Use of Technology as Process Intervention in Prevention of CAUTI

• "It is well known that biofilms containing microorganisms can develop intraluminally or extraluminally in urinary catheters. A technological innovation that may prevent biofilm formation is a logical goal for reducing risk of CAUTI."
• "A study performed at the Nebraska Medical Center looked at infection outcomes associated with the implementation of a silver alloy/hydrogel-coated urinary catheter. The study observed a significant decline in CAUTI rates."
• "A randomized crossover trial involving silver-coated catheters also demonstrated a decline in infection outcomes among those receiving the coated catheter. The risk of infection declined by 21% among study wards randomized to silver-coated catheters, and by 32% among patients in whom silver-coated catheters were used on the wards.”

Recommendations on the use of Silver Alloy Coated Catheters

Recommendations on Foley Catheter Materials

If the CAUTI rate is not decreasing after implementing a comprehensive strategy to reduce rates of CAUTI, consider using antimicrobial/antiseptic-impregnated catheters. The comprehensive strategy should include, at a minimum, the high priority recommendations for urinary catheter use, aseptic insertion, and maintenance (Category IB).

Recommendation: Antimicrobial-Coated Catheters

In patients with short-term indwelling urethral catheterization, antimicrobial (silver alloy or antibiotic)—coated urinary catheters may be considered to reduce or delay the onset of CA-bacteriuria. (Category B-II).
Silver alloy catheters significantly reduce the incidence of asymptomatic bacteriuria, but only for less than 1 week. There was some evidence of reduced risk for symptomatic UTI. Therefore they may be useful in some settings.

Grade of Recommendation: B

The British Department of Health and the Health Protection agency

**BARDEX® IC – silver alloy coated hydrogel catheters**

Basic research and development, validation and in use evaluations have shown benefits that should be available to NHS bodies to include as appropriate in their cleaning, hygiene or infection control protocols. Introduction into guidance should be considered by PASA, NHS Estates, MHRA or NICE, as appropriate (Recommendation 1).

**Cochrane Collaborative Review — 2008**

**Authors conclusions**

- “The results suggest that the use of silver alloy indwelling catheters for catheterizing hospitalized adults short term reduces the risk of catheter acquired urinary tract infection”

**Results:**

“We found robust evidence supporting insertion of a silver alloy-coated catheter to reduce the risk of CAUTI for up to 2 weeks in adult patients managed by short term indwelling catheterization.”

**Strength of Evidence: Level 1**