

ATI Real Life Student Packet
N202 Advanced Concepts of Nursing
2024

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ATI Scenario: CKD

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

Kidneys are two bean shaped organs that filter blood. They are a vital part of the urinary system and help balance the body's fluid and electrolytes. Electrolytes are essential minerals. The kidneys help the body eliminate liquid waste called urea and keep chemicals such as K^+ and Na^+ and water balance. Urea is produced when foods containing protein such as meat and poultry are broken down in the body. Urea is carried through the blood stream to the kidneys where it is removed along with other waste through the urine. Kidneys are located below the ribs toward the middle part of the back. Urine passes through the nephron and down the renal tubes of the kidney. The ureters carry urine from the kidneys to the bladder. The muscles in the upper wall tighten and relax forcing the flow of urine downward into the bladder that is in the lower abdomen. The bladder walls relax and store urine and contract to empty urine through the urethra. Adrenal glands sit on top of each kidney that produce hormones that are essential to the body. Kidney capsule- tough fibrous layer surrounding the kidney and covered in a layer of perirenal fat known as adipose capsule of the kidneys. The adipose capsule is sometimes included in the structure of the renal capsule. This provides some protection from trauma and damage. The renal capsule is surrounded by the renal fascia. Overlying the renal fascia and between this and the transverse fascia is a region of pararenal fat. The renal capsule resists stretching, limiting renal swelling, with important implications for renal circulation. Stretching of the renal due to swelling of the kidney causes flank pain. Renal cortex- where nephrons begin. Nephrons- functional unit of kidney that participates in filtering blood, there are millions in each kidney. This is what produces urine. Glomerulus- Found within the nephron that filter blood for waste with selective ultrafiltration, by doing this they create urine that is sent to the bladder. Renal medulla- inner part of the kidney that further regulates the concentration of urine by filtering out the salts, water, and acid. Renal papilla- pyramid-shaped structures transfer urine to the ureters. Renal pelvis- collects urine as its produced and passes it down to the ureters. Renal vein- carry filtered blood from kidneys to superior vena cava back into circulation Renal arteries- carry unfiltered blood from aorta to the kidneys.

NCLEX IV (7): Reduction of Risk

Pathophysiology of Disease

CKD is the chronic progressive loss of kidney function. There are 4 different stages, including the final stage which is kidney failure. The normal is GFR: 90-120. Stage 1: kidney damage with normal or increased GFR, GFR over or equal to 90. Stage 2: kidney damage with mild/decreased GFR 60-80, Stage 3: Mod kidney damage, GFR 30-59, based off level of GF treatment can become more aggressive Stage 4: Severe decrease in GFR, 15-29, preparing for renal replacement/dialysis Stage 5: Kidney Failure, GFR less than 15, renal replacement therapy/dialysis. CKD affects all organ systems due to the retained urea, creatinine, phenols, hormones, electrolytes, and water. Uremia is a syndrome in which kidney function declines to the point that symptoms may develop and show in multiple organ systems, it occurs when the GFR is below 15. Manifestations:
Cardiovascular: HTN, Heart failure, CAD, Pericarditis, Peripheral artery disease
GI: Anorexia, N/V, GI bleeding, Gastritis
Endocrine: Hyperparathyroidism, thyroid abnormalities, amenorrhea, erectile dysfunction
Metabolic: carbohydrate intolerance, hyperlipidemia
Hematologic: Anemia, bleeding, infection
Neurologic: Fatigue, HA, Sleep disturbance, encephalopathy
Ocular: Hypertensive retinopathy
Pulmonary: Pulmonary edema, uremic pleuritis, pneumonia
Integumentary: Pruritis, ecchymosis, dry, scaly skin
Musculoskeletal: Vascular and soft tissue, osteomalacia osteitis
Peripheral Neuropathy: Paresthesia's, restless legs syndrome.
Electrolytes affected: Potassium: Hyperkalemia is a serious electrolyte disorder that can cause fatal dysrhythmias, this is a result of decreased excretion of K, Sodium: Sodium retention occurs due to water retention which in then causes edema, HTN and HF.
Magnesium: Primarily excreted by the kidneys, hypermagnesemia is not typically a problem unless patient is digesting mag regularly
Metabolic Acidosis: This is a result of the kidneys impaired ability to excrete excess acid and from defective reabsorption and regeneration of bicarb. Causes of CKD: Diabetes, hypertension, heart disease and/or heart failure, Obesity, Over the age of 60, Family history of CKD or kidney failure, Personal history of acute kidney injury, Smoking and/or use of tobacco products.

To Be Completed Before the Simulation

Anticipated Patient Problem: Excess Fluid Volume

Goal 1: Pt. will have a urine output greater than or equal to 30mL/hr in my time of care.

Relevant Assessments	Multidisciplinary Team Intervention
(Prework) What assessments pertain to your patient's problem? Include timeframes	(Prework) What will you do if your assessment is abnormal?
Assess HR, BP, RR q 1hr	Administer a Diuretic (Lasix) as ordered in my time of care
Monitor I&O q 1hr	Maintain strict I&O, Insert indwelling urinary catheter in my care
Assess edema q 4hr	Maintain extremities elevated throughout my care
Assess weight daily q shift	Teach the importance of 2000mg Sodium diet and 2L fluid restriction during my time of care
Assess LOC in my care	Notify Provider if LOC changes in my care
Assess lungs sounds q 4 hr	Notify provider of adventitious lung sounds (rales/crackles) in my care/ Elevate HOB greater or equal 45 degrees in my care

Goal 2: Pt. will have bilateral upper and lower clear lung sounds with evidenced of absence of rales/crackles in my time of care.

To Be Completed Before the Simulation

Anticipated Patient Problem: Electrolyte Imbalance

Goal 1: Pt's potassium level will be within normal limits of 3.5-5.0 in 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 HR and EKG q 4hr	Apply and maintain telemetry on at all times in my time of care. Notify provider of abnormal EKG in my time of care
Assess Potassium level q shift	Administer IV dextrose per order in my time of care
Assess Sodium level q shift	Teach the importance of the 2000mg sodium restriction in my time of care/ administer diuretics in my time of care.
Monitor I&O q shift	Administer diuretics as ordered in my time of care
Assess pt.'s knowledge of diet during my care	Teach the avoid food that is high in potassium (bananas, leafy greens) in my care
Assess LOC in my time of care	Notify provider of any change in LOC in my time of care

Goal 2: Pt's sodium level will be within 135-145 in my time of care.

To Be Completed During the Simulation:

Actual Patient Problem: Excess Fluid Volume

Clinical Reasoning: weight gain over 2 days, +2 edema in lower extremities bilateral

Goal: A.S will have no sudden weight gain in my time of care Met: Unmet:

Goal: A.S will have no worsening edema in my time of care Met:
 Unmet:

Actual Patient Problem: Risk for Electrolyte imbalance

Clinical Reasoning: K: 6.0, palpitations, VTach on EKG

Goal: A. S's potassium level will be within normal limits of 3.5-5.0 at the end of my care

Met: Unmet:

Goal: A.S's will have a HR between 60-100 bpm in my time of care. Met: Unmet:

Additional Patient Problems:

3) Activity Intolerance 4) Deficient Knowledge 5) Hopeless 6) Readiness for enhanced nutrition

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
1,2,3	1055	Ana Sofia Swisher came in with hyperkalemia (K: 6.0), stage 5 CKD receives peritoneal dialysis has had trouble with catheter, weight gain in 2 days (+6.6) PMH: CKD, HTN, uremic pruritis, type 2 diabetes, peripheral neuropathy, SOB, Creatine: 8.0 Nurse Chris noticed swollen legs, AV fistula on L forearm	1100	Elevated HOB, Applied a limb alert bracelet	1130	Ana stated "moving around myself is very difficult at time. Today is very hard because my leg just feel so tight.
1,2,3	18:30	HR: 118/min	18:31	Applied 2 L of O2	18:45	SPO2: 96% on 2L

		BP: 174/94 RR: 24/min Weight: 72.1 kg SPO2: 94% on RA UO: 150mL K+: 6.0 chest Xray shows bilateral pulmonary venous congestion with infiltrates		via NC, applied cardiac monitoring, Inserted an IV 20g on R forearm		via NC, Cardiac monitoring leads at the correct spot
1,2	1900	EKG: presence of peaked T waves BP: 170/90 HR: 116/min	1915	Administered Furosemide 80mg IV bolus	23:30	No sign of tinnitus
4	2000	Ana confused about hemodialysis, wants to know some complication	2030	Chris taught the process of hemodialysis, showed an illustration, taught that hemodialysis may decrease BP	2035	Ana stated "I see. Thank you for explaining this to me.", understood that hypotension can occur
1	22:40	BP: 182/90 HR: 114/min	2245	IV bolus labetalol 20 mg	2250	BP: 164/80 HR: 108
1,2	Next day: 07:15	Just came back from dialysis Lips and skin dry, scattered rhonchi bilateral anterior and posterior, capillary refill brisk RR: 18 (slightly labored), SPO2: 96% on 1L of O2 via NC, +2 edema bilateral legs, +3 pedal pulses, weakness with gait Ana stated, "I would prefer to rest", cold and has some chills, stated "I'm just really tired and would like to take a nap". HR: 94/min BP: 154/84 UO: 100 mL	0800	Hemodialysis performed, Provided extra blankets	12:10	Reports generalized fatigue and nausea, HA: rates it a 2/10, RR:18 nonlabored. HR: 88/min BP: 134/76 SPO2: 97% on RA Weight: 71.5 kg K+: 5.9 Calcium: 7.8 Phosphorus: 7.5 UO: 35mL Emesis: 5 mL
5	12:15	Crying, feels sorry for herself, overwhelmed,	1220	Nurse Sam provided therapeutic	1230	Wanted to learn more on how minimize

		thinks it's a waste of time, frustrated BG: 110		communication, discussed ways to minimize disruption to normal routine		disruption to normal routine BG: 68
4	1300	Discharged and now at home, home health nurse at bedside, feels fine, concerned about perineal catheter and about it getting infected, cleans catheter every other day with gauze	1330	Offered to ask questions or concerns on peritoneal catheter care routine	1400	Peritoneal catheter intact, no cracks, skin dry and intact, no edema, exit site had minimal crusting, no drainage, 2/10 pain with palpations Exit site assessment tool: score of 2
6	1430	Has trouble selecting food that she can and can't have	1435	Provided education on diet and to look at the ingredients	1440	Stated "I will give it a try"
6	1500	Visited dietician last week and has some concerns about weekly potlucks	1530	Nurse Ariel offered to make a plan	1535	Has no more questions or concerns

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
 CXR: bilateral pulmonary venous congestion with infiltrates
 K+: 6
 Glucose: 110
 Sodium
 BUN/ Creatine
 GFR
 ALT/ AST

NCLEX II (3): Health Promotion and Maintenance

Signs and Symptoms
 Decreased appetite
 Blurred Vision
 Pain/tenderness in lower extremities
 Edema +2 bilaterally
 Dyspnea/SOB
 Fatigue
 Malaise

NCLEX II (3): Health Promotion and Maintenance

Contributing Risk Factors
 Type 2 DM
 Weight
 HTN

NCLEX IV (7): Reduction of Risk

Therapeutic Procedures
Non-surgical
 Hemodialysis

Surgical
 Kidney Transplant

Prevention of Complications
 (Any complications associated with the client's disease process? If not what are some complications you anticipate)
 Depression
 Anxiety
 Disequilibrium syndrome
 Anemia
 Dysrhythmias

NCLEX IV (6): Pharmacological and Parenteral Therapies

Medication Management
 Glipizide, Linagliptin, fentamicin ointment, tacrolimus ointment, furosemide, gabapentin, labetalol, tramadol, ferric sulfate, sevelamer carbonate, ASA, Epoetin

NCLEX IV (5): Basic Care and Comfort

Non-Pharmacologic Care Measures
 Elevate HOB
 Therapeutic communication
 Maintained ECG
 Maintained strict I&Os
 Monitored BG
 Renal diet

NCLEX III (4): Psychosocial/Holistic Care Needs

Stressors the client experienced?
 Medication costs, transportation, confused about hemodialysis

Client/Family Education

Document 3 teaching topics specific for this client.
 •What s/sx to report with fistula (red, warm, discharge)
 • Low Na+ and 2L of fluid restriction
 •Hemodialysis education and benefits

NCLEX I (1): Safe and Effective Care Environment

Multidisciplinary Team Involvement
 (Which other disciplines were involved in caring for this client?)
 Home health, RN Chris, Provider

Patient Resources

Case management, transportation services, support group

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 is how CKD can impact someone’s life greatly. CKD doesn’t just affect the kidneys but affects many different organs and causes electrolytes changes. In this scenario Ana had been doing peritoneal dialysis and was required to do hemodialysis instead which was a different process that she is used to. Hemodialysis is another part that affects people life and affects them mentally. Hemodialysis typically takes about 4 hrs and the patient has to go 3x a week. Sometime this can be hard for someone if they have no transportation available and if they are new with this whole hemodialysis process. It’s important the patient are educated and understand what’s going on and the importance of following the renal diet.

2. What was something that surprised you in the care of this patient?

Something that surprised me during the care of this patient was that Ana was confused about the whole process of hemodialysis. No RN came up to her and asked her if she knew what hemodialysis was and the process of it. Ana had concerns about it, and she was the one who asked questions about it. The good thing is that Nurse Chris provided time and educated Ana about the whole hemodialysis procedure.

3. What is something you would do differently with the care of this client?

Something that I would do differently with this client is provide early on education and keep the patient updated on treatment provided and an explanation/rationale of the treatments provided. There are many non-pharmacological methods in which this scenario lacked. With the legs having edema, the nurses could have elevated the legs or got her OOB. The nurse could also Elevate the HOB and provide education about cough and deep breathe due to the Xray showing bilateral pulmonary venous congestion.

4. How will this simulation experience impact your nursing practice?

This stimulation will impact my nursing practice because it made me aware of the lack of resources people have and how it can impact their health. There are many treatments that can be prescribed/performed to patients but if patient are struggling with paying medications or having trouble to get to their dialysis. We as nurses should stop and think on ways on how to overcome those barriers.