People Still Do That?

Clinical Convention *vs.* Evidence Based Medicine

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Disclosures

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Objectives

1. Discuss current standards, guidelines and recommendations for evidence based care and maintenance of vascular access devices.

2. Identify common gaps in knowledge and practices related to care and maintenance.

3. Develop strategies for sharing knowledge and practice updates with other care providers to improve outcomes.
People Still Do That?
Data Mining

- Survey
- Experience
- Literature
  - Guidelines, standards, recommendations
  - Peer-review publications
Clinical Convention: Still hanging on!
**Evidence Based Medicine**

<table>
<thead>
<tr>
<th>Source</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td><strong>INS</strong>&lt;br&gt;Infusion Therapy Standards of Practice, Journal of Infusion Nursing. 2016, V39 (1S)</td>
<td>• Site care, including skin antisepsis and <strong>dressing changes</strong>, are performed at established intervals and <strong>immediately if the dressing integrity becomes damp, loosened, or visibly soiled</strong>, or if moisture, drainage, or blood are present under the dressing.&lt;br&gt;• <strong>Change</strong> the dressing immediately to closely assess, cleanse, and disinfect the site in the event of drainage, site tenderness, other signs of infection, or if dressing <strong>becomes loose/dislodges</strong>.</td>
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<tr>
<td><strong>CDC</strong>&lt;br&gt;O’Grady, N.P., et al. Guidelines for the Prevention of Intravascular Catheter-Related Infections. AJIC 2011</td>
<td>• <strong>Replace</strong> catheter site dressing if the dressing becomes <strong>damp, loosened, or visibly soiled</strong>&lt;br&gt;• Use a subclavian site, rather than a jugular or a femoral site, in adult patients to minimize infection risk for nontunneled CVC placement</td>
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<tr>
<td><strong>ONS</strong>&lt;br&gt;Access Device Standards of Practice for Oncology Nursing, ONS 2017</td>
<td>• Avoid suturing; secure catheter with a securement device. Apply <strong>occlusive</strong> dressing over the exit site.</td>
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<td><strong>Timsit, et al.</strong>&lt;br&gt;Dressing disruption is a major risk factor for catheter-related infections. Criti Care Med, v40, n6, 2012.</td>
<td>• The final dressing <strong>disruption</strong> increased by greater than twelve-fold for major catheter related infections and catheter related bloodstream infection.&lt;br&gt;• The second dressing <strong>disruption</strong> was associated with a higher than three-fold increase in major catheter related infections.&lt;br&gt;• Number of dressing <strong>disruptions</strong> was related to an increased risk of colonization of skin around catheter at removal.</td>
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Clinical Convention: Sticky Situation

JUST
SAY
NO!
**Evidence Based Medicine**

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<tr>
<td>AVA (<a href="#">AVA</a>)</td>
<td>• <strong>Change</strong> dressing and securement device when the integrity of the dressing is compromised or bloody</td>
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| INS ([INS](#))                  | • Site care, including skin antisepsis and **dressing changes**, are performed at established intervals and immediately if the dressing integrity becomes damp, loosened, or visibly soiled, or if moisture, drainage, or blood are present under the dressing.  
  • Consider use of an engineered stabilization device (ESD) to stabilize and secure VADs  
  • Do not use rolled bandages, with or without elastic properties, to secure any type of VAD |
| ONS ([ONS](#))                  | • **Change dressing** if wet, soiled or nonocclusive                                |
| CDC ([CDC](#))                  | • **Replace catheter site dressing** if the dressing becomes damp, loosened, or visibly soiled |
| AACN ([AACN](#))               | • Dressings should be **changed** if they become damp, loosened, or visibly soiled |
Clinical Convention: Dirty to Clean
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<tr>
<td><a href="http://chlorhexidinefacts.com/applications.html">http://chlorhexidinefacts.com/applications.html</a></td>
<td>• The chlorhexidine/alcohol solution is superior due to its quick kill, long duration of action and ability to work in the presence of blood and bodily fluids. All current standards and guidelines recommend the use of chlorhexidine/alcohol solution as a primary infection prevention strategy for CLABSI.</td>
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| INS 
*Infusion Therapy Standards of Practice, Journal of Infusion Nursing, 2016, V39 (13)* | • The preferred skin antiseptic agent is >0.5% chlorhexidine in alcohol solution  
• Allow any skin antiseptic agent to fully dry prior to dressing placement; with alcoholic chlorhexidine solutions, for at least 30 seconds; |
| CDC  
*O’Grady, N.P., et al. Guidelines for the Prevention of Intravascular Catheter-Related Infections. AJIC 2011* | • Prepare clean skin with a >0.5% chlorhexidine preparation with alcohol |
| APIC  
*APIC Implementation Guide: Guide to Preventing Central-Line Associated Bloodstream Infections. 2015* | • Apply CHG/IPA skin prep per manufacturer’s directions, **using a back and forth scrubbing motion and friction** to allow the CHG/IPA to penetrate the layers of skin. |
| MIFU | • Refer to manufacturer’s instructions for proper application and dry times |
Clinical Convention: Pointer Sister
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| **AVA** <br>Best Practices in Adult Peripheral Vascular Access Resource Guide, AVA 2013 | • **Do not palpate** site after application of antiseptic. Use aseptic technique for entire procedure  
• Maintain sterility of catheter and all connection points prior to and during insertion |
| **CDC** <br>O’Grady, N.P., et al. Guidelines for the Prevention of Intravascular Catheter-Related Infections. AJIC 2011 | • Palpation of the insertion site should not be performed after the application of antiseptic, unless aseptic technique is maintained  
• Wear clean gloves, rather than sterile gloves, for the insertion of peripheral intravascular catheters, **if the access site is not touched** after the application of skin antiseptics.  
• A new pair of disposable nonsterile gloves can be used in conjunction with a "no-touch" technique for the insertion of peripheral venous catheters. Sterile gloves must be worn for placement of central catheters since a "no-touch" technique is not possible. |
| **INS** <br>Infusion Therapy Standards of Practice, Journal of Infusion Nursing. 2016, V39 (1S) | • Use a new pair of disposable, nonsterile gloves in conjunction with a “no-touch” technique for peripheral IV insertion, meaning that the insertion site is not palpated after skin antisepsis.  
• Consider increased attention to aseptic technique, including strict attention to skin antisepsis and the use of sterile gloves, when placing short peripheral catheters. |
| **ONS** <br>Access Device Standards of Practice for Oncology Nursing, ONS 2017 | • A new pair of disposable, nonsterile gloves is used in conjunction with **ANTT** for PIV insertion (the planned insertion site is not palpated after skin cleansing unless sterile gloves are used) |
Clinical Convention: Plug it up!
Evidence Based Medicine

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<td>• Measure the external CVAD length and compare to the external CVAD length documented at insertion when catheter dislodgment is suspected</td>
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<tr>
<td>MIFU</td>
<td>• Refer to manufacturer’s instructions for use and measurement</td>
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Clinical Convention: But it counts!
## Evidence Based Medicine

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| AVA    | • Areas of **flexion should be avoided** when possible since insertion at these sites increases risks for catheter dislodgement, infiltration, and mechanical phlebitis  
• High risks sites [include] ventral aspect of wrist, wrist, antecubital fossa, above thumb |
| INS    | • Use the venous site most likely to last the full length of the prescribed therapy, using the forearm to increase dwell time, decrease pain during dwell time, promote self-care, and prevent accidental removal and occlusions.  
• Consider veins found on the dorsal and ventral surfaces of the upper extremities, including the metacarpal, cephalic, basilic, and median veins.  
• Avoid the ventral surface of the wrist due to pain on insertion and possible nerve damage  
• **Avoid areas of flexion**  
• The joint stabilization device is: Applied in a manner that permits visual inspection and assessment of the vascular access site and vascular pathway and does not exert such pressure as to cause circulatory constriction….. |
| ONS    | • Select vein based on the type of fluid to be infused and the rate and duration… Ideally, it **should not interfere with the patient’s comfort or mobility**  
• **Avoid placing the cannula over a joint**, such as the wrist or elbow |
| CDC    | • 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 |
Clinical Convention: Anchors away!
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| **AVA**<br>Best Practices in Adult Peripheral Vascular Access Resource Guide, AVA 2013 | • Apply [sterile, transparent, occlusive] transparent dressing over the catheter to include hub and insertion site  
• Maintain sterility of catheter and all connection points prior to and during insertion |
| **INS**<br>Infusion Therapy Standards of Practice, Journal of Infusion Nursing. 2016, V39 (1S) | • Consider use of an engineered stabilization device (ESD) to stabilize and secure VADs  
• **Avoid use of tape or sutures**, as they are not effective alternatives to an ESD.  
• Rolls of nonsterile tape can become contaminated with pathogenic bacteria  
• Do not rely on VAD dressings (ie, standard, non-bordered transparent semipermeable membrane [TSM] dressings, gauze and tape dressings) as a means for VAD stabilization |
| **ONS**<br>Access Device Standards of Practice for Oncology Nursing, ONS 2017 | • Secure catheter with a securement device, then apply occlusive dressing over insertion site. **Do not put tape directly over insertion site** |
Clinical Convention: Pillow & Blanket
## Evidence Based Medicine

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| AVA    | • Apply **[sterile, transparent, occlusive]** transparent dressing over the catheter to include hub and insertion site  
• **Maintain sterility of catheter and all connection points prior to and during insertion** |
| INS    | • Perform dressing changes on CVADs and midline catheters …  
  • Change transparent semi-permeable membrane (TSM) dressings at least every 5 to 7 days and gauze dressings at least every 2 days  
  • Note that a gauze dressing underneath a TSM dressing is considered a gauze dressing and changed at least every 2 days.  
• Select a gauze dressing **if there is drainage from the catheter exit site**. If gauze is used to support the wings of a noncoring needle in an implanted port and does not obscure the insertion site, it is not considered a gauze dressing. |
| CDC    | • Replace dressings used on short-term CVC sites every 2 days for gauze dressings. |
Clinical Convention: Just one more..
### Evidence Based Medicine

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- Infiltration: an *inadvertent* administration of a non-vesicant medication or fluid by IV into the surrounding tissue instead of the intended vascular pathway  
- Extravasation: an *inadvertent* administration of a vesicant medication or fluid by IV into the surrounding tissue instead of the intended vascular pathway |
| **INS**<br>Infusion Therapy Standards of Practice, Journal of Infusion Nursing, 2016, V39 (1S) |  
- Do not rely on EID alarms to detect intravenous (IV) infiltration or extravasation, as these alarms are not intended to detect disruption of the fluid flow pathway  
- The clinician assesses the peripheral and central vascular access device site for signs and/or symptoms of infiltration and extravasation before each infusion  
- Limit the amount of solution that enters the tissue through early recognition of signs and symptoms of infiltration/extravasation.  
- **Immediately stop** the infusion when the patient reports pain, burning, stinging, and/or tightness, at or around the insertion site, catheter tip, or entire venous pathway, as *this should not be considered “normal” with any infusion.*  
- Vascular access devices (VADs) are removed upon an unresolved complication  
  - Signs and symptoms of [PIV] complications .... include, but are not limited to, the presence of...Edema... Leakage of fluid or purulent drainage from the puncture site. |
Clinical Convention: Change it up!
## Evidence Based Medicine

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| **CDC 2011**<br>O'Grady, N.P., et al. Guidelines for the Prevention of Intravascular Catheter-Related Infections. AJIC 2011 | - Do not routinely replace CVCs, PICCs, hemodialysis catheters, or pulmonary artery catheters to prevent catheter-related infections or on the basis of fever alone  
- Do not use guidewire exchanges routinely for non-tunneled catheters to prevent infection or to replace a non-tunneled catheter suspected of infection  
- There is no need to replace peripheral catheters more frequently than every 72-96 hours to reduce risk of infection and phlebitis in adults.  
- Replace peripheral catheters in children **only when clinically indicated.**  
- Remove peripheral venous catheters if the patient develops signs of phlebitis |
| **INS**<br>Infusion Therapy Standards of Practice, Journal of Infusion Nursing. 2016, V39 (1S) | - Vascular access devices (VADs) are removed upon an unresolved complication, discontinuation of infusion therapy, or when deemed no longer necessary for the plan of care.  
- **VADs are not removed based solely on length of dwell time because there is no known optimum dwell time**  
- Routine exchanges are not necessary for CVADs that are functioning and without evidence of local or systemic complications |
| **SHEA**<br>Marshall, J., et al. Strategies to Prevent CLABSI in Acute Care Hospitals: 2014 Update. ICHE | - Do not routinely replace central venous or arterial catheters |
How do we fix this?
Problem or Solution?

PROCEDURE

PRODUCT

POLICY

PEOPLE
• Changes of products, devices or technology used in the insertion and care of CVCs require adequate device training for all healthcare personnel expected to use the product(s)\(^1\)

• Most device manufacturers employ personnel with clinical experience to provide product training, and this resource should not be overlooked\(^1\)
Sharing what you’ve learned

- Standards and guidelines
- Product/procedure In-services
- IFUs
- Experience

"Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime."
- Chinese Proverb
Sharing by Telling

- Learners who response best to “hearing”

- Tools
  - Detailed explanations
  - Videos
  - Story telling

- Brochures and handouts have little meaning to them until they hear it
Delivery Tactics

- **You** could have done it this way.
- You **could have** done it this way.
- You could have **done it** this way.
- You could have done it **this way**.
- You could have done it this way.
Sharing by Showing

• Learners who respond best to looking, seeing, viewing, and watching

• Tools
  • Brochures, handouts, videos P&P
  • Demo/visual displays
  • Allow them to take notes to absorb information
  • “Paint a Picture” with your words

• Words have little meaning to them until they see it
Sharing by Experience

• Learners who respond to experiencing, moving, and doing

• Tools
  • Hands-on approach / return demo
  • Encourage them to touch, feel, try
  • Use gestures/body language

• Instructions have little meaning to them until they try it for themselves
The Whole Story
Barriers to Sharing your Knowledge

- Objections to Change
  - Policy
  - Practice
  - Product

  Why do we have to change?
  I don’t like this new thing
  But we’ve always done it this way!
  I don’t have time for this!
  Who decided this?
  This is too hard
  I don’t have time for this!

But we’ve always done it this way!
So, how do you “teach” others who may seem...

- Unwilling
- Uninterested
- Unconvinced
- Unable
- Unbearable
Sharing what you’ve learned with others

I don’t have time for this

I’m not doing this

Do not allow abusive behavior, gracefully remove yourself from the situation.

The Tank
Sharing what you’ve learned with others

Ask for suggestions and solutions, involve them in the process, explore for validity

This is too hard

Why do we have to change?

The Complainer
“That is an Interesting way Of doing that.”
“Could you share That data/evidence With me...”
Explore for validity

The Know-it-all

“Could you share That data/evidence With me...”
Explore for validity

I’ve always done it this way
I don’t need this
I know what I’m doing
Sharing what you’ve learned with others

Who decided this?

Ask for elaboration
use eye contact
but allow for open communication

“Please let me know
If there is anything I can do differently”

The Sniper

#%!^@*%!
(under their breath)
Can’t I Just Ignore it?

Effects of Allowing *Disruptive* Behavior

- **Errors**
- **Cost of care**
- **Staff Turnover**
- **Patient & staff satisfaction**

Adapted from: The Joint Commission: Sentinel Event Alert “Behaviors that Undermine a Culture of Safety” Issue 40, July 9, 2008
Non-Constructive Criticism

Finger Pointing

Band-Wagon Effect

Hostility

Non-Compliance

Safety Risks

Poor Outcomes
Deep Breaths...

As you are beginning your AM shift, you are called to the med/surg unit for a difficult IV start. The patient’s nurse, Barb, begins to explain that the patient has an IV, but it’s been leaking since last night. Barb has tried to restart the IV twice, the charge nurse tried twice, the supervisor tried twice. You walk into the patient’s room and see 0.9NS infusing into a L hand IV wrapped in saturated 2x2s and rolled gauze, the patient’s hand and fingers are swollen and cool.
Today you have a very busy schedule. Soon, you are told you will also have James, a nursing student, with you all day. James is very eager to learn and asks a lot of questions. You already have orders for have 4 PICCs, several dressing changes, and the renal unit has called several times for a difficult stick. James accompanies you to a PICC placement. Although you’ve given him very clear instructions, he accidentally contaminates the sterile field.
Because of your awesome IV skills, you were asked to teach an IV workshop. As part of the course completion, each participant must successfully start 2 IVs under your supervision. Today you receive a call from John who recently completed your course. He has an IV start and would like you to observe and sign off on his successful start. As you observe, you notice John re-palpates the site after prep. You gently remind him to re-prep with a new swab. As he begins to pierce the skin, his technique is slow, shaky, and the patient is in obvious discomfort. He continues to slowly drag the needle through the layers of skin and attempts to fish around for the vein.
Questions?

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