

Child Health Patient Safety Organization

Patient Safety Action Alert

April 2018



Take Action to Reduce Risk of Similar Harm

Central Vascular Access Devices: From Orders to Insertion

Resultant Harm

Insertion of an inappropriate central vascular access device (CVAD) can result in additional procedures for placement of the correct CVAD. Also, delays in needed therapy can occur while waiting for the correct CVAD to be placed.

An inappropriate CVAD choice may also result in increased risk of infection, vascular damage, delayed or missed treatments, unplanned hospital admissions, extended length of stay, increased costs and unnecessary stress for the patient and family. Concerns also exist for patients with compromised immune systems/blood disorders (e.g., sickle cell), as well as the possibility of a retained guidewire from multiple line attempts.

Fundamental Issue

Appropriate CVAD selection is based upon the prescribed therapy, anticipated duration of therapy, vascular characteristics, comorbidities, patient's age, and resources for CVAD care (Infusion Therapy Standards of Practice, 2016).

The complexity of CVAD selection can be challenging in part due to the various types of CVADs (e.g., Broviac/Hickman, port-a-cath, PICC, hemodialysis/apheresis) available and considerations regarding required therapies, such as chemotherapy, blood transfusions, antibiotics.

Patient harm can occur when:

Organizations lack:

- Consultation practices and a standardized handoff process between the ordering physician and the proceduralist.
- Processes that clearly communicate the CVAD placement request, including all pertinent information (from ordering to placement).

Clinicians lack:

- Information and understanding of specific patient needs for CVAD insertion.
- Knowledge or understanding of the CVAD selection process.
- Consistent practice for utilization of CVADs.

What can I do with this alert?

- Forward to the recommended target audiences for evaluation.
- Include in your Daily Safety Brief.
- Create loop-closing processes for evaluating risks and implementation of strategies to decrease the possibility of repeat harm.
- Provide feedback to the Child Health PSO on what is working and what additional information would be of value.

Leverage your PSO membership
Learn from each other to reduce patient harm and Serious Safety Events.

Contact Us

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Actions to Mitigate Risk of CVAD-Associated Harm at Your Hospital

- Establish CVAD standardized processes for:
 - Ordering
 - Include reason for treatment, specific CVAD device (such as tunneled versus non-tunneled) to meet therapy needs and number of lumens needed.
 - Scheduling
 - Utilize electronic ordering [e.g., surgical request form (SRF)].
 - Consent
 - Institute detailed consent forms for each type of line available for placement.
 - Timeouts
 - Ensure the use of timeouts throughout the procedure.
 - First timeout: Used for identification of correct patient, proceduralist, operative site(s), anticipated risks, special equipment including implants (e.g., product, technique, lumen, hemodialysis/apheresis capable, expiration date, imaging and laterality verification).
 - Second timeout: Could be used for patients who are having two or more procedures or if the person performing the procedure changes. Timeout should be performed before starting each procedure (The Joint Commission, The Universal Protocol).
 - Third timeout (case debriefing): Could be used to verify key issues associated with the procedure(s) (e.g., guidewire removal, flushing of all lumens with positive blood flow, CVAD placement under fluoroscopy or confirmed by x-ray).
- Other considerations:
 - Selection of the CVAD kit from the CVAD cart by the proceduralist to verify the correct type of CVAD to be used.
 - Delay opening the CVAD kit until the timeout is complete.
 - Standardize CVADs throughout the organization with the focus on narrowing selections.
 - Develop a database that includes all CVADs with the correct identification in order to produce a secondary label for CVAD package, which can be used to confirm contents for validation with the consent.
 - Develop specific value analysis processes that control CVADs entering the organization and guarantees validation and entry into the database.

Resources (Note: Some resources may require a subscription to access.)

Infusion Therapy Standards of Practice (January/February 2016). *Journal of Infusion Nursing*. (Standard 26. Vascular Access Device Planning). Retrieved from <https://www.ins1.org/publications/infusion-therapy-standards-of-practice/>

Speak Up Poster (2012). The Joint Commission. (The Universal Protocol). Retrieved from https://www.jointcommission.org/assets/1/18/UP_Poster.pdf.

Acknowledgements

Thank you to the [Infusion Nurses Society](#) for their review of this alert.

Target Audiences

- Clinical Leaders
- Infection Prevention
- Learning Executives
- Legal/Risk Management
- Medical Leaders
- Nursing Leaders
- Organizational Leaders
- Patient Safety
- Quality Improvement
- Radiology
- Specialty Care Services
- Supply Chain Management/Value Analysis
- Surgical Leaders

Has a patient experienced an event at your organization that could happen in another hospital?

- Child Health PSO members should submit event details into the [Child Health PSO portal](#).
- Contact Child Health PSO Staff to share risks, issues to assess, and mitigation strategies with member hospitals.

Nearly 60 children's hospitals are actively engaged with Child Health PSO. We currently are enrolling new members.