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

-Principal organs of the urinary system primary functions are to regulate volume and composition of extracellular fluid and excrete waste products from the body. They also function to control blood pressure, make erythropoietin, activate vitamin D, and regulate acid-base balance.

-2 Kidneys each 10-12cm long, 5-7cm wide, and 3-5cm thick. Each attached to bladder through a ureter. Each kidney is covered in a thick layer of connective tissue and fat that can help shape and protect the organ. They are fed by renal veins, arteries, and nerves. The nephrons filter out the kidneys within the nephron there are exterior capsules (bowman's) and tiny capillaries (glomerulus) the ureters transport urine through the urethra. The parenchyma is the actual tissue of the kidney, the outer layer is cortex, and middle layer is medulla, and the inner layer is the pelvis. The medulla consists of several pyramids, and the Capsules serve as a shock absorber. Normal GFR is 125ml/min.

NCLEX IV *(7)*: Reduction of Risk

Pathophysiology of Disease

-CKD involves the progressive, irreversible loss of kidney function. The kidneys are highly adaptive, so kidney disease is often not recognized until there is considerable loss of nephrons. The increasing risk of CKD compared to AKI is thought to be related to increased risk factors such as aging population, obesity, diabetes, and hypertension. All body systems are affected.

-CKD is clinically defined as the presence of kidney disease or a decreased GFR less than 60mL/min/1.73m^2 for longer than 3 months. CKD can affect the body's homeostasis and everybody system. There are 5 stages associated with CKD. Stage 1: kidney damage with normal or increased GFR (>/= 90). The plan for someone with **Stage 1** CKD would require diagnosis and treatment, risk reduction and methods to slow the progression. **Stage 2** kidney damage with mild to low GFR (60-89). The action plan would be to estimate the progression. Stage 3 is broken in 3a and 3b. **Stage 3a** moderate to low GFR (45-59). The action plan would be to evaluate and treat complications. **Stage 3b** also moderate to low GFR (30-44). The action plan would be more aggressive treatment of complications. **Stage 4** Severe to low GFR (15-29). The action plan would be to prepare for renal replacement therapy such as dialysis or

		a kidney transplant. **Stage 5** Considered end-stage renal disease (ESRD) or kidney failure with a GFR <15 (or dialysis). The action plan would be renal replacement therapy (if uremia is present and patient desires treatment). In this stage, RRT would be required to maintain life. Even though many are receiving treatment, ESRD comes with a high mortality Rate.

To Be Completed Before the Simulation

Anticipated Patient Problem: **Excess fluid volume**

Goal 1: ATI will have VS WNL as evidenced by a BP of <140/90, HR within 60-100bpm, RR 12-20, produces 30mL/ hr clear yellow urine, elastic skin turgor, and lungs clear upon auscultation 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 BP, HR, RR, and LOC q4 hr and PRN.	Administer antihypertensive medications as ordered during my time of care.
Monitor daily weights.	Educate on the importance of attending all dialysis appointments and the purpose/benefits of dialysis in maintaining renal function during my time of care.
Assess for edema and JVD q shift and PRN.	Administer diuretic therapy as ordered and elevate LE to decrease edema during my time of care.
Assess lung sounds for crackles/wheezing and SOB q8 hr.	Elevate HOB to decrease dyspnea and allow total lung expansion during my time of care.
Monitor fluid/ dietary restrictions and strict intake and output upon admission/dx.	Provide education on how to maintain dietary and fluid restrictions and how to measure accurate I&Os i.e. measured cups for drink volume and urinal/hat in toilet during my time of care.
Assess mucous membranes and skin turgor q shift and PRN	Assist in performing mouth care BID and PRN.

Goal 2: ATI will verbalize understanding of the importance of fluid restrictions and how to monitor for excess fluid volume i.e. weight gain, edema, crackles in lungs, and accurate measurements of intake and output during my time of care.

To Be Completed Before the Simulation

Anticipated Patient Problem: **Risk for electrolyte imbalance**

Goal 1: ATI will have electrolytes that are WNL as evidenced by a serum K of 3.5-5 ng/mL, Ca of 8.3-10.5 mg/dL, Phosphate of 2.7-4.5 mmol/L, Na of 133-145 mmol/L, and a Vitamin D of 30-60 ng/mL during my time of care.

Goal 2: ATI will be free from dysrhythmias evidenced using continuous cardiac monitoring on telemetry showing normal sinus rhythm with no irregular beats 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 for cardiac dysrhythmias and continuously monitor heart rhythms during my time of care.	Administer supportive renal function medications i.e. antihypertensives and diuretics as ordered.
Monitor lab values for K, Ca, Phosphate, Na q shift and PRN.	Provide electrolyte replacement therapy as ordered.
Assess BP, HR, RR, and LOC q4 hr and PRN.	Redraw serum lab values for changes and anticipate the need for dialysis during my time of care.
Assess lung sounds and SpO2 q4 hr and PRN	Administer oxygen as needed to avoid respiratory distress or failure during my time of care.
Monitor for signs and symptoms of electrolyte imbalances i.e. HA, muscles weakness/spasms, constipation, nausea, itching, and restlessness during my time of care.	Administer medications to aid in the alleviation of s/sx of electrolyte imbalances i.e. analgesics, antipyretics, anti-anxiety, antiemetics, and stool softeners as ordered and PRN.
Monitor dietary intake and knowledge of foods containing potassium, calcium, sodium, and phosphorus during my time of care.	Consult a dietician and provide education on what foods are high in those electrolytes and how they affect your serum levels and symptoms prior to discharge.

To Be Completed During the Simulation:

Actual Patient Problem: Excess fluid volume

Clinical Reasoning: CKD, weight gain, creatinine 8, +2 pitting edema, rhonchi anterior and posterior BIL

Goal: A.S. will have VS WNL as evidenced by a BP of <140/90, HR within 60-100bpm, RR 12-20, produces 30mL/ hr clear yellow urine, elastic skin turgor, and lungs clear upon auscultation during my time of care. (**UNMET**)

Goal: A.S. will verbalize understanding of the importance of fluid restrictions and how to monitor for excess fluid volume i.e. weight gain, edema, and accurate measurements of intake and output during my time of care. (**MET**)

Actual Patient Problem: **Risk for electrolyte imbalance**

Clinical Reasoning: CKD, hyperkalemia, hypercalcemia, hypophosphatemia, HA, N/V, constipation

Goal: A.S. will have electrolytes that are WNL as evidenced by a serum K of 3.5-5 ng/mL, Ca of 8.3-10.5 mg/dL, Phosphate of 2.7-4.5 mmol/L, Na of 133-145 mmol/L, and a Vitamin D of 30-60 ng/mL during my time of care. (**UNMET**)

Goal: A.S. will be free from dysrhythmias evidenced using continuous cardiac monitoring on telemetry showing normal sinus rhythm with no irregular beats during my time of care. (**UNMET**)

Additional Patient Problems: #3 decreased cardiac output, #4 deficient knowledge, #5 constipation, #6 risk for infection

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	DAY 1 1800	"I am just so tired" Swollen legs and SOB	1815	Raised HOB to provide comfort and lung expansion	1818	Verbalized "Yes, that made me more comfortable."
1,3	1830	AV fistula in LA, UO 150 mL, 94% RA	1835	Applied limb alert on wrist and sign above bed and 2L oxygen NC	1838	SpO2 96% Missed dialysis
2	1841	Elevated potassium 6	1845	Applied continuous cardiac monitoring, educated on the need for an IV and offered time for	1850	No questions asked at this time Heart rhythm shows peaked T waves

				questions		
1,2,3	1940	BP 170/90, HR 110, RR 22, T 37.2	1945	Administered furosemide 80mg IV bolus	2100	BP 178/88, HR 114, RR 18, T 36.8 96% 2L NC Potassium 5.9 UO 160mL
3,4	2000	Asks for explanation on how the fistula in her arm works	2010	Provided education on the hemodialysis process through the AV fistula and complications	2028	Verbalizes understanding that hemodialysis may decrease her blood pressure
2	2040	Calcium 7.8 Phosphorous 7.5 GFR 8 mL/min	2045	Educated to take a phosphate binder with meals	0400	Calcium 9 Phosphorus 5.5
1,3,5	2125	Up in chair with 2L/min NC, pitting edema +2 bil LE	2130	Provided a safe a clutter-free environment, administered docusate sodium 100mg PO	2130	Reports improvement in breathing pattern and denies pain
1,2,3	2240	BP 182/90, HR 112	2300	Report to Dr. Lanzo administered labetalol 20mg IV bolus	2330	BP 164/80, HR 108 UO 120
1,2,3	DAY 2 0715	Resting in bed, 1L/min NC, skin warm and dry, turgor tented, lips dry, oral mucosa pink, scattered rhonchi BIL, +2 edema BIL LE, AV fistula intact palpable thrill and auscultated bruit weight 72.6kg	0800	Held medications for dialysis; went to dialysis	1210	Weight after dialysis 71.5kg BP 134/76, HR 88, RR 18, SpO2 97% RA, T 37.3
1,2	1215	Resting in bed, weak, n/v, skin cool and dry, HA, AV fistula intact audible bruit palpable thrill, turgor without tenting, emesis 5mL	1215	Provided safe and non-stimulating environment optimal for rest	1230	Refused to eat lunch due to nausea, resting comfortably with eyes closed
1,2,3,4,5	1300	Nausea has subsided, states very overwhelmed with dialysis, bowel sounds	1300	Administered AM medications Docusate 100mg PO, atorvastatin 20mg PO,	1305	Verbalizes thanks Tolerated medications well

		hypoactive x4 quadrants		linagliptin 5mg PO, losartan 50mg PO, aspirin 81mg PO, glipizide XL 20 mg PO and offered to contact case management regarding dialysis management		
1,2,3,4,6	d/c DAY 3 1200	Concerned about peritoneal catheter infection, and states my restriction of proteins and states "I'm having trouble selecting food"	1215	provided feedback on sterile techniques and dietary restrictions	1230	Verbalized understanding of a renal diet, follow-up plan, and dressing changes, T 36.6, HR 88, BP 146/88, SpO2 97% RA, reports 0/10 pain
1,2,4	DAY 4 1200	"I feel better with my hemodialysis and have made new friends"	1205	Offered opportunity to ask questions before d/c from home health	1210	Stated "No, thank you for helping me"

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

-GFR- 8
-RBC 3.1
-urinalysis
-urine (amber & cloudy)
-BUN-42
-creatinine-8.0
-hemoglobin-10.2
-hematocrit 32%
-WBC 14
-potassium- 5.9
-calcium 8.0
-phosphorus 7.5
- H+P
-Renal scan
-Lipid profile
-CT scan
-Ultrasound
-Dipstick evaluation -Bx

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

Signs and Symptoms

-retained urea, creatinine, phenols, hormones, electrolytes, and water
-HTN
-peripheral neuropathy
-anemia
-n/v
-anxiety
-edema
-dyspnea
-weight gain
-fatigue/lethargy
-hypocalcemia, hypophosphatemia, hyper/hyponatremia, hyperkalemia
-uremic frost
-urinary changes
-hypovolemia
-metabolic acidosis
-waste product accumulation
-hyperparathyroidism
-bleeding

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

Contributing Risk Factors

-age >60 yrs
hypertension
-diabetes
-decreased cardiac output
-exposure to nephrotoxic drugs
-family hx of CKD
-interstitial nephritis
-nephrotoxic injury
-malignant HTN
-peripheral vascular resistance
-urologic diseases
-cystic diseases
-SLE

Therapeutic Procedures

Non-surgical

-nutritional
-dialysis
-fluid replacement

Surgical

-fistula placement
-kidney transplant

NCLEX IV *(7)*: Reduction of Risk

Prevention of Complications

(Any complications associated with the client's disease process? If not what are some complications you anticipate)

-avoid salty foods
-eat healthy and exercise
-keep comorbidities in check
-moderate etoh consumption
-stay hydrated

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

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

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

Medication Management	Non-Pharmacologic Care Measures	Stressors the client experienced?
-calcium gluconate -IVF -furosemide -phosphate binders -insulin -dextrose 50% -polystyrene sulfonate -antihypertensive therapy -ACE & ARBS -erythropoietin therapy -lipid-lowering drugs	-nutritional therapy -fluid restriction -dialysis -continued RRT	-anxiety -money -pain -fear of unknown

Client/Family Education

Document 3 teaching topics specific for this client.

- following fluid intake/restrictions closely
- importance of follow-ups/ dialysis schedule
- proper use of medication regimen and the education behind them

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

Multidisciplinary Team Involvement

(Which other disciplines were involved in caring for this client?)

-dietician
-case management
-pharmacy
-lab
-RN
-nephrologist
-urologist
-cardiologist
-endocrinologist
-surgeon

Patient Resources

-support group
-case management to help with scheduling

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 participating in care for this client is how kidney dysfunction can affect the whole body. When her kidneys weren’t functioning effectively it led to blood pressure changes, pitting edema, respiratory difficulties, dysrhythmias, fatigue/lethargy, and lastly hemodialysis. The genitourinary primary functions are to regulate volume and composition of extracellular fluid and excrete waste products from the body. They also function to control blood pressure, make erythropoietin, activate vitamin D, and regulate acid-base balance. With all of these functions, it's very important to take good care of your kidneys and they’ll take care of you.

2. What was something that surprised you in the care of this patient?
   Something that surprised me in the care of Ana Sophia was the presentation of electrolyte imbalances. I know that we can visually see lab values fluctuate but the physical and chemical representations such as hyper/hypokalemia linked to dysrhythmias and hyponatremia linked to changes in LOC etc. CKD can be very scary so it is important to stick to a treatment plan and attend your dialysis appointments so that some of these symptoms won't be misinterpreted for something else.

3. What is something you would do differently with the care of this client?
   Something I would do differently with the care of this client is educate her on the use of nephrotoxic drugs and encourage her to avoid using them for example aspirin, naproxen and ibuprofen. As well as supply her with alternatives and why she’s at risk for injury/harm with these medications.

4. How will this simulation experience impact your nursing practice?
   This simulation experience will impact my nursing practice by always doing my best to find resources for my clients and if I don’t know the answer finding someone who does. I will have patients who don’t have support systems to fall back on and they might need extra attention when it comes to support groups, scheduling, and home health. I plan to supply all my patients with correct and informative plans and resources alongside a case manager.