

*Mercer County  
Community College  
Division of Math, Science  
&  
Health Professions*

*Nursing Program*

*NRS 220  
College Lab Manual*

*Fall 2013*

**NRS 220**  
**Alterations in Health III**  
**College Lab Manual**

NRS 220 student are expected to:

1. Review related class notes, reading assignments and specific lab objectives prior to each college lab. .
2. Participate in discussion topics listed for each lab.
3. Bring required equipment to each lab.
4. Properly perform return demonstration on selected skills.
5. Attend all scheduled college lab sessions.
6. Arrive at the scheduled time for lab (repeated late arrivals will require intervention by NRS 220 Course Coordinator).

**References:**

Adams, M.L., Holland, L.N. & Urban, C.Q. (2011) *Pharmacology for Nurses A Pathophysiologic Approach*. (3rd ed.) Upper Saddle River: Pearson (ISBN-978-0-13-508981-1)

North Carolina Custom Edition, (2011). *Nursing Skills for a Concept-Based Approach to Learning*. New York: Pearson Learning Solutions. (ISBN 13:978-0-558-35687-3)

North Carolina Concept-Based Learning Editorial Board. (2011). *Nursing A Concept-Based Approach to Learning, Volumes One & Two*. Upper Saddle River: Pearson.

Pickar, G.D., Abernethy, A.P. (2008) *Dosage Calculations*. (8th ed.) Clifton Park: Thompson Delmar Learning

Silvestri, Linda A. (2010). *Comprehensive Review for NCLEX-RN Examination*. (5th ed.). Philadelphia: W.B. Saunders Co. (ISBN: 9781437708257 – Paperback).

[www.mynursingkit.com](http://www.mynursingkit.com)

[www.evolve.elsevier.com/iggy](http://www.evolve.elsevier.com/iggy)

**Week 1**

**Alterations in Metabolism Part 1**

Discussion will focus on patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement and safety & informatics of patients who are experiencing alterations in metabolism.

Students will demonstrate competency in assigned skills, discuss case scenarios and review math and NCLEX questions.

Review readings from week 1

Review the following nursing skills regarding medication administration:

*Nursing Skills for a Concept-Based Approach to Learning*. New York: Pearson Learning Solutions. Skills 12.26-12.32, 12.43, 12.45, 12.49-12.53, 12.56, 12.57, 12.60, 12.66

Review of the various insulin medications as well as demonstration of correct preparation and administration. ([Skill 12.46](#) Preparing Insulin Injections; [Skill 12.47](#) Teaching Client to Use Insulin Delivery System—Insulin Pen; [Skill 12.48](#) Teaching Use Of Insulin Pump)

Identify the measures needed in order to provide adequate nutrition for a patient with alterations in metabolism (TPN, IV lipids, tube feedings)

-describe how the hydration status may be maintained for a patient ([Skill 3.12](#) Infusing IV Fluids through a Central Line; [Skill 12.58](#) Managing Central Lines; [Skill 12.59](#) Changing a Central Line Dressing))

-discuss the various ways nutrition can be provided to a patient when they are unable to eat ([Skill 5.11](#) Providing Total Parental Nutrition; [Skill 5.12](#) Infusing IV Lipids)

PICC Line Dressing Change

Student demonstrates the appropriate method of changing a PICC line dressing.

### Case Scenarios

1. A 55 year old male with a family history of diabetes is referred to the clinic for a diabetes workup. He reports having to urinate 2-3 times a night, frequent fatigue, and weight gain of 7 lbs. over last month. His A1C level is 7.6%, fasting plasma glucose is 130mg/dl, and BP 144/90mmHg. He also has dyslipidemia and early signs of renal dysfunction confirming the diagnosis of type 2 diabetes.

- What is your assessment of the laboratory results?
- What patient education would you include when developing a plan of care?
- What medications might be included in the treatment plan?

2. You are assigned to 60 year old male patient who weighs 280lbs. He is one day post op for gastric bypass surgery. What would you expect his diet, pain and nutrition orders to be like? He complains to you that he is having extreme pain in his abdomen. After reviewing his chart you notice that his WBC count is 18.0 and his temperature at 0800 is 101.0 degrees Fahrenheit. What do you do?

3. A 52 year old male is admitted to the ER with a diagnosis of acute pancreatitis secondary to alcoholism. He is experiencing severe abdominal pain. On physical assessment, he has decreased bowel sounds in all quadrants, crackles in the bases of his lungs, and signs of dehydration. His vital signs are T, 99° F; P, 104; R, 30; and BP, 102/60.

- What is the priority for this patient's care at this time?
- What laboratory findings would you expect this patient to have?

### Discussion Questions

1. Identify the measures needed in order to provide adequate nutrition for a patient with alterations in metabolism (TPN, IV lipids, tube feedings)
  - How does the administration of TPN and IV lipids differ from Tube feedings?
  - What safety issues need to be addressed when administering a tube feeding?

Review Math  
NCLEX questions

### **Week 2**

#### Alterations in Metabolism Part 2

Discussion will focus on patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement and safety & informatics patients who are experiencing alterations in metabolism.

Demonstrate competency in assigned skills, discuss case scenarios and review math and NCLEX questions.

Review readings from week 2

Students will perform a return demonstration of PICC line dressing change.

### Case Scenarios

1. The adult children of the patient with moderate hypothyroidism, who started treatment three weeks ago with levothyroxine, come to her apartment and find her sitting on the couch in her winter coat. When they ask her why she is wearing the coat, she looks at them and says, "Who are you?" They call the emergency squad, and the patient is brought to the ED.
  - What vital sign should you assess first? Provide a rationale for your selection.
  - Should this patient receive oxygen? Why or why not?
  - What IV solution should you be prepared to administer as fluid therapy and why?

The patient with severe hypothyroidism is about to be discharged to home.

- What are the teaching priorities for this patient?
- Should you include her adult children in the teaching? Why or why not?

2. The patient is a 66-year-old man with chronic respiratory fibrosis who has been treated with antibiotics (penicillin [Ampicillin] followed by azithromycin [Zithromax]) for a bacterial pneumonia for the past 3 weeks. He was admitted from the ED because his SpO<sub>2</sub> was 85%. In addition to an antibiotic, he also takes losartan (Cozaar) 50 mg daily, prednisone 10 mg daily, and sertraline (Zoloft). When he gets to the unit, he is slow to answer questions although his answers are correct, and he cannot remember the name of the physician who saw him in the ED. When his blood work comes back, you notice that his serum sodium is 109 mEq/L and his hematocrit is 32%. He is supposed to provide a clean-catch urine specimen but has not urinated since his admission, 3 hours ago.

- What is the probable source or sources of his mental slowness?
- What risk factors does he have for SIADH?
- What other assessment data should you obtain immediately? Provide a rationale for your selection.
- His admitting prescription reads that he should receive 500 mL of D5% in Ringer's lactate IV over the next 2 hours. What should you do about this prescription?

Complete the chart below indicating if the laboratory findings would be increased or decreased.

Clinical Finding	Adrenal Insufficiency(Addison)	Adrenal Hyperfunction (Cushing's)
Serum sodium level		
Serum potassium level		
Serum glucose level		
Cortisol level		
Blood pressure		

### Discussion Questions

1. Briefly discuss Addisonian crisis.
2. How would you treat Addisonian crisis?

Math  
NCLEX

### Week 3

#### Alterations in Inflammation

Discussion will focus on patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement and safety & informatics patients who are experiencing alterations in metabolism.

Demonstrate competency in assigned skills, discuss case scenarios and review math and NCLEX questions.

Review readings from week 3

Care of the patient receiving a blood product

#### Case Scenarios

1. You are the primary nurse assigned to a 65-year-old patient who is going for a colonoscopy. It is 7:30am and he is “on call” to go for his colonoscopy. When you access his MAR you notice that he is due for loproressor 25mg PO and Nexium 30mg PO at 8am. When you walk into your patient’s room he says to you, “I am so hungry and I did not sleep at all. What time am I going for my test and when can I eat? I also need my blood pressure medications.” What do you do?
2. A 56 year old male has been admitted with the diagnosis of a peptic ulcer. Upon admission his hemoglobin is 8.6 g/dL and hematocrit is 30%. He is typed and cross matched for 2 units of blood at this time. You are the nurse administering the blood product. (Transfusion Skill)

Student will be able to safely administer blood transfusion as dictated by hospital policy and procedure.

Student will perform the following:

- Review hospital/facility policy and procedure
- Check chart for physician order and patient’s H&H values.
- Check patient identification with blood product as per protocol ([Skill 12.56](#) Administering Blood Transfusions; [Skill 12.57](#) Administering Blood Components)
- prepare appropriate tubing and solution
- educate patient regarding transfusion
- infusion blood product
- document vital signs
- monitor patient for adverse reaction
- discontinue infusion
- document patient’s response
- Utilize SBAR for hand off communication

## Discussion Questions

1. Contrast laparoscopic cholecystectomy with one done via laparotomy.
2. Discuss the management of a T-tube in a patient who has had gallbladder surgery.

Math  
NCLEX

## **Week 4**

### Alterations in Cellular Regulation

Discussion will focus on patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement and safety & informatics patients who are experiencing alterations in metabolism.

Demonstrate competency in assigned skills, discuss case scenarios and review math and NCLEX questions.

Review readings from week 4 and 5

Review the following nursing skills:

*Nursing Skills for a Concept-Based Approach to Learning.*

Skills 7.25- 7.27, 14.2- 14.7

### Breast & Testicular Exams

Student will demonstrate breast and testicular examinations using correct assessment skills and document findings.

### Case Scenarios

1. You are caring for a 55-year-old female Hispanic patient who has been admitted for pneumonia. When you are taking her history and physical she tells you that her mother died of breast cancer when she was 60-years old. Your patient does not perform breast self examinations. What do you do?

Care of the patient with a chest tube:

Student will describe critical clinical skills needed to care for patients with a chest tube.

-Check physician order for chest tube

- Review assisting with a chest tube insertion( [Skill 7.25](#) Assisting with Chest Tube Insertion; [Skill 14.6](#) Assisting with Chest Tube Insertion)
- Assess chest tube insertion site and document assessment findings
- verbalize and describe understanding of water seal used in a chest tube
- Review maintaining chest tube drainage( [Skill 7.26](#) Maintaining Chest Tube Drainage)
- Describe what patient education would need to be incorporated in a plan of care for a patient with a chest tube
- Describe care of the patient in removal of a chest tube( [Skill 7.27](#) Chest Tube Removal; [Skill 14.7](#) Assisting with Chest Tube Removal)

2. You are the primary nurse assigned to a 50-year-old male patient who has just surgery for esophageal cancer. He has a chest tube on the right side. When you enter the patient's room the first thing the patient tells you is: "I am having pain and feel short of breath".

-What do you do? ( include assessment techniques, documentation and collaboration)

3. You are working on a pediatric unit where an 18-month old patient has been diagnosed with celiac disease. When you enter the room the mother asks you "What is celiac disease, what is going to happen to my baby?"

-What information do you give to the mother?

4. A 40-year-old male is admitted with cirrhosis and esophageal varicities. He admits to drinking a pint of vodka a day and a few beers. He is jaundiced and has abdominal ascites.

-Describe the plan of care you would expect to provide to your patient/ what are your priority concerns? Utilize the SBAR sheet when you are giving end of shift report.

5. An 8-year-old African American boy is admitted for sickle cell crisis. He is crying and tells you he is in pain. What interventions would you expect for this patient?

Math  
NCLEX