

Student name: Kristen Kangas

Points criteria:

Criteria	Under performance <3 points per criteria	Basic 3 - 3.9 points per criteria	Proficient 4.0 - 4.4 points per criteria	Distinguished 4.5 - 5 points per criteria
<b>Required content objectives</b>	Content objectives are missing or sparsely covered.	Content objectives are not consistently addressed. Demonstrates minimal understanding of content.	Content objectives consistently addressed. Demonstrates understanding of content.	Content objectives consistently addressed. Demonstrates mastery of content.
<b>Academic writing standards</b>	Writing lacks scholarly tone & focus. Sparse content. Multiple grammatical, spelling, & factual errors. Reliance on bullet points rather than effective writing in speaker notes. 4 or more direct quotes per project.	Writing is unclear and/or disorganized. Inconsistent scholarly tone. Inadequate depth of content. Grammatical and spelling errors. No more than 3 direct quote of less than 40 words per project.	Writing demonstrates general exploration of content. Responses are clearly written using scholarly tone. Few grammatical and/or spelling errors. No more than 2 direct quote of less than 40 words per project.	Writing demonstrates comprehensive exploration of content. Responses are clearly written using scholarly tone. Rare grammatical and/or spelling errors. No more than 1 direct quote of less than 40 words per project.
<b>APA formatting</b>	References and citations have multiple errors or are missing.	References and citations have errors.	References and citations have few errors.	References and citations have rare errors.

**See course syllabus for reference requirements**

Using academic writing standards and APA formatting of references and citations, respond to each of the following learning objectives. Using this document, **enter your responses directly next to each objective listed below.** **Responses should be 150-350 words in length.** Be sure to carefully review the assignment rubric on page one for specific details on how this assignment will be evaluated for points. Save the completed document as the assignment title with your name, and submit to the dropbox.

1. Describe the incidence and prevalence of catheter associated urinary tract infection (CAUTI).

The incidence, the number of patients that develop CAUTI each year, is over 560,000 patients, which is considered the most reported hospital acquired condition. These figures are worrisome because CAUTIs leads to extended hospital stays, increased health care costs, and increased patient morbidity and mortality. The overall prevalence of CAUTIs is unknown (CDC, 2015). But it is known that the prevalence of urinary catheters used in residents in the long-term care settings in the US is around 5%, representing approximately 50,000 residents with catheters at any given times. According to the partnership for patients and the Centers for Disease Control and Prevention rates of CAUTI are rising even though we have more evidenced based practice and guidelines regarding implementing catheters (CDC, 2015). Around 75% of urinary tract infections acquired in the hospital are associated with urinary catheters. Therefore, it is evident that there is a correlation with utilizing urinary catheters and developing an infection. It is imperative that the use of urinary catheters be reduced and should be used based on evidenced-based protocols (Newman, 2022).

2. List factors associated with the development of CAUTI.

The major risk factor associated with the development of CAUTI includes prolonged catheterization greater than 6 days. This is because the longer the catheter is in place the higher risk of complications. Bacteria attach to the catheter material, which forms complex communities of microbes which become more difficult to treat. There are several more risk factors which include female gender, because of the length of the urethra compared to men. A diagnosis of diabetes can also increase the risk of a CAUTI because diabetic patients have elevated levels of sugar which promote bacteria and biofilms. In addition, patients with diabetes are already at a greater risk of UTIs. Catheter insertion outside of the operating room is a risk factors because in a operating room providers may be following a better aseptic technique then outside of the operating room. In additions the skills, training and competence of the provider inserting the catheter is a major variable. Also, azotemia, which is a biochemical abnormality, which is the buildup of nitrogenous products, creatinine in the blood, and secondary waste products within the body, is a risk factor for developing a CAUTI. In addition, urology procedures predispose patients to the development of CAUTI because urology procedures are considered dirty surgeries at expose patients to an increased number of microbes (Newman, 2022).

### 3. Discuss nursing evidence-based interventions for CAUTI prevention and management.

One of the major nursing evidence-based interventions for CAUTI prevention include using a catheter when it is clinically indicated. Some reasons when a catheter is clinically indicated includes postoperative urinary retention, bladder outlet obstruction, and the need for accurate measurements of urinary output in critically ill patients. Other reasons include patients who require prolonged immobilization, such as a pelvic fracture, administration of drugs directly into the bladder, patients who will be anticipated to receive large-volume infusions or diuretics during surgery, urological/ gynecological/ perineal procedures. There is an acronym called ABCDE which is a CAUTI prevention and management bundle. It is imperative to adhere to the infection control principles which include hand hygiene, aseptic catheter insertion procedure, proper foley catheter maintenance and education. In addition, it is important to utilize a bladder ultrasound to avoid unnecessary catheterizations. Catheter alternatives should also be considered for patients which include absorbent pads, utilizing a PureWick for women or an external condom catheter for women with urinary incontinence, and intermittent catheterization. A urinary catheter should be used when it is medically appropriate and medical inappropriate indications should not be considered. Finally, we need consider when it is appropriate to remove the catheter. It is important to note that sometimes dependent loops of the drainage tubing occur which can lead to the bladder pressure. This pressure can increase the length of time it takes for the urine to travel through the tubing and increase the risk of backflow of urine into the bladder if the tubing/ bag were raised above the bladder. Catheter lubrication and insertion should be performed correctly using aseptic technique (Newman, 2022).

### 4. Identify selection criteria for appropriate indwelling catheter size.

It is imperative to select the appropriate indwelling catheter size for a patient as selecting the incorrect size can cause patients an injury. The standard catheter size is a 14 Fr, whereas the larger catheter sizes include a 16 Fr to 18 Fr. The large catheter sizes are often used post genitourinary surgery where bleeding is anticipated. It is vital to know that large catheters and balloons can increase the risk of bladder spasms, which are painful and can cause leakage. Persistent tension on the catheter and the increased weight of the large retention balloons can render the bladder neck and sphincter incompetent which can cause irreparable bladder neck damage that leaves the patient completely incontinent. This is why large catheters and balloons are of particular significance for women requiring long-term urethral catheters. The urge to use a larger catheter and balloon to prevent catheter dislodgement must be prevented since a larger balloon can cause more damage including irreparable bladder impairment that renders female patient completely incontinent. It is imperative to understand that the routine use of a catheter-stabilizing device and routine use of a small catheter and balloon will minimize the risk of bladder spasms, leakage, and bladder neck/ urethral erosion (Newman, 2022).

### 5. Differentiate between a urinary tract infection and colonization.

Colonization, also known as asymptomatic bacteriuria, is when someone has confirmed bacteria in their urine, but they are asymptomatic. This is quite common in the older population as around 20% of women aged 80 and older have it. In other words, the older the person more common this condition is (Kernisan et al., 2022). This is not the same situation as when someone has a UTI. A UTI is when someone has bacteria in their urine and is symptomatic. Colonization usually does not need to be treated and it would be likely considered inappropriate to prescribe antibiotics in this scenario (Kernisan et al., 2022). Whereas if someone has a UTI, which means they have signs of inflammation and/ or infection with a positive urine culture they absolutely need to be treated. It is imperative that we make a clear distinction between an UTI and colonization as we want to minimize the inappropriate use of antibiotics. If someone has a catheter it is likely they will develop significant microbial colonization within a few days. It is important to know that colonization does not produce symptoms and does not require treatment, whereas a CAUTI produces symptoms and requires intervention (Newman, 2022).

List your references used for this assignment (*See the course syllabus for specific requirements on references for all assignments*).

*Ana Cauti Prevention Tool*. ANA. (2017, November 7). <https://www.nursingworld.org/practice-policy/work-environment/health-safety/infection-prevention/ana-cauti-prevention-tool/#:~:text=Catheter%2DAssociated%20Urinary%20Tract%20Infections,and%20patient%20morbidity%20and%20mortality>.

Centers for Disease Control and Prevention. (2015, November 5). *Background*. Centers for Disease Control and Prevention. <https://www.cdc.gov/infectioncontrol/guidelines/cauti/background.html>

Kernisan, L., Says, J., Didyk, N., says, L. F., says, R., says, L., says, B., & says, F. (2022, March 14). *Uti & urine bacteria in aging: How to know when antibiotics are needed*. Better Health While Aging. <https://betterhealthwhileaging.net/urine-bacteria-without-uti-in-elderly/>

Newman, D. (2022). Indwelling and Intermittent Urinary Catheterization. In J. M. Ermer- Seltun, & S. Engberg (Eds.), Wound, Ostomy, and Continence Nurses Society core curriculum: Continence management (2<sup>nd</sup> ed., pp. 405- 432). Wolters Kluwer.