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Effect of Silver-Alloy Urinary Catheters in Reducing the Rate of CAUTI’s in Patients Requiring Short-term Catheterization: A Review of the Literature

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Effect of Silver-Alloy Urinary Catheters in Reducing the Rate of CAUTI’s in Patients Requiring Short-term Catheterization: A Review of the Literature

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Conflicts of Interest

• None
• Products mentioned in this presentation were used in the studies cited.
Objectives

• To examine the effectiveness of silver-alloy urinary catheters in preventing CAUTI.
• To evaluate the implementation of standard urinary catheter care with use of any catheter type.
• To develop a literature review of current peer reviewed manuscripts.
Purpose

• determine the effectiveness and economic benefit of silver-alloy catheters
• compare silver-alloy to standard urinary catheters
• assess implementation of standard preventative care in conjunction with the use of silver catheters to prevent CAUTI’s
Silver-alloy Catheter: Properties

Exclusive Catheter Coating Reduces Risk of Infection

Hydrogel
- Protects mucosa
- Facilitates appropriate release of silver ions

Gold and Palladium
- Keeps silver surface stable
- Mediates the slow sustained release of silver ions

Silver
- Anti-infective properties
- Non-toxic
- Chemically anchored to catheter surface for longevity

Catheter Substrate

Bacterial adherence is minimized

Silver ions are appropriately released

http://www.takeeveryprecaution.com/technology_bardex.html
Background/significance

• Catheter-associated urinary tract infections (CAUTI’s)
  – major healthcare concern
  – harmful to patient health
  – economically burdensome
• Silver-alloy catheter use
Methods

• Database search: CINAHL

• Search terms:
  silver catheters, prevent, CAUTI, and infection.

• Inclusion criteria
  – Population: patients requiring catheterization
  – Published 2008-2014
  – Research articles only
Results

- Six peer reviewed articles met the criteria
- Effectiveness of Silver-alloy catheters in reducing CAUTI rates – 4 articles
- Cost effectiveness of Silver-alloy catheters – 4 articles
- Necessity of using standard preventative nursing interventions in addition to silver-catheter use- 2 articles
Results

• Silver-alloy catheter use in reducing CAUTI rates
  – Findings varied on the effectiveness of silver-alloy catheters in reducing CAUTI rates among catheterized patients
Results

• Cost effectiveness
  – Findings varied
    • patients
    • health care institutions
Results

• Need for standard catheter care with use of any catheter type
  – standard prevention measures confirmed
  – proper catheter care
  – antimicrobial properties of silver should not be solely relied upon
Limitations

• Various assessment techniques
• Limited publications in nursing journals
• Limited new research within the past 5 years
• Only 4 articles reviewed
Conclusions

• No current determination can be made on the use of silver catheters in clinical practice

• More research
  – effectiveness of silver-alloy catheters in reducing CAUTI rates
  – economic benefits of silver-alloy catheters

• Adherence to institution-based policies and procedures
  – proper catheter placement
  – Proper catheter care
Future Directions

• Additional literature review
• Conduction of more in-depth research trials
• All policies/procedures must include standard catheter care
Research Lessons Learned

• Requirement
• Article retrieval
• Article selection
• Database search skills
References


