ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2024

Student Name: Hannah Rossi

ATI Scenario: Chronic Kidney Disease

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: Chronic Kidney Disease

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

Anatomy and Physiology
Normal Structures

The urinary system contains 2 kidneys, which are responsible for regulating the volume of extracellular fluid and eliminating waste products from the body. Kidneys are made up of nephrons (functional units). Blood comes into the kidneys through the renal arteries (which branch off from the aorta) and leaves via the renal veins and goes into the inferior vena cava. In the kidneys, these arteries branch into smaller arteries and arterioles. These arterioles connect to the nephrons, where blood is filtered, and urine is starting to form. The nephron is composed of bowman's capsule (glomerular) and renal tubule. Blood enters the bowman's capsule and is filtered in the glomerulus. It is reabsorbed in the renal tube and then flows into the collecting tubule where all the urine is gathered into the renal pelvis before it is released into the ureters at the ureteropelvic junction. Then urine moves through the ureters (small muscular tubes that use muscle contraction to move the urine from the kidneys to the bladder) and enters the bladder through the ureterovesical junctions. The bladder is composed of layers of intertwined smooth muscle fibers (which contract when the bladder empties and relax when the bladder relaxes. In the bladder, there is the trigone (covered by the dome, posterior, and right and left lateral walls), a triangle shaped region near the junction of urethra and the bladder. When bladder is ready to be emptied, the brain sends a signal to the sphincter in the urethra, allowing urine to flow from the bladder out of the body. The female urethra is 1-2 in, and the male urethra is about 8-10 in. The normal adult urine output is 1500ml/day

Kidney function is measured by 3 labs:
-GFR (glomerular filtration rate, which is the best overall indicator of kidney function, should be typically > 90. CKD is staged by GFR. Stage 1 Stage 1 — GFR of 90+
There are few (if any) symptoms at this stage of early CKD. Stage 2 — GFR of 60 to 89. Stage 3 — GFR of 30 to 59. Stage 4 — GFR of 15 to 29. Stage 5—GFR of 15 or less (ESRD)- need dialysis or kidney transplant
-Creatinine: Creatinine is a waste product that comes from the digestion of protein in your food and the normal breakdown of muscle tissue. It is removed from the blood through your kidneys. If your Cr is high, it can be as sign your kidneys aren't working
-BUN: measures the level of blood urea nitrogen and can reveal your kidneys may not be working properly to excrete it if levels are high.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

Chronic kidney disease (CKD) is the presence of kidney damage and a glomerular filtration rate (GFR) less than 60 ml/min that is persisting for 3 months or more. It includes progressive loss of kidney function, ultimately resulting in the need for dialysis or a kidney transplant and will affect every body system.

Patho: Chronic damage from chronic and progressive diseases and injuries evolve to progressive kidney fibrosis and destruction of the normal architecture of the kidney. This affects all the 3 compartments of the kidney, the glomeruli, the tubules, the interstitial, and the vessels. It manifests as glomerulosclerosis, tubulointerstitial fibrosis, and vascular sclerosis. This leads to decreased filtration ability, which leads to kidney failure.

Risk factors for CKD: Diabetes type I/II, HTN, polycystic disease, chronic glomerulonephritis, repeat infections, nephrotoxins, SLE, sickle cell, scleroderma, TB, NSAIDs, etc.

To Be Completed Before the Simulation

Anticipated Patient Problem: Excess fluid volume

Goal 1: PT will remain free of edema and maintain clear lung sounds without evidence of dyspnea during my time of care

Goal 2: PT will produce no less than 240 ml or 20ml/hr. of urine during my time of care.

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess lung sounds for adventitious breath sounds q4hr	Administer diuretics as ordered
Assess intake and output q4hr+PRN	Place Hat in toilet or urinal at bedside to maintain strict intake and output at the beginning of my shift and PRN
Obtain pt. weight at the beginning of my shift	Educate pt. about the importance of restricting fluid intake at the beginning of my shift and PRN
Assess VS (BP, HR, RR) q4hr+PRN	Administer antihypertensive as ordered
Assess edema in legs and face q4hr+PRN	Reposition patient with extremities elevated or at the level of the heart PRN
Assess current/most recent GFR, Cr, and BUN levels at the start of my shift	Educate pt. on the importance of a low sodium, high calorie, low protein, low phosphorus, and low potassium foods at the beginning of my shift

To Be Completed Before the Simulation

Anticipated Patient Problem: Risk for Electrolyte imbalance

Goal 1:pt will not develop any dysrhythmias during my time of care

Relevant Assessments (Prework) What assessments pertain to your patient's problem? Include timeframes	**Multidisciplinary Team Intervention** (Prework) What will you do if your assessment is abnormal?
Assess K levels at the beginning of my shift	Maintain cardiac monitoring as order or contact provider to request cardiac monitoring at the beginning of my shift
Assess Na level at the beginning of my shift	Implement seizure precautions (such as lowering the height of the bed and using padding on side rails) at the beginning of my shift
Obtain ECG as ordered	Administer sodium bicarbonate as ordered
Assess capillary refill, skin turgor, UO, and mucous membranes q4hr+ PRN	Administer IV fluids as ordered
Assess pt. knowledge r/t s/sx of hyperkalemia qshift	Educate pt. of recognition of s/sx of hyperkalemia (palpitations, muscle weakness, nausea, fatigue, SOB, CP, tachycardia) during my time of care
Review medication list (hospital and home) to assess for medications that are nephrotoxic and electrolyte function (abx, spironolactone, NSAID, etc.) at the beginning of my shift	Contact provider about switching medications to medications that are less nephrotoxic (EX: spironolactone to Furosemide PRN

Goal 2: pt. will report any c/o palpitations, nausea, paresthesia, muscle weakness, or cognitive impairment immediately during my time of care

To Be Completed During the Simulation:

Actual Patient Problem: Excess Fluid volume

Clinical Reasoning: admitted for fluid overload, +2 pitting edema in B/L lower extremities, tachycardia, 13.2 kg wt. gain in 2 days,
Goal: A.S will have a UO greater than or equal to 30ml/hr. during my time of care. Met: ☑ Unmet:☐
Goal: A.S will c/o worsening edema and breath sounds will not worsen during my time of care. Met: ☑ Unmet:☐

Actual Patient Problem: Risk for Electrolyte imbalance

Clinical Reasoning: K: 6, Na: 132, Phosphorus: 7.5. Dx CKD stage V. EKG showed peaked t waves.
Goal: A.S will have a K+ value WNL (3.5-5) by the time of D/C. Met: ☑ Unmet:☐
Goal: A.S will have a NA value WNL (135-145) by the time of D/C. Met: ☑ Unmet:☐

Additional Patient Problems: 3. Impaired gas exchange, 4. Activity intolerance, 5. Hopelessness, 6. Readiness for enhanced nutrition, 7. Readiness for enhanced learning

Below will be your notes, add more lines as needed. **Relevant Assessments:** Indicate pertinent assessment findings. **Multidisciplinary Team Intervention:** What interventions were done in response to your abnormal assessments? **Reassessment/Evaluation:** What was your patient's response to the intervention?

Patient Problem	Time	Relevant Assessments	Time	Multidisciplinary Team Intervention	Time	Reassessment/ Evaluation
1,3	Day 1 1800	Per pt. "Would you help me over to the bed, I am just so tired, it is hard for me to move around because my legs feel so tight". SOB noted and edema noted on legs	1802	Raised HOB	1803	"Per pt. "Yes, that feels better"
1,3	1830	Scattered rhonchi in B/L anterior and posterior fields. Regular respiration with a RR of 24/min. Dyspnea with exertion noted. AP 118 bpm. SpO2 94% on RA. Voided 150 ml. AV fistula in L forearm	1840	Applied 2L NC Applied limb alert Bracelet	1845	Spo2: 96% on RA
2,4	1915	K+= 6.0 Na+ 132 SOB on exertion with non-productive	1900	Applied cardiac monitor. Telemetry number: 14	1945	Cardiac monitoring showed Sinus tachycardia with peaked T waves at

		cough				114bpm
1,3	1940	+2 pitting edema noted B/L lower extremities, SOB noted. K+ 6.0. BP: 170/90 R arm. HR: 116bpm. RR:22, SpO2: 96% on 2 L NC. pedal pulses +3 B/L. pain 2/10. CXR shows B/L congestion with infiltrates	2000	Chris, RN Administered Furosemide 80mg IV bolus x1.	2100	K+= 5.9 Na= 132 BP:170/84; HR: 110. Voided 100 ml
7	2100	"I have a question, Dr. Lanzo has been discussing hemodialysis with me recently, but I'm a little confused. I understand the process of peritoneal dialysis, but not hemodialysis, I did not understand how it does through my arm"	2115	Chris, RN Provided an illustration of hemodialysis unit and explained process of hemodialysis. Explained complication of hemodialysis.	2130	Pt stated, "Thank you, yes I think I understand now."
1,4	2240	BP 182/90 R arm. UO 60 ml, intake 40 ml. VS: HR: 110bpm; RR: 20; Spo2: 96% on RA	2300	Dr. Lanzo at bedside to assess A.S Chris, RN Administer Labetalol 20 mg IV bolus x1	2330	BP 164/80. A.S resting in bed. 96% 2 L NC. HR: 108 bpm
1,3	Day2 0715	Av fistula intact to L forearm with palpable thrill and audible bruit. Lips dry. Skin warm and dry. Turgor without tenting. RR: 18 and regular. AP: 94bpm. Scattered rhonchi B/L anterior and posterior. Continues to require 1L NC. AP: 94bpm. +2 B/L pitting edema in lower extremities. Pedal pulses +3 B/L. weakness with gait. Intake 120 ml. Voided 100ml. wt.:	1000	-Hemodialysis administered -Administered Furosemide 20mg PO -Administered Losartan 50 mg PO	1210	c/o nausea, chills, and fatigue. VS: BP: 134/76; HR: 88bpm; RR: 18bpm; Spo2: 97% on RA. Pain 2/10. Glucose 84. UO 30ml. 5ml emesis

		72.1 kg				
2	0715	K: 4.7. Na: 136 BUN: 37, Cr: 6.9, Glucose 126, Mag:2	1000	Administered glipizide x1 20mg, ferric citrate 1g, linagliptin 5mg, sevelamer carbonate.	1400	-HR: 80 bpm, T: 37.1, RR: 20, BP: 140/80. Pain: 1/10. BG: 68. UO 60 ml -D/C from hospital
5,7	1230	Pt stated, “this is all too much, it is all about the dialysis Dr. Lanzo says I need to do this 3 times per week”. BG: 68. I am feeling so sorry for myself”	1230	Utilized therapeutic communication and discussed options to allow more control of life.	1240	Verbalized understanding on hemodialysis and options to incorporate into life.
5	1300	SDHQ positive for signs of depression, no transportation to hemodialysis Tx, unable to afford medicine and healthy food.	1300	Referred to home health and case management	1530	Case manager able to provide van for transportation
6,7	1530	Pt received groceries. “I understand my restriction of proteins. I am having trouble selecting foods that I can and cannot have. I hate the thought of giving my favorite foods up because they are part of my tradition”	1540	Ariel, RN Discusses nutrition, diet, and fluid restriction. Ariel stated “let’s look at each ingredient and see what we can adjust, then I do not think you will feel as restricted”	1545	A.S selected ½ cup raw asparagus and stated “I will give it a try”
7		A.S verbalized concerns about not being able attend to participate in interfaith community potluck		Ariel, RN emphasized importance of spirituality. Discussed what type of food are served to create plan		A.S selected radishes, broccoli, and roasted chicken breast

To Be Completed After the Simulation*The orange boxes should be filled out with your simulation patient's actual results, assessments, medications, and recommendations*

NCLEX IV *(7)*: Reduction of Risk

Actual Labs/ Diagnostics

Labs: -RBC: 3.1
-HGB/HCT: 10.2%/32% - 10%/30%
-WBC: 14,000 -13,500
-Na= 132, 136
-K+= 6.0, 5.9, 4.7
-Plts: 175,000- 177,000
-Chloride: 100, 100
-BUN= 42, 37
-Cr: 8.0, 6.9
-Calcium: 8,9
-Glucose: 175
-Albumin 3.2
-Phosphorus: 7.5, 5.5
UA- cloudy, amber, specific gravity= 0.998 PH: 5.6, Protein: 80(+1)
No lueks, nitrates, or ketones, >2 RBC in urine.
Iron study: 110 mcg/dL, TIBC: 250
A1C: 7.4%
eGFR: 8ml/min
EKG: Sinus tachycardia with HR 114bpm and peaked T waves/ Normal Sinus rhythm
CXR: B/L pulmonary congestion with infiltrates. No cardiomegaly

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

Signs and Symptoms
- wt. gain (13.2 kg) in two days
-inability to complete peritoneal dialysis
- SOB
-+2 B/L pitting edema
-fluid overload (crackles)– pulmonary congestion on CXR
-Blurred Vision
-Decreased appetite
-fatigue
- hyperkalemia
-hyperphosphatemia

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

Contributing Risk Factors

-Type 2 diabetes
-HTN
-Obesity

NCLEX IV *(7)*: Reduction of Risk

Therapeutic Procedures

Non-surgical
Hemodialysis x2

Surgical
None – future possible removal of PD port and kidney transplant.

Prevention of Complications

(Any complications associated with the client's disease process? If not, what are some complications you anticipate)
-Depression
-Anxiety
-HF
-Pulmonary congestion
-Disequilibrium syndrome
-Anemia
-Dysrhythmias

NCLEX IV *(6)*: Pharmacological and

Medication Management

Losartan 50 mg PO daily
ASA 81 mg PO daily
Furosemide (Home: 20mg PO BID / IV bolus: 80 mg x1 IV bolus)
Ferric citrate 1g PO TID with meals
Tramadol 50 mg PO q6hr PRN pain/discomfort
Sevelamer carbonate 800mg PO TID with meals
Gabapentin 100 mg PO TID
Atorvastatin 20 mg PO daily
Labetalol 20 mg x1 IV bolus
Epoetin alfa 50units/kg IV during dialysis x3/week for Hemoglobin <11g/dL
Glipizide XL 20 mg PO daily
Linagliptin 5mg PO daily
Tacrolimus ointment 0.1% apply topically to affected area BID
Oxygen- 2L NC, 1L NC

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

Non-Pharmacologic Care Measures

- Elevate HOB
- Renal/cardiac diet
- Cardiac monitoring
- Strict I&O
- BG monitoring
- Therapeutic communication

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

Stressors the client experienced?

-Unfamiliar with new dialysis
- upset that dialysis is 3 days a week for hours a day
-inability to pay for healthcare/medicine
-no transportation

Client/Family Education

Document 3 teaching topics specific for this client.

• Importance of compliance with renal diet (low sodium, low phosphorus, low protein, low potassium)
• How to keep AV fistula site clean and infection free and what sx to report
• Recognize and report s/sx of hypoglycemia or decreased BP (dizziness, lightheadedness, etc.)

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

Multidisciplinary Team Involvement

(Which other disciplines were involved in caring for this client?)
Hospitalist, Endocrinologist, Dialysis nurse. Nephrology. Case management. Home health nurse Ariel. RN: Chris, Sam, Jordan

Patient Resources

Transportation services, CKD support groups, home health, education material

Reflection Questions

Directions: Write reflection including the following:

1. **What was your biggest "take away" from participating in the care of this client?**
   My biggest take away from this scenario was really understanding the pathophysiology of the disease and how that will tie into all of their medications and nursing care you will deliver. With CKD, A.S was at a risk for electrolyte imbalance d/t the kidneys not functioning properly and being able to filter the electrolytes out, so I understood that I would need to keep a close eye on A.S electrolytes and have interventions ready for it. There was also a lot of education to go along with this scenario, and how important that education was for A.S to be successful with her condition.

2. **What was something that surprised you in the care of this patient?**
   Something that surprised me was how much involvement home health had in the care of this patient. They provided so much education about healthy foods to eat, spirituality, and how to know if there is an issue (hypokalemia, hypoglycemia, etc.). Home health also utilized a lot of therapeutic communication and was able to obtain more information.

3. **What is something you would do differently with the care of this client?**
   I think the only thing I would have done differently was to offer nonpharmacological options for her breathing (cough, turn, and deep breath). I also would have liked to offer her a list of support groups or therapist for emotional support through her new hemodialysis.

4. **How will this simulation experience impact your nursing practice?**
   This simulation did a very good job of tying in the importance of knowing the pathophysiology, risk factors, and signs and symptoms. From this, I learned what diagnostic tests to anticipate, what medications to anticipate, and what complications could arise and how to be proactive with them instead of reactive to complication. I also helped me understand the emotion side of a new procedure for a patient and how important good education is.