

# Indwelling Urinary Catheter Insertion and Maintenance



# Presenter

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# Learning Objectives

- Describe strategies for aseptic insertion of indwelling urinary catheters
- Identify approaches to overcome barriers to urinary catheter aseptic insertion
- Identify strategies to overcome barriers to urinary catheter maintenance



# Why is Aseptic Insertion So Important?

- The rate of catheter use may be rising
  - About 15-25% of hospitalized patients
- CAUTI is costly and increases morbidity
- Bacteria can enter the bladder during insertion
  - Guidelines have always recommended aseptic insertion of indwelling urinary catheters

*(Catheter-associated Urinary Tract Infections (CAUTI), CDC, 2015)*



# Components of the Catheter Insertion and Maintenance Bundle

1. Use a standard indwelling urinary catheter kit

2. Ensure proper insertion technique

3. Maintain catheter according to evidence-based guidelines

(Meddings J, Saint S. Disrupting the life cycle of the urinary catheter. *Clin Infect Dis*. 2011;52(11):1291-3. PMID: 21596672.)



# Use a Standard Indwelling Urinary Catheter Kit

- Several different types of kits on the market
- Closed-system catheter insertion kits are recommended
- Supplies in each kit are organized by order of use
- Consider removing individual catheters from stock



# Ensure Proper Insertion Technique

- Aseptic insertion technique is recommended
- Many nurses and other clinicians have to relearn “proper” technique
  - Working environment does not resemble learning environment
- Inserting clinicians should receive competency-based training and be able to demonstrate indwelling catheter insertion competency
  - Practices should be observed and monitored in real world settings after initial training.



# Categories and Frequencies of Major Breaks in Sterility

Category	Frequency (%)	Examples
Contamination of sterile field	22 (27%)	<ul style="list-style-type: none"> <li>• Nurse touched items on sterile field with bare non-sterile hands.</li> <li>• Stethoscope/garment/torso touched sterile field.</li> </ul>
Contamination of the catheter	25 (31%)	<ul style="list-style-type: none"> <li>• Patient's labia closed over the catheter during insertion and contaminated the catheter; nurse did not get a new one.</li> <li>• Catheter tip touched genitalia before being introduced into urethra.</li> </ul>
Breach of sterile barrier	31 (38%)	<ul style="list-style-type: none"> <li>• Sterile gloved hand used to swab genitalia (without tongs); same hand used to insert catheter.</li> <li>• Nurse inserting catheter ripped her sterile gloves, did not get new ones.</li> </ul>

(Manojlovich M, *Infect Control Hosp Epidemiol*, 2016; Lo E, *Infect Control Hosp Epidemiol* 2014; Carter EJ, *Infect Control Hosp Epidemiol*, 2016)



# Both Technical and Socio-Adaptive Strategies are Needed

- Technical
  - Provide competency-based training for all staff inserting catheters
  - Confirm availability of supplies needed for aseptic insertion
  - Ensure appropriate hand hygiene and personal protective equipment (PPE) use
  - Use checklists to help streamline insertions and assure they are done aseptically
  - Conduct routine audits and provide timely feedback on aseptic insertion practices
- Socio-adaptive
  - Unit culture
  - Empower staff to stop procedures if aseptic technique is broken
  - Recruit an insertion champion
  - Encourage the use of two people for catheter insertions to help ensure no breaks in aseptic technique



# ANA Tool: Algorithm and Checklist

Indwelling Urinary Catheter (IUC) Insertion Checklist to Prevent CAUTI in the Adult Hospitalized Patient: Important Evidence-Based Steps.	Yes	Yes with Reminder	Comments
<b>Before IUC insertion:</b>			
1) <b>Determine if IUC is appropriate per the CDC Guidelines (CDC, 2009)</b> (See page 1, Box 1).			
2) <b>Select smallest appropriate IUC</b> (14 Fr., 5ml or 10 ml balloon is usually appropriate unless ordered otherwise).			
3) <b>Obtain assistance PRN</b> (e.g., 2-person insertion, mechanical aids) <b>to facilitate appropriate visualization/insertion technique.</b>			
4) <b>Perform hand hygiene.</b>			
<b>Patient Preparation/Insertion of IUC:</b>			
1) <b>Perform peri-care, then, re-perform hand hygiene.</b>			
2) <b>Maintain strict aseptic technique throughout the actual IUC insertion procedure, re-perform hand hygiene upon completion.</b> <ul style="list-style-type: none"> <li>• Use <u>sterile gloves and equipment</u> and establish/maintain sterile field.</li> <li>• Do not pre-inflate the balloon to test it, as this is not recommended.</li> </ul>			
3) <b>Insert IUC to appropriate length and check urine flow <u>before</u> balloon inflation to prevent urethral trauma.</b> <ul style="list-style-type: none"> <li>• In males, insert fully to the IUC "y" connection, or in females, advance ~1 inch or 2.5 cm beyond point of urine flow.</li> </ul>			
4) <b>Inflate IUC balloon correctly:</b> Inflate to 10 ml for catheters labeled 5 ml or 10 ml per manufacturer's instructions.			



(ANA CAUTI Prevention Tool, ANA)



# Aseptic Insertion Essentials

1. Perform hand hygiene immediately before (and after) insertion
2. Use appropriate antiseptic or sterile solution for peri-urethral cleaning, remove gloves and perform hand hygiene after peri-urethral cleaning and prior to insertion
3. Set up a sterile field
4. Use sterile gloves, drapes, sponges
5. Use appropriate antiseptic single-use packet of lubricant jelly for catheter tip
6. Secure the device
7. Keep collection bag below bladder level

\*\*If the catheter is accidentally contaminated, discard it, and obtain a new sterile catheter (or kit)



# Barriers to Aseptic Insertion

- Supplies are not readily available
- Supplies not designed to facilitate aseptic insertion
  - Wisps from cotton balls tend to cling to tongs in some kits
- Work space not aligned with workflow
  - Inconsistent or inconvenient locations for hand gel
  - Inconvenient location of sinks
  - Inadequate space created to set up sterile field



# Strategies to Overcome Barriers

- Best type of kit to stock for your unit or hospital's patient population
- Other necessary supplies:
  - Over-the-bed tables
    - EPA-registered disinfectant to clean and disinfect workspace
  - Hand sanitizers
  - Sterile gloves
- Adequate facilities for hand hygiene
- Accessibility/location of kits
  - Where are kits located in relation to where procedure will take place?



# Maintenance: Catheter Care Essentials

AHRQ Safety Program for Reducing CAUTI in Hospitals



## Appendix I. Catheter Care Pocket Card

### Interventions To Prevent CAUTI in Patients Who Have a Documented Medical Need for Indwelling Urinary Catheter

Prevention strategies must focus on clear indications for the insertion of a urinary catheter and prompt removal when no longer necessary. When an indwelling urinary catheter is indicated, the following interventions should be in place to help prevent infection:

- Use indwelling catheters only when medically necessary
- Use aseptic insertion technique with appropriate hand hygiene and gloves
- Allow only trained health care providers to insert catheter
- Properly secure catheters to prevent movement and urethral traction
- Maintain a sterile closed drainage system
- Maintain good hygiene at the catheter-urethral interface
- Maintain unobstructed urine flow
- Maintain drainage bag below level of bladder at all times
- Remove catheters when no longer needed
- Do not change indwelling catheters or drainage bags at arbitrary fixed intervals
- Document indication for urinary catheter on each day of use
- Use reminder systems to target opportunities to remove catheter
- Use external (or condom-style) catheters if appropriate in men
- Use portable ultrasound bladder scans to detect residual urine amounts
- Consider alternatives to catheters, such as intermittent catheterization and portable ultrasound bladder scans to detect residual urine amounts

Document indication for urinary catheter on each day of use

- Use appropriate hand hygiene and gloves
- Properly secure catheters to prevent movement and urethral traction
- Maintain a sterile closed drainage system
- Maintain good hygiene at the catheter-urethral interface
- Maintain unobstructed urine flow
- Maintain drainage bag below level of bladder at all times
- Do not change indwelling catheters or drainage bags at arbitrary fixed intervals



(Appendix I. Catheter Care Pocket Card, AHRQ, 2015)



# Hand Hygiene and Glove Use

- Perform hand hygiene **before** each and every patient contact and **before** any manipulation of the catheter device or site
- Strategies to improve hand hygiene and glove use:
  - Education related to specific aspects of urinary catheter care
  - Audit and feedback



*(Gould CV, Infect Control Hosp Epidemiol, 2009; Lo E, Infect Control Hosp Epidemiol, 2014; WHO Guidelines on Hand Hygiene in Health Care, WHO, 2009)*



# Maintain a Closed System

- If breaks in aseptic technique, disconnection or leakage occur, replace the catheter using aseptic technique and sterile equipment
- Consider using urinary catheters with pre-connected, sealed catheter tubing junctions



# Strategies to Maintain a Closed System

- Ensure indwelling catheters are only inserted when clinically indicated
- Consider pre-connected urimeters
- If a patient requires a single irrigation, change the entire system after or consider inserting a 3-Way
- Work with your supply chain to request that vendors supply pre-connected indwelling urinary catheters



# Maintain Unobstructed Urine Flow

- Maintain the bag below the level of the bladder
- Ensure that the bag is emptied prior to transport
- Use a catheter securement device to anchor the catheter
- Keep the urine bag off the floor



# Strategies to Maintain Unobstructed Flow

- Incorporate observation of urinary catheter and bag into routine rounds
- Perform a simple check prior to transport to ensure that all lines and catheters are patent
  - Is the catheter secure?
  - Is the drainage bag empty?



# Meatal Cleaning: Soap and Water is Best!

- Perform peri and catheter care per facility policy
- Assess the patient for any pain or discomfort
- Inspect the meatus for redness, irritation and drainage
- Assess the catheter where it enters the meatus for encrusted material and drainage
- Clean the meatus during daily bathing (do **not** clean with antiseptics)
- Remove any encrusted materials on the tubing
- Ensure the tubing does **not** go in and out of the urethra during cleaning



# Maintenance Checklist

## CAUTI Maintenance Bundle

DATE	BUNDLE CRITERIA							
	DAILY DOCUMENTED ASSESSMENT OF NEED	TAMPER EVIDENT SEAL IS INTACT	CATHETER SECURED-SECUREMENT DEVICE IN PLACE	HAND HYGIENE PERFORMED FOR PATIENT CONTACT	DAILY MEATAL HYGIENE PERFORMED WITH SOAP AND WATER	DRAINAGE BAG EMPTIED USING A CLEAN CONTAINER	UNOBSTRUCTED FLOW MAINTAINED	ACTION REMOVE OR CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE

(Hanchett M, APIC, 2012)



# Take Home Points

- Consider the use of checklists
- Explore how the unit culture affects your ability to insert and maintain indwelling urinary catheters according to evidence-based guidelines
- If the patient must have an indwelling urinary catheter, pay attention to maintenance practices
- It's NOT complicated: simple can be better (such as using soap and water for periurethral care)



# References

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# Speaker Notes



# Speaker Notes: Slide 1

Welcome to the fourth module of the Catheter-Associated Urinary Tract Infection (CAUTI) Prevention course. This module, titled “Indwelling Urinary Catheter Insertion and Maintenance,” will review key steps and strategies to ensure aseptic insertion and proper maintenance of indwelling urinary catheters.



# Speaker Notes: Slide 2

This module was developed by national infection prevention experts devoted to improving patient safety and infection prevention efforts.



# Speaker Notes: Slide 3

After completing this module you will be able to:

- Describe strategies for aseptic insertion of indwelling urinary catheters;
- Identify approaches to overcome barriers to urinary catheter aseptic insertion; and
- Use checklists to aid in urinary catheter insertion and maintenance.



# Speaker Notes: Slide 4

When patients develop a CAUTI, costs during hospitalization increase, and CAUTI adds another illness on top of whatever brought the patient into the hospital, increasing morbidity. No one wants to give their patient a CAUTI, and guidelines have always recommended aseptic insertion. We all want to minimize or prevent harm to our patients. But the health care system is not always configured in a way that aligns with nursing workflow. Nurses develop workarounds to overcome system barriers, but sometimes those workarounds can have unintended consequences.



# Speaker Notes: Slide 4 continued

Here's a story to highlight the main points (this story happens in the emergency department (ED), but you can imagine any patient on a medical-surgical floor who is suddenly taking a turn for the worst).

A 50-year-old female is brought into the ED of a medium-sized community hospital in full-blown pulmonary edema. Her previous history includes breast cancer two years ago, and as a result of treatment for her cancer she now has heart failure. Knowing that she will be admitted, she is “lined” in the ED.



# Speaker Notes: Slide 4 continued

Within the space of 20 minutes, she has a central line and indwelling urinary catheter placed. It is pretty chaotic in her cubicle: lots of people doing lots of procedures all at the same time. During the catheter insertion the tip of the urinary catheter inadvertently touches the nurse's scrub top. The nurse does not get another catheter, but instead continues to insert the "dirty" catheter. Four days later the patient still has the indwelling urinary catheter, and now she has a fever and has become hypotensive. Blood cultures are positive for *Serratia marcescens*. The patient's length of stay is significantly lengthened as a result of this complication.



# Speaker Notes: Slide 5

Employing indwelling urinary catheter insertion and maintenance bundles is a great way to promote evidence-based best practices and proper aseptic technique. The components of the catheter insertion and maintenance bundle are listed on the slide. First, if you determine that an indwelling urinary catheter is clinically indicated, then the evidence suggests that you should use an indwelling urinary catheter insertion kit standardized for use in a facility. Second, ensure proper insertion technique, and we'll talk in a bit about what this entails. Finally, once the catheter is inserted, maintaining it according to evidence-based guidelines is crucial to prevent CAUTI. The remainder of this module explores these three components in more detail.



# Speaker Notes: Slide 6

This slide describes some components of a standard indwelling urinary catheter kit. Although there are several different catheter types on the market, it is recommended that a closed-system indwelling urinary catheter insertion kit be used because a closed system eliminates a possible entry route for bacteria. Standardized kits allow inserters to become familiar with a consistent order in which supplies are presented. That consistency reduces cognitive load so that the inserter can focus on what's important—the insertion itself, instead of locating the supplies. Frontline staff should provide input as to what kind of kits to stock; other kits should be removed from supply. Keep the patient population in mind. Engaging frontline clinicians in decision making helps to ensure buy-in.



# Speaker Notes: Slide 6 continued

The decision to remove individual catheters from stock has to be carefully made. Sometimes a larger or smaller sized catheter is needed, depending on the patient's situation. For female patients there may be more than one insertion attempt, and the cost of starting again with a whole new kit has to be weighed against the cost of one catheter. For elderly males, a bent tip catheter may be needed, and these usually do not come pre-packaged in a standard kit.



# Speaker Notes: Slide 7

Evidence-based guidelines have always recommended aseptic insertion technique, which is the proper technique. All clinicians who will be inserting catheters should receive competency-based training on aseptic catheter insertion technique and be able to demonstrate competency. Often, these trainings for nurses and other clinicians occur in very controlled conditions. Even when clinicians get to insert catheters during clinical rotations, the instructor is often hovering nearby, with a helping hand. In simulation labs it is easy to find the urethra on female dummies, and male dummies do not have enlarged prostate glands. Physicians, too, learn how to insert catheters on the job..



# Speaker Notes: Slide 7 continued

For example, they'll catheterize patients in the operating room, which again, is a very controlled environment. The take home point here is that some of the lessons we learn about how to insert catheters aseptically do not apply once we are out in the real world



# Speaker Notes: Slide 8

The research team found that in observing 81 catheter insertion attempts, 59 percent of attempts had at least one major break in aseptic insertion technique. In many cases, there was more than one break in aseptic insertion per case. These breaks in aseptic technique include contamination of the sterile field, contamination of the catheter and breach of the sterile barrier. The examples on this slide show what constitutes each of these breaks in sterility.

Many catheter insertions were observed in the trauma bays. A sense of urgency pervades EDs, especially in the trauma bays where the sickest patients are triaged. Because of the urgency, clinicians perform multiple procedures at the same time so that patients can be quickly stabilized, just as in the story earlier.



# Speaker Notes: Slide 8 continued

As a consequence, aseptic technique may be difficult to maintain when multiple staff—in parallel—care for an unstable patient. Multiple procedures are performed by multiple clinicians: two people are inserting peripheral IVs, while another is intubating the patient and yet another is inserting a new arterial line. What if we waited until the dust settled before inserting a urinary catheter? The patient may urinate on the sheets during these other procedures, that's true, but the sheets would have to be changed anyway after the other procedures are completed. Urinary catheters do not contribute to patient stabilization, so consider changing your practice to hold off on urinary catheter insertion until the procedure can be done using aseptic insertion technique.



# Speaker Notes: Slide 9

To overcome the challenges faced when inserting urinary catheters aseptically, both technical and socio-adaptive strategies are needed. Technical strategies include providing competency-based training for all staff inserting catheters, confirming availability and ease of access of all supplies needed for aseptic insertion, ensuring staff are appropriately performing hand hygiene and using personal protective equipment (PPE) for all catheter insertions, and using catheter insertion checklists. Insertion checklists provide structured guidance, making the steps for aseptic insertion easier to follow.



# Speaker Notes: Slide 9 continued

Through consistent use of a checklist, the insertion process becomes more standardized, closing the gaps in practice variation that could possibly lead to breaks in aseptic technique. Lastly, hospitals should conduct routine audits of catheter insertions to confirm aseptic technique is being properly followed and provide feedback to staff on their technique. Socio-adaptive strategies can be difficult to identify and more challenging to tackle. There's a lot that could be said about the culture of a unit or hospital. Culture refers to "the way we do things around here." A unit or hospital culture that is committed to evidence-based practice will be more likely to work hard at improving insertion technique.



# Speaker Notes: Slide 9 continued

Similarly, does the unit or hospital culture encourage staff to stop procedures and start again if breaks in aseptic technique are noticed? Creating an environment where staff feel empowered to speak up to stop procedures, like catheter insertions, if there are breaks in technique can be an important socio-adaptive strategy to improve insertion practices. Finally, recruiting insertion champions who can help support other staff during insertion and keep best practices and evidence-based guideline lines top of mind can also be a strategy to improve a hospital's indwelling urinary catheter insertion practices.



# Speaker Notes: Slide 10

Here's one example of a checklist.

The American Nurses Association (ANA) tool includes both an algorithm to help in deciding whether or not to insert a catheter, as well as a simple checklist to guide the insertion process. Here is a glimpse of what the insertion checklist portion of the ANA tool looks like. You can see that the checklist is divided into sections, with each section consisting of just a few items. There are other types of checklists available for use as well, but the ANA tool, by combining an algorithm and checklist together, may make it easier to use the evidence on CAUTI prevention.



# Speaker Notes: Slide 11

No matter what checklist you use, aseptic insertion comes down to these six elements:

1. Perform hand hygiene immediately before (and after) insertion;
2. Use appropriate antiseptic or sterile solution for peri-urethral cleaning, remove gloves and perform hand hygiene after peri-urethral cleaning and prior to insertion
3. Set up a sterile field;
4. Use sterile gloves, drapes, sponges;
5. Use appropriate antiseptic single-use packet of lubricant jelly for catheter tip;
6. Secure the device;
7. Keep collection bag below bladder level.

If at any point the catheter is accidentally contaminated, discard it and obtain a new sterile catheter (or kit).

It may seem simple, but implementing these seven elements consistently, in all situations, can be very challenging.



# Speaker Notes: Slide 12

Some of the barriers to aseptic insertion that we found included:

- Supplies are not readily available or supplies are not designed to facilitate aseptic insertion. For example, wisps from cotton balls tend to cling to tongs in some kits, so that a new cotton swab becomes contaminated by wisps from the previous swab, so many inserters just discard the tongs without using them. Remember that tongs provide an additional barrier between the inserter's hand and the patient. We observed many nurses swab genitalia with their sterile gloves to avoid the tong and wisp dilemma, but of course as soon as the glove touched the patient, the glove was no longer sterile.



# Speaker Notes: Slide 12 continued

- Also, some units may find that the work space is not aligned with workflow. Inconsistent or inconvenient locations for hand gel or inconvenient location of sinks can either disrupt workflow or to keep to their workflow routines, clinicians will not use hand gel. If there is little room to set up a sterile field then there is a greater chance there could be a break in sterility of the field.



# Speaker Notes: Slide 13

But, there are a number of strategies to overcome the barriers just presented. These strategies focus on four key areas:

- Having the best type of kit to stock for your patient population;
- Making sure you have other necessary supplies, such as over-the-bed tables, an Environmental Protection Agency (EPA)-registered disinfectant to clean and disinfect the workspace, hand sanitizers and sterile gloves;
- Ensuring there are adequate facilities for hand hygiene; and
- Locating the kits, so that the kits are easily accessible to where the procedures will take place.



# Speaker Notes: Slide 13 continued

Another strategy to overcome the barrier of supplies not being readily available includes working with other clinical areas in your hospital that also house patients likely to have indwelling urinary catheters. The hospital as a whole may benefit from stocking one type of kit, or depending on patient needs, you may have to have a couple of different kit types available. The point here is to have the conversation with other clinical areas, and not to make decisions based on assumptions.



# Speaker Notes: Slide 14

The next topic to discuss is indwelling urinary catheter care and maintenance essential practices. The image on the left of the slide is the Agency for Healthcare Research and Quality or AHRQ Catheter Care Pocket Card, which you can download by clicking the image. It reviews interventions that should be in place to help prevent infection when a patient has a documented need for an indwelling urinary catheter. The list on the right provides highlights of the maintenance phase of an indwelling urinary catheter. The next slide explores these catheter care essentials in greater detail next.



# Speaker Notes: Slide 15

First and foremost should be an emphasis on hand hygiene. Both the Centers for Disease Control and Prevention or CDC and World Health Organization Guidelines emphasize the need for hand hygiene. Of course, hand hygiene prevents the spread of bacteria and viruses in general, not just CAUTI.

Both the CDC HICPAC Guidelines and the 2014 Compendium of Strategies to prevent HAIs recommend that health care workers who are involved in both insertion and maintenance of an indwelling urinary catheter receive education. Education can be done in many ways: online modules, annual competency testing, or the “see one, do one, teach one” method, among others.



# Speaker Notes: Slide 15 continued

There are even well done, easy- to-watch videos on hand hygiene, so it is worthwhile spending some time figuring out the right type of education for your staff.

Auditing compliance and providing feedback are important strategies too. In a true safety culture, a person who identifies a clinician handling a urinary catheter without hand hygiene or use of standard precautions should speak up and remind the clinician. It's recommended that you always begin by highlighting something the clinician has just done well. For example, "I noticed that you used the hand sanitizer as you left your patient's room, so thank you for that. Then you went to gather some supplies, but you didn't use the hand sanitizer before going into the next patient's room."



# Speaker Notes: Slide 15 continued

Enforcing hand hygiene may require a change in culture as well as a change in workflow. Some people become defensive about receiving feedback, so it is important to emphasize that the feedback is focused on the observed behavior and in no way is a reflection on the person's integrity or competence. We *all* want to do the right thing *all* the time, but frequently the systems in which we work are not configured in ways which are best for us



# Speaker Notes: Slide 16

Maintaining a closed system is another important component of catheter maintenance. It is important to consider replacing the urinary catheter, which means the entire system, if breaks or leakage occur. Pre-connected sealed catheters are recommended, because they serve as a reminder especially to newer staff or students for example, who may not yet have had the benefit of education.



# Speaker Notes: Slide 17

This slide describes some strategies to help ensure a closed system is maintained. Remember, most patients who are admitted come through the ED, so it is in the ED where the decision to insert a catheter or not is made. It is important to emphasize that urinary catheters should not be routinely inserted, rather they should only be inserted when medically indicated. Some EDs do not insert catheters unless absolutely necessary and allow the admitting unit to decide, thus eliminating the potential to break the closed system.



# Speaker Notes: Slide 17 continued

Deciding whether or not to use a urimeter is another issue that can impact the hospital's ability to maintain a closed catheter system and is best answered by each hospital based on their patients, resources and clinical need. Urimeters are urine measuring devices commonly used with critically ill patients when precise, frequent urine output monitoring is necessary. Urimeters that come pre-connected to catheters can help maintain a closed system. A number of hospitals have implemented a process that requires all EDs to place catheters with pre-connected urimeters in patients who will be admitted to specialty units.



# Speaker Notes: Slide 17 continued

Other hospitals have moved to implementing an approach in which only urimeters are used for all indwelling urinary catheters, regardless of the type of unit to which the patient is transferred. If urine is emptied from the collection bag only every eight or 12 hours, a urimeter may not be necessary. Irrigation is always a challenge, but if the seal is broken, it is advisable to change the catheter and entire system. A pre-connected three way should be used if frequent flushing is required. It is important to work with your supply chain to request pre-connected specialty catheters.



# Speaker Notes: Slide 18

Maintaining unobstructed urine flow is another component of the maintenance bundle. Keeping the bag below the level of the bladder is important because when a drainage bag is raised above the level of the bladder, contaminated urine from the drainage bag or tubing may reflux into the bladder, or organisms may be introduced when there are breaks in the closed drainage system. The bulb of the indwelling catheter prevents complete bladder drainage, and a residual pool of undrained urine remains in the bladder. Organisms, once introduced, persist in this pool of urine putting the patient at risk of infection.



# Speaker Notes: Slide 18 continued

Emptying the collection bag prior to transport helps prevent urine reflux. Catheter securement devices act as an anchor to prevent tugging and pulling which can cause irritation and inflammation. When catheters are not secured in male patients, the tugging and pulling can cause pressure sores on the penis tip. And keeping the urine bag off the floor just makes good sense.



# Speaker Notes: Slide 19

Every unit needs to develop their own set of strategies to routinely monitor the maintenance issues just described. Observation of the urinary catheter and the drainage bag can be incorporated into daily rounds, or even nurse-to-nurse handoff at shift change, or as part of a safety checklist. At one hospital, after a nurse gets a report from the off-going nurse, both nurses go into the patient's room together and do a brief safety check: Bed low and locked, ID band on, IVs patent and running, head of bed, or HOB, elevated. Observing things such as chest tubes, drainage tubes and urinary catheters are also incorporated. Similarly, as part of a transport check, nurses routinely check for IV patency, so including the maintenance of urinary catheters could be an easy add-on.



# Speaker Notes: Slide 20

It is also important to perform catheter care at regular intervals. Your facility policy should describe the frequency and process for doing so. The evidence-based guidelines do not specify frequency. However, catheter care should be performed a minimum of daily and after bowel movements. The 2009 HICPAC guidelines recommend not cleaning the periurethral area with antiseptics to prevent CAUTI while the catheter is in place. Routine cleansing of the meatal surface with soap and water is best. The urethral meatus is very fragile and cleaning with compounds such as chlorhexidine or other chemicals actually cause irritation and inflammation. This slide includes some recommended key points.



# Speaker Notes: Slide 21

The past few slides reviewed a lot of information. Here is an example of a simple checklist that pulls together the various components of indwelling urinary catheter maintenance and can be used to guide improvement efforts.



# Speaker Notes: Slide 22

As this module concludes, remember these key take home points:

- Consider the use of checklists.
- Explore how the unit culture affects your ability to insert and maintain indwelling urinary catheters according to evidence-based guidelines.
- If the patient must have an indwelling urinary catheter, pay attention to maintenance practices.
- And it's not complicated - sometimes the simplest strategies are the best.

There is no need for complex—and expensive—cleaning supplies and regimens. Soap and water are best!



# Speaker Note: Slide 23

No notes.

