Focusing on Appropriate Catheter Insertion

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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://allnurses.com/nursing-articles/helpful-hints-female-261915.html
- http://emedicine.medscape.com/article/80716-overview

Lack of Importance

- Activities strictly within the nursing domain may not 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

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

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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