

have a cost, and this cost should be known to those involved in the budgeting process.²⁶

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Bloodstream Infections Associated With Needleless Devices

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More patients are being treated at home with therapies traditionally administered by trained personnel. One of these treatments, home infusion therapy, is the most rapidly growing area of home health care. Because these treatments are typically given by the patient or family members, who have little or no training in infection control, the risk of infection increases.

The influence of infection control practices on bloodstream infection (BSI) risk was examined in a home healthcare setting in which three needleless devices were used consecutively. A case-control study and a retrospective cohort study were conducted. Risk factors for BSI included lower education level, younger age, having a central venous catheter

(CVC) with multiple ports, or having a tunneled CVC.

Among patients with a tunneled CVC, those at greatest risk had been allowed to shower rather than bathe and to get their exit site wet ($P < .01$). The investigators suggested that this was due to leniency with water exposure and sterile technique in these patients. Specifically, patients with tunneled CVCs were permitted to shower and to change the dressing during showering. In contrast, patients with other catheter types were instructed to bathe, not shower, and to change dressings using sterile techniques (sterile gloves and, optionally, masks).

A high proportion (49%) of isolates were hydrophilic gram-negative bacteria, rather than gram-positive cocci colonizing the skin, suggesting exposure to tap water was related to the increased risk of infection. In the cohort study, the BSI rate decreased

as the frequency of changing the needleless-device end cap increased from once weekly up to every 2 days, suggesting that the mechanism for BSI may involve contamination from the end cap; the longer the end cap was in place, the more likely microorganisms were to reach the intravascular segment of the catheter.

This study demonstrates the need to establish systematic surveillance in home healthcare systems and to educate home caregivers in infection control practices, especially when introducing new techniques and procedures to this population.

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