**A Descriptive Case Study: The Role of the Infection Preventionist with CAUTI**

 The Infection Preventionist (IP), according to the Association for Professional in Infection Control and Epidemiology, “is responsible for identifying, investigating, monitoring, and reporting healthcare-associated infections”.10 This is accomplished by the IP providing a unique expertise for teams and individuals in order to create and sustain infection prevention strategies in their healthcare setting.

 The Infection Perfectionists’ perspective is different from the other clinicians that may be caring for the patient. Their outlook is from an epidemiological standpoint versus the clinical standpoint the healthcare providers view. They use guidelines for surveillance of all hospital acquired infections based on the National Healthcare Safety Network (NHSN) - CDC criteria and provide education to the staff on prevention methods11. There are five steps in the process used by the IP to identify survey and deal with catheter-associated urinary tract infections (CAUTIs). These steps include:

1. Collecting a positive culture
2. Tracking an IUC
3. Identifying symptoms
4. Verifying the Infection Window Period
5. Removing and Reinserting the IUC

The best way to avoid a CAUTI is not to have an indwelling urinary catheter (IUC) in place therefore; the use of alternatives devices and methods is encouraged.

**COLLECTING A CULTURE**

 The IP begins the surveillance of a CAUTI when a positive urinary culture has been sent and resulted with an organism of >100,000 CFU/ml. If the specimen has greater than two species of organisms it does not meet the Urinary Tract Infection criteria. Excluded organisms that cannot be used are: any candida species as well as a report of “yeast” that is not otherwise specified, mold, dimorphic fungi or parasites. An acceptable specimen may include these organisms as long as one bacterium of greater than or equal to 100,000 CFU/ml is also present.

 **TRACKING IUC**

 The presence of an indwelling urinary catheter is the next step in the process. The date the indwelling urinary catheter was placed in relation to the positive culture is the determining factor in the process. The date the catheter was inserted is day one in the indwelling urinary catheter device day count. If the indwelling urinary catheter was in place prior to the inpatient admission, the catheter day count that determines device-association begins with the admission date to the first inpatient location.11 One of the following facts needs to be true: The patient had an indwelling urinary catheter that had been in place for more than 2 consecutive days in an inpatient location on the date of the event and was either present for any portion of the calendar day on the date of the event or removed the day before the date of the event.

**IDENTIFYING SYMPTOMS**

 Next symptoms need to be identified. At least one of the following signs or symptoms needs to be present: fever >38.0C; suprapubic tenderness with no other recognized cause; costovertebral angle pain or tenderness with no other recognized cause; urinary urgency, urinary frequency and/or dysuria. The presence of a urinary catheter could cause frequency, urgency or dysuria; therefore, the symptoms cannot be used while the catheter is in place.

**VERIFYING THE INFECTION WINDOW PERIOD**

 In addition to having identified these signs/symptoms, they need to occur within the Infection Window Period. The date of the urinary culture sets the window. The signs/symptoms can occur three calendar days prior to the date of the event to three days after. An example would be: the patient is admitted and has an indwelling urinary catheter placed on day three of admission. On hospital day 5 the patient spikes a fever of 38.5 C and the physician orders a urine culture. The culture has one organism of >100,000 CFU/ml. Since the catheter has been in place > 2days when symptoms occur this would meet the CAUTI criteria. Changing the scenario, a little, the patient has a catheter placed on day of admission and gets a fever on hospital day 2 and a culture is sent. Even though the culture has an eligible organism this would not be a CAUTI since the catheter was not in > 2days.

 **REMOVING AND REINSERTING THE IUC**

 Occasionally the indwelling urinary catheter is removed and reinserted. In these circumstances the catheter must be out for one full calendar day to not be included in the device count. An example would be on hospital day 3 the catheter is removed. On hospital day 5 it is replaced. Since it was out for one full day, the count for the new device begins with day one being hospital day 5. If the device had been reinserted later in day 4 the device count would continue from the original insertion date.

**ATYPICAL CASE**

 The clinicians may see the patient is having difficulty urinating, has hematuria or notices the urine is cloudy in appearance with a malodor. They may decide to send a specimen off to check for an infectious source. The culture reports one eligible organism, but the patient does not have the usual observed signs or symptoms. The IP would not declare this an infection by epidemiological criteria; however the physician can still choose to treat the patient based on the clinical factors.

**OBSTACLES**

 One of the biggest obstacles the IP encounters when doing surveillance is finding adequate documentation. The healthcare team doesn’t always clearly document when a catheter is inserted. It is also difficult to determine how the urine was collected. The catheter may have been removed then replaced, but the specimen was sent from the catheter that was present upon admission. This catheter could have truly been in place for a few weeks. Another obstacle encountered is the use of alternative methods of urine collection. Instead of doing what is best for the patient, members of the healthcare team may keep the indwelling urinary catheter for ease of the caregivers. A hurdle that is often seen is the pan culturing of the patient when they spike a fever. Instead of evaluating the patient, the healthcare team does a culture of blood, sputum and urine looking for a source.

 One of the successes IPs can initiate is working on the daily assessment for the continued need of the indwelling urinary catheter. When the IP reviews the case, the order for the catheter and the nurse’s documentation of necessity is identified. Sometimes these do not match. IPs can effectively encourage removing the indwelling urinary catheter sooner than later or using alternative methods by rounding on the nursing units and working with the staff.