

# 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. All documentation confirming this review is required every shift.

# 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. All 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/antecubital 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

# Vein Assessment

## VEIN LEVEL

- 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

## PHLEBITIS SCALE

- 1+** Pain at Site
- 2+** Pain and redness at Site
- 3+** Pain, redness and swelling at site with palpable cord of less than 7.5 cm
- 4+** Pain, redness and swelling at site with palpable cord of 7.5 cm or greater

# Infiltration Scale \*DAR if >0

**0** No symptoms

**1 Skin blanched**

Edema < 2.5 cm in any direction

Cool to touch

With or without pain

**2 Skin blanched**

Edema 2.5 – 15 cm in any direction

Cool to touch

With or without pain

**3 Skin blanched, translucent**

Gross Edema > 15 cm in any direction

Cool to touch

Mild – moderate pain

Possible numbness

**4 Skin blanched, translucent**

Skin tight, leaking

Skin discolored, bruised, swollen, gross

edema > 15 cm in any direction

Deep pitting tissue edema

Circulatory impairment

Moderate – severe pain

Infiltration of any amount of blood

product, irritant, vesicant

Lewis et al. 2017. Journal of ICM. Adapted from Society of Infusion Nursing