Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

*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

Anatomy and Physiology

Normal Structures

The kidneys are two bean-shaped organs that filter blood. Kidneys are part of the urinary system.
Kidneys filter about 200 quarts of fluid every day. During this process, kidneys remove waste, which leaves the body as urine. kidneys also help balance the body's fluids (mostly water) and electrolytes.
Anatomy:
The renal capsule consists of three layers of connective tissue or fat that cover kidneys. It protects kidneys from injury, increases their stability and connects your kidneys to surrounding tissues.
The renal artery is a large blood vessel that controls blood flow into kidneys.
Renal cortex is the outer layer of the kidney, where the nephrons (blood-filtering units) begin.
The renal medulla is the inner part of the kidney. It contains most of the nephrons with their glomeruli and renal tubules. The renal tubules carry urine to the renal pelvis.
Renal papilla are pyramid-shaped structures that transfer urine to the ureters.
The Renal pelvis is a funnel-shaped structure that collects urine and passes it down two ureters. Urine travels from the ureters to the bladder, where it's stored.
The renal veins send filtered blood back to the heart. Each kidney has its own renal vein.

Pathophysiology of Disease

Chronic kidney disease, also known as chronic renal disease or CKD, is a condition characterized by a gradual loss of kidney function over time. Your kidneys filter wastes and excess fluids from your blood, which are then removed in your urine. Advanced chronic kidney disease can cause dangerous levels of fluid, electrolytes, and wastes to build up in your body.

Stages:

1- Normal to highly functioning kidneys. GFR >90 ml/min
2- Mild decease in kidney function. GFR 60-89 ml/min
3- Mild to moderate decrease in kidney function. GFR 30-59 ml/min
4- Severe decrease in kidney function. GFR 15-29 ml/min
5- Kidney failure. GFR <15 ml/min.

Causes: diabetes, hypertension, Glomerulonephritis, Interstitial nephritis, Polycystic kidney disease, Prolonged obstruction of the urinary tract, pyelonephritis.

NCLEX IV *(7)*: Reduction of Risk

Anticipated Diagnostics

Labs

GFR
Creatinine
BUN
CBC
CRP and other inflammation markers
Electrolytes

Additional Diagnostics

Bladder scanner
Kidney biopsy
Urine analysis
Renal flow scan
Ultrasound
MRI without contrast
CT
Aortorenal angiography

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

Contributing Risk

Signs and Symptoms

NCLEX IV *(7)*: Reduction of Risk

Possible Therapeutic

Prevention of

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

Factors		**Procedures**	**Complications**
Diabetes Hypertension Cardiovascular disease Smoking Obesity Family history Increased age Chronic use of nephrotoxic drugs	Hypertension Fatigue Kussmaul respirations Heart failure symptoms Irritability Dyspnea	**Non-surgical** Intravenous fluids Dialysis Blood transplants for anemia **Surgical** Kidney Transplants Dialysis prep	(What are some potential complications associated with this disease process) Fluid retention (pulmonary edema) Hyperkalemia Hypocalcemia hyperphosphatemia Anemia Decreased immune response. Heart failure and cardiovascular infections.

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

Anticipated Medication Management

Hypertension management
Digoxin
Diuretics to remove excess fluid.
Avoid nephrotoxic drugs.
Erythropoietin hormone for anemia.
Sodium polystyrene to increase elimination of potassium.
Ferrous sulfate for iron deficiency
Calcium carbonate stops phosphate absorption.

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

Non-Pharmacologic Care Measures

Heart healthy diet – sodium restriction.
Promote healthy lifestyle and healthy diets.
Manage symptoms.
Maintain hydration.

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

What stressors might a patient with this diagnosis be experiencing?

Scheduling dialysis.
Diet and lifestyle changes.
Symptom control
New medications

Client/Family Education

List 3 potential teaching topics/areas

• New medications

• New Diagnosis. What is CKD. Stages of CKD.

• Dialysis treatments

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)

RN, CNA, Case management, Nephrologist, PCP, pharmacologist, Dialysis nurse,

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. Pt will have a urine output of at least 30 ml an hour throughout my care.

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

2. Pts lungs will be free from pulmonary edema evidenced by the absence of pulmonary crackles by the end of my care.

Assessments: Vitals (HR, BP, RR, SPO2, Temp) q 4 hours and PRN for change in condition. Breath sounds q shift and PRN for respiratory distress. Assess skin for pitting edema q shift. Assess for bounding pulses q 4 hours. Assess weight before and after dialysis.

Interventions (In priority order):

1. Maintain a fluid restriction of 2 L a day PRN for excess fluid volume.
2. Administer furosemide PRN for excess fluid volume.
3. Administer antihypertensive medications PRN for hypertension.
4. Maintain strict I&Os q 8 hours.
5. Educate pt on sodium restrictions PRN for lack of knowledge.
6. Instruct pt to elevate his or her lower extremities while sitting or lying in bed.

Problem #2: Risk for electrolyte imbalances

Patient Goals:

1. Pts Potassium level will remain with a normal range (3.5-5 mEq/L) during my time of care.

2. Pts Calcium and phosphorus levels will be within a normal range during my time of care. (calcium: 8.5-10.5 mEq/L, Phosphorus: 2.5 to 4.5 mg/dL).

Assessments:

- Signs and symptoms of decreased calcium PRN for change in pts condition (tingling in fingers and toes, muscle cramps, tetany, seizure, itching). Signs and symptoms of high potassium levels PRN for change in pts condition (muscle weakness, dysrhythmias, N/V). BMP q day.

Interventions (In priority order):

1. Maintain continuous cardiac monitoring (EKG) throughout care.
2. Educate pt to reduce oral intake of potassium in their diet PRN for elevated potassium.
3. Administer sodium polystyrene PRN for elevated potassium.
4. Educate pt to limit oral intake of phosphorus PRN for elevated phosphorus.
5. Administer calcium carbonate PRN for elevated phosphorus.

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

6. Administer Vitamin D supplements daily and PRN for decreased absorption for calcium.

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. Pt will have a urine output of at least 30 ml an hour throughout my care. Met ☐ Unmet ☐
2. Pts will be able to verbalize understanding of sodium and fluid restriction by the end of my care. Met ☐ Unmet ☐

Problem #2: Risk for electrolyte Imbalances

Patient Goals:

1. Pts Potassium level will be within a normal range (3.5-5 mEq/L) by the end of my care. Met ☐ Unmet ☐
2. Pts Calcium level will be within a normal range (calcium: 8.5-10.5 mEq/L) by the end of my care Met ☐ Unmet ☐

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

SOAP Notes Based on Priority Problems

Priority Patient Problem #1: Excess fluid volume

Subjective: *This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.*	**Chief Complaint:** Came to the ED for unwanted weight gain in a short amount of time. Shortness of breath and edema. Concerns with peritoneal dialysis. Stage 5 Kidney failure. **PMH:** CKD, HTN, Type 2 DM, Uremic Pruritis, peripheral neuropathy in lower extremities, hyperlipidemia. Peritoneal dialysis daily for 9 months. **PSH:** AV fistula placed 5/15. Peritoneal dialysis Cath placed 5/15. **Allergies:** no allergies **Current Medications:** Glipizide XL 20 mg PO daily Aspirin 81 mg PO daily Losartan 50 mg PO daily Furosemide 20 mg PO daily Ferric Citrate 1 g PO three times a day with meals Linagliptin 5 mg PO daily Tramadol 50 mg PO every 6 hours PRN for pain Sevelamer Carbonate 800 mg PO three times a day 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 peritoneal dialysis catheter site daily. Gabapentin 100 mg PO three times daily Atorvastatin 20 mg PO daily.
Objective: *This section is your clinical observations. Include, pertinent vital signs, pertinent labs and diagnostics related to priority problem.*	**Vital Signs:** On admission- P 110 bmp, BP 170/92, RR 22, SPO2 95% on RA, Temp 37.2. 1830- P 118 bmp, BP 174/94, RR 24, SPO2 94% on RA, Temp 37.2. 1940- P 116 bmp, BP 170/90, RR 22, SPO2 96% on 2L NC, Temp 37.0.

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

	2240- P 112 bpm, BP 182/90. 1210- P 88 bmp, BP 134/76, RR 18, SPO2 97% RA, Temp 37.3. **Labs: 2/10-** Sodium 132 mEq/L, Urine specific gravity 0.998, creatinine 8.0 mg/dl, BUN 42 mg/dl, RBC 3.1, Hgb 10.2, Hct 32%. eGFR 8 ml/min. **Diagnostics: Chest X-ray:** bilateral pulmonary venous congestion with infiltrates, no cardiomegaly.
Assessment: *Focused assessment on your priority problem.*	Alert and oriented X4, Skin warm and dry. Skin Turgor without tenting. Capillary refill is brisk. Scattered Rhonchi in anterior and posterior fields bilaterally. Respirations regular at 24/min. Dyspnea with exertion noted. Apical Heart rate 118 bmp with a BP of 174/94. Bladder non-distended. No complaints of dysuria and can void. Peritoneal catheter is intact with no signs of infection (redness, edema, drainage). +2 pitting edema on lower extremities bilaterally. Pedal pulses +3. Pt complains of legs feeling tight and SOB while ambulating.
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:** The plan was to admit pt to the med-surg unit for monitoring and diuresis. **Orders:** Vital signs q 4 hours Diet- 1.8 sodium restriction, 1 L fluid restriction Insert and maintain peripheral IV. Strict I&Os Daily weights Hemodialysis in AM. Oxygen PRN. Titrate to keep SPO2 >95% Furosemide 80 mg IV bolus X1. Then resume PO dose. Furosemide 20 mg PO twice daily. Notify provider if SBP <100 or > 180 mmHg. Administered furosemide 80 mg IV bolus. 5 hours after furosemide was administered, the total urine

	output was 310 ml. Pts blood pressure went down from 182/90 to 134/76 after receiving furosemide and STAT order of Labetalol 20 mg IV bolus. Pts weight decreased from 72.6 Kg to 71. 5 Kg. Pt was able to keep SPO2 above 95% on RA. The patient was educated to continue taking PO furosemide at home and to continue to monitor her weight daily. **Teaching/Resources:** Educated pt on what foods are appropriate to eat while on a sodium restriction. Educated pt on fluid restrictions. Resources that could be useful is a nutritionist that can provide the pt with further resources on recipes that still honor her Hispanic culture but have minimal sodium.

Priority Patient Problem #2: Risk for Electrolyte Imbalances

Subjective: *This section explains the client symptoms. Include a narrative of the patient's complaints/concerns and/or information obtained from secondary sources.*	**Chief Complaint:** Came to the ED for unwanted weight gain in a short amount of time. Shortness of breath and edema. Concerns with peritoneal dialysis. Stage 5 Kidney failure. Pt had labs drawn that showed electrolyte imbalances related to CKD.
Objective: *This section is your clinical observations. Include vital signs, pertinent labs and diagnostics related to priority problem.*	**Vital Signs:** On admission- P 110 bmp, BP 170/92, RR 22, SPO2 95% on RA, Temp 37.2. 1830- P 118 bmp, BP 174/94, RR 24, SPO2 94% on RA, Temp 37.2. 1940- P 116 bmp, BP 170/90, RR 22, SPO2 96% on 2L NC, Temp 37.0. 2240- P 112 bpm, BP 182/90. 1210- P 88 bmp, BP 134/76, RR 18, SPO2 97% RA, Temp 37.3.

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

	Labs: Sodium 132, Potassium 6.0, calcium 8.0, Phosphorus 7.5. **Diagnostics:** EKG showed sinus tachycardia with peaked T waves @ 114 bpm. Consistent with high levels of potassium.
Assessment: *Focused assessment on your priority problem.*	Alert and oriented X4, complaints of feeling weak and experiencing nausea. Headache rated 2/10. EKG showed sinus tachycardia with peaked T waves. Hyperkalemia, Hyperphosphatemia, and hypocalcemia.
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:** plan was to admit pt to the med-surg unit for monitoring and diuresis. The doctor ordered pt to be switched from peritoneal dialysis at home to Hemodialysis 3 times a week. The nurse provided the pt with education on the differences between peritoneal dialysis and hemodialysis. The nurse also provided education on how hemodialysis is performed using a diagram of the hemodialysis filtration system. Pt received hemodialysis in the AM on 2/11 and her electrolytes values changed to sodium 136, potassium 4.7, calcium 9, and phosphorus 5.5. Pt received another round of hemodialysis before being discharged and was given the order to continue hemodialysis 3 times a week after. Home healthcare nurse assessed the pts living conditions and saw that the pt lives alone and does not drive so she has trouble getting to outpatient dialysis 3 times a week. The patient received ferric citrate 1g PO three times a day with meals to control phosphorus levels and received sevelamer carbonate 800 mg PO 3 times a day with meals to prevent phosphates from being absorbed into the body. **Teaching/Resources:**

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

	Provided education on hemodialysis and its purpose. Educated on the need to go to hemodialysis 3 times a week post discharge. The home health nurse educated on the need to monitor intake of potassium to avoid recurrence of hyperkalemia. Resources that would be helpful for the pt would be a transportation service to take her to and from dialysis when needed.

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 take away from participating in the care of this patient was how closely you need to monitor a patient with CKD. I think that this was a good refresher on CKD and the complications that can arise. For example, I knew that CKD affected the patient's ability to filter waste products out of the body, but I did not remember just how quickly that can cause serious complications such as dysrhythmias. In the future I will remember this virtual clinical when I am providing care to a patient with CKD, and it will help me to remember to keep a close eye on fluid volume and electrolyte values. I think that this will help me in the future to provide the best care possible to my patients with CKD and to prevent the development of complications. I also believe that this virtual clinical showed how important it is to make sure that our patients have all the resources available that they need. Had the home health care nurse not asked about transportation no one would have known that she does not drive and is having trouble getting to and from dialysis.

Student Name: Lauren Gulbronson
ATI Real Life Scenario: CKD

Time Allocation: 8 hours