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Medical Diagnosis/Disease: UTI (urinary tract infection)

### NCLEX IV (8): Physiological Integrity/Physiological Adaptation

#### Anatomy and Physiology

##### Normal Structures

Principal organs of the urinary system primary functions are to regulate volume and composition of extracellular fluid and excrete waste products from the body. The kidneys also function to control BP, make erythropoietin, activate vitamin D, and regulate acid-base balance. 2 kidneys each 10-12cm long, 5-7cm wide, and 3-5cm thick bean shaped attached to the bladder through a ureter. Each kidney is covered in a thick layer of connective tissue and fat that help shape and protect the organ. Fed by renal veins, arteries, and nerves the nephrons filter out the kidneys. Within the nephrons there are exterior capsules serving as shock absorbers, (bowmans) tiny capillaries the glomerulus. The ureters transport urine to the bladder before excreting through the urethra. The parenchyma= tissue of the kidneys outer layer is cortex and inner layer is medulla. The medulla consists of several pyramids.

#### Pathophysiology of Disease

-E.coli is the most common bacteria causing UTIs (found in the gi tract) followed by bacilli, strep, staph, and enterococci  
-A UTI is an ascending infection originating in the perineum traveling up the urethra  
-Uncomplicated UTIs = are only bladder, complicated UTIs = coexist with other problems  
- UTIs can either be upper (fever, chills, flank pain) or lower (no systemic manifestations) depending on the location or clinical manifestations, pyelonephritis= inflammation of renal parenchyma, cystitis=inflammation of the bladder, urethritis=inflammation of the urethra, urosepsis= a life-threatening UTI that has spread all throughout the body .  
- Defense mechanisms= complete emptying of bladder, ureterovesical junction competence, ureteral peristaltic activity, antibacterial characteristics: acidic pH (less than 6.0), high urea concentration, abundant glycoproteins (an alteration in these defense mechanisms could cause a UTI).

### NCLEX IV (7): Reduction of Risk

#### Anticipated Diagnostics

##### Labs

Dipstick urinalysis

Urine culture

Clean catch urine sample

##### Additional Diagnostics

H&P

Ultrasound

Bladder scan

CT

### NCLEX II (3): Health Promotion and Maintenance

#### Contributing Risk Factors

Females have a shorter urethra, sexual activity, menopause, pregnancy, obesity, congenital defects, meds, hx of UTI/kidney stones, hx of diabetes, catheter use (CAUTI), urinary retention, feminine products, poor hygiene

#### Signs and Symptoms

Painful and frequent urination (urgency), abd/back pain, fever, chills, flank pain, sepsis, dysuria, suprapubic pressure, hematuria  
Geriatric= absent, confusion, and abd discomfort

### NCLEX IV (7): Reduction of Risk

#### Possible Therapeutic Procedures

##### Non-surgical

Fluids

Medication regimen

##### Surgical

Cystoscopy

Urethral implantation

#### Prevention of Complications

(What are some potential complications associated with this disease process)

Repeated infections

Sepsis

Narrowed urethra in men

Kidney damage

### NCLEX IV (6): Pharmacological and Parenteral Therapies

#### Anticipated Medication Management

Antibiotics

Analgesics

Antifungals

### NCLEX IV (5): Basic Care and Comfort

#### Non-Pharmacologic Care Measures

Encourage fluids (cranberry juice)

Avoid irritants

Perineal care

Clean linens

Comfortable environment

Heating pad

### NCLEX III (4): Psychosocial/Holistic Care Needs

#### What stressors might a patient with this diagnosis be experiencing?

Painful and frequent urination

Hospitalization

Pain

Change in mental status

Money

## Client/Family Education

### List 3 potential teaching topics/areas

- Wipe from front to back
- Stay hydrated and don't wait to void you must urinate as soon as you have the urge
- Educate to urinate before and after sex

## NCLEX I (1): Safe and Effective Care Environment

### Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

PCP, CM, Urologist, Gerontologist, Nephrologist,  
Pharmacy

## Potential Patient Problems (Nursing Diagnoses)

List two potential patient problems you will be addressing along with clinical reasoning, goals/expected outcomes, assessments, and priority nursing interventions. The patient problems must be in priority order.

### Problem # 1: Impaired Urinary Elimination

Clinical Reasoning: UTI, painful/frequent urination, urinary retention

Goal/EO: The client will achieve a normal urinary elimination pattern as evidenced by urine output > 30 mL/hr and the absence of dysuria, urgency, and oliguria prior to discharge.

Ongoing Assessments: assess elimination pattern qshift, assess color, odor, amount of urine q4hrs, assess hx of utis on admission, monitor temperature q4hr, monitor WBC qshift, palpate bladder q4hr

NI: 1. Administer Levofloxacin as ordered.

2. Educate on proper perineal hygiene (ex. discontinue use of certain feminine products and educate to wipe front to back) prior to discharge.

3. Encourage adequate fluid intake to 2-4L/day or as ordered.

4. Instruct to void every 2-3 hours to empty the bladder to reduce urinary stasis.

5. Encourage the use of cranberry juice and vitamin D supplements of 500-1000 mg to help eliminate symptoms of a UTI during my time of care.

6. Refer to a urinary continence specialist if condition is worsening PRN.

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### Problem # 2 Acute pain: suprapubic area, inflammation and infection to the urinary tract

Clinical Reasoning: UTI, painful urination, facial grimacing and guarding

Goal/EO: The client will report a pain score of <3/10 on a numeric pain scale of 1/10 by the end of my shift.

Ongoing Assessments: assess RR, HR, BP q4hr, assess pqrst q4hr, assess pain score q4hr, assess for s/sx of uti, assess expectation of pain goal qshift, monitor WBC qshift.

NI: 1. Administer analgesics as ordered.

2. Encourage adequate hydration of 2-4L of fluid day if not contraindicated during my time of care.

3. Apply a heating pad to the suprapubic area and lower back q4 hour or PRN.

4. Educate on the importance of completing antibiotic therapy all the way through and not abruptly stopping medication regimen prior to discharge.
5. Encourage use of the calm channel and enforce deep breathing exercises during my time of care.
6. Instruct to avoid caffeine, alcohol, spices, and other urinary irritants during my time of care.

### ATI Virtual Clinical Questions and Reflection:

- 1) Identify two members of the healthcare team collaborating in the care of this patient:
  - a. **Registered Nurse Craig**
  - b. **Assistive Personnel Ashley**
- 2) What were some steps the nursing team demonstrated that promoted patient safety?
  - a. **Consulting pharmacy to do a medication reconciliation with Mrs. Jordans at home medications.**
  - b. **The nurse read back the doctor's orders on the phone to ensure that the client was receiving the correct medications and dosages.**
  - c. **Craig, RN visited Mrs. Jordans room as soon as he was told she was SOB and applied oxygen. All healthcare team members communicated fast and efficiently.**
- 3) Do you feel the nurse and medical team utilized therapeutic communication techniques when interacting with individuals, families, and health team members of all cultural backgrounds?
  - a. If **yes**, describe: **Yes, because they provided therapeutic communication by patiently answering all of her questions/concerns, and all of the healthcare team members communicated effectively to keep Mrs. Jordan safe.**
  - b. If **no**, describe:

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### Reflection

- 1) Go back to your Preconference Template:
  - a. Indicate (circle, star, **highlight**, etc.) the components of your preconference template that you saw applied to the care of this patient.
- 2) Review your Nursing Process Form: Did you select a correct priority nursing problem?
  - a. If **yes**, write it here: \_\_\_\_\_
  - b. If **no**, write what you now understand the priority nursing problem to be: **Decreased cardiac output evidenced by having a diagnosis of CHF**
- 3) Review your Patient Problem Form: Did you see many of your anticipated nursing assessments and interventions used?
  - a. Were there interventions you included that *were not* used in the scenario that could help this patient?
    - i. If **yes**, describe: **Education on medications and hydrating with fluids.**
    - ii. If **no**, describe:

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- 4) After completing the scenario, what is your patient at risk for developing?
- Mrs. Jordan is at risk for developing chronic kidney disease.**
  - Why? Because the client has urosepsis which affects the whole entire body and the different body systems which can lead to CKD if left untreated or poorly treated. Decreased cardiac output could also lead to decreased tissue perfusion in the kidneys which affects how our body excretes waste and maintains blood pressure.**
- 5) What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice?

**My biggest “take-away” from participating in the care of this client is that what your client comes into the hospital with isn’t the only thing you’re treating them for or providing care for. Other health issues may arise or be discovered during your stay in the hospital. All health care professional communicated with the client when she was expressing that she was worried and gave her a safe space to talk about it. If nurse Craig had not performed a medication reconciliation, we would have not known Mrs. Jordan was on so many CHF medications. This impacts my nursing practice because it shows me to always ask my patients about the medications they are taking at home, because if this was not found out she would be missing doses or seriously impairing her health maintenance and overall health.**

### SOAP Note Based on Priority Problems

#### Priority Patient Problem #1: Decreased cardiac output

<p><b>Subjective:</b></p> <p><i>This section explains the client symptoms. Include a narrative of the patient’s complaints/concerns and/or information obtained from secondary sources.</i></p>	<p>Mrs. Janice Jordan 78yr old female admitted 08/01/XX from home</p> <p><b>History Present Illness (HPI):</b> Urosepsis</p> <p><b>PMH:</b> CHF diabetes</p> <p><b>Allergies:</b> NKA</p> <p><b>Current Medications:</b> Glyburide 2.5 mg PO daily with breakfast Levofloxacin 250 meq IVP q12hr Acetaminophen 325 mg PO q4hr PRN Lorazepam 2 mg PO q6hr PRN (also at home cardiac meds collected a from neighbor)</p>
<p><b>Objective:</b></p> <p><i>This section is your clinical observations. Include pertinent vital signs, pertinent labs and diagnostics related to the priority problem.</i></p>	<p><b>Vital Signs:</b> 0700 VS: T 37.2°C, HR 88, RR 22, BP 128/84, SpO2 91% RA Intake- 2360 mL</p> <p><b>Labs:</b> Hgb 11.3g/dL Hct 33% WBC 13,000 BUN 21mg/dL Albumin 3.2mg/dL Cholesterol 225mg/dL ABGs pH 7.28, PaCO2 35mmHg, PaO2 88mmHg, HCO3 20mEq/L</p> <p><b>Diagnostics:</b> Urinalysis is cloudy and slight amber Specific gravity 1.039 Protein 2mg/dL Leukocyte esterase is positive</p>

<p><b>Assessment:</b></p> <p><i>Focused assessments on your priority problem.</i></p>	<p>2400 VS: T 38.3°C, HR 98, RR 24, BP 128/82, SPo2 85% 4L NC  Urine output- 100 mL and cloudy  Lungs clear in all lobes anterior and posterior breath sounds labored and shallow RR 32  "I'm so cold." "I don't feel so good."  Agitated and restless  In bucks traction due to a fall out of bed resulting in a broken hip could not do surgery because of CHF status</p>
<p><b>Plan</b></p> <p><b>*Based on priority problem only</b></p> <p><i>Include what your plan is for the client. What treatments or medications are needed? You can include procedures, consults, labs/diagnostics, etc. What nursing interventions are being performed?</i></p>	<p><b>Plan:</b>  Furosemide 20mg IVP  Continue 1000mL of lactated ringers IV at 30mL/hr  Maintain O2 6L NC keep O2 sats &gt;90%  Bed rest  IV antibiotics  Sodium restriction of 2g  Cluster care  Strict I&amp;O</p> <p><b>Teaching:</b>  Teach the importance of clients medication regimen (ex. Do not discontinue taking abx therapy until its finished)  Teach about measuring intake and output  Teach to drink plenty of fluids to stay hydrated  Teach how to recognize signs/symptoms of a UTI  Teach to take a daily weight</p> <p><b>Resources:</b>  Urology for follow-up appt  Pharmacy  Physical therapy/home health for hip rehabilitation  Heart failure packet  Nutritionist</p>