Focusing on Appropriate Catheter Insertion

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&

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Outline

• Why we’re looking at this topic
• Review pilot data from Michigan
• Taking a global approach to the issue
  – What to consider when focusing on appropriate catheter insertions
  – Technique checklists
• Tips for success
The Scope of the Problem

• Guidelines for preventing CAUTI have always recommended aseptic insertion techniques.
• Nurses learn how to insert catheters while in school, using an elaborate protocol.
• Other healthcare providers may learn while “on the job.”
• Nurses are responsible for the maintenance of indwelling urinary catheters.
The Scope of the Problem

• Healthcare providers who insert catheters say they use aseptic technique.

• In a national survey of Infection Preventionists, over 90% stated that indwelling catheters were inserted aseptically in their facilities.

• So what’s the problem?
A pilot study in a busy ED

• We wanted to learn about the barriers and facilitators to guideline adherence for aseptic insertion techniques, by directly observing indwelling catheter insertions.

• We chose a busy ED as the study site, since most hospital admissions come through the ED and up to 25% of patients have a catheter at any one time.
Pilot Study (cont’d)

• Research assistants spent several hours/day in the ED and were notified by staff when a catheter was to be placed.

• Research assistants then observed the insertion with the permission of patient/family.

• Research assistants used a checklist (based on recognized guidelines) to determine if catheter insertions were aseptic or not.
Pilot Study Results

• 14 catheter insertions were observed.
• 7 of them were not aseptic.
• Multiple violations of aseptic technique per procedure were common:
  – Lack of hand hygiene prior to or after insertion,
  – setting up a sterile field in an inappropriate location,
  – irrigating a catheter with clean instead of sterile water.
Significance of our Findings

- All participants knew they were being observed and consented to the observation.
- Many more catheters were inserted but research assistants were not notified.
- Healthcare providers may not believe that aseptic insertion is all that important or they may not be aware of violations of aseptic technique.
A Global Approach

- Identify individual, unit, and facility specific barriers to aseptic insertion:
  - Lack of knowledge
  - Lack of importance
  - Lack of feedback
  - Lack of resources
Lack of Knowledge

- There are few similarities between the controlled environment in which healthcare providers learn to insert catheters and the chaotic work environments in which they practice.
- Healthcare providers may not have the skills to maintain aseptic technique given work environment constraints.
- They may observe peers inserting catheters and notice that aseptic technique is not used.
Lack of Knowledge: Strategies to Overcome

• Develop competencies for those who insert catheters.
• Review catheter insertion technique during annual competency testing.
• Require that there be oversight for catheter insertion by a licensed provider.
• Develop a policy on catheter insertion techniques if none is in place.
• Use a variety of checklists.
Online Videos

• http://www.med.uottawa.ca/procedures/ucath/
• http://en.wikipedia.org/wiki/Urinary_catheterization
• http://www.healthcarea2z.org/ditem.aspx/287/Urinary+catheter+insertion/
• http://emedicine.medscape.com/article/80716-overview
Lack of Importance

• Activities strictly within the nursing domain may not be perceived as being important or of much value, compared to activities that cross disciplinary boundaries.

• Catheter insertion may be perceived as one of many “tasks” rather than as a component of evidence-based practice.
Lack of Importance: Strategies to Overcome

• Aseptic insertion of indwelling urinary catheters is a component of evidence-based practice, no matter what the discipline.
• Develop a culture where evidence-based practice is recognized and rewarded.
• Think in terms of nursing practice components rather than a set of tasks to be completed.
Lack of Feedback

- Those who insert catheters may not be aware of the consequences when aseptic insertion technique is violated.
- Patients move from the ED to other units, and there is no systematic process to let ED staff know of patient outcomes.
- CAUTI can result from poor insertion technique.
Lack of Feedback: Strategies to Overcome

• Unit level strategies:
  – Report monthly CAUTI rates during staff meetings.
  – Post monthly CAUTI rates in a prominent location.

• Organizational level strategies:
  – Post CAUTI rates for all units, so that comparisons can be seen.
Lack of Resources

• Time, financial, space, equipment constraints can all contribute to situations where aseptic insertion techniques are not used.

• Variation in staffing resources contributes as well:
  – High turnover
  – Understaffing
Lack of Resources: Strategies to Minimize

• Adequate supplies:
  – over-the-bed tables
  – hand sanitizers
  – sterile gloves
  – best type of kit to stock for your patient population

• Would individual supplies be better than a kit?

• Adequate facilities for hand hygiene
Lack of Resources, Strategies (cont’d)

• Location:
  – Where are kits located in relation to where the procedure is to take place?

• Offer a variety of checklists (more on this later).
Checklists

- Alternatives to indwelling catheters
- Appropriate indications
- Different checklists for men and women
Alternatives Checklist

• Consider alternatives to indwelling urinary catheters first:
  – Bladder scanner to assess volume of urine in bladder
  – Straight catheter for one-time or intermittent needs
  – Condom catheter for men without urinary retention or obstruction
Appropriate Indication Checklist

• Catheter is inserted for appropriate indication:
  – Acute urinary retention
  – Acute bladder outlet obstruction
  – Need for accurate output measurement
  – To assist in healing of open wounds in incontinent patients
  – To improve comfort at end-of-life, if needed
  – Strict prolonged immobilization (e.g., pelvic fracture)
  – Select peri-operative needs
Components of Aseptic Insertion

• Set up a sterile field.
• Perform hand hygiene immediately before and after insertion.
• Use sterile gloves, drapes, sponges.
• Use appropriate antiseptic or sterile solution for peri-urethral cleaning, and a single-use packet of lubricant jelly for catheter tip.
• If catheter is accidentally contaminated, it is discarded, and a new sterile catheter is obtained.
Sample Insertion Checklist - Men

- Fully retract foreskin on uncircumcised male patient
- Inject 10 – 15 ml. of viscous lidocaine into urethral meatus with needleless syringe
- Grasp penile shaft using non-dominant hand, holding penis taut and perpendicular to the plane of patient’s body
- Cleanse the glans penis in a circular motion, using cotton balls soaked in antiseptic
- Slowly advance catheter through the urethra into the bladder
- If substantial resistance is met, do not forcefully advance catheter
- The catheter is advanced to the level of the balloon inflation port
- Foreskin is reduced to its anatomical position in uncircumcised males
## Another Type of Checklist - Women

<table>
<thead>
<tr>
<th>Procedural Steps</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
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<tbody>
<tr>
<td>Place patient in supine position</td>
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<tr>
<td>Inspect the sterile catheterization kit and remove it from its outer packaging</td>
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<tr>
<td>Open the inner paper wrapping to form a sterile field</td>
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<td>Form sterile field on bedside table or other flat surface but not patient bed</td>
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<tr>
<td>With washed hands carefully retrieve the absorbent pad from the top of the kit</td>
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<tr>
<td>Place absorbent pad beneath patient’s buttocks, with plastic side down</td>
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<tr>
<td>Don sterile gloves</td>
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<tr>
<td>Cover patient’s abdomen and superior pubic region with fenestrated drape</td>
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<tr>
<td>Organize contents of the tray on the sterile field</td>
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<tr>
<td>Pour antiseptic solution over the preparation swabs in the tray compartment</td>
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<tr>
<td>Squeeze some sterile catheter lubricant onto the tray to lubricate the catheter tip</td>
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<tr>
<td>* Test balloon prior to insertion</td>
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<tr>
<td>Using gloved non-dominant hand, identify the urethra by spreading labia majora &amp; minora</td>
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<tr>
<td>Use the thumb and index finger to spread the inner labia with gentle traction and pulling upward towards patient’s head</td>
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<tr>
<td>Non-dominant hand is not removed from this position</td>
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<tr>
<td>Use an expanding circular motion to clean the opening with remaining swabs</td>
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<tr>
<td>Lubricate distal end of the catheter with the sterile jelly</td>
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<tr>
<td>Holding the catheter in the dominant hand, gently introduce the catheter tip into meatus</td>
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<tr>
<td>Slowly advance catheter through the urethra into the bladder</td>
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<tr>
<td>If catheter is accidentally contaminated, it is discarded, and a new sterile catheter is obtained</td>
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<tr>
<td>* If catheter is accidentally inserted into the vagina, it is left in place until a new sterile catheter is obtained and inserted correctly</td>
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<tr>
<td>Once urine is observed in tubing, the catheter is advanced another 3 – 5 cm.</td>
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<tr>
<td>Balloon is inflated with entire contents of 10cc. syringe of sterile water only after urine is observed in tubing</td>
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Tips for Success

• Organizational strategies

• Unit Strategies

• Individual strategies
Organizational Strategies

• A non-punitive culture
• Visible and supportive leadership
• Identify system-wide barriers to aseptic insertion:
  – Lack of adequate supplies
  – Lack of space for sterile field set-ups
  – Lack of manpower
• Allocate resources to overcome as many barriers as possible.
Organizational Strategies (cont’d)

• Annual aseptic insertion competency for all staff who insert catheters.
• Set up a reward system for staff who are involved with aseptic insertion initiative (e.g., tied to pay grade, clinical ladder progression).
Unit Strategies

• Identify a change champion: someone who other staff respect and who is committed to the aseptic insertion process.

• Have change champion first talk to staff to understand unit barriers to aseptic insertion.

• Discuss with staff how to remove identified barriers.

• Unit nursing leadership support and liaison with hospital leadership.
Unit Strategies (cont’d)

• Consider relocating supplies.
• Use a buddy system at first when catheter insertion is necessary.
• Offer incentives/hold a contest for staff to come up with an innovative idea for aseptic insertion.
• Continue to report monthly CAUTI rates.
Individual Strategies

• Provide individual staff with opportunities to collect data on CAUTI.

• Involve staff in peer QI checks of insertion practices.

• Staff who are involved in data collection, peer checks are acknowledged in annual evaluations.
Comprehensive Longer-Term Strategies

• Integrate an evidence-based, professional practice model into the workplace
  – Include a philosophy that incorporates evidence-based practice into the mission, vision, values of the organization and relevant inpatient units.
  – Organize a committee of staff from several areas (areas that have the highest catheter use rates) to help draft an evidence-based philosophy and disseminate it to their peers.
Comprehensive Strategies (cont’d)

• Transition to an evidence-based practice approach for patient care delivery.
  • Several evidence-based practice models are available to choose from;
  • they all provide guidelines for enlisting staff support and buy-in.
Comprehensive Strategies (cont’d)

• Base documentation on a framework that includes evidence-based practice.
• Enable collaborative and decentralized decision-making.
• Allow nurses to make decisions that affect their practice.
Questions?

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