Student name: ___Kelsi Critzer _____

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
Required content objectives	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.
Academic writing standards	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.
APA formatting	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).**

Catheter associated urinary tract infections are thought to be responsible for at least 80% of urinary tract infections (Newman, 2022). Additionally, catheter associated urinary tract infection accounts for 9% of all hospital acquired infections (Van Decker et al., 2021). Multiple studies have examined the incidence of catheter associated urinary tract infections and theorized initiatives to reduce these numbers. These studies found by implementing prevention strategies and instituting daily necessity checks, catheter associated urinary tract infections could be prevented by approximately 65-70% (Van Decker et al., 2021). Strategic implementation of closely monitoring necessity and proper interventions for those with indwelling catheters affects the prevalence or catheter associated urinary tract infections. Adherence to facility policy that includes early removal of indwelling catheter, daily review of necessity, and education to caregivers on recommended care for individuals with indwelling catheters decreases the prevalence of urinary catheter associated urinary tract infections at a given time (Van Decker et al., 2021).

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

Prolonged placement of indwelling urinary catheters is considered the greatest risk to developing a catheter associated urinary tract infection. The longer the catheter remains in place, the longer bacteria can be introduced to the bladder and replicate. Other factors contributing to catheter associated urinary tract infections include female gender due to the shorter length of the urethra creating a shorter distance bacteria must travel. Malnutrition affects the inflammatory response of an individual which alerts the body of an invader and activates an immune response. Catheter insertion outside of the sterile operating room also increases the risk of catheter associated urinary tract infections (Newman, 2022). Due to the indwelling catheter being a closed system, bacteria that are trapped inside the system remain in the system. The body is unable to expel the bacteria as it typically would by the process of urination. Instead, the urine is collected in the closed system which allows for continued replication and a pathway that leads back to the bladder. Lastly, a biofilm or a collection of bacteria and other cellular matter can create a complex matrix that is impenetrable to antibiotic therapy. This biofilm burden increases the longer the catheter is in place and is thought to originate from the internal drainage tubing or externally from the periurethral area.

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

Cather associated urinary tract infection prevention begins before the indwelling catheter is inserted. Alternative methods of managing urinary incontinence or retention include intermittent catheterization, external collection devices, toileting programs, and incontinence products. Necessity for indwelling catheters must be documented and should be removed as early as possible to avoid complications. If the indwelling catheter is deemed medically necessary, proper infection prevention and standards of care should be implemented such as hand hygiene, aseptic catheter insertion, and proper maintenance of catheter (Newman, 2022). In addition to closely monitoring individuals with indwelling catheters, other interventions may be implemented to mitigate complications and reduce the risk for catheter associated urinary tract infections. These interventions include correct use and placement of a securement device to prevent urethral trauma and erosion, assist with patient comfort, and to promote urine drainage. Appropriate catheter and balloon size selection reduce the risk bladder spasms and urine leakage. The drainage bag should be secured near the patient at a location lower than the bladder and the tubing free of kinks. The tubing should be free of loops as this increases the necessary pressure needed to push urine towards the drainage bag and can encourage backflow of the urine towards the bladder. Maintaining the sealed closed system helps by preventing the introduction of any bacteria that encounters the system.

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

The standard size for adult catheters is 14 French. Larger catheters may be used if indicated for urologic considerations. Typically, smaller catheters are used for younger individuals starting at size 5 French for premature infants and increasing their size as the individuals age increases. Once the child reaches thirteen years of age, they should be using a catheter size of 12-14 French, placing them near the standard size. Indication for indwelling catheter placement is important for catheter size selection, if the individual requires a catheter specifically for hematuria or passing blood clots, a larger catheter may be required to prevent an obstruction. Larger catheters are not used long-term as they may cause urethral and bladder neck damage if used when not indicated (Newman, 2022).

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

Colonization involves the increased presence of microorganisms in or on the genitourinary tract. The presence of these microbes alone does cause any of the expected urinary tract infection symptoms such as dysuria, fever, or flank pain. The presence of bacterial colonies does not require treatment and may go unnoticed (Nelles & Ermer-Seltun, 2022). A urinalysis can identify the presence of bacteria in the urine and a culture can identify the organism. A urinary tract infection is caused by a pathogenic microorganism that invades the urinary tract, usually the

lower urinary tract and elicits an immune response that triggers symptoms in the infected individual (Millner & Becknell, 2019). Urinary tract infections require treatment to eradicate the infectious microorganism and prevent the spread of the infection into the upper urinary tract.

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

Millner, R., & Becknell, B. (2019). Urinary Tract Infections. *Pediatric clinics of North America*, *66*(1), 1–13. https://doi.org/10.1016/j.pcl.2018.08.002

Nelles, K. & Ermer-Seltun, J.M. (2022). Urinary tract infection (UTI) Prevention and management in adults. In J.M. Ermer-Seltun, & S. Engberg (Eds.), *Wound, Ostomy, and Continence Nurses Society core curriculum: Continence management* (2nd ed., pp. 382-404). Wolters Kluwer.

Newman, D.K. (2022). Indwelling and intermittent urinary catheterization. In J.M. Ermer-Seltun, & S. Engberg (Eds.), *Wound, Ostomy, and Continence Nurses Society core curriculum: Continence management* (2nd ed., pp. 405-432). Wolters Kluwer.

Van Decker, S. G., Bosch, N., & Murphy, J. (2021). Catheter-associated urinary tract infection reduction in critical care units: A bundled care model. *BMJ open quality*, *10*(4), e001534. https://doi.org/10.1136/bmjoq-2021-001534