A Day in the Life of a Peripheral IV Catheter: the patient journey through the continuum of care

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“As patients transition through the labyrinth of outpatient, hospital, and post-acute care settings, the imperative to do what’s right in their vascular access voyage has perhaps never been more urgent than it is today.”

(Chopra, 2016)
Learning Objectives

At the conclusion of this session participants will be able to:

• Recognize how varying peripheral intravenous therapy practices influence dwell time

• Identify the need for cross disciplinary collaboration to review practice and initiate change

• Identify strategies utilizing current evidence and SOPs that promote a standardized approach to PIV therapy across the continuum of care
Why now?

• Catheter failure rates 35% to 50% (Helm, 2015)
• Clinically indicated dwell times for SPIV catheters (Rickard, 2012)
• Up to 60% of patients requiring pre-hospital care receive a PIV that is routinely removed and restarted (Kuzma, 2008)
• In 2036, seniors will account for 25% of the population (Canadian Healthcare Association, 2009)
Journey through the continuum of care

Illustrations obtained from: Clipartlord.com, www.pintrest.com
EMS and Short Peripheral IV Catheters

- Protocol based decision making
  - Fluid administration, medication delivery

- History of training:
  - Catheter selection and decision making based on “patient presentation”, not “continuum of care needs”

- Why EMS inserts PIVs:
  - Precaution against not being able to place IV “later”
  - Err on the side of caution
  - Can’t be criticized for over treating
## EMS PIV Practice Scan Across Canada

<table>
<thead>
<tr>
<th>Province</th>
<th>Antisepsis</th>
<th>Gauge Selection</th>
<th>Site Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC Emergency Health Services</td>
<td></td>
<td>2 large bore IVs</td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>“Determine location for IV, clean area, apply tourniquet”</td>
<td>Protocol driven</td>
<td>Protocol driven</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>“Because of the risk of infection, strict attention must be placed on an aseptic technique and secure taping of the IV”</td>
<td>Protocol driven</td>
<td>Protocol driven</td>
</tr>
<tr>
<td>Manitoba</td>
<td>“Clean area over site with alcohol swabs”</td>
<td>Patient Care Map</td>
<td>Patient Care Map, ACF preferred for trauma or unstable patients</td>
</tr>
<tr>
<td>Winnipeg Fire and Paramedic Service</td>
<td>Clean the skin at the insertion site with an alcohol swab for 20-30 seconds using a friction rub and allow to dry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario</td>
<td>Aseptic insertion with alcohol “$2 coin”</td>
<td>Per inserter’s judgment</td>
<td></td>
</tr>
<tr>
<td>Quebec</td>
<td>No</td>
<td>IV</td>
<td>Competencies</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>Aseptic starts with alcohol</td>
<td>Per inserter’s judgment</td>
<td>Per inserter’s judgment</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>Alcohol swab</td>
<td>18 G x 1.5 inch</td>
<td></td>
</tr>
</tbody>
</table>
2016 INS Recommendation

Standard 44 Vascular Access Device Removal

C. Consider labeling catheters inserted under suboptimal aseptic conditions in any health care setting (e.g., “emergent”). Remove and insert a new catheter as soon as possible, preferably within 24 to 48 hours.

EMERGENT START

DATE: _______________________

REPLACE AND RESTART WITHIN 24 HOURS
The real deal
Journey through the continuum of care

Illustrations obtained from: Clipartlord.com, www.pintrest.com
Journey through the continuum of care

Illustrations obtained from: Clipartlord.com, www.pintrest.com
Post Acute Care: Trends
It only makes sense

<table>
<thead>
<tr>
<th>Average Cost of Care</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(for one week for 424 seniors)</td>
<td></td>
</tr>
<tr>
<td>Hospital Bed</td>
<td>$2.5 million</td>
</tr>
<tr>
<td>Long-term Care Bed</td>
<td>$374,000.00</td>
</tr>
<tr>
<td>Care at Home</td>
<td>$125,000.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Per Diem Cost</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Bed</td>
<td>$842.00/day</td>
</tr>
<tr>
<td>Long-Term Care Bed</td>
<td>$126.00/day</td>
</tr>
<tr>
<td>Care at Home</td>
<td>$42.00/day</td>
</tr>
</tbody>
</table>

(2011) HOME First Shifts care of Seniors to HOME. LHINfo Minute, Northeastern Ontario Health Care Update
Post Acute Care PIV Therapy

Contributing factors:

1. Cost savings to the healthcare system
2. Technological advancements
3. Expansion of treatment location options
4. Increase in the number of intravenous drugs
Keeping up with demands

LTC
- Competencies
- Funding
- Available beds

Home IV Therapy
- Delayed access
- Funding
- Supportive resources

Outpatient Clinics
- Funding
The end of the journey

Thank you for taking care of me!

From: [Signature]

To: Mac Master, hospice doctor, in the ICC and emergency.
How can we “reach new heights”?

• Infusion Therapy Standards of Practice apply to everyone:
  – Who will ensure disciplines are aligned?
  – Align policies throughout the continuum

• Improve patient outcomes:
  – Clinically indicated IV replacement
  – Vessel preservation
    • PIV gauge and site selection based on utilization
    • Document non-aseptic insertion

• Improve the patient’s experience:
  – ED, hospital transition planning
  – Keep patients at “home”

• Manage healthcare costs

https://visionsofafuture.files.wordpress.com/2011/09/sky.jpg
Thank you!

References available on request