

# Accessing Implanted Ports: Still a Source of Controversy

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In delivering safe care to their patients, oncology nurses should be familiar with the proper use and maintenance of implanted ports. Yet, despite the ubiquitous presence of implanted ports, accessing techniques and patency maintenance remain controversial. Additional research is needed to establish practices based on evidence.

Implanted ports have become invaluable for treating patients with cancer. Central venous access devices are used for obtaining blood samples and administering chemotherapy and other supportive medications. Implanted ports have advantages over tunneled central venous catheters, as they are concealed beneath the skin as opposed to tunneled catheters or peripherally inserted central venous catheters, and often are preferred by patients requiring therapy because they require less maintenance (Sansivero, 2010).

Oncology nurses increasingly are aware of the need to use sound, scientific-based research to support clinical practice. The value of evidence-based practice is summed up by Eaton and Tipton (2009): "The ability to provide evidence for nursing interventions is critical to all aspects of patient care" (p. 2). But what do oncology nurses do when no evidence exists or the effectiveness of a particular practice has yet to be established?

The controversy surrounding the sterile versus clean techniques for accessing ports has been a source of discussion for a number of years. The Infusion Nurses Society advocated the use of the sterile technique in 2006 standards, and continued that recommendation in the current 2011 Standard of Practice (Infusion Nurses Society, 2006). Camp-Sorrell and Cope (2010) do not require the sterile technique.

Further confusion at the bedside arose when Arch (2007) wrote an article advocating the sterile technique. Citing the

lack of evidence to support the practice, the recommendation was refuted in a letter to the editor by Camp-Sorrell (2008). In her response, Arch raised concerns that placing an occlusive dressing on a non-sterile site could lead to bacterial growth beneath the dressing (Camp-Sorrell, 2008). In the author's experience, institutions have adopted the use of sterile procedure because of that assertion, yet published studies have not substantiated that claim.

## Infections

A number of articles examining infection rates associated with implanted ports have been published (Beckers, Ruven, Seldenrijk, Prins, & Biesma, 2010; Camp-Sorrell, 2009; Kefeli et al., 2009; Nakazawa, 2010; Schulmeister, 1987; Vallés et al., 2008). Unfortunately, these studies were relatively small in size, ranging from 28-89 patients, and did not specifically compare whether using sterile versus nonsterile gloves during accessing significantly affected infection rates. Therefore, meaningful conclusions cannot be drawn with either approach, particularly because a

relationship also exists between thrombus formation and infection (Nakazawa, 2010). In addition, unrelated risk factors such as patient age, gender, catheter type, and placement technique have been identified as contributing to implanted port-related infections (Galloway, 2010; Heibl et al., 2010; Hsieh et al., 2009; Jan et al., 2010; Vandoni et al., 2009). The use of sterile bundles, incorporating a sterile mask, head covering, gown, gloves, and oversized drape, has reduced the introduction of pathogens during central venous catheter insertion (Camp-Sorrell, 2010; Galloway, 2010; Raad, Hanna, & Maki, 2007). The rationale for the sterile technique during insertion also may be responsible for advocating the use of the sterile technique for accessing.

## Research

In 1987, Schulmeister compared the use of a manufacturer-supplied sterile access kit to ungloved accessing and found no difference in infection rates, but no recent studies have compared the sterile and nonsterile techniques. In 2008, a retrospective

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