Student Name: Sheila Velasquez

Medical Diagnosis/Disease: UTI

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

Anatomy and Physiology

Normal Structures

The urinary system's function is to filter blood and create urine as waste by products. The organs of the urinary system include the kidneys, renal pelvis, ureters, bladder, and urethra. The urinary tract about the urethra is sterile. Several mechanical and physiologic defense mechanisms aid in maintain sterility and preventing UTI. These defenses include normal voiding with complete emptying of bladder, ureterovesical junction competence, and ureteral peristaltic activity that propels urine toward the bladder. Urine has a pH of less than 6, high urea concentration, and abundant glycoproteins that interfere the growth of bacteria. A change any of these defenses increases the risk of UTI. Common factor contributing to ascending infection is urologic instrumentation. UTI can result from hematogenous transmission which blood-borne invade the kidneys, ureters, and bladder. CAUTI is often caused by E. coli.

Pathophysiology of Disease

UTI are infections that affect the urinary tract, E. coli is the most common pathogen in UTI. Candida albicans is the second most common one, causing UTI associated with indwelling catheter use or asymptomatic colonization. UTI can be classified as upper and lower UTI according to the location. Pyelonephritis implies inflammation of the renal parenchyma and collecting system. Cystitis and urethritis cause LUTS. Urosepsis is spread systemically and life-threatening condition. Uncomplicated UTI only involves the bladder. Complicated UTI just occurs in person with structural/functional problem in urinary system.

NCLEX IV *(7)*: Reduction of Risk

Anticipated Diagnostics

Labs

Dipstick Urinalysis

Urine C&S

Additional Diagnostics

H&P

Xray

CT scan

US

Cystoscopy

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

Contributing Risk Factors

- Catheter
- Congenital defects leading to obstruction of urinary stasis
- Obesity
- Diabetes
- Urinary retention
- HIV infection
- Constipation
- Poor hygiene

Signs and Symptoms

LUTS

- Painful urination in uncomplicated urethritis or cystitis
- Dysuria, frequency urgency, hesitancy

Upper urinary tract:

- Fever, chills, flank pain.

Mental changes

NCLEX IV *(7)*: Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

Surgical

- Cystoscopy
- Recent urologic instrument (catherization)

Prevention of Complications

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

- Recurrent UTI
- CAUTI
- Permanent kidney damage

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

Anticipated Medication Management

- Antibiotic
- Ampicillin, amoxicillin, 1st generation cephalosporin, fluoroquinolone
- 3-to-6-month trial of suppressive/prophylactic abx regimen

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

Non-Pharmacologic Care Measures

- Heating pad to suprapubic area or lower back may relieve discomfort
- Increase fluid intake / IV fluids
- Wipe front to back

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

What stressors might a patient with this diagnosis be experiencing?

- Pain
- Stress
- Anxiety

Client/Family Education

List 3 potential teaching topics/areas

•Have adequate fluid intake of 6-8 oz glasses/day

• Take antibiotic drug as ordered and finish full course

•Void regularly (every 3-4)

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)

- Urologist
- Gynecologist
- Health care provider
- Family member

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/ burning when urinating

Goal/EO: Pt. will urinate more than 120 mL of urine q 4 hr in my time of care

Ongoing Assessments: Assess the color of urine q 4 hr in my time of care, assess voiding pattern q 4 hr in my time of care, assess the odor of the urine q 4hr in my time of care, assess I&O during my time of care, assess pt. is taking adequate amount of fluid in my time of care

NI: 1. Encourage pt. to increase fluid intake during my time of care

2. Administer levofloxacin (IVPB) in my time of care

3. Encourage pt. to void every 2-3 hrs during the day and empty the bladder completely in my time of care

4. Teach pt. the benefits of drinking cranberry juice in my time of care

5. Limit the use of indwelling catheter in my time of care

6. Encourage pt. to report any burning pain while urinating in my time of care

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Problem # 2 Deficient knowledge: UTI
Clinical Reasoning: Recurrent UTI

Goal/EO: Pt. will understand the prevention of UTI in my time of care

Ongoing Assessments: Assess pt.'s knowledge about UTI q 4 hr in my time of care, determine pt.'s self-efficacy to learn and apply new knowledge in my time of care q 4hr, assess s/sx of UTI q 4 hr in my time of care, assess the appropriate time to teach q 4hr in my time of care

NI: 1. Explain to pt. about the risk factors of UTI in my time of care.

2. Teach pt. hygienic measures during my time of care.

3. Encourage pt. to not ignore the need to void in my time of care.

4. Teach the pt. about the importance of taking full course of antibiotic in my time of care.

5. Teach about the importance about follow up urine cultures in my time of care.

6. Encourage pt. to report s/sx of reoccurrence in 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. **__Ashley (assistive personnel) ____**
    b. **___Craig (RN)_____**
2) What were some steps the nursing team demonstrated that promoted patient safety?
    a. **____Checked name and DOB _____**
    b. **_Buck's traction is used instead of surgery since Mrs. Jordan is a high risk of hip surgery due to CHF _____**
    c. **__Applied barrier cream on coccyx due to skin breakdown**
    d. **Maintain bed in lowest position**
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, the nurse and the medical team utilized therapeutic technique. An example is when Kathleen went to tell Craig that Mrs. Jordan is breathing harder. Another example is when Craig called pharmacy for medication reconciliation.
    _____
    b. If **no**, describe:
    _____
    _____

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
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: Yes, teaching Mrs. Jordan about taking her full course of antibiotic and being compliant with her medications since she would not be compliant with her cardiac medications.
        ii. If **no,** describe:
4) After completing the scenario, what is your patient at risk for developing?
    a. __Shock: septic shock, pressure injury __

b. Why? ___Mrs. Jordan is presenting restlessness due to the decreased cerebral perfusion, which is an early symptom of shock and the septic shock due to metabolic acidosis. She is also at risk in developing pressure injuries since she is immobile due to the buck's traction.

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 is that sometimes the patient may appear with a different problem than what we had originally thought. With this scenario I expected Mrs. Jordan to present more symptoms of a UTI but instead she presented more symptoms from her congestive heart failure. This impacted by nursing practice because now I know how important a focus assessment is. Doing a focus assessment after new symptoms have appeared is important to identify what is actually going on and what actions to take next based on the results of the focus assessment.

_____

_____

_____

SOAP Note Based on Priority Problems

Priority Patient Problem #1: ___Decreased Cardiac Output __

Subjective: *This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.*	**History Present Illness (HPI): Urosepsis** **PMH: Diabetes, Congestive heart failure** **Allergies: NKA** **Current Medications: Glyburide 2.5 mg PO daily with breakfast, Levofloxacin 250 mg IV bolus q 12 hrs, Acetaminophen 325 mg PO q 4 hrs PRN if fever greater than 37.7. Lorazepam 2 mg PO q 6 hr PRN for agitation and restlessness, 1000 mL of IV LR 30 mL/hr**
Objective: *This section is your clinical observations. Include pertinent vital signs, pertinent labs and diagnostics related to the priority problem.*	**Vital Signs: T: 37.2 C, HR: 88 , RR: 22, BP: 128/84, SPO2: 91%** **Labs: CBC: Hgb- 11.3, Hct- 33%, WBC- 13,000** **Blood chemistry: BUN- 21, Albumin- 3.2 Cholesterol- 225** **Urinalysis: cloudy, slight amber, protein 2mg, leukocytes-esterase-positive, WBC-10, RBC- 4-6, RBC casts-positive** **Diagnostics: Chest Xray: Hip fracture**
Assessment: *Focused assessments on your priority problem.*	**Assess SPO2 q 2 hr to check oxygenation status** **Assess LOC q 2 hr- to check if there's a risk of shock** **Assess the prescence of S3 and S4 q 4 hr – to see if heart is functioning properly** **Assess heart rate and rhythm q 4hr- to see if heart is functioning properly** **Assess for any edema in lower extremities q 4hr** **Assess bilateral anterior and posterior lungs q 4hr** **Assess I&O q 8 hr**
Plan ***Based on priority problem only** *Include what your plan is for the client. What treatments or medications are needed? You can include procedures,*	**Plan:** **RN raised HOB – to facilitate breathing** **Checked SPO2: 88% on RA** **Administered O2 2L NC** **Encouraged to take deep breaths** **Raised O2 to 4L after focused assessment and checked SPO2, encourage cough and DB**

consults, labs/diagnostics, etc. What nursing interventions are being performed?	**Meds: Give Digoxin 0.25 mg, Furosemide 20 mg IV push, if she doesn't have 500 mL of UO in 6 hrs give 20 mg more of Furosemide IV push Albuterol 0.5 % solution via nebulizer q 6hrs and q 2 hrs PRN for difficulty breathing, Get Chest Xray** **SPO2: 85%, O2 on 6L** **The plan for the client is to make sure that she's not breathing any harder than she is and find methods that can facilitate her breathing. As well with titrating the amount of oxygen. Another plan is to make sure she understands the purpose of taking her medications.** **Teaching & Resources:** Teach Mrs. Jordan about the management of CHF, teach about a low sodium and a heart healthy diet, teach the importance of taking medication especially cardiac medications. Resources: Urologist, Cardiologist, Primary HCP

ACTIVE LEARNING TEMPLATE: # Medication

STUDENT NAME Sheila Velasquez
MEDICATION Lorazepam (PO) (Ativan) REVIEW MODULE CHAPTER
CATEGORY CLASS Benzodiazepine (schedule IV); antianxiety

PURPOSE OF MEDICATION

Expected Pharmacological Action
Enhances action of inhibitory neurotransmitter gamma-aminobutyric acid in CNS, affecting memory, motor, cognitive function. Produces anxiolytic, anticonvulsant, sedative, muscle relaxant

Therapeutic Use
management of anxiety disorders, short term relief of sx of anxiety, tx of alcohol withdrawl

Complications
Drowsiness, dizziness, weakness, ataxia, headache, hypotension, N/V
Antidote: flumazenil

Medication Administration
initially, 0.5 - 2 mg q4-6h as needed up to 10 mg/day
max dose: 2 mg

Contraindications/Precautions
Hypersensitivity to other benzodiazepine, acute narrow angle-glacoma, severe respiratory depression, caution: hepatic/renal impairment

Nursing Interventions
- monitor BP, RR, HR
- screen for suicidal ideation
  screen for drug abuse
- Assess motor responses

Interactions
valproic acid → ↑ concentration/effects, alcohol/CNS depressants: ↑ CNS depression, Herbs: chamomile, kava kava

Client Education
- Drowsiness subsides w/ continued therapy
- Avoid tasks that require alertness
- Don't abrupt
- Don't use alcohol + CNS depressants

Evaluation of Medication Effectiveness
- calm facial expression, ↓ restlessness, insomnia, ↓ in seizure-related sx

ACTIVE LEARNING TEMPLATE: *Medication*

STUDENT NAME Sheila Velasquez
MEDICATION Levofloxacin (IVPB) (Levaquin) REVIEW MODULE CHAPTER
CATEGORY CLASS Fluoroquinolone (abx)

PURPOSE OF MEDICATION

Expected Pharmacological Action
Inhibits DNA enzyme gyrase in susceptible microorganisms, interferring w/ bacterial cell replication, repair. Bactericidal.

Therapeutic Use
Tx of susceptible infections due to S. pneumonare, S. aureus. uncomplicated UTI, acute pyelonephritis

Complications
Diarrhea, nausea, abdominal pain, dizziness, drowsiness, headache

Medication Administration
IV: 250-750 mg q 24 hr, 750 mg q 24hr for sever or complicated infections

Contraindications/Precautions
Hypersensitivity to levofloxacin or other flouroquinolone caution: suspected CNS disoraers, seizure disorder, renal impairment, brady cardia

Nursing Interventions
- monitor serum glucose, renal function, LFT
- monitor daily pattern of bowel activity
- monitor muscle weakness

Interactions
Antacids - ↓ absorption; NSAIDS - ↑ risk of arrythmias. may ↑ anticoagulant effects of warfarin

Client Education
- complete therapy despite sx improvement
- Report any episodes of diarrhea
- Don't take aluminum-magnesium containing antacids
- Drink plenty of fluids

Evaluation of Medication Effectiveness
- NO S/Sx of infection (fever)
- WBC ↓

Incompatibilities
↳ furosemide (Lasix), heparin, insulin

Compatibilities
↳ dobutamine, dopamine, lidocaine, lorazepam

Amount

IV: 250-750mg q 24hr, 750 mg q 24hr
for severe | complicated infections

Rate of administration

- no less than 60 mins for 250mg or 500 mg
- 90 min for 750 mg

Diluent:

Withdraw 10mL for 250 mg, Dilute w|
a min. of 40mL 0.9 NaCl. D5W providing
concentration of 5 mg|mL

Storage

Diluted vials stable for 72 hrs
@ room temp, 14 days if refigerated

Module Report

Tutorial: **Real Life RN Medical Surgical 4.0**

Module: **Urinary Tract Infection**

Individual Name: **Sheila Velasquez**

Institution: **Margaret H Rollins SON at Beebe Medical Center**

Program Type: **Diploma**

Standard Use Time and Score

	Date/Time	Time Use	Score
Urinary Tract Infection	4/3/2023 10:11:47 PM	1 hr 20 min	Strong

Reasoning Scenario Details
Urinary Tract Infection - Use on 4/3/2023 9:58:07 PM

Reasoning Scenario Performance Related to Outcomes:

*See Score Explanation and Interpretation below for additional details.

Body Function	Strong	Satisfactory	Needs Improvement
Cardiac Output and Tissue Perfusion	100%		
Cognition and Sensation	100%		
Immunity		100%	
Integument	100%		
Mobility	100%		
Oxygenation	100%		
Regulation and Metabolism	100%		

NCLEX RN	Strong	Satisfactory	Needs Improvement
RN Management of Care	100%		
RN Safety and Infection Control	100%		
RN Psychosocial Integrity	100%		
RN Pharmacological and Parenteral Therapies	100%		