# Line Tracking

## SECTION A:

1. **Document ALL** central, arterial and peripheral lines that are in place upon admission in Section A.

2. **Document** the CCTC insertion of all central venous and arterial lines.

3. **Document the CCTC insertion** of peripheral IVs in **Section B** below.

**Be sure to FLAG all lines if you are unable to confirm insertion bundle compliance (including peripheral IVs).** If you cannot confirm insertion technique, FLAG the line by entering (*) in the final column and recording a DAR note. Communicate to the oncoming shift. Continue to flag and report each day until resolution is DOCUMENTED.

Resolution is accomplished either by the inserter or an observer documenting that technique was maintained or the line has been removed/changed.
1. Document all peripheral IV’s inserted in CCTC in Section B
2. This section includes the mandatory LHSC standards for insertion and documentation. The inserter signature is confirmation that **aseptic technique was maintained** as per LHSC standards (Slide 9).

If a break in technique occurs during the placement of a peripheral IV in an emergency, document the loss of compliance. Communicate the need to change the line as soon as feasible and flag the line until resolution (like central and arterial lines).
## Peripheral IV Insertion Standards

### VEIN LEVEL ASSESSMENT

**Level 1:**
Visible, easy to palpate, large in size

**Level 2:**
Visible, easy to palpate, moderate in size, previous IV site

**Level 3:**
Visible, easy to palpate, small size, previous IV site, limited veins (some sclerosed)

**Level 4:**
Difficult to see, can be palpated, age > 70, previous therapy has resulted in poor veins

**Level 5:**
Vein not visible, cannot be palpated, may require multiple techniques

### Peripheral IV Insertion Bundle

1. Match operator skill to vein level assessment
2. Change operator after 2 attempts
3. Wear gloves (PPE)
4. Clip hair (don’t shave) if necessary
5. 30 second scrub: 2% chlorhexidine/70% alcohol
6. Air dry one minute
7. Ensure **no touch after cleaning** (if touch is required, sterile gloves must be worn and aseptic technique maintained).
9. If inserted under imperfect conditions (e.g. resuscitation), * and DAR and notify team to change site as soon as possible
10. Access all ports and maintain dressings aseptically.
SECTION C:
1. Continue to list **ALL** central, arterial **and** peripheral lines in this section to document ongoing assessment and monitoring.
2. Be sure to carry any flags * over from the previous shift. Continue to flag **AND** report each shift until resolution is documented. Ensure that you know the status of your lines when you present in rounds.
3. Confirm all IV solutions are correct and assess all sites at the start of your shift, and Q4 H and PRN (e.g., more frequently when patients are confused, before administering a bolus medication etc).
4. ✓ indicates that: a) the IV is infusing well, b) the Infiltrate scale is “0” **AND**, b) the Phlebitis scale is “0” (Slide 7 and 8).
5. Continue to ensure that you assess the waveform **AND** place a waveform printout in the chart at the start of each shift and PRN.

### C. ONGOING MONITORING OF INTRAVASCULAR LINES: Document Q shift assessment, starting on shift after initial documentation.

<table>
<thead>
<tr>
<th>INSERT DATE</th>
<th>LIST ALL ARTERIAL, CENTRAL VENOUS AND PERIPHERAL IVs</th>
<th>ASSESSMENT TIME AND CODE (Days)</th>
<th>ASSESSMENT TIME AND CODE (Nights)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LINE ISSUES WAVE POSTED</td>
<td>LINE ISSUES WAVE POSTED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INITIAL COMPLETION
Protocol for Peripheral Vasopressors

Acceptable Indications:
- Vasopressor use expected to be short
- Single agent norepinephrine (maximum 12 mcg) or dopamine (maximum 10 mcg/kg/min) for a maximum 24 hours
- Must be ordered via Crit Care Peripheral Vasopressor order set and approved by CCTC Consultant (days) or Senior (nights). The order will task to the nurse to review every 12 hours. AI documentation confirming the review is required.
- Notify Charge Nurse if a vasopressor is infusing peripherally

Site Requirements:
- Forearm or upper arm only (no lower extremity /hand/anticubital fossa)
- Minimum 20 gauge with blood return; assess before starting and Q shift
- Must have second back up line that meets same criteria
- No other medication can be administered in same line

Monitoring Requirements:
- Assess and document Infiltration and Phlebitis Scales Q1H and PRN
- Initiate Extravasation Protocol/notify MD immediately for all site concerns
- Complete AEMS for ALL site or insertion complications for PERIPHERAL or CENTRAL VENOUS LINE adverse events
Indications for Central Venous Catheter (CVC)

A CVC is required for the administration of vasopressors or vesicants that do not meet criteria for peripheral vasopressor protocol. During acute resuscitation, placement can be deferred for up to 2 hours to facilitate insertion safety and prompt reversal of shock. If appropriate vascular access can not be established within 5 minutes, intraosseous insertion should be considered.

A Central Venous Line is required in the following situations:

1. More than one vasopressor is required
2. Maximum dose of single agent norepinephrine or dopamine has been reached, dosing requirements increasing/patient is unstable or required longer than 24 hours
3. Unable to establish or maintain two peripheral IVs that comply with peripheral vasopressor protocol
4. Additional access sites are needed for fluid or medications
5. Concern over IV site quality exists
6. Recommended for medications that are hypertonic, high or low pH or concentrated electrolyte solutions
7. PICC lines are not suitable replacements for central venous lines in patients requiring multiple agents, ongoing resuscitation, vasopressors use or frequent blood sampling

Arterial Lines

1. Required when continuous IV infusions of vasoactive drugs are used
2. An exception to the arterial line policy can be considered for patients who meet peripheral vasopressor protocol; arterial lines are preferred for accurate and frequent BP measurements
3. Order must be entered with the name of the approving Consultant entered into Power Chart using the Crit Care Peripheral Vasopressor power plan. The order will task to the nurse for renewal every 12 hours. AI documentation confirming this review is required every shift.
If a patient has peripheral vasopressors running temporarily, use this section to document your assessment (there is duplication of the line for recording the medication). Document assessment hourly while peripheral vasopressors are used.

This section can also be used for assessing other peripheral sites where potential vesicants are infusing.

**Ultrasound Confirmed** only applies if ultrasound was used to insert the catheter. This would be appropriate in a long upper extremity peripheral IV. We will begin stocking longer IV catheters for ultrasound guided placement *by the physician* (these are long peripheral catheters, not midline).

| TIME | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 01 | 02 | 03 | 04 | 05 | 06 |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Peripherally Infusing Vasoactive Medications: | | | | | | | | | | | | | | | | | | | | | | | | |
| Date Started: | | | | | | | | | | | | | | | | | | | | | | | | |
| Time started: | | | | | | | | | | | | | | | | | | | | | | | | |
| Site: | | | | | | | | | | | | | | | | | | | | | | | | |
| Gauge: | | | | | | | | | | | | | | | | | | | | | | | | |
| Medication: | | | | | | | | | | | | | | | | | | | | | | | | |
| Ultrasound Confirmed: | ☐ Yes | ☐ No |

XXX: duplicated question was in error
Assess the site Q1H and PRN using the Phlebitis and Infiltration Scale. A score greater than “0” on either scale, requires immediate physician notification for assessment. Change IV site immediately for a Phlebitis or Infiltration Scale of 1 or greater, and activate the LHSC Extravasation Protocol.

The Consultant must be notified when peripheral vasopressors are infusing. Orders must be written electronically using the Crit Care Peripheral Vasopressor Power Plan. The Consultant (days) or Senior Resident (nights) who approved the order must be included in the electronic order.
### Infiltration Scale *DAR if >0*

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No symptoms</td>
</tr>
<tr>
<td>1</td>
<td><strong>Skin blanched</strong>&lt;br&gt;Edema &lt; 2.5 cm in any direction, cool to touch, with or without pain</td>
</tr>
<tr>
<td>2</td>
<td><strong>Skin blanched</strong>&lt;br&gt;Edema 2.5 – 15 cm in any direction, cool to touch, with or without pain</td>
</tr>
<tr>
<td>3</td>
<td><strong>Skin blanched, translucent</strong>&lt;br&gt;Gross Edema &gt; 15 cm in any direction, cool to touch, mild-moderate pain, possible numbness</td>
</tr>
<tr>
<td>4</td>
<td><strong>Skin blanched, translucent</strong>&lt;br&gt;Skin tight, leaking, skin discolored, bruised, swollen, gross edema &gt; 15 cm in any direction, deep pitting tissue edema, circulatory impairment, moderate – severe pain, infiltration of any amount of blood product, irritant, or vesicant</td>
</tr>
</tbody>
</table>

### PHLEBITIS SCALE

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+</td>
<td>Pain at Site</td>
</tr>
<tr>
<td>2+</td>
<td>Pain and redness at site</td>
</tr>
<tr>
<td>3+</td>
<td>Pain, redness and swelling at site with palpable cord of less than 7.5 cm</td>
</tr>
<tr>
<td>4+</td>
<td>Pain, redness and swelling at site with palpable cord of 7.5 cm or greater</td>
</tr>
</tbody>
</table>
What Does Δ Mean?

The following code appears at the top of the new AI record. It is a standard LHSC code used to define greater than, less than and increased or decreased symbols. The delta symbol means change. When used with either of these symbols, the Δ indicates by “how much”. Example “MAP ↑Δ 10” to indicate an increase in MAP by 10.

DATE: ______________ (YYYY/MM/DD)  
CCTC DAY NO: ______________

KEY: *= Significant Findings 
> = Greater than  < = Less than  ↑ = Increased  ↓ = Decreased  Δ = Increment

TIME OF ASSESSMENT: ________
What Does $\Delta$ Mean?

There would be few reasons to use these symbols on a graphic record where you can readily see how the numbers compare. The use of this code is more appropriate for AI documentation. A verbal description is always acceptable.
What Does Δ Mean?

There is duplication within the document of the meaning of the delta (Δ) symbol. It has been used for years to indicate that a “dressing was changed” and continues to appear in sections for IV tracking.

In these areas where a different definition for Δ is provided, Δ corresponds to the code at the top of the section.