

Student Name __Madison Tuttle_____

ATI Real Life Scenario_CKD_____

1

*Complete and submit to the corresponding dropbox by 1600 on the assigned clinical day.

To Be Completed Before the Simulation

** Blue boxes should be completed using textbook information. What do you expect to find? This information should be collected before you start the ATI simulation.

Medical Diagnosis/ Disease: Chronic Kidney Disease_____

NCLEX IV (8): Physiological Integrity/Physiological Adaptation

NCLEX IV (7): Reduction of Risk

Anatomy and Physiology
Normal Structures

The upper urinary system consists of 2 kidneys and 2 ureters. The lower urinary system consists of the bladder and urethra. Urine is formed in the kidneys, which drains through the ureter to be stored in the bladders and passes out of the body through the urethra. The primary function of the kidneys is to regulate the volume and composition of extracellular fluid and excrete waste products from the body, The kidneys also control blood pressure, make erythropoietin, activate vitamin D, and regulate acid-base balance. The kidney is a bean-shaped organ located retroperitoneally, behind the peritoneum on either side of the vertebral column at about the level of the T12 to L3. Each kidney weighs 4-6oz and is about 5 inches long. The right kidney is positioned at the 12th rib and the left is lower. Adrenal glands sit above each kidney. Each Kidney is surrounded by fat and connective tissue that cushions, supports, and helps the kidney maintain position.

Pathophysiology of Disease

Progressive irreversible loss of kidney function
Increased risk in older population, increased obesity rates, and increased DM AND HTN. The kidneys are highly adaptive, kidney disease is often not recognized until there is considerable loss of the nephrons. Often asymptomatic resulting in underdiagnosis and untreated. Kidney damage or decreased GFR less than 60ml/min for longer than 3 months. End stage renal disease GFR less than 15ml/min.
Stage 1: GFR >90
Stage 2: GFR 60-89
Stage 3a: GFR 45-59
Stage 3b: GFR 30-44
Stage 4: GFR 15-29
Stage 5: kidney failure GFR <15, need dialysis.
Uremia develops when kidney function declines to the point it affects multiple body systems.
Acid base imbalance- hyperkalemia
Elevated triglycerides, accumulation of waste products, impaired glucose metabolism, Anemia, infection risk, and bleeding tendencies. Neurologic changes. respiratory acidosis, GI metallic taste in the mouth

Anticipated Diagnostics
Labs

CBC
Urine analysis
Serum electrolytes
Renal ultrasound or biopsy
BUN, creatinine
H&H
Renal scan
Additional Diagnostics
Lipid profile
CT scan

A capsule, a thin smooth layer of fibrous membrane covers the surface of each kidney. The capsule protects the kidneys and serves as a shock absorber if the area is traumatized by sudden force or strike. The hilus is on the medial side of the kidneys and serves as an entry site for the renal artery and nerves. Parenchyma is the tissue of the kidney; the outer layer is the cortex, and the inner layer is the medulla. The medulla consists of several pyramids. The renal pelvis holds 3-5ml of urine. The nephron is the functional unit of the kidney. Each nephron is composed of the glomerulus, Bowman's capsule, and proximal and distal tubules inside the cortex. The loop of Henle and collecting tubules are inside the medulla.

The proximal tubule reabsorbs 80% of electrolytes and water, glucose, amino acids, and bicarb. The collecting duct reabsorbs water and requires ADH. Distal tubule reabsorbs water regulated by ADH and bicarb. Renin regulates blood pressure, made and excreted by the juxtaglomerular cells.

from ulcerations, and stomatitis. Decreased libido in both men and women, pruritus and dry skin, increased itching

<u>Contributing Risk Factors</u>	<u>Signs and Symptoms</u>	<u>Possible Therapeutic Procedures</u>	<u>Prevention of Complications</u>
>60 yr Cardiovascular disease Diabetes Hypertension Family hx of CKD AKI Nephrotoxic drugs Ethnic minority, native American, black	Uremia Anuria Polyuria (if dm) Increased BUN and CR N/V Lethargy Fatigue Impaired thought process Headaches Puritus /dry skin Anemia Peripheral neuropathy	Non-surgical RRT (hemodialysis or peritoneal) Surgical Kidney transplant	(What are some potential complications associated with this disease process) CK-MBD Dysrhythmias

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

<u>Anticipated Medication Management</u>
Calcium supplements ACE inhibitors or ARBs Antihypertensives Erythropoietin therapy Lipid lowering-statins Iron Oxygen Phosphate binders

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

<u>Non-Pharmacologic Care Measures</u>
Protein restriction/nutritional therapy Complete history and physical Monitoring blood pressure and neuro status Lemon/hard candies Strict I&Os

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

<u>What stressors might a patient with this diagnosis be experiencing?</u>
Anxiety Grieving Loss of independence Depression

Client/Family Education

<u>List 3 potential teaching topics/areas</u>
• Avoid OTC medication-NSAIDS. • Protein restriction • Monitor blood pressure

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

<u>Multidisciplinary Team Involvement</u>
(Which other disciplines do you expect to share in the care of this patient) Nurse Dietary Pharmacy Surgeon Nephrologist Radiology Cardiologist/hematology Palliative care Lab

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ATI Real Life Scenario_CKD_____

4



Anticipated Patient Problems, Goals, & Interventions Based on Medical Diagnosis

** This worksheet should be completed before you begin the ATI simulation.

Problem #1: __Excess Fluid Volume

Patient Goals:

1. patient will maintain HR between 60-100bpm, absence of pulmonary crackles, and reduced edema by the end of my care

2. patient will not gain more than 2-3 lbs by the end of my care

Assessments:

- Assess HR and BP q 4 hr, assess respirations q 4hr auscultate lung sounds q 4 hours, assess for pitting edema q 4-6 hr, assess weight daily, monitor urine output q hour, assess nutritional status q 8hr, assess/review electrolytes q 6 -8hr, strict I &Os q 1-2hr

Interventions (In priority order):

1. Maintain head of bed greater than 30 degrees while awake as needed for shortness of breath during my time of care

2. Administer antihypertensive per order as needed for high blood pressure during my time of care

3. __Administer diuretics/Lasix as ordered for excess fluid during my time of care

4. Elevate extremities on pillows as needed for edema during my time of care

5. __Educate on sodium restriction as needed during my time of care

Student Name __Madison Tuttle_____

ATI Real Life Scenario_CKD_____

5

6. _Educate on fluid restriction as needed during my time of care
-

Problem #2: _Risk for electrolyte imbalance

Patient Goals:

1. _Patient potassium will be between 3.5-5 by the end of my care
-

2. Patient sodium(134-145), calcium(8.5-10.2), magnesium(1.5-3), and phosphorus(1.8-2.3) will be within normal limits by the end of my care

Assessments:

- Monitor vital signs, HR, and blood pressure, cardiac monitor q 2-4hr, monitor serum electrolytes(CBC, CMP, BMP) q 6hr, monitor for dysrhythmias as needed with EKG/cardiac monitor, monitor neurologic status q 1-2hr, assess deep tendon reflexes and muscle strength q 4-6hr
-

Interventions (In priority order):

1. Administer lactulose as ordered, PRN for K+, ammonia, urea, and creatinine excretion during my time of care
-

2. _Administer potassium chloride as needed for hypokalemia during my time of care
-

3. Administer Lactated ringers q 12-24hr as needed during my time of care
-

4. _ Administer loop diuretics or thiazide diuretics as ordered, PRN during my time of care
-

5. _Educate on increasing electrolytes with supplements/foods as needed during my time of care
-

Student Name __Madison Tuttle_____

ATI Real Life Scenario_CKD_____

6

6. Educate on signs and symptoms of hyperkalemia (chest pain, n/v, sob) as needed during my time of care
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At this time, complete assigned ATI Real Life Simulation

Actual Patient Problems & Goals

** The following should be completed after the ATI simulation.

Problem #1: _Excess Fluid Volume

Patient Goals:

1. _ patient will maintain HR between 60-100bpm, absence of pulmonary crackles, and reduced edema by the end of my care
-

Met

Unmet

2. patient will not gain more than 2-3 lbs by the end of my care
-

Met

Unmet

Problem #2: _____

Patient Goals:

1. _ Patient potassium will be between 3.5-5 by the end of my care
-

Met

Unmet

2. Patient sodium(134-145), calcium(8.5-10.2), magnesium(1.5-3), and phosphorus(1.8-2.3) will be within normal limits by the end of my care
-

Met

Unmet

SOAP Notes Based on Priority Problems

Priority Patient Problem #1: Excess fluid volume

<p>Subjective:</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>Chief Complaint: Recent weight gain over a short span. Shortness of breath, general fatigue, and malaise. Edema to the lower extremities Stage 5 kidney failure</p> <p>PMH: CKD, HTN, Type 2 DM, uremic pruritus, peripheral neuropathy in LE, hyperlipidemia. Peritoneal dialysis for 9 months PSH: AV fistula placed 5/15. Peritoneal dialysis. A catheter was placed on 5/15</p> <p>Allergies: NKA</p> <p>Current Medications: Glipizide XL 20 mg PO daily Aspirin 81 mg PO daily Losartan 50 mg PO daily Furosemide 20 mg PO twice daily Ferric citrate 1 g PO three times daily with meals Linagliptin 5 mg PO daily Tramadol 50 mg PO every 6 hours PRN pain or discomfort Sevelamer carbonate 800 mg PO three times daily with meals Docusate sodium 100 mg PO twice daily Tacrolimus 0.1% ointment apply topically to affected areas twice daily Gentamicin 0.1% ointment apply topically to the peritoneal dialysis catheter site daily Gabapentin 100 mg PO three times daily Atorvastatin 20 mg PO daily</p>
<p>Objective:</p> <p><i>This section is your clinical observations. Include, pertinent vital</i></p>	<p>Vital Signs: On Admission – Temp 37.2C (99.1F), p 110bpm, BP 170/92mm/Hg, Spo2- 95% on room air Vitals @ 1830: Temp 37.2, p 118, RR22, BP</p>

<p><i>signs, pertinent labs and diagnostics related to priority problem.</i></p>	<p>174/94mm/hg right arm, SPO2-94% room air Weight- 72.1(159lbs) Vitals @ 1940: Temp 37.0, P 116, BP 170/90, RR22, Spo2 – 96 2L NC</p> <p>Labs: RBC 3.1, Hemoglobin – 10.2g/dL, Hematocrit 32%, AST 25units/L, GFR 8ml/min, Sodium 132Meq/L, urine specific gravity 0.998, creatinine 8.0mg/dl, BUN 42mg/dl Urine output @ 1830: 150ml total</p> <p>Diagnostics: Chest X-ray showed bilateral pulmonary venous congestion with infiltrates, no cardiomegaly present</p>
<p><u>Assessment:</u></p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Alert and oriented 4x, pupils equal and reactive to light, mucous membranes pink and moist, Skin warm and dry color appropriate for ethnicity, Capillary refill brisk, no signs of lymphadenopathy, respirations regular 24/min, tachypneic, and labored with activity, Ronchi scattered bilaterally anterior and posteriorly. Tachycardia noted, s1 and s2 regular rhythm. Apical Heart rate 118bpm, BP 174/94, +2 pitting edema bilaterally on lower extremities. +3 pedal pulses, the patient reports legs feeling tight and shortness of breath while ambulating. The bladder is non-distended with no complaint of dysuria and can void. The peritoneal dialysis catheter is intact without erythema, edema, or drainage.</p>
<p><u>Plan</u> <u>*Based on priority problem only</u></p> <p><i>Include what your plan is for the client. What treatments or medications are needed. You can include procedures, consults, labs/diagnostics,</i></p>	<p>Plan: Admit to the medical surgical floor for monitoring and diuresis. Initiate hemodialysis in the AM</p> <p>Orders: Renal with 1.8 Gram of Sodium V/S: Every 4 hr Activity: Up as tolerated Apply telemetry monitor to provide continuous cardiac</p>

<p><i>etc. What nursing interventions are being performed?</i></p>	<p>monitoring of Blood glucose before meals and at bedtime Insert IV saline lock Flush IV with 2 mL 0.9% Sodium Chloride every 6 hr Strict intake and output Restrict Fluids to 1 Liter per day</p> <p>Daily weights</p> <p>Hold AM medications prior to dialysis on 2/11 and 2/12 Administer AM medications that were withheld prior to dialysis on 2/11 and 2/12 after the client returns from dialysis</p> <p>Apply oxygen PRN. Titrate to keep sats > 95% Obtain BMP 1 hour after administering IV furosemide.</p> <p>Notify the provider if SBP 180 mm Hg Administer Epoetin alfa 50 units/kg 3 times a week IV bolus during dialysis for Hgb less than 11g/dL</p> <p>Teaching/Resources: Educated on sodium and protein restriction and appropriate foods to consume at home. Educated on fluid restriction. Dietary/nutritionist to incorporate recipes with low sodium for her Hispanic culture</p>
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Priority Patient Problem #2: __Risk for electrolyte imbalance

<p>Subjective:</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>Chief Complaint: arrived to the ED with recent weight gain over a short span. Shortness of breath, general fatigue, and malaise. Edema to the lower extremities Stage 5 kidney failure. Concerns about peritoneal dialysis. Lab results showed electrolyte imbalances related to CKD.</p>
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<p>Objective:</p> <p><i>This section is your clinical observations. Include vital signs, pertinent labs and diagnostics <u>related to priority problem.</u></i></p>	<p>Vital Signs: On Admission – Temp 37.2C (99.1F), p 110bpm, BP 170/92mm/Hg, Spo2- 95% on room air Vitals @ 1830: Temp 37.2, p 118, RR22, BP 174/94mm/hg right arm, SPO2-94% room air Weight- 72.1(159lbs) Vitals @ 1940: Temp 37.0, P 116, BP 170/90, RR22, Spo2 – 96 2L NC Vitals @ 2125: P 110, RR20/min, BP 178/86, 96% on 2L NC Vitals @ 2240: BP 182/90mm/hg right arm, P 112</p> <p>Labs: Sodium 132, potassium 6.0, Calcium 8.0, phosphorus 7.5</p> <p>Diagnostics: Tele number 14, EKG showed sinus tachycardia with peaked T waves @ 114 beat/min</p>
<p>Assessment:</p> <p><i>Focused assessment on your priority problem.</i></p>	<p>Alert and oriented x4, complaints of nausea, headache 2/10 pain, and feeling weak and fatigued. EKG showed sinus tachycardia with peaked t waves, hyperkalemia 6.0, hyperphosphatemia 7.5, and hypocalcemia 8.0.</p>
<p>Plan <u>*Based on priority problem only</u></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>Plan: admitted to the medical surgical unit for monitoring and diuresis. Peritoneal dialysis was switched to hemodialysis 3 times per week. Provided education of hemodialysis with images/diagrams and the differences between peritoneal dialysis and hemodialysis. 1st round of hemodialysis on 2/11 in the morning. Redrew lab/serum electrolytes. Sodium now 136, potassium 4.7, calcium 9, and phosphorus 5.5 2nd round of hemolysis received prior to discharge. Outpatient dietary consult (renal diet, protein needs evaluation) Renal diet, 1800 mg sodium, Low potassium, Low fat, Protein per dietary consult home health services twice each week (homebound,</p>

	<p>Type 2 DM, hemodialysis) Follow up 2 weeks in office CBC, CMP weekly. The home health nurse assessed living conditions. Medication: patient received ferric citrate 1g PO 3x a day with meals for phosphorus levels and sevelamer carbonate 800mg PO 3x a day with meals to prevent phosphorus from being absorbed into toxic levels</p> <p>Teaching/Resources: Nutrition consult. home health nurse educated on ½ cup of raw green peas, appropriate food choice during the potluck, steamed broccoli, roasted chicken thighs, and sliced radishes. Transportation to hemodialysis appointments</p>
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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 virtual patient.

2. What was your biggest “take-away” from participating in the care of this patient? How did this impact your nursing practice?

_My biggest takeaway from participating in the care of this patient was the importance of good assessment skills, utilizing background knowledge from the urinary system, kidneys and how they function, and the different types of dialysis. This patient was receiving peritoneal dialysis and the oncoming nurse didn't quite understand why she was presenting with these symptoms of edema, tight legs, BUN, creatinine elevation, and crackles in the lungs anteriorly and posteriorly. How did this impact my nursing practice, after this simulation, I have refreshed myself on why it is important to know the risk when taking care of a patient with chronic kidney disease because electrolytes, especially potassium can lead to dysrhythmias and result in death. Being proactive in correcting these electrolyte imbalances is vital for these patients. It's important to know the kidney's role is to filter out waste products so monitoring the build-up of excess fluid, monitoring urine output, and lung sounds because the fluid accumulating into the lungs creates crackles. The fluid build-up in the lung could lead to respiratory acidosis/ respiratory failure or a collapsed lung which is another leading cause of death in these patients. During this simulation I found that it's also important when teaching these patients with chronic kidneys disease being culturally competent, the Hispanic population uses a lot of salt and seasonings in their foods which can be a problem for someone with this diagnosis, and educating on ways to incorporate their culture within the their restrictions

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ATI Real Life Scenario_CKD_____

12

Time Allocation: 8 hours