FreshRN Podcast
Season 4, Episode 6

All Things Urinary Catheters

Key Focus: Catheters can lead to infections, which can be fatal.

CAUTI - **C**atheter **A**ssociated **U**rinary **T**ract **I**nfection

- CAUTI is a type of HAI - **H**ospital **A**cquired **I**nfection
  - NOT an infection the had at the time of admission
  - An infection *we* gave the patient because we placed a catheter

- Impacts the hospital's reimbursement (https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/HAC/Hospital-Acquired-Conditions.html)
  - Hospitals don't get reimbursed for infections that they give infections

- Small minority of patients are at higher risk for CAUTI.
  - Be aware of patient's factors.

- Most CAUTI are preventable

- Best prevention is not to have them

- Changing mentality of why/when patients need catheters
    - Not using as frequently
    - More specific rationale for use
    - Not to be used for nurse convenience

Non-Invasive Urinary Output Methods

Males

- **Urinal** - Be aware of challenges
  - Enlarged prostate
  - Positioning - some men need to sit or stand
  - Anatomical - consider use of female urinal (larger opening)

- **Condom Catheter** - A condom that is applied externally, connected to a catheter bag
  - Use proper size
  - Needs a good seal for best prevention against leaks
    - Consider use of skin prep or benzoin to help with placement
    - Easy to pull off unintentionally.
    - Urostomy bags or fecal bag may be an alternative for some male genitalia

Females

- **Bedpan** - Can be difficult to avoid spills
- **Bedside commode** - Place next to bed for easier transfers for patients with limited mobility
- **Speci-Hats** - Placed in toilet to capture urine, but sometimes difficult to put in perfect spot to avoid misses
- **Female Urinals** - Shaped differently, with larger opening, to fit against female genitalia
- **External Catheter for females** - Purewick (https://youtu.be/xSOuvcShikw) catheter, lays against the perineum and is connected to continuous suction
    - Need to use proper suction to assure that urine is pulled away from perineum, but not high enough to cause tissue damage
    - Use for appropriate patients (not those who are constant wiggle worms)
    - Cannot be used during menses, nor for patients having frequent stools.

Universal Considerations

- **Diapers** - Many facilities now avoid them
    - Can lead to skin breakdown, as moisture is captured against skin
- **Disposable Pads**
    - Some weigh disposable pads (the pads patient's lay on for repositioning) to calculate output (like diapers in NICU)

- Does your patient need to have accurate I/O?
    - Some patients can simply be assisted to the bathroom with no need for measurement
- Although non-invasive methods may create more work for the nurse/nursing assistant, we must weigh the risks associated with an indwelling catheter.
- An indwelling urinary catheter, just by being there, is a risk of infection.
- Urinary system is sterile. You are inserting a foreign device (which can easily be contaminated), inside the body and all the way up into the bladder.
    - This is a direct line from the outside world to a sterile part of the body.
    - Normal flora found on skin can (or body excretions) can adhere to the catheter and find a route into the bladder, even if insertion was perfectly sterile.
- Diarrhea is particularly concerning with catheters, especially in females, because urethra is close to the rectum.
- Excellent peri-care is essential, use your hospital policy for guidance

Tips for Catheter Insertion

Universal Tips

- Explain the procedure, using simple, plain language, *before* starting the insertion process.
  - What is a catheter?
  - Why is it needed?
  - What is involved for insertion?
  - Especially important for:
    - Young
    - Disabled
    - Language Barriers
    - Hx of sexual trauma
- Remember: What is routine for us, is NOT to other people.

- Start with excellent Hand Hygiene

- Good peri-care prior to insertion
  - Use hospital approved cleanser
  - Be thorough
  - No fecal matter should be present

- New sterile catheter following each unsuccessful insertion

- Be mindful of how much urine is drained at once. Too much can lead to bladder spasms or hemodynamic instability.

- Know when it is appropriate to remove catheter. (MD order vs standing order)

Female Tips

- Can be more difficult than males, because the urethral opening is so close to vaginal opening

- Be sure that vaginal discharge, if present, is cleaned thoroughly prior to insertion

- Use 2 person insertion technique
  - One person on each side, holding leg and helping to spread labia

- Uretheral opening is not always clearly visible
  - Be generous with the betadine; a large quantity can “highlight” the urethral opening
  - Some women have the uretheral opening inside the vaginal opening; look closely
    - Women won’t know that about themselves
      - Explain to women that if you don’t get it on the first try, nothing is wrong with them.

- Aim high

- If you don’t get urine, *leave* the catheter in place
  - Marks the vaginal opening, and gives you a landmark on where to aim next time

- Get a new sterile catheter for the next insertion attempt

- Lay flat (maybe even a little trendelenburg), if not concerned about ICP issues.
- Exam lights are helpful
- Take your time in getting the patient and the catheter in ideal positions for insertion

Males

- If meeting resistance during insertion, elevate the penis and point the tip toward the patient's head
- Do not be overly aggressive during insertion, as this may cause trauma
  - Leads to bleeding which can occlude urethra
- Enlarged prostate
  - Consider coude catheter.
    - Has curved tip and is more rigid, curves past enlarged prostate easier
    - May require specific MD order
- Hypospadias
  - Uretheral opening may appear to be in normal position, but there is no open pathway.
  - Actual uretheral opening is on the under side of the penis, and may appear as a slit.
- Urology consult may be required, as they can use tools to dilate the urethral opening and assist with insertion

Care of the Non-Circumcised Male

- Peri care is important, regardless if applying an external or an indwelling urinary catheter
  - Retract foreskin and clean thoroughly. There can be a collection of discharge under the foreskin.
- If applying an external catheter, condom cath should be placed over the penis with the foreskin in the original position.
- Return foreskin back into the original position after foley insertion.
- If foreskin stays retracted, the penis will swell.
  - Can lead to the patient needing circumcision as an adult.
- You may need to clarify with the patient (or family) if there is question whether patient has been circumcised

CAUTI prevention

- Don’t have a catheter unless truly needed
- Treatment of CAUTI is expensive.
  - According to article published in the American Journal of Infection Control in July of 2018, costs can range from $1,000 - $10,000. https://www.ajicjournal.org/article/S0196-6553(18)30036-1/abstract
- Can be fatal - think urosepsis, amongst other complications
- Risk of CAUTI increases each day the catheter remains in place
  - According to CDC, the risk increases 3-7% each day https://www.cdc.gov/nhsn/pdfs/pscmanual/7psccauticurrent.pdf
- Excellent hand hygiene & peri care prior to insertion
- Regular and thorough peri-care (follow your hospital policy).
  - Use your hospital approved cleanser
- Clean Stool immediately and thoroughly
  - Clean all the way from the foley insertion site to the rectum
  - For women, be sure to inspect vaginal canal for feces
- Consider fecal management device for patients with indwelling catheters.
  - Can be internal or external
  - Be aware that internal FMS can have their own complications
    - There are contra-indications for using internal FMS
- Use a catheter securing device. Excessive movement can lead to bladder spasms, and also exposure to more skin tissue.
  - Secure devices should be placed in proper position
  - Urine should not flow uphill before draining into the bag
    - Leads to retrograde flow
- No dependent loops, whether the close to the patient or closer to the bag.
- Do not put foley bag into the bed with the patient
  - Foley should remain below bladder level at all times
- Empty foley bag before traveling.
    - At a minimum of clamp foley during transport.
- Remove catheter as soon as possible.

CBI - Continuous Bladder Irrigation

- Uses 3 way foley
- Larger catheter, to accommodate flow into and out of bladder, usually place by provider
- Sterile fluid flows into the bladder and drains out catheter (mixed with urine).
  - Essential to track all fluid entering bladder
  - Subtract irrigant from total fluid output to calculate actual urine output.
- Flow of irrigant can be adjusted based on how much blood (or blood clots) need to be cleared.
- Can be needed following urinary trauma or surgery (anything that causes bleeding)
- Usually requires an MD order to remove

In/Out Catheter (straight cath)

- Catheter is inserted into bladder, urine is drained, and catheter is removed
- Sterile procedure same as indwelling catheter
- Be mindful of how much urine is drained at once.
- Risk of infection is lower because catheter does not stay in place

Bladder Scan

- Non-invasive ultrasound which calculates urine in the bladder
- If a patient is not urinating bladder scan helps determine cause.
  - Does the patient need more fluids or are they retaining urine?
- If a patient urinates frequently but in small amounts, the patient may not be fully emptying their bladder. They may be retaining a large amount of urine
- Urinary retention can be caused by many reasons, such as:
  - Enlarged prostate
  - Spinal injury
  - Brain injury
  - Medications

In Summary, always ask yourself:

- **Do they have a catheter?**
- **Why do they have hit?**
- **Do they still need it?**
- **When can it come out?**