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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 requirement***

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 infections (CAUTI). Rate and conditions**

A catheter-associated urinary tract infection ( CAUTI ) is a complex urinary tract infection caused by a urinary catheter. Bacteria can enter from the catheter and cause infection in the kidney or bladder, which can cause urosepsis and septicemia (Newman, 2022). WOC nurses must understand the incidence and prevalence of (CAUTI). Urinary catheters are used for a variety of reasons. One scenario would be when a patient has acute urine retention. Other cases include when there is a need for accurate measurements of urinary output, intraoperative hemodynamic monitoring, and palliative care. Patients that develop CAUTI have increased hospitalization and morbidity costs (Newman, 2022). One of the most common hospital-acquired infections (HAI) is CAUTI, which causes 1 of 3 HAIs in hospital patients. Of the patients that developed a urinary tract infection, an estimated 75% had a urinary catheter. (Iowa Department of (Health and Human Services, n.d.). There are approximately 13,000 deaths annually caused by CAUTI. An estimated 15-25% of hospitalized patients use urinary catheters while they are hospitalized. Prolonged catheter usage is the biggest risk factor for developing a CAUTI (Centers for Disease Control and Prevention, 2019).

### **2. List factors associated with the development of CAUTI.**

There are several risk factors for developing a CAUTI, including having a catheter for greater than six days, female gender, patients with diabetes, malnutrition, and azotemia. Furthermore, fecal incontinence and immunocompromised patients are also at increased risk (Newman, 2022).

Patients with urine catheters are prone to CAUTI because "the use of urine catheter interrupts the innate immune defense mechanism system by affecting the mucous barrier, which has a function to prevent uropathogenic adhesion and its migration to vesica urinary" (Anggi et al., 2019). Having a catheter initiates the body's inflammatory response and leads to trauma in the mucous of the urethra and bladder neck. CAUTI can happen if the catheter is not inserted using an aseptic practice and sterile equipment. Additionally, the gravity drainage bag must be emptied regularly to prevent infection (Florida Health, 2019). If a WOC nurse notices other healthcare providers are not inserting catheters correctly, neglecting to perform correct hand hygiene, or not providing peri care, they must educate staff members immediately to prevent CAUTI.

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

The first step in preventing CAUTI is determining if catheter insertion is appropriate. Is there another bladder management that can be used instead of catheterization? When the catheter is inserted, it needs to be done in an aseptic technique to prevent infection. Patients should have a bladder ultrasound before catheter insertion to determine if catheterization is medically feasible. Caregivers, before and after any manipulation of the catheter device, need to wash their hands (Newman, 2022).

The gravity drainage bag must hang below the level of the bladder to allow the urine to drain properly. The catheter should be secured with an anchor to prevent the drainage bag from tubing from getting dangled. A kinked drainage tubing can cause urine to backflow into the bladder and cause intraluminal bacteria and migration (Newman, 2022). An alcohol wipe should be used before any

connection or disconnection within the system. The Foley catheter or drainage bag must be exchanged if it becomes encrusted. The catheter bag should never be placed on the floor.

Patients with catheters should have daily peri and catheter care. The urethral meatus should be cleaned with soap, water, or perineal skin cleanser. The use of a catheter should be reevaluated daily to see if it can be removed. Every 24 hours, patients should reevaluate if it is medically necessary to keep a catheter (R.B. Turnbull, Jr. MD School of WOC Nursing Education, 2022). Clinicians need to be educated to prevent CAUTI.

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

When picking the catheter size, WOC nurses must understand the appropriate adult indwelling catheter size and the manufacturer's and facility's guidelines. The adult size range is 12-16 French, and the standard size for adults is 14 French. The larger size catheters can put patients at risk for urethral damage. For example, patients can develop irritation, infection, stricture, and erosion of the mucosa and bladder neck. Larger Foley catheter sizes are used to drain blood clots (Newman, 2022). Clinicians need to be aware that large catheters can cause bladder spasms, which will cause leakage and can lead to the catheter falling out. Patients experiencing bladder spasms can be treated with medications such as an antimuscarinic. However, other causes of leakage should be ruled out before administering medication ( R.B. Turnbull, Jr. MD School of WOC Nursing Education, 2022).

A coude catheter is appropriate for patients diagnosed with benign prostatic hyperplasia (BPH). If there is difficulty inserting a catheter, urology should be consulted to avoid urethral damage ( R.B. Turnbull, Jr. MD School of WOC Nursing Education, 2022).

Sometimes inserting a catheter is a necessity. Clinicians must understand the risk and benefits of using an indwelling catheter and what is appropriate for each patient.

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

Patients with catheters can develop microbial colonization within a few days. The microorganism creates a protein forming a biofilm that makes it impossible to eliminate, even with antibiotics. Catheter-associated Asymptomatic Bacteriuria (CA-ASB) is when bacteria are in the urine due to colonization. Patients with (CA-ASB) will not have symptoms, and most patients will not need treatment. However, pregnant patients or patients with invasive urological procedures might be ordered medications (Newman, 2022).

A CAUTI is when bacteria cause symptoms, and the patient needs to be treated with antibiotics. It is important to differentiate between the two to avoid unnecessary antibiotics. Overuse of antibiotics can have many negative consequences, which include *Clostridioides difficile* infections and colonization of resistant bacteria. To provide safe and effective care, the healthcare provider must order the appropriate tests and lab work before patients are on any new medications (Centers for Disease Control and Prevention, 2019). Doctors will order a urinalysis to diagnose a urinary tract infection. Urine samples must be collected correctly to ensure accurate lab results. WOC nurses must educate patients on how a sample is collected to provide safe and effective care (Nelles, & Ermer-Seltun, 2022).

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

### References

Agency for Healthcare Research and Quality. (2017). *Guide to implementing a program to reduce catheter-associated urinary tract infections in long-term care*. <https://www.ahrq.gov/hai/quality/tools/cauti-ltc/modules/implementation/guide.html>

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*Ostomy, and Continence Nurses Society core curriculum: Continence management* (2nd ed., pp. 405-432). Wolter Kluwer.

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