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Medical Diagnosis/Disease: Urinary Tract Infection

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

Anatomy and Physiology
Normal Structures

The upper urinary system consists of 2 kidneys and 2 ureters, while the lower urinary system consists of a urinary bladder and urethra. The kidneys are bean shaped organs who's primary functions are to filter the blood and maintain the body's internal homeostasis. Urine formation also occurs. The ureters are tubes that carry urine from the renal pelvis to the bladder by peristalsis, and attach to the bladder at an angle that prevents backflow. The bladder serves as a reservoir for urine and waste products and expands when filled and contracts when empty. The urethra, shorter in females, is a small tube that controls voiding and serves as a conduit for urine from the bladder to the outside of the body. Together, all of these parts work to expel urine from the body through contraction and relaxation of sphincters and muscles.

Pathophysiology of Disease

The urinary tract above the urethra is sterile, and the body encompasses several mechanisms that aid in maintaining sterility and preventing infections. These mechanisms include normal voiding with complete emptying of bladder, ureterovesical junction competence, and ureteral peristaltic activity that propels urine toward the bladder. The high pH of urine allows for interference of the growth of bacteria. The most common causes of UTI's originate from the perineum and are introduced via ascending route, usually by urologic instrumentation that allows bacteria present at the opening of the urethra to enter the bladder.

NCLEX IV *(7)*: Reduction of Risk

Anticipated Diagnostics

Labs
Dipstick urinalysis (WBC, nitrates, leukocyte esterase)
Urine culture & sensitivity

Additional Diagnostics
H&P; CT; US; cystoscopy

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

Contributing Risk Factors

Catheters; Urinary retention; Renal impairment; Intrinsic and extrinsic obstruction; Aging; Diabetes; HIV infection; shorter urethra; obesity; fistula exposing urinary stream to skin, vagina, or fecal stream; instrumentation(cystoscopy); urinary tract stones; constipation; voiding dysfunction; poor personal hygiene; multiple partners; pregnancy

Signs and Symptoms

Dysuria (difficulty staring stream, inability to empty urine); frequency (voiding more than q2 hr); sudden/intense desire to void immediately; suprapubic discomfort/pressure; diminished urinary stream; hematuria; cloudy urine

Upper
Fever; chills; flank pain

NCLEX IV *(7)*: Reduction of Risk

Possible Therapeutic Procedures

Non-surgical

Surgical

Prevention of Complications

(What are some potential complications associated with this disease process)
Kidney infection
Sepsis
Pregnancy issues (mom & baby)
HTN

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

Anticipated Medication Management
Antibiotics
Urinary analgesic

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

Non-Pharmacologic Care Measures
Adequate fluid intake
Heating pad
Hygiene/wiping front to back

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

What stressors might a patient with this diagnosis be experiencing?
Frequent wakening during night/no sleep

	Safe sex	Pain

Client/Family Education

List 3 potential teaching topics/areas

- Take all antibiotics as prescribed
- Maintain adequate fluid intake
- Practice appropriate hygiene

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)

Lab Physician
Pharmacy
Nurse Urology

ATI Virtual Clinical Questions and Reflection:

1) Identify two members of the healthcare team collaborating in the care of this patient:
    a. **RN**
    b. **HCP**
2) What were some steps the nursing team demonstrated that promoted patient safety?
    a. **Another team member noticed Mrs. Jordan's breathing was increased and told the RN immediately**
    b. **The RN called pharmacy for medication reconciliation**
    c. **The nurse noticed Mrs. Jordan's trouble breathing and checked her VS. When her O2 was 88% he administered oxygen**
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, all of the healthcare team members communicated with each other therapeutically by ensuring everyone was up-to-date on what was going on with Mrs. Jordan, and also communicated with Mrs. Jordan in a therapeutic manner by asking her for permission before carrying out interventions/assessments and explained to her what they were going to do.**
    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: **Impaired 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: One of my interventions were to avoid the use of indwelling catheters since she already had a UTI. Another was also to encourage the patient to try and void frequently.

ii. If **no,** describe:

_____

_____

4) After completing the scenario, what is your patient at risk for developing?

   a. The patient is at risk for developing septic shock

   b. Why? Mrs. Jordan is at risk for septic shock due to her urosepsis, her age, her history of diabetes, and her developing fever, restlessness, and chills

5) What was your biggest "take-away" from participating in the care of this patient? How did this impact your nursing practice?

   The biggest take-away I received from this activity was that you cannot expect the turnout of a patient's care, and just because they are in the hospital for one problem does not mean they won't develop a problem elsewhere. I think this impacts my nursing care because it is clear to me why full head-to-toe assessments are needed along with focused assessments. It is important to look at a patient as a whole and begin to piece information together that is noticed, instead of only focusing on the initial diagnosis.

SOAP Note Based on Priority Problems

Priority Patient Problem #1: Impaired 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.*	**78 y/o F with admitting diagnosis of urosepsis and PMH of CHF and diabetes. C/o not feeling well + states "I'm so cold" Pain is a 4/10, NKA, medication bag that neighbor dropped off consisted of Furosemide 20 mg, Furosemide 40 mg, Potassium chloride 20 mEq, potassium chloride 40 mEq, digoxin .125, atenolol 25 mg, isosorbide 10 mg**
Objective: *This section is your clinical observations. Include pertinent vital signs, pertinent labs and diagnostics related to the priority problem.*	**Difficulty breathing with crackles in the lungs, continues to cough sometimes productive, raspy slurred speech, O_2 sat 91% RA, administered 2L O2 nasal cannula and continued to go down to 89%, turned O2 up to 4L and O2 sat raised to 94% and dropped back down to 85% on 4L @ 2400, temperature=100.6 degrees F with respirations @ 28 bpm, BP= 130/94, HR=98, CXR revealed dilation of hilar and pulmonary vasculature that is consistent with long-standing mild COPD + enlarged heart consistent with hypertrophy of left ventricle, not oriented to place, appears restless, BUN=21 mg/dL, WBC count= 13,000/mm^3, ABG's showed pH=7.28; PaCO2= 35; HCO3= 20, indwelling catheter output 780 mL by 1400**
Assessment: *Focused assessments on your priority problem.*	**Due to Mrs. Jordan's worsening condition with her VS, ABG's, confusion, increasing WBC count, CXR of hypertrophied LV, and her present urosepsis, she is in metabolic acidosis and is at a high risk for septic shock**
Plan ***Based on priority problem only** *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?*	**Plan: Continue with albuterol 0.5% solution by nebulizer to increase oxygenation, continue monitoring all VS, ABG's, and blood chemistries; keep in high fowlers position, continue with levofloxacin, continue with digoxin and furosemide but monitor potassium levels closely, record I&O's accurately, monitor any changes in LOC, encourage coughing and deep breathing to enhance air-way clearance, continue monitoring blood glucose** **Teaching & Resources: Cardiologist, respiratory, radiology, provide HF education, educate on importance of cardiac diet and proper hygiene**