When possible, use intermittent straight catheterization to relieve urinary retention. Remove indwelling urinary catheters as soon as possible. Using intermittent straight catheterization allows the bladder to fill and completely empty in a more normal manner, maintaining physiologic function. The risk of infection associated with an indwelling catheter is about 3% to 5% per day of catheterization (Kasper et al., 2005).

Maintain the closed urinary drainage system, and use aseptic technique when emptying the catheter drainage bag. Maintain gravity flow, preventing reflux of urine into the bladder from the drainage system. Bacteria can enter the drainage system when its integrity is interrupted (e.g., disconnecting the catheter from the drainage system) or during emptying of the drainage bag. These bacteria can ascend the column of urine to the bladder, causing UTI.

Provide perineal care on a regular basis and following defecation. Use antiseptic preparations only as ordered. Regular cleansing of perineal tissues reduces the risk of colonization by bowel or other bacteria. While antiseptic solutions may be used for the first two days of antibiotic therapy, they can dry perineal tissues and reduce this risk. Inflation of the balloon while in the urethra damages urethral tissues and can cause significant discomfort for the client. See page 854 for evidence-based practice for male catheterization.

**NURSING CARE PLAN  A Client with Cystitis**

Miija Waisanen is a 25-year-old second-year nursing student. She was recently married, and she and her husband live in an apartment near the college she attends. Mrs. Waisanen has never been pregnant, and she is using a diaphragm for birth control. She presents at the local urgent care clinic complaining of low back pain, frequency, urgency, and burning on urination that began the day before.

**ASSESSMENT**

Patrice Ramiros, RN, admits Mrs. Waisanen to the clinic. Mrs. Waisanen denies having had similar symptoms in the past or ever having been diagnosed with a urinary tract infection. She describes her pain as a constant, dull ache that does not change with movement. She feels the need to urinate almost constantly, but experiences difficulty in starting her stream, and burning pain and cramping when voiding. She reports getting up four times the night before to urinate. She denies painful intercourse and states that her last menstrual period began only 2 weeks ago. Physical examination reveals: BP 112/68; P 90 and regular, afebrile. Suprapubic tenderness noted but no flank or costovertebral angle tenderness. Clean-catch urine specimen shows hematuria, multiple WBCs, and a bacteria count greater than 10^5 per milliliter.

The nurse practitioner prescribes trimethoprim-sulfamethoxazole (TMP-SMZ) 160 mg/800 mg PO bid for 3 days, and aspirin or acetaminophen gr x PO every 4 hours as needed for pain. Mrs. Waisanen is instructed to return to the clinic in 7 days for a follow-up urine culture, or sooner if her symptoms do not improve.

**DIAGNOSIS**

- **Pain** related to infection and inflammatory process in the urinary tract
- **Impaired Urinary Elimination** related to inflammation as evidenced by frequency, urgency, nocturia, and dysuria
- **Deficient Knowledge** related to lack of information about risk factors for UTI

**EXPECTED OUTCOMES**

- Report relief of low back pain and burning on urination.
- Regain a normal voiding pattern without frequency, urgency, nocturia, and abnormal urine characteristics.

**PLANNING AND IMPLEMENTATION**

- Teach comfort measures: warm sitz baths, a heating pad on low heat applied to her lower back or abdomen, rest, increased fluid intake, avoiding caffeinated beverages, and aspirin or acetaminophen as ordered.
- Advise to refrain from sexual intercourse until infection and inflammation have cleared to avoid further irritation of inflamed tissues.
- Discuss the possible relationship between using a diaphragm for birth control and UTI in women.
- Discuss dietary and hygiene practices to prevent UTI, symptoms indicating the need for further intervention, and the risks of undertreatment.

**EVALUATION**

Six months later, Mrs. Waisanen rotates through the urgent care clinic for her community-based nursing experience. Ms. Ramiros asks how she is doing. Mrs. Waisanen reports that her symptoms and urine cleared within about a day after starting the antibiotic and she has had no further problems. She has seen her women’s healthcare nurse practitioner to change her birth control to oral contraceptives, increased her intake of fluid and vitamin C, and no longer puts off urinating until she “has time to go!”

**CRITICAL THINKING IN THE NURSING PROCESS**

1. What physiologic and psychosocial factors put Mrs. Waisanen at risk for developing a UTI?
2. Compare and contrast the benefits and drawbacks to short-course therapy versus conventional therapy for UTI.
3. Why was it appropriate for the nurse practitioner to use short-course therapy with the advice to return if symptoms did not clear?
4. Develop a care plan for Mrs. Waisanen for the nursing diagnosis Ineffective Health Maintenance. See Evaluating Your Response in Appendix C.