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Cover image: Coloured X-ray of the pelvis, showing a healthy lower urinary tract. SPL

Reducing the risk of infection with indwelling urethral catheters

Ten key issues and best practice on short term indwelling urinary catheters

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Reducing the risk of healthcare associated infection (HCAI) is a key government target (Department of Health, 2003). Indwelling urethral catheters are one of the most common invasive medical devices used in acute care settings and, consequently, are a frequent cause of HCAI.

This article describes 10 key issues and best practice points for practitioners to consider when caring for someone who requires short term urinary catheterisation, in other words, for fewer than 30 days.

IS AN INDWELLING URINARY CATHETER NECESSARY?

Urinary catheters are used for a variety of reasons in acute care settings, including:

- Relief of acute/chronic retention of urine;
- To monitor urine output accurately;
- During surgery;
- To investigate the urinary tract;
- Urinary bladder irrigation;
- To instil drugs directly into the bladder.

Urinary catheters should never be used for the convenience of staff.

When assessing the need for a urinary catheter, the risk of catheter associated urinary tract infection (CAUTI) should be considered.

The introduction of a catheter into the bladder circumvents the body's normal defence mechanisms and enables microorganisms to track up the external catheter surface into the bladder (Curran and Murdoch, 2009).

Once a catheter is in situ, bacteria in the urinary drainage bag or introduced via the catheter/bag's connection points create biofilms on the surface of the catheter lumen, which are a precursor to CAUTI (Barford and Coates, 2009).

BACKGROUND

Indwelling urinary catheters are one of the most invasive medical devices used in the acute care setting. Urinary catheters are the frequent cause of healthcare associated infection. Catheter associated urinary tract infection (CAUTI) causes unnecessary distress to patients and delays recovery. The high impact intervention urinary catheter care bundle sets out the key elements of care in prevention of CAUTI (DH, 2007). Compliance with best practice can reduce the risk of infection.

The daily risk to catheterised patients of developing bacteriuria is 3–6% and cumulatively increases the longer the catheter remains in place (Pratt et al, 2007).

Consequently, around 50% of hospitalised patients catheterised for longer than 7–10 days develop bacteriuria (Pratt et al, 2007).

Although patients with bacteriuria frequently do not present with clinical symptoms, 20–30% of them will develop symptoms of CAUTI (Pratt et al, 2007). Many of these infections are serious and lead to significant morbidity and mortality.

There are numerous continence aids available and these should be considered before electing to use an indwelling catheter.

GOOD PRACTICE POINT

Only use an indwelling catheter when absolutely necessary and when all other options have been considered and rejected.

WHICH CATHETER IS BEST?

There are many types of urinary catheters and the selection of a catheter depends on patient assessment, the reason for catheterisation and the length of time the catheter is likely to be required.

The most commonly used is the latex Foley balloon inflating catheter, which was first introduced in the 1920s. However, with more patients becoming sensitive to latex, other materials may be required (Elvy and Colville, 2009).