

# Guest Editorial

## Device-Related Infections and the Home Care and Hospice Patient

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**H**ealthcare-associated infections (HAIs) are a threat to patient safety. One of the most significant risk factors in HAIs occurring while a patient is receiving care in the home setting is the patient having invasive medical devices. These medical devices, especially indwelling urethral catheters and central lines, provide caregivers in the home with the tools and convenience needed to provide the best care possible, especially when a patient may be bedbound and incontinent with pressure ulcers and may need urine containment on a long-term basis, as well as for the home care patient with limited venous access and the need for long-term venous access. I'm "dating" myself, but I do remember making home visits to patients and trying to get them through a 6-week course of intravenous (I.V.) antibiotics with peripheral venous access only (as central lines were mainly limited to the ICU setting) and rotating peripheral I.V. sites three times a week hoping (and praying) that their IV would not "blow" at the time of their midnight I.V. antibiotic dose, or worse yet (for me), their 6 a.m. dose!

Medical devices have become an integral part of home care and can offer both the patient/caregiver and the home care nurse a "convenient" method to provide patient care and can offer patients and their caregivers peace of mind, but they are not without their risks. Medical devices predispose the home care or hospice patient to infection by bypassing the patients' natural defenses against invading microorganisms, damaging or invading epithelial and mucosal barriers to infection, by supporting the growth of microorganisms (and serving as reservoirs), and, when they have become contaminated, by directly infecting the patients. The three most common device-related infections that may occur in a patient receiving care includes urinary tract infections from an indwelling catheter (32%); pneumonia from the use of a respiratory ventilator (15%); and a bloodstream infection from an indwelling central venous access device (VAD) (14%) (CDC, 2009).

VADs are an integral component of providing venous access in the management of patients that are receiving care in the home; although they have long been associated with bloodstream infections. Although the overall risk for infection in patients receiving infusion therapy in the home is low when compared with inpatient settings, all patients are at *risk* for infection primarily due to the presence of a VAD. In Lisa Gorki's article *Central Venous Access Device Associated Infections: Current Evidence & Recommendations*, she discusses how most of these infections are considered preventable, reviews the etiology and identification, and offers best practices related to the care and maintenance of central vascular access devices.

Urinary tract infections are the most common type of HAI, accounting for more than 30% of infections reported by acute care hospitals (Klevens et al., 2007). An estimated 17% to 69% of catheter-associated urinary tract infection (CAUTI) may be preventable with recommended infection control measures, which means that up to

380,000 infections and 9,000 deaths related to CAUTI per year could be prevented (Umscheid et al., 2008). Although not all CAUTIs can be prevented, it is believed that a large number could be avoided by the proper management of the indwelling catheter. Patients who require long-term indwelling catheters or individuals who can be managed with intermittent catheterization may have different needs. Faith Eves and Natacha Rivera discuss the *Prevention of Urinary Tract Infections in Persons With Spinal Cord Injury* and the optimal catheter care for these patients.

Of the device-related infections, respiratory infections (i.e., ventilator-associated pneumonia) can contribute to major morbidity and mortality in acute care settings, yet they're not as common in home care and have received less attention in comparison to preventing device-related infections with indwelling urinary catheters and central lines. In the article titled *Preventing Infections in Patients Using Respiratory Therapy Equipment in the Home*, I review evidenced-based guidelines and recommendations on surveillance activities and the preferred methods for managing respiratory patient-care equipment and supplies commonly used by patients in the home setting to ultimately prevent respiratory infections.

By effectively combining the use of hand hygiene, barrier precautions, and meticulous cleaning and disinfection with an EPA-registered product, we can continue to keep the home environment a safe place for our patients to receive care.

Working with you to make a difference and eliminate *preventable* infections ..... 

Sincerely,  
Mary McGoldrick

#### REFERENCES

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