

I attest that _____ has successfully
(print full name)
completed the Central Line Insertion Training Program at IU
Health.

Date: _____

Instructor: (print name) _____


Instructor Signature: _____

Return to : ____ (to be completed) _____

IU Health Central Line Insertion Training Program

Supplies and Equipment Checklist


Supplies and equipment needed for one class.
Please check if item needs restocked

Supply	Lawson #	Amount / Location	 Check if item is used in class, and needs to be restocked
Forms			
Procedural Consent Form		30/ supply cart	
CVC Insertion Checklist		30/ supply cart	
Kits			
IU Health CVC Insertion Kit (Arrow will supply expired kits)	96589	30/supply cart	
Central line dressing kit	233556	30/supply cart	
Ultrasound Supplies			
Ultrasound probe cover	24447	30/supply cart	
Ultrasound gel – single use packets	35568		
Sterile/Aseptic Barriers			
Sterile Gown (Size XL)	83097	30/supply cart	
Bouffant cap	35394	1 box/supply cart	
Shoe Covers	35438	1 box/supply cart	
Mask	84985	2 boxes	
Sterile Gloves	Size: Lawson #: 6.0 75928 6.5 75929 7.0 75930 7.5 75931 8.0 75932 8.5 75933		

IU Health Central Line Insertion Training Program

Supplies and Equipment Checklist

Supplies and equipment needed for one class.
Please check if item needs restocked

Supply	Lawson #	Amount / Location	 Check if item is used in class, and needs to be restocked
General Supplies			
Hand Sanitizer, alcohol based	29610	1 btl per cart	
Saline Flushes	22864	30/supply cart	
Chloraprep, 10 ml	89133	30 per cart	
Equipment			
Skin/Vessel Blocks			
Mannequin with part			
Simulated Ultrasound Probe		2-4/equipment cart	
Table/Desk			
Instructor Manuals			
Attendee Manuals			