Frequency for Changing Long-Term Indwelling Urethral Catheters

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Indwelling urethral catheters (IUCs) are commonly managed in home care and hospice patients who need bladder drainage on a long-term basis (i.e., the IUC remains in place longer than 30 days). A well-established risk for the development of a urinary tract infection (UTI) is the duration of catheterization. When an IUC is in place, the daily risk of developing a UTI ranges from 3% to 7%. When a catheter remains in place for up to a week, the risk for bacteriuria increases to 25%, and at 1 month the risk is almost 100%. Among the patients with bacteriuria, 10% will develop symptoms of a UTI (e.g., fever, dysuria, urgency, frequency, suprapubic tenderness) and up to 3% will further develop bacteremia (Institute for Healthcare Improvement [IHI], 2011). Because nearly all patients with a long-term IUC will develop bacteriuria, it is important to manage their IUC in a manner that does not contribute to a UTI.

One UTI prevention strategy that is not consistently implemented by home care and hospice nursing staff is the time interval for changing IUCs. For example, many organizations, especially home healthcare agencies, set an arbitrary timeframe for changing the IUC, which is not consistent with current evi-

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denced-based guidelines. When the IUC is reinserted, microorganisms that inhabit the distal urethra can be directly introduced into the bladder and increase the risk for a UTI. Changing an IUC at routine, fixed intervals (e.g., 28 days or monthly) is not recommended by:

- Association for Professionals in Infection Control and Epidemiology [APIC] (2014)
- Centers for Disease Control and Prevention (CDC) (Gould et al., 2010)
- epic 3 (Loveday et al., 2014)
- Infectious Disease Society of America [IDSA] and there is insufficient evidence to make a recommendation on long-term catheters (Hooton et al., 2010)
- IHI (2011)
- SHEA/APIC (Smith et al., 2008)
- Society for Healthcare Epidemiologists of America (Lo et al., 2014)
- Society for Urologic Nurses and Associates (2010)

This recommendation is not new and has been recommended by the CDC since 1981 (Wong, 1983).

"With many home care patients…it has become routine to change the catheter and drainage system arbitrarily every 30 days. Prior to the implementation of Periodic Payment System (PPS), this practice had been supported by the Health Care Financing Administration, which reimbursed Medicare-certified home health agencies for skilled nursing services on a per-visit basis for catheter insertion.… The frequency of catheter associated-services that is considered reasonable and necessary was as follows: Absent any complications, Foley catheters generally require skilled care once approximately every 30 days, and silicone catheters generally require skilled care once every 60 to 90 days… Therefore, most Medicare-certified home health agencies replaced patients' Foley catheters at 30-day intervals because it was considered a billable skilled nursing visit rather than it being a clinical need" (Rhinehart & McGoldrick, 2006).

> An IUC should remain in place only as long as the reason for insertion is still present.

Replacing an IUC is still considered a Medicare-covered service, but the home healthcare agency is no longer reimbursed on a per-visit basis, yet the practice of replacing the catheter every 28 to 30 days has continued. There is no evidence for the exact time interval for changing a long-term IUC. IUCs should be changed according to the:

1. Physician ordered time interval (e.g., based on the patient's "usual" pattern of catheter care, if any, rather than waiting for complications to occur);
2. Patient's clinical condition and nursing staff's evaluation of catheter-associated problems and complications, such as leakage, obstruction from encrustations, and infection;
3. Dwell time prior to obtaining a urine specimen;
4. Incidence of a break in aseptic technique during catheter insertion; and
5. Manufacturer's instructions for use, if any.

If an infection occurs frequently or obstruction is common, the IUC should be changed more often (Tenke et al., 2008).

The IDSA (Hooton et al., 2010) recommends that catheters be changed prior to the collection of a urine specimen for a suspected catheter-associated urinary tract infection (CAUTI) if the IUC has been in place for 2 weeks or longer at the onset of the CAUTI (and the IUC is still needed). After an indwelling catheter has been in place for some time, biofilms develop and as a result, a urine culture obtained from a patient whose indwelling catheter has a biofilm may not accurately reflect the bacteriology of bladder urine (McGoldrick, 2015).

Another recommended indication for catheter replacement is when the closed system is compromised (Gould et al., 2010). Some ambulatory home care patients transfer to a leg bag for urine containment during the day, which results in a breach of the closed urinary drainage system. When possible, breaching the closed urinary system is to be avoided.

An IUC should remain in place only as long as the reason for insertion is still present. However, managing patients' long-term IUCs will continue to be a routine service provided by home care and hospice nurses and we need to base our patient care practices on evidenced-based data whenever possible. ♠

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REFERENCES

Association for Professionals in Infection Control and Epidemiology. (2014). *Guide to preventing catheter-associated urinary tract infections*. http://www.apic.org/Professional-Practice/Implementation-guides#Catheter

Gould, C. V., Umscheid, C. A., Agarwal, R. K., Kuntz, G., Pegues, D. A., & the Healthcare Infection Control Practices Advisory Committee. (2010). Guideline for prevention of catheter-associated urinary tract infections 2009. *Infection Control and Hospital Epidemiology, 31*(4), 319–326.

Hooton, T. M., Bradley, S. F., Cardenas, D. D., Colgan, R., Geerlings, S. E., Rice, J. C., …, Nicolle, L. E. (2010). Diagnosis, prevention and treatment of catheter-associated urinary tract infections in adults: 2009 international practice guidelines. *Clinical Infectious Diseases, 50*, 625–663.

Institute for Healthcare Improvement. (2011). *How-to Guide: Prevent Catheter-Associated Urinary Tract Infections*. Cambridge, MA. Retrieved from www.ihi.org.

Lo, E., Nicolle, L. E., Coffin, S. E., Gould, G., Maragakis, L. L., Meddings, J., …, Yokoe, D. S. (2014). Strategies to prevent catheter-associated urinary tract infections in acute care hospitals: 2014 update. *Infection Control and Hospital Epidemiology, 35*(5), 464–479.

Loveday, H. P., Wilson, J. A., Pratt, R. J., Golsorkhi, M., Tingle, A., Bak, A., …, Wilcox, M. (2014). epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *The Journal of Hospital Infection, 86*(Suppl. 1), S1–S70.

McGoldrick, M. (2015). Urine specimen collection and transport. *Home Healthcare Now, 33*(5), 284–285.

Rhinehart, E., & McGoldrick, M. (2006). *Infection Control in Home Care and Hospice* (2nd ed., p. 27). Boston, MA: Jones and Bartlett.

Smith, P. W., Bennett, G., Bradley, S., Drinka, P., Lautenbach, E., Marx, J., …, Stevenson, K. (2008). SHEA/APIC Guideline: Infection prevention and control in the long-term care facility. *American Journal of Infection Control, 36*(7), 504–535.

Society of Urologic Nurses and Associates. (2010). *Clinical practice guidelines. Prevention & control of catheter-associated urinary tract infection (CAUTI)*. Retrieved from www.suna.org

Tenke, P., Kovacs, B., Bjerklund Johansen. T. E., Matsumoto, T., Tambyah, P. A., & Naber, K. G. (2008). European and Asian guidelines on management and prevention of catheter-associated urinary tract infections. *International Journal of Antimicrobial Agents, 31*(Suppl. 1), S68–S78.

Wong, E. S. (1983). Guideline for prevention of catheter-associated urinary tract infections. *American Journal of Infection Control, 11*(1), 28–36.