

Reducing Catheter Occlusions and Failure with Reflux Valve Protection

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Catheter occlusion and related complications are estimated to affect nearly 80% of peripheral and central vascular access catheters (Steere 2018). The thrombotic deposits that develop within catheters are the result of a natural process as noted above and can impact catheters at any time during treatment. Such occlusions can lead to patency loss and device replacement or removal, all of which can negatively impact therapeutic outcomes. Preventing occlusions, then, becomes a chain of events that present an opportunity for improving both patient outcomes and facilities' bottom lines. The literature contains studies that have examined various methods to reduce catheter failure including the use of thrombolytics. Other studies have sought to evaluate the impact of blood reflux-controlling valves

Educational program initiatives have been shown to be necessary to outcome improvement and cost-effective components of high-quality healthcare. Nursing and medical professionals receive education in the academic setting and during orientation to a new healthcare facility. Whether initiated by the individual or the institution, frequency and type of education and training following graduation and completion of orientation is often sporadic without defined requirements. Provision of education and clinical training within healthcare facilities are dictated by policy changes and performance improvement initiatives. As noted by Bianco and associates and supported by Marschall et al guidelines on strategies to prevent infections, well organized educational programs to continually train and increase competence of clinicians, for those involved with insertion and care of vascular access devices, is critical to the success of infection prevention methods. As research is incorporated into guidelines and standards, education provides a means to disseminate the information to the working clinician promoting application at the bedside.

The infrastructure of healthcare facilities should include resources to provide consistent education, training and procedural simulation to all staff including programs on basic practices of asepsis, infection prevention, insertion, and maintenance of all intravenous and intra-arterial devices. More emphasis is needed to expand the role and responsibility of all clinicians to include research and increase the emphasis on education within their current job functions. Periodic re-training should be performed following gap analysis of deficiencies in procedures or practices. In addition, clinicians should be provided information on device indications and appropriateness to aid in selection of the lowest risk access device that will effectively deliver the therapy. Encouraging application of research and accountability for education, training, and competency with credentialing requirements initially, prior to independent insertions, and periodically as a means of evaluation will improve and increase patient safety with procedures.

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