Complete Evaluation

1. Diagnosis

2. Risk Factors

3. Indication for Right Device

4. Perform Risk Assessment

Initial evidence of a clinical pathway is not a new concept; it simply was created based on published evidence, standards and best-practice guidelines. The process, called a ‘Summit and Evidence based Model’ (SVM), was developed to assess current clinical practice for vascular access, and uses evidence-based criteria to design a proactive model for acute care settings. This model for vascular access (VhP) was established by a multidisciplinary team in 2007 during a national summit convened to assess current clinical practice. Fragmentation and cost are minimized by reducing variations and establishing processes that ensure the right vascular access at the right time is a necessity in today's hospital setting. The goal of this vascular access clinical pathway is to provide physicians, nurses, and other clinical staff with a step-by-step protocol for selecting the best vascular access device for each patient. "The Right Line at the Right Time" is the summit’s motto, which emphasizes the importance of selecting the proper device for the patient, and integrating the vascular access pathway into the hospital's overall care processes.

Descriptive of Vessel Health and Preservation Protocol

- The Right Line at the Right Time
- A tri-fold assessment form is completed by the admitting nurse to discuss patient-specific factors and to assess for the need for a new vascular access device. The admitting nurse is responsible for completing the form, which includes patient demographic information, medical history, and the reason for the hospital admission. The form is then reviewed by a multidisciplinary team, including a physician, a nurse, and a pharmacist, to determine the most appropriate device for the patient.

CONCEPTUAL MODEL

How to Use the Vessel Health and Preservation (VHP) Protocol

Admission Assessment

- Selection of the most appropriate vascular access device
- Assessment of indications for the insertion of each device
- Assessment of patient-specific factors
- Assessment of device-related complications
- Assessment of patient outcomes

THE VHP PROTOCOL - TOOLS/FORMS

- Vessel Health and Preservation Protocol
- Standing Order Set
- Daily Assessment
- Re-Evaluation
- Right Line at the Right Time

OUTCOME MEASURES FOR VHP

- Improved patient outcomes
- Decreased complications
- Increased staff satisfaction
- Reduced costs

PRINCIPLES OF VASCULAR ACCESS INSERTION

- Knowledge of the principles of vascular access insertion
- Understanding of the role of the physician, nurse, and pharmacist in the insertion and management of vascular access devices
- Knowledge of the different types of vascular access devices and their indications
- Assessment of patient-specific factors
- Assessment of device-related complications
- Assessment of patient outcomes

CONCLUSION

- The Vessel Health and Preservation Protocol is a valuable tool for improving the quality of care delivered to patients requiring vascular access. The protocol has been shown to reduce complications, improve outcomes, and increase staff satisfaction. The protocol has been adopted by hospitals across the country, and has been shown to be effective in reducing costs and improving patient outcomes. The protocol is regularly reviewed and updated to ensure it remains effective in improving the quality of care delivered to patients requiring vascular access.
Practitioners must become familiar with the signs, symptoms, interventions and preventive measures for catheter-related complications at all insertion sites.

**Insertion Sites, Landmarks and Insertion Orientation**

**Basics**
- External jugular vein
- Internal jugular vein
- Subclavian vein
- Axillary vein
- Femoral vein

**Adventages**
- Enhanced by positioning the arm at axillary clavicle superfical cervical fascia clavicle external jugular vein antecubital fossa (Only used with ultrasound-assisted insertion)
- Two bodies of sternocleidomastoid muscle
- Angle of mandible
- Manubriosternal junction
- Inferior to the axillary artery
- Lateral to clavicle
- Deltopectoral groove

**Potential Complications**
- Proximity to median nerve poses risk of injury
- May be difficult to insert due to proximity to ribs, vertebrae
- May be located too far medially or posteriorly, making insertion and care difficult
- Large vessel with high flow rate
- Potentially a longer learning curve
- Arterial puncture, hematoma
- Venous puncture
- Pneumothorax
- Subclavian artery
- Difficult to visualize utilizing ultrasound
- Costoclavicular ligament, first rib
- Subclavian vein
- Pulmonary apex
- Thoracic duct
- Ipsilateral nipple. Insertion depth: 45-degree angle into the angle formed by manubrium. Insertion depth may extend to 10 cm.
- Ipsilateral nipple. Insertion depth, 1.5-5cm.
- Ipsilateral nipple. Insertion, 2 cm–3 cm. Ultrasound guided, longitudinal groove, a needle is guided into the axillary insertion. Insertion depth, 1.5-5cm.

**How to Use the Vascular Health and Preservation (VHP) Protocol**
- Fluoroscopy
- Standing order for catheter in vessel.
- Assess all Central
- Ultrasound during insertion
- Post-assessment can lead to detection of malposition.
- Guide to alter length, nor withdraw spring wire guide.
- Yes, IV device
- Assessment tool
- Tool throughout day based on necessity each day
- Further dilator, spring wire guide damage as needed.
- Wire guide
- Hold spring wire guide in place and reposition and reverify tip position.
- If catheter tip is malpositioned, fluoroscopy
- Procedure
- Patient’s body position
- Anterior, Posterior
- Ultrasound
- Standing order for
- Determination
- Phlebotomy
- Non-use

**References**
Available upon request. See contact information on back of sheet.