

NRS 125

College

Lab/Clinical

Manual

Spring 2019

It is your responsibility to keep up with this manual. The following outlines each week of this semester:

Week - Theory Class Date	Focus Concepts	Assessment
1 – January 23, 2019	Oxygenation	HESI case studies: <ul style="list-style-type: none"> • COPD w/ pneumonia • Congenital Heart Defects
2 – January 30, 2019	Perfusion/Intracranial Regulation	HESI case studies: <ul style="list-style-type: none"> • Deep Vein Thrombosis • Brain Attack (Stroke)
3 – February 6, 2019	Cognition/Sensory Perception	Exam #1 HESI case study: <ul style="list-style-type: none"> • Neurocognitive disorder due to Alzheimer's
4 – February 13, 2019	Antepartum	HESI case study: <ul style="list-style-type: none"> • Ectopic Pregnancy
5 – February 20, 2019	Digestion/Elimination	HESI case study: <ul style="list-style-type: none"> • Benign Prostatic Hyperplasia vSIM patient: Stan Checketts
6 – February 27, 2019	Intrapartum	
7 – March 6, 2019	Perioperative/Mobility	Exam #2 HESI case study: <ul style="list-style-type: none"> • Perioperative Care
8 – March 13, 2019 Spring Break March 18th to March	Postpartum/Newborn Care	HESI case studies: <ul style="list-style-type: none"> • Healthy Newborn • Postpartum
9 – March 27, 2019	Cellular Regulation/Immunity	Exam #3
10 – April 3, 2019	Infection/Inflammation	HESI case study: <ul style="list-style-type: none"> • Inflammatory Bowel Disease Medical-Surgical Hesi Exam
11 – April 10, 2019	Metabolism	Exam #4 HESI case study: <ul style="list-style-type: none"> • Peripheral Vascular Disease w/ Amputation vSIM patient: Skyler Hansen

12 – April 17, 2019	High-Risk Pregnancy	Pediatric HESI Exam HESI case studies: <ul style="list-style-type: none"> • Gestational Diabetes • Preeclampsia
13 – April 24, 2019	High-Risk Newborn	HESI case study: <ul style="list-style-type: none"> • Premature Infant Maternity HESI Exam
14 – May 1, 2019	Reproduction	Exam #5

College lab:

College lab will consist of discussion which will focus on patient-centered care, teamwork and collaboration, and evidence-based practice guidelines regarding the conceptual approach to the care of clients with a variety of alterations. Students can expect to work using simulated and written case scenarios along with video and live demonstration of skills. Students are expected to return a demonstration of each skill and utilize any available opportunity in the clinical setting to further enhance proficiency of said skill.

Students will be practicing dosage calculations problems at each college laboratory (see Medication Calculation Guidelines on the next page). These dosage calculation problems may be provided to the student prior to the college lab meeting or upon arrival. Students are expected to complete any assignments that are provided and ask questions to help clarify understanding.

Please see preparation for college lab written below.

Clinical:

Please review this manual for all clinical-reasoning enhancement activities. It is strongly recommended students complete these activities at clinical if there is time. Many activities can be completed once clinical is complete. Please reflect on your clinical practice if completing the activities after leaving the clinical site.

Preparation for college lab/clinical:

1. Review course outline related to the current week
2. Review skills textbook as it relates to the current week's lab
3. Bring necessary equipment (stethoscope, blood pressure cuff, penlight)
4. Bring a calculator and pencil for dosage calculation practice (college lab only)
5. Attend all lab/clinical sessions and arrive on time. Please review course outline for instructions regarding a missed lab session and review policy regarding being absent/late

6. Bring this manual to both lab and clinical

Mercer County Community College

Division of Health Professions

Nursing Program

Medication Calculation Guidelines

1. If weight conversion is needed (pounds/kilograms), calculate that as separate problem first.
2. Convert all items to equal units prior to working problem, if needed.
3. Do not round until the end of the problem.
4. Manual drip rates are always reported in whole numbers.
5. All questions should specify rounding requirements for the answer.
6. Infusion pumps can be rounded to the nearest tenth.
7. Five and up, round up. Four and below, round down.
8. No method of calculation (ratio/proportion, dimension analysis, etc.) is preferred; any is acceptable if the right answer is reached.
9. No half credit is given. If the answer is not rounded correctly or not answered to the requested decimal place, the question is marked incorrect.
10. Trailing zeros are prohibited, e.g. 1.0
11. Leading zeros are required, e.g. 0.1.
12. Label all answers with the correct unit.

Related Concept Learning Outcomes:

1. Differentiate common assessment procedures used to examine respiratory health across the life span.
2. Demonstrate the nursing process in providing culturally competent and caring interventions across the life span for individuals with common alterations in oxygenation.

Part 1 Instructions: Perform a respiratory assessment on three different clients. Fill out the table below for the physical assessment components and describe abnormal assessments for each client.

Respiratory Assessment	Normal Findings	Client #1 Diagnosis:	Client #2 Diagnosis:	Client #3 Diagnosis:
Nasal Assessment				
Respiratory Rate Assessment				
Oxygen Saturation				
Inspection of Thoracic Cavity				
Inspection of the Muscles of Breathing				
Inspection and Palpation of the Thoracic Wall for Symmetry				
Color of Skin				
Nail Beds				

Auscultation of Lung Fields RUL RLL RML LUL LLL				
Describe Abnormal Client Assessment Data	Not applicable			

RUL, right upper lobe; RLL, right lower lobe; RML, right middle lobe; LUL, left upper lobe; LLL, left lower lobe

Part 2 Instructions: Perform an oxygenation assessment interview on *each* client using the following as a guide for interviewing.

Current Respiratory Problems

- Have you noticed any changes in your breathing pattern (e.g., shortness of breath, difficulty breathing, need to be in an upright position to breathe, or rapid and shallow breathing)?
- If so, which of your activities might cause these symptoms to occur?
- How many pillows do you use to sleep at night?

History of Respiratory Disease

- Have you had colds, allergies, asthma, tuberculosis, bronchitis, pneumonia, or emphysema?
- How frequently have these occurred? How long did they last? And how were they treated?
- Have you been exposed to any pollutants?

Lifestyle

- Do you smoke? If so, how much? If not, did you smoke previously, and when did you stop?
- Does any member of your family smoke?
- Is there cigarette smoke or other pollutants (e.g., fumes, dust, coal, asbestos) in your workplace?
- Do you drink alcohol? If so, how many drinks (mixed drinks, glasses of wine, or beers) do you usually have per day or per week?
- Describe your exercise patterns. How often do you exercise and for how long?

Presence of Cough

- How often and how much do you cough?
- Is it productive, that is, accompanied by sputum, or nonproductive, that is, dry?
- Does the cough occur during certain activity or at certain times of the day?

Description of Sputum

- When is the sputum produced?
- What is the amount, color, thickness, and odor of the sputum?
- Is it ever tinged with blood?

Presence of Chest Pain

- How does going outside in the heat or the cold affect you?
- Do you experience any pain with breathing or activity?
- Where is the pain located?
- Describe the pain. How does it feel?
- Does it occur when you breathe in or out?
- How long does it last, and how does it affect your breathing?
- Do you experience any other symptoms when the pain occurs (e.g., nausea, shortness of breath or difficulty breathing, light-headedness, palpitations)?
- What activities precede your pain?
- What do you do to relieve the pain?

Presence of Risk Factors

- Do you have a family history of lung cancer, cardiovascular disease (including strokes), or tuberculosis?
- The nurse should also note the client's weight, activity pattern, and dietary assessment. Risk factors include obesity, sedentary lifestyle, and diet high in saturated fats.

Medication History

- Have you taken, or do you take any over-the-counter or prescription medications for breathing (e.g., bronchodilator, inhalant, narcotic)?

If so, which ones? And what are the dosages, times taken, and results, including side effects? Are you taking them exactly as directed?

Part 3 Instructions: Identify the client who is most at risk for alterations in oxygenation and develop at least five priority interventions for the client. Provide rationale for each intervention.

- 1.
- 2.
- 3.
- 4.
- 5.

Week 2: Perfusion/Intracranial Regulation

Clinical:

Clinical reasoning activities

Perfusion

NOT JUST A MATTER OF THE HEART

The purpose of this activity is to identify alterations in related concepts in the assigned clients and discuss the correlation to the concept of perfusion.

Related Concept Learning Outcomes

1. Examine the relationship between perfusion and other concepts/systems.

Client Diagnosis:

Part 1 Instructions: Identify all alterations in concepts that interrelate with perfusion that are occurring in your assigned client. Use the following list of concepts. For each identified interrelated concept, provide a brief description of the alteration (include any clinical manifestations and diagnostics seen in your client) and how it is related to the concept of perfusion.

Concept	Alteration	Relationship to Perfusion
Acid–Base Balance		
Cellular Regulation		
Cognition		
Comfort		
Fluid and Electrolytes		
Intracranial Regulation		

Oxygenation		

Perfusion

THE UPS AND DOWNS OF BLOOD PRESSURE

Associated Concepts:

Perfusion

The purpose of this activity is to review features related to measuring blood pressure.

Related Concept Learning Outcomes

1. Perform common procedures used to assess blood pressure.
2. Identify client risk factors related to blood pressure measurement.

Instructions: Complete the following:

1. Identify any special considerations related to measuring blood pressure that your client may have.

Blood Pressure Special Considerations	Applies to Your Client?		Adaptation Needed
	yes	no	
Burns, wounds, or other trauma of arms			
Cast or bulky dressing on limb			
History of surgical removal of axilla lymph nodes			
Intravenous line infusing in limb			
Arteriovenous fistula present (such as for dialysis)			
Unable to auscultate blood pressure			
Infant?			
Young child?			
Older adult			
Fall risk			

2. What is orthostatic hypotension? Describe how to accurately assess for orthostatic hypotension.

3. Identify the impact on blood pressure readings for the following technique errors:

Factor Affecting Blood Pressure	What Reading Results?	
	Too high	Too low
Bladder cuff too narrow		
Bladder cuff too wide		
Arm unsupported		
Insufficient rest before assessment		
Repeating assessment too quickly		
Cuff wrapped too loosely		
Deflating cuff too quickly		
Deflating cuff too slowly		
Arm above level of heart		
Assessing immediately after meal, while client smokes, or while client is in pain		

4. Identify factors for blood pressure alterations that apply to your assigned client.

Blood Pressure Factors	Impact on Blood Pressure	Applies to Your Client?	
		yes	no
Race			
Activity level			
Stress			
Obesity			
Lifestyle choices			
Medications			
Illness process			
Body position			

5. Assess blood pressure on at least three clients using an automatic cuff and a manual (aneroid) cuff. How similar are the readings? Why might there be variations?

	Automatic Cuff Reading	Manual Cuff Reading
Client 1		
Client 2		
Client 3		

List the medications (including PRN medications) currently prescribed for your assigned client. Note any effect on blood pressure that the medications may exert.

- Add any supplements or over-the-counter (OTC) medications that your client regularly takes. Note any effect on blood pressure that the medications may exert.
- Identify a risk factor that your client may have that may affect his/her blood pressure. Review client education to decrease the impact the risk factor may have on the client's blood pressure.

THE BEAT GOES ON: ASSESSING PERFUSION

Associated Concepts:

Perfusion

The purpose of this activity is to review assessment features of the circulatory system.

Related Concept Learning Outcomes

- Perform common procedures used to assess the pulse.
- Identify client risk factors related to the cardiovascular system.

Instructions: Complete the following:

- Identify modifiable and non-modifiable risk factors for cardiovascular alterations. Identify whether any of these risk factors apply to your assigned client and interventions to address the risk factors.

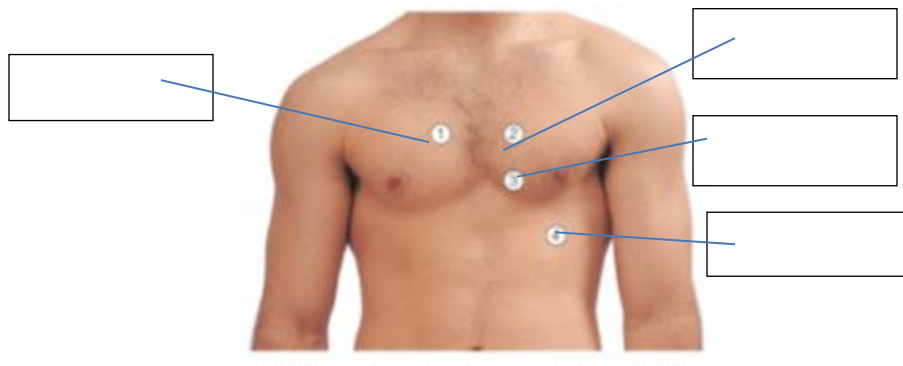
Modifiable Risk Factors	Apply to Your Client?		Non-modifiable Risk Factors	Apply to Your Client?		Interventions for Client
	yes	no		yes	no	

2. Identify what normal impact the following factors have on the pulse rate of an individual. Indicate if it is a factor

Factor Affecting Pulse	What Effect	Does Effect Impact Your Client?
Age		
Gender		
Exercise		
Fever		
Medications		
Hypovolemia		
Stress		
Position changes		
Disease pathology		

that affects the pulse rate of your assigned client.

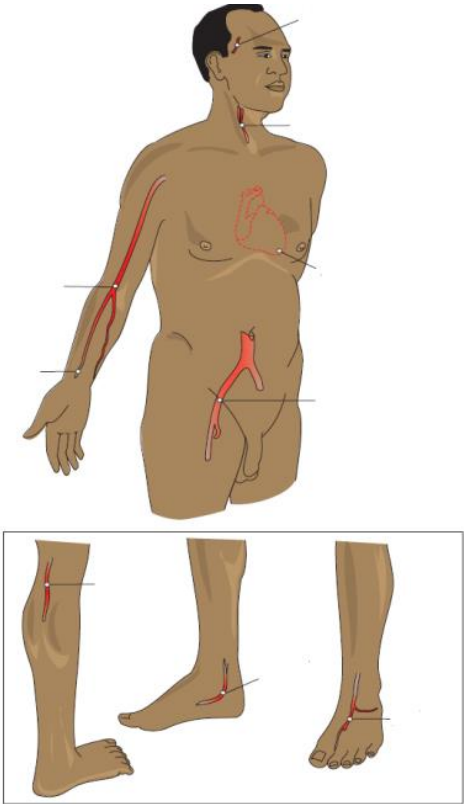
3. Label the following with which heart valve is auscultated at each site.



4. Auscultate the heart sounds for three clients at the above sites. Highlight any abnormal findings.

	Client 1	Client 2	Client 3
S ₁			
S ₂			
Extra sounds			
Heart murmur			

5. Identify nine common sites for palpating a pulse. (Use the diagram below)



- When is it appropriate to use each pulse site?
- Palpate the nine pulse sites on three separate clients to assess for adequate perfusion. Which ones are more difficult to palpate? (Note: The pulse rate does not need to be counted when assessing for perfusion.)
- Using a Doppler, assess for perfusion at a pulse site that was difficult to palpate. Be sure to use the device correctly.

STROKE is an Emergency.
Every minute counts.
ACT F.A.S.T!





	F ACE	Does one side of the face droop? Ask the person to smile.
	A RM S	Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?
	S P E E C H	Is speech slurred? Ask the person to repeat a simple sentence. Is the sentence repeated correctly?
	T I M E	If the person shows any of these symptoms, Call 911 or get to the hospital immediately.

TABLE 38-2		
Glasgow Coma Scale		
BEHAVIOR	RESPONSE	SCORE
Eye opening response	Spontaneously	4
	To speech	3
	To pain	2
	No response	1
Best verbal response	Oriented to time, place, and person	5
	Confused	4
	Inappropriate words	3
	Incomprehensible sounds	2
	No response	1
Best motor response	Obeys commands	6
	Moves to localized pain	5
	Flexion withdrawal from pain	4
	Abnormal flexion (decorticate)	3
	Abnormal extension (decerebrate)	2
	No response	1
Total score:	<i>Best response</i>	15
	<i>Comatose client</i>	8 or less
	<i>Totally unresponsive</i>	3

Week 3: Cognition/Sensory Perception

Week 4: Antepartum

Lab:

- OB assessment
- GTPAL exercises

OB Assessment List

SKILL	STUDENT
1. SAFETY CONSIDERATIONS FOR INFANT	
2. CORD CARE, CIRCUMCISION CARE	
3. IDENTIFICATION AND SECURITY MEASURES FOR INFANT	
4. BATHING DEMONSTRATION	
5. TEMPERATURE, APICAL & PERIPHERAL PULSES, RESPIRATION	
6. HEIGHT, WEIGHT, HEAD & CHEST MEASUREMENT	

7. BOTTLE FEEDING	
8. BREAST FEEDING POSITIONS, LATCH SCORING	
9. ENGORGEMENT BREAST & BOTTLE FEEDING MOTHERS	
10. BREAST CARE-- SORE, CRACKED, INVERTED NIPPLES	
11. DIAPERING, DRESSING, HOLDING SWADDLING, & SLEEP POSITIONS	
12. INBORN ERROR OF METABOLISM SCREENING	
13. USE OF BULB SYRINGE	
14. POST PARTUM CARE & COMFORT MEASURES	
15. WHEN TO CALL HCP—POSTPARTUM	
16. VITAMIN K INJECTION	
17. PROPHYLACTIC EYE TREATMENT	
18. WHEN TO CALL HCP FOR INFANT	
19. NEWBORN PHYSIOLOGICAL JAUNDICE	
20. SCREENING FOR POSTPARTUM DEPRESSION	

G/TPAL EXERCISES

- 1. J.P. is a 34 y/o who has four children, three born preterm and one born at term. She experienced spontaneous abortions at 8 and 10 weeks. She delivered a stillborn at 23 weeks gestation. What is her GTPAL?
- 2. M.L. is a 22 y/o who is 12 weeks pregnant. She experienced one spontaneous abortion at 8 weeks. What is her GTPAL?
- 3. P.L. is 36 years old. She comes in for an antepartum check-up. She has three children and home that were born at term, which includes a set of twins. What will her GTPAL be after delivery?
- 4. D.S. recently delivered a living 3lb. 2 oz. male at 37.5 weeks after experiencing pre-eclampsia and type 1 diabetes. She has three children at home born at full term. She also has another child at home born at 32 weeks. What is her GTPAL?
- 5. S.C is attending her first antepartum visit. Her LMP was June 5. What is her EDB? She has a three-year-old at home born at 35 weeks. What is her GTPAL?
- 6. P.K. is 22 weeks pregnant. She delivered two full term infants who are 10 and 6. She experienced a spontaneous abortion at 6 weeks. What is her GTPAL?
- 7. Z.C. is a 28y/o woman who is 36 weeks pregnant and in early labor. What is her GTPAL?

- 8. D.S. is a 37 y/o who experience spontaneous abortions at 12 and 14 weeks. She has triplets at home who were born at 33 weeks. What is her GTPAL?

Week 5: Digestion and Elimination

Clinical:

Clinical reasoning activities:

MY DIET IS SPECIAL

The purpose of this activity is to review therapeutic diet options.

Related Concept Learning Outcomes

1. Identify common therapeutic diets to meet nutritional needs of a client.
2. Identify a plan to meet the nutritional needs for the individual.

Instructions: Review a variety of potential special diets by completing the following grids:

Match the following special diets to their therapeutic purpose and example food choices				
Description	Example			
<u> 2 </u>	<u> h </u>	NPO	1. Maintains acceptable serum glucose levels	a. Clear broth, apple juice
<u> </u>	<u> </u>	Clear liquid	2. Restricted oral food and fluid intake	b. Avoid high-glycemic foods such as pasta, bread
<u> </u>	<u> </u>	Full liquid	3. Needed for clients with high metabolism needs such as wounds, mania	c. Mashed potatoes, ground meat
<u> </u>	<u> </u>	Soft	4. Lowers cholesterol or triglycerides	d. Add protein powders to soups
<u> </u>	<u> </u>	Pureed	5. Foods processed in a blender but can be scooped and mounded on a plate	e. Salt-free seasonings, fresh fruits and vegetables
<u> </u>	<u> </u>	Regular	6. Any food as tolerated by client	f. Any food, encourage foods to facilitate healing
<u> </u>	<u> </u>	Antigen avoidance	7. Foods that avoid allergies or intolerance	g. Yogurt, pudding
<u> </u>	<u> </u>	Calorie restricted	8. Prescribed for clients with fluid retention	h. Remove water pitcher, perform oral care
<u> </u>	<u> </u>	American Diabetes Association diet	9. Provides for hydration and simple carbohydrates	i. Foods free of gluten, lactose, peanuts or other trigger foods
<u> </u>	<u> </u>	High calorie–high protein	10. Reduced number of calories, such as 1,800 calories	j. Limit meats and dairy products
<u> </u>	<u> </u>	High fiber	11. Increases indigestible waste through large intestines	k. Limit lean meats, eggs, fried foods, mayonnaise
			12. Chopped, shredded, easily	l. Raw vegetables, whole grain bread
				m. Avoids nuts and seeds, high

___	___		chewed and digested foods 13. Liquids you can see through, opaque fluids, foods that are liquid at room temperature 14. Foods have reduced fiber and cellulose to decrease GI mucosal irritation 15. Used to limit need to metabolize protein	fiber foods n. Skim milk, baked foods o. Smoothie, food-processed meat
___	___	Low fat		
___	___	Low residue		
___	___	Sodium restricted		
___	___	Protein restricted		

Match the following client conditions to the appropriate therapeutic diet	
___ NPO	a. Undiagnosed abdominal pain
___ Clear liquid	b. Newly diagnosed diabetic
___ Full liquid	c. Immediate postoperative period
___ Soft	d. Heart failure
___ Pureed	e. Coronary artery disease
___ Regular	f. Burns over 40% of the body
___ Antigen avoidance	g. Undiagnosed abdominal pain
___ Calorie restricted	h. Ill-fitting dentures
___ American Diabetes Association diet	i. Annual physical exam for healthy adult
___ High calorie–high protein	j. Celiac disease
___ High fiber	k. Mouth sores from chemotherapy treatment
___ Low fat	l. BMI of 37
___ Low residue	m. Cirrhosis
___ Sodium restricted	n. Constipation, diverticulosis
___ Protein restricted	o. Second uncomplicated postoperative day
	p. Crohn disease

1. What diet is currently prescribed for your assigned client?
2. From a nutritional and medical standpoint, why is this diet prescribed for the client?
3. Based on your client’s prescribed diet, obtain a diet menu for your client (from dietary department). Create a 2-day diet plan for your client, meeting special diet needs and calorie amount needed to maintain their current weight. Include appropriate amount of fluid intake.

Nutrition; Digestion; Health, Wellness and Illness

NUTRITION—DIETS

Associated Concepts:

Nutrition; Digestion; Health, Wellness and Illness

The purpose of this activity is to review therapeutic diet needs for an assigned client and complete nutrition education for a client.

Related Concept Learning Outcomes

1. Identify commonly occurring alterations in nutrition and their related therapies.
2. Describe the common assessment and diagnostic procedures to determine the individual’s nutritional status.
3. Identify a plan to meet the nutritional needs for the individual.

Instructions: Review assessment data related to the nutritional status of your assigned client. Complete the following:

1. Client age group _____
2. Underlying medical diagnosis (-es) _____

3. Your assessment findings related to nutritional status:
 - a. Vital signs:
 - b. Height/weight:
 - c. Cardiac/respiratory:
 - d. GI system:
 - e. Musculoskeletal:
4. Review of client diagnostics related to nutritional status:

Diagnostic Test	Normal Range	Client Value	Relationship to Nutritional Status
Height			
Weight			
BMI calculation			
RBC count			
Hgb			
Hct			
Serum glucose			
Serum albumin			
Total protein			
Cholesterol			
Other:			
Diet intake amount			

5. What diet is currently prescribed for the client?
6. What is the goal diet for this client at discharge (or long-term)?

7. What risk factors for impaired nutritional status does this client have?
8. In partnership with your client, create a goal to meet identified nutritional needs with any barriers reviewed. Include any special diet considerations or calorie requirements.

Create an educational plan for your assigned client, present the material, and evaluate the experience. Education may include agency brochures, link to Web games for children, review of MyPlate materials for appropriate age group, consultation with dietitian for specialty diet preferences such as vegetarian, student-created menu or information, and so forth.

Elimination

THE PROCESS OF ELIMINATION

Associated Concepts:

Elimination

The purpose of this activity is to identify actual or potential elimination alterations related to a client’s medical diagnosis and analyze the presence of client signs and symptoms related to the alteration in elimination.

Related Concept Learning Outcomes

1. Identify commonly occurring alterations in elimination and their related therapies.
2. Examine the relationship between elimination and other concepts/systems.

Part 1 Instructions: Search the clinical unit for 10 clients with different diagnoses. Identify the clients’ risk factors for alterations in elimination based on their medical diagnosis only. Include both urine and bowel elimination alterations. Fill in the table below.

Client Diagnosis	Risk Factors for Alterations in Elimination
Example: Total Hip Arthroplasty	Decreased mobility and use of narcotics may cause constipation and decrease bladder function. Immobility can also cause urinary stasis, urinary infections and renal calculi.

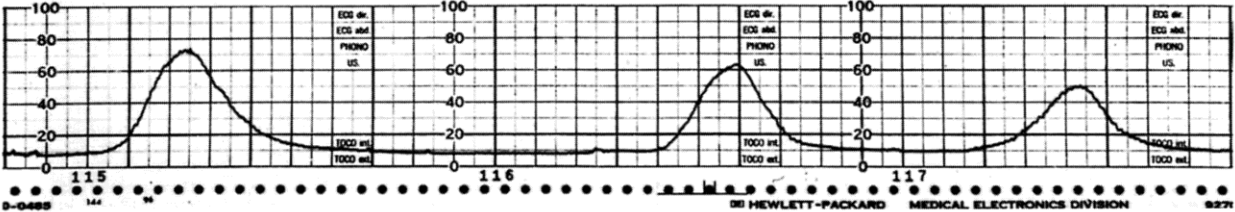
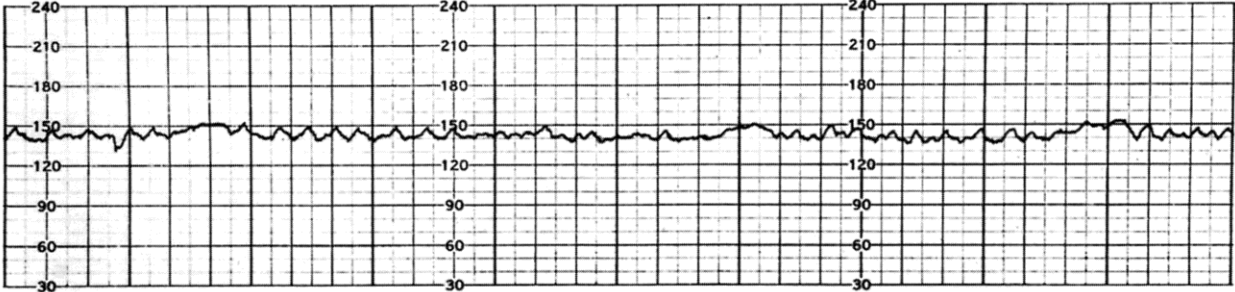
Part 2 Instructions: Identify all present signs and symptoms of alterations of elimination of *five* clients. You may need to search through client medical records, interview the client’s nurse, or perform a physical assessment on the client to find the information. Fill out the third column on the table below.

Client Diagnosis	Risk Factors for Alterations in Elimination	Present Sign and Symptoms of Alteration in Elimination
Example: Total Hip Arthroplasty	Decreased mobility and use of narcotics may cause constipation and bladder function. Immobility can also cause urinary tract infections and renal calculi.	Client has hypoactive bowel sounds and has not had a bowel movement since surgery 2 days ago.

Week 6: Intrapartum

Lab:

Fetal monitoring



FETAL HEART RATE

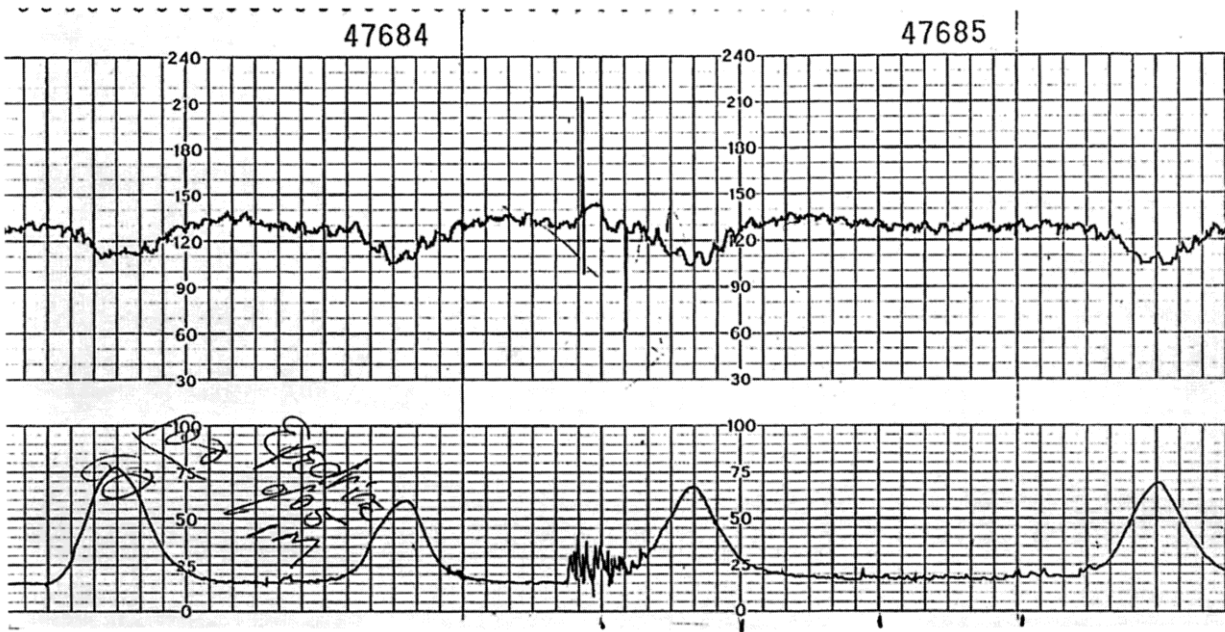
Baseline:

UTERINE ACTIVITY

Frequency:

Variability:
Periodic/Episodic Changes:

Duration:
Strength:

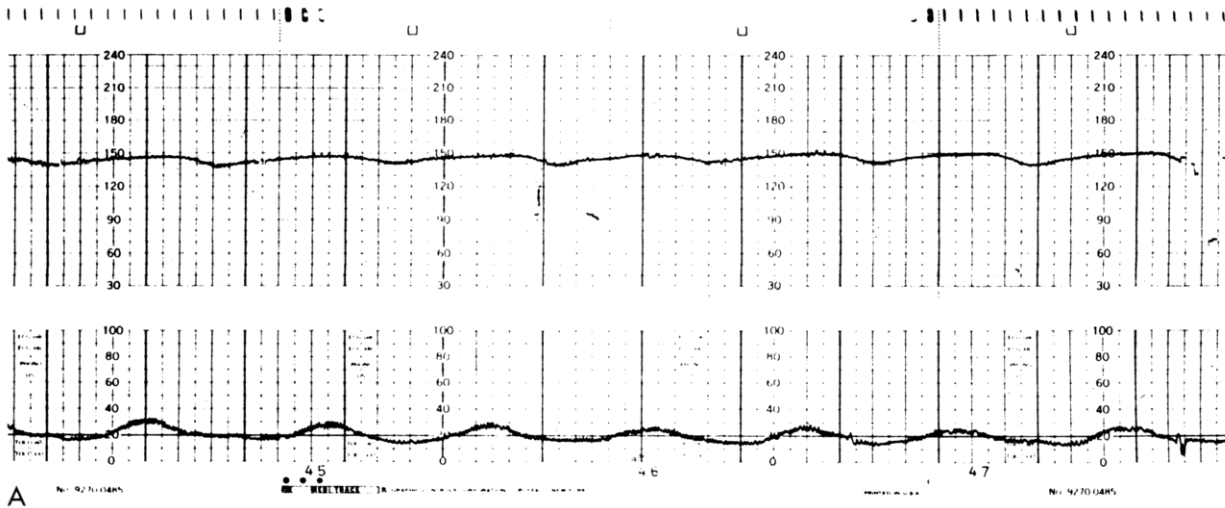


FETAL HEART RATE

Baseline:
Variability:
Periodic/Episodic Changes:

UTERINE ACTIVITY

Frequency:
Duration:
Strength:

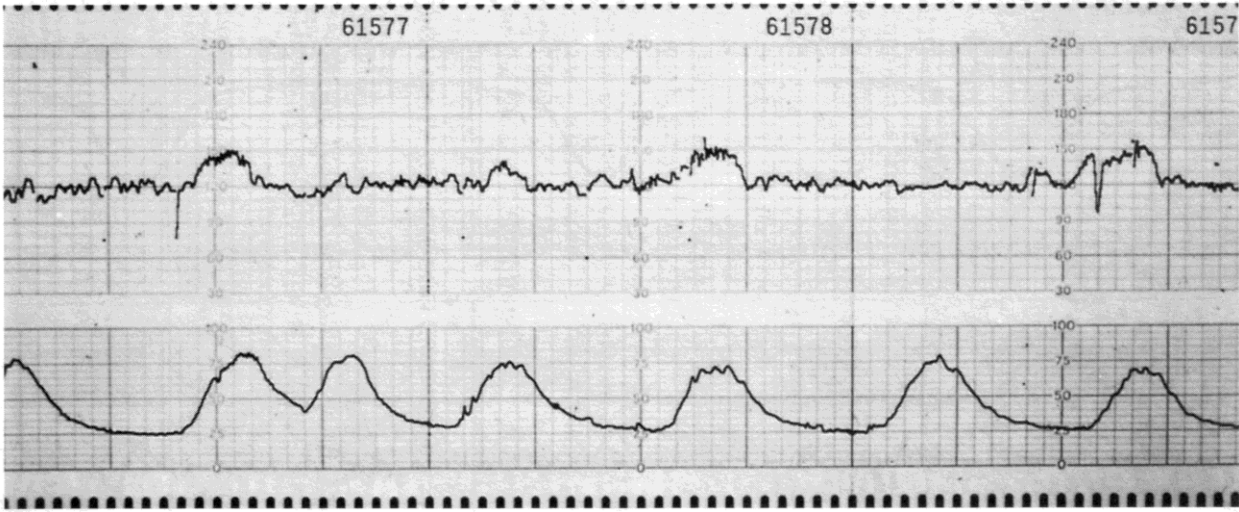


FETAL HEART RATE

Baseline:
Variability:
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UTERINE ACTIVITY

Frequency:
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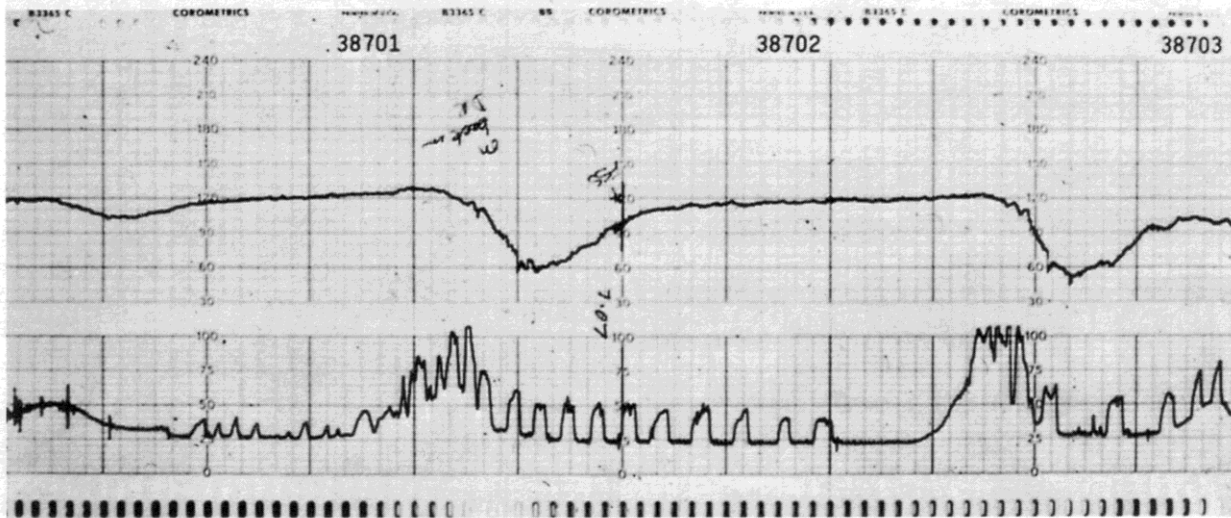


FETAL HEART RATE

Baseline:
 Variability:
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UTERINE ACTIVITY

Frequency:
 Duration:
 Strength:

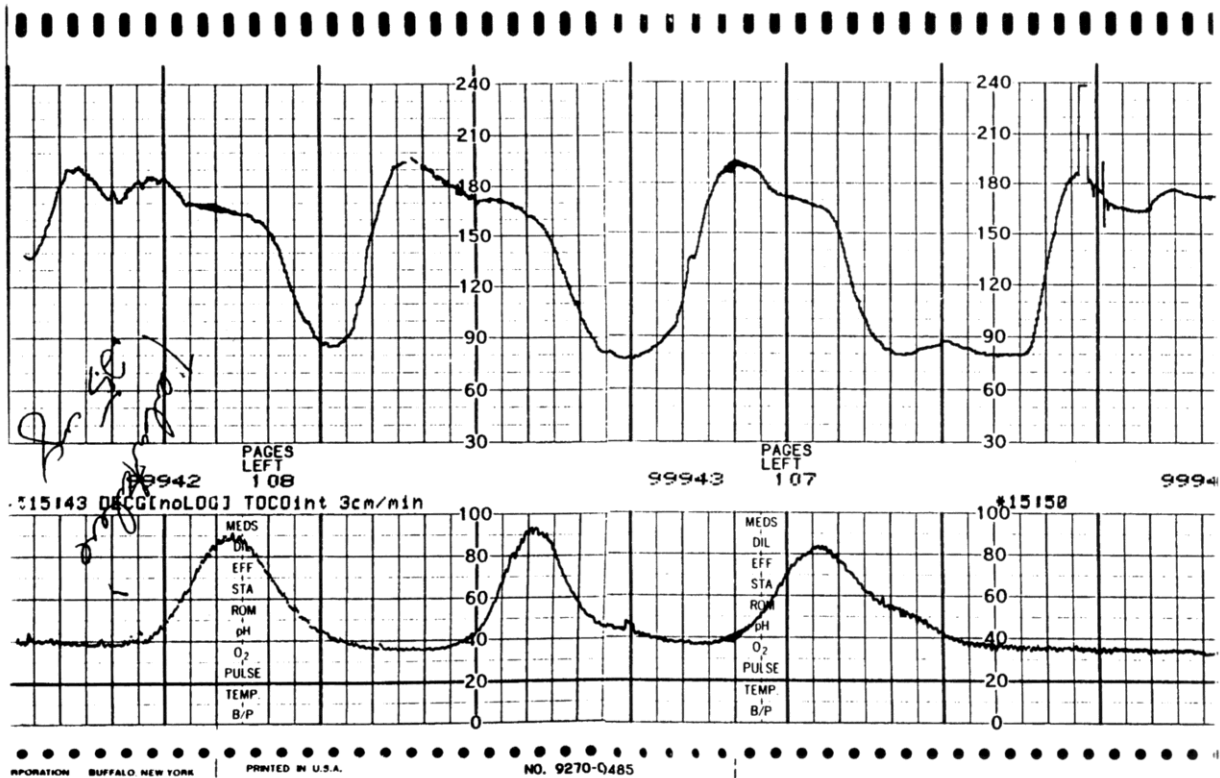


FETAL HEART RATE

Baseline:
 Variability:
 Periodic/Episodic Changes:

UTERINE ACTIVITY

Frequency:
 Duration:
 Strength:



FETAL HEART RATE

Baseline:

Variability:

Periodic/Episodic Changes:

Strength:

UTERINE ACTIVITY

Frequency:

Duration:

Week 7: Perioperative/Mobility

Clinical reasoning activities

Perioperative Care

FOLLOW THE CLIENT

Associated Concepts:

Perioperative Care, Tissue Integrity, Infection

Related Concept Learning Outcomes

1. Describe activities of each perioperative phase.
2. Identify the various roles within each perioperative phase.
3. Demonstrate the nursing process in providing caring interventions across the life span for individuals undergoing a surgical procedure.

The purpose of this activity is to identify nursing factors related to following an assigned client through the phases of a surgical procedure.

Client diagnosis:

Client scheduled surgical procedure:

Instructions: Complete the following information on your assigned client undergoing a surgical procedure:

A. Background understanding

Identify the role of the following members of the interdisciplinary team for a surgical client:		
Team Member	Role	Needed for Your Client?
Anesthesia personnel		
Circulating nurse		
Interpreter		
Perioperative nurse		
Preoperative nurse		
Postoperative nurse		
Surgeon/physician		
Surgical tech/first assistant		
Other discipline		

B. Preparing to go to surgery

1. Review your client's chart. Which diagnostic tests were needed for your client?

Diagnostic Test	Needed for Your Client?		Rationale for Why Test Needed
	yes	no	
Prothrombin time (PT)			
Partial thromboplastin time (PTT)			
Bleeding time			
Hematocrit (Hct)			
Hemoglobin (Hgb)			
Red blood cells (RBC)			
Urinalysis			
Chest x-ray (CXR)			
Electrocardiogram (ECG)			

Blood urea nitrogen (BUN)			
Type and crossmatch blood			
Electrolyte panel			
Pregnancy test			
Blood glucose			

2. Safety measures: Which of the following safety measures were implemented for your client?

Preoperative Measure	Needed for your Client?	
	Yes	no
Bowel preparation		
Use of OTC (over-the-counter) medications		
Hold any prescribed medications		
Administer special prescribed medications		
Maintain NPO (nothing by mouth) status		
Detach removable items and indicate presence of implanted devices		
Implement skin preparation		
Implement special orders (intravenous line, nasogastric tube, etc.)		
Implement urinary preparation (Void? Indwelling catheter?)		
Implement safety protocols (side rails, preoperative checklist, surgical safety checklist, etc.)		
Provide preoperative teaching (turn, cough, deep breath, incentive spirometer, splinting incision, etc.)		
Documentation of nursing assessments, interventions, client responses		

3. Handoff report

- a. What was included in the handoff report to the surgical nursing staff?

- b. What was included in the handoff report to the post-anesthesia unit nursing staff?

- c. What was included in the handoff report to the postoperative unit nursing staff?

4. Postoperative assessment

What assessments were done in the first 1 to 2 hours following the client's return to the postoperative unit?

5. Monitoring for potential complications

1. Describe potential intraoperative complications. Identify the nursing care associated with each potential complication.

Potential Intraoperative Complication	Description	Associated Nursing Care
Hypoxemia		

Hypothermia		
Malignant hyperthermia		
Paresthesia		
Pressure ulcers		
Hemorrhage, hypovolemia, hypovolemic shock		
Hypervolemia		

C. **Describe postoperative care.** Identify the nursing care associated with each identified factor.

Postoperative Factor	Associated Nursing Care
Respiratory: Atelectasis Pneumonia Oxygen support Pulmonary embolus	
Circulatory: Thrombophlebitis Hemorrhage/hypovolemic shock	
Central nervous system: Decreased level of consciousness (LOC)	
Pain and comfort	
Position and activity	
Urinary elimination	
Bowel elimination: Ileus Constipation	
Fluid and electrolyte status	
Nutritional status	
Operative site: Dressing Drains	
Specific to this client	

D. **What if?**

- a. Your client has a latex allergy?
- b. Your client does not understand the surgery procedure scheduled?
- c. Your client has been taking aspirin and ibuprofen daily for arthritis pain?
- d. Your client is diabetic and takes insulin daily?
- e. Your client's wound has dehiscence/evisceration?

Perioperative Care, Tissue Integrity, Infection

WHAT'S MY LINE?

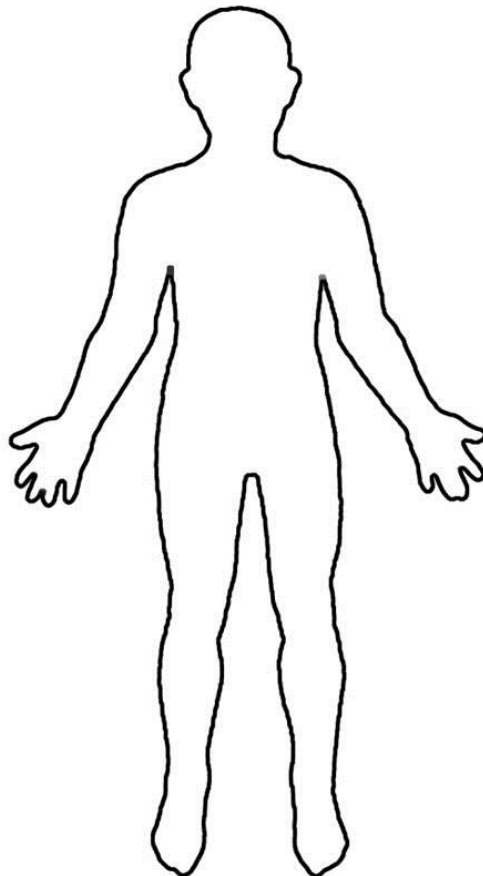
Assessment of Support Devices

Associated Concepts:

Perioperative Care, Tissue Integrity, Infection

Client Diagnosis:

Instructions: (1) After completing your client assessment, draw and label all support lines or devices being used by your client on the body outline below. (2) On the grid provided, describe the purpose, nursing care, and infection prevention measures associated with each line or device.



3. Plan evidence-based care for an individual with pressure ulcers and his or her family in collaboration with other members of the healthcare team.

Client Diagnosis:

Part 1 Instructions: Perform a tissue pressure risk assessment using the following Braden scale (or one provided by the clinical site) on your assigned client.

Part 2 Instructions: Use the chart following the Braden Scale. For each section of the Braden scale, identify nursing or any collaborative interventions being implemented currently on your assigned client and any additional nursing and/or collaborative interventions to maintain tissue integrity. For each intervention, determine if the intervention can be delegated to a UAP (unlicensed assistive personnel).

Braden Risk Assessment Scale

<u>Instructions:</u>		<u>Factors Further Increasing Risk</u>		
<ol style="list-style-type: none"> 1. Assess patient's risk to skin breakdown. 2. To calculate a Braden Score, choose the appropriate score from each category and total them. 3. If a category score falls between two numbers, choose the lower score. 4. Calculate a Braden Score upon admission and every 24 hours afterward and document on the Patient Care Flow Sheet. 5. If score is 18 or lower, initiate recommended interventions for each category. (See back side.) 		Peripheral Vascular Disease, impaired circulation, vasoconstriction drugs, braces or stabilizing equipment, diabetes, CHF, COPD, history of ulcers, preterm neonates, obesity/thin $30 > \text{BMI} < 19$, <u>Critical</u> labs: prealbumin (reflects visceral protein stores) mild depletion = 10-15, moderate depletion = 5-10, severe depletion = < 5 .		
Braden Category	Braden Score: 1	Braden Score: 2	Braden Score: 3	Braden Score: 4
Sensory Perception Ability to respond meaningfully to pressure-related discomfort.	Completely limited Unresponsive (does not moan, flinch or grasp) to painful stimuli, due to diminished level of consciousness or sedation OR Limited ability to feel pain over most of body surface.	Very limited Responds only to painful stimuli; Cannot communicate discomfort except by moaning or restlessness. OR Has sensory impairment, which limits the ability to feel pain or discomfort over ½ of the body.	Slightly limited Responds to verbal commands but cannot always communicate discomfort or need to be turned. OR Has some sensory impairment, which limits ability to feel pain or discomfort in 1 or 2 extremities.	No limitation Responds to verbal commands. Has no sensory deficit, which would limit ability to feel or voice pain or discomfort.
Moisture Degree to which skin is exposed to moisture.	Constantly Moist Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	Moist Skin is often but not always moist. Linen must be changed at least once a shift.	Occasionally Moist Skin is occasionally moist, requiring an extra linen change approximately once a day.	Rarely Moist Skin is usually dry; linen requires changing only at routine intervals.
Activity Degree of physical activity.	Bedfast Confined to bed.	Chair fast Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	Walks Occasionally Walks occasionally during day but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.	Walks Frequently Walks outside the room at least twice a day and inside the room at least once every 2 hours during waking hours.
Mobility Ability to change and control body position.	Completely Immobile Does not make even slight changes in body or extremity position without assistance.	Very Limited Makes occasional slight changes in body or extremity position but unable to make frequent or significant change independently.	Slightly Limited Makes frequent though slight changes in body or extremity position independently.	No Limitations Makes major and frequent changes in position without assistance.
Nutrition Usual food intake pattern.	Very Poor Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Take fluids poorly. Does not take a liquid dietary supplement. OR Is NPO and/or maintained on clear liquids or IV for more than 5 days.	Probably Inadequate Rarely eats a complete meal. Generally eats only about 1/3 of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR Receives less than optimum amount of liquid diet or tube feeding.	Adequate Eats over ½ of most meals. Eats a total of 4 servings of protein (meat and dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if ordered. OR Is on tube feeding or TPN regimen, which probably meets most of nutritional needs.	Excellent Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.
Friction & Shear	Problem Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractions or agitation lead to almost constant friction.	Potential Problem Moves feebly or requires minimum assistance. During a move, skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	No apparent problem Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.	

Braden Scale Component	Current Nursing and/or Collaborative Interventions	Suggested Additional Nursing and/or Collaborative Interventions	UAP Delegation
Sensory Perception			
Moisture			
Activity			
Mobility			
Nutrition			
Friction and Shear			

Week 8: Postpartum/Newborn Care

Lab:

APGAR Score:

SIGN	0	1	2
HEART RATE	absent	below 100	above 100
RESPIRATORY EFFORT	absent	slow, irregular	good crying
MUSCLE TONE	flaccid	some flexion of extremities	active motion
REFLEX IRRITABILITY	none	grimace	vigorous cry
COLOR	pale blue	body pink, blue extremities	completely pink

CASE SCENARIO—APGAR SCORING

Baby Smith was born to a Gravida 3 P3003 woman, who was in labor for 24 hours and delivered her son by emergency cesarean section for fetal distress. The infant was limp, had a weak cry, gasping respirations, a HR of 80 beats/min., and was cyanotic at 1 minute of life. After 3 minutes of resuscitative efforts, the infant had spontaneous respirations, a HR of 120 beats/min., had regained some flexion, was crying with stimulation, and was acrocyanotic.

1) What was the initial 1-minute APGAR score for this infant?

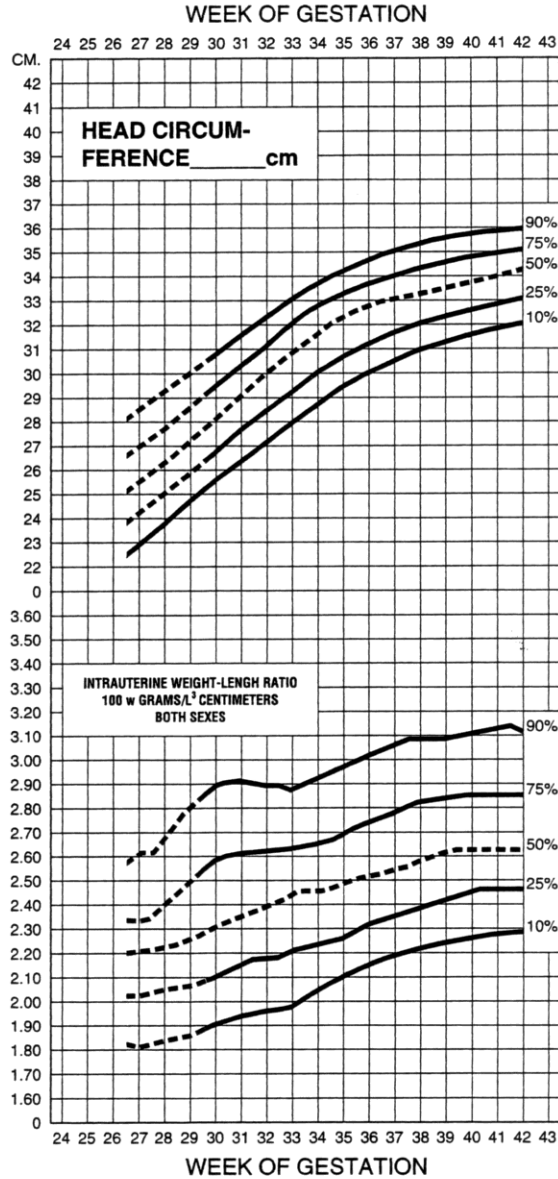
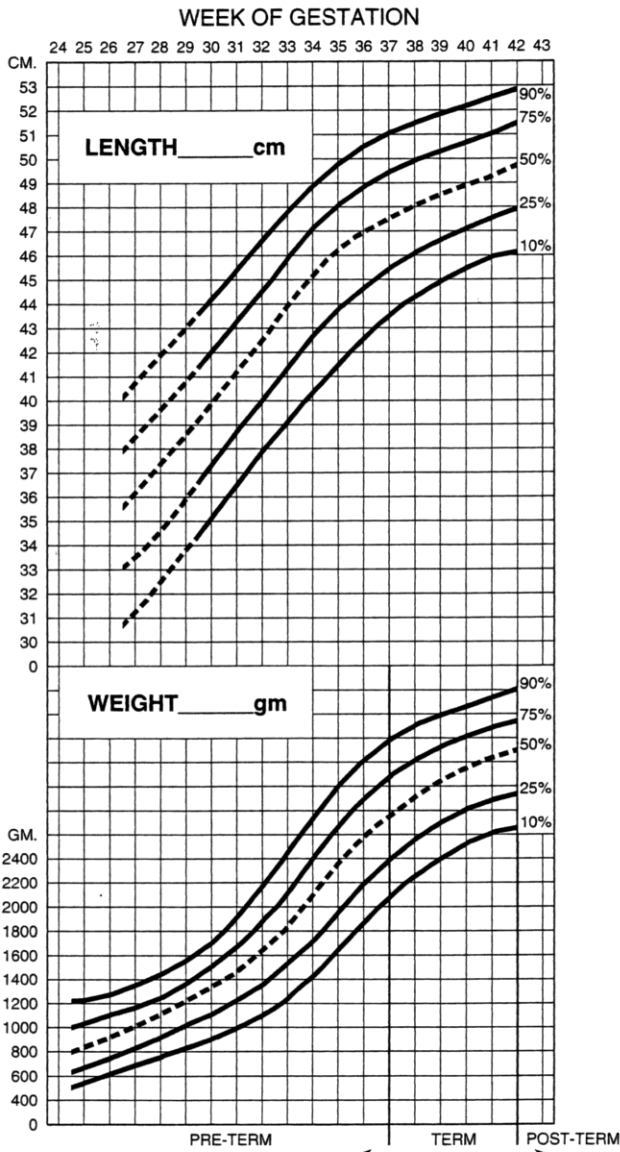
2) What is the baby's 5-minute APGAR SCORE?

3) At which time interval after birth has the APGAR score been shown to correlate with morbidity and mortality in newborns?

4) What are the indications from the APGAR score for the need to resuscitate?

**CLASSIFICATION OF NEWBORNS—
BASED ON MATURITY AND INTRAUTERINE GROWTH**

Symbols: X-1st Exam O-2nd Exam



	1st Exam (X)	2nd Exam (O)
LARGE FOR GESTATIONAL AGE (LGA)		
APPROPRIATE FOR GESTATIONAL AGE (AGA)		
SMALL FOR GESTATIONAL AGE (SGA)		
Age at Exam	hrs	hrs
Signature of Examiner	M.D.	M.D.

CASE SCENARIO—GESTATIONAL AGE ASSESSMENT

As part of the admission process, the newborn’s gestational age is determined. Using the Ballard Gestational Age Tool, determine Baby Taylor’s gestational age.

Baby Taylor’s gestational exam reveals the following assessments of her physical maturity: her skin is cracking and has pale areas, some areas have no lanugo present, the breast bud is 1 to 2 cm with stripped areola, the ears are formed and

firm with instant recoil; plantar surface reveals creases extending over anterior two-thirds of the sole; and the labia majora completely cover the minora and clitoris. Assessment of Baby Taylor's neuromuscular development shows posture with flexion of the arms and hips, 0-degree square window, 90-100-degree arm recoil, popliteal angle of 110 degrees, scarf sign with elbow at midline, and a score of 4 for the head to ear maneuver.

Baby Taylor's birth weight was 3202 gm, her length was 49 cm, and her head circumference was 33.5 cm.

The baby's Ballard score is: _____ which equates to a gestational age of _____ weeks.

Based on the gestational age you determined, correlate it with the baby's weight and classify her as LGA, AGA, or SGA.

Plot the baby's length, weight, and head circumference on chart.

Name three findings in the newborn assessment that may be cause for concern. Give rationales.

1)

2)

3)

What would you do if you walked into a postpartum client's room and found the infant cyanotic?

Week 9: Cellular Regulation and Immunity

Week 10: Infection and Inflammation

Clinical:

Clinical reasoning activities

Infection

WHY WAS IT ORDERED?

Associated Concepts: Infection

The purpose of this activity is to evaluate client orders, determine the relationship to the concept of infection, and discuss appropriate nursing considerations for each order.

Related Concept Learning Outcomes

1. Describe diagnostic and laboratory tests to determine the individual's infection status.
2. Compare and contrast independent and collaborative interventions for clients with infection.

Client Diagnosis:

Instructions: Search through the orders in the client's medical record and identify how each order is related to the concept of infection. Consider medications, diagnostics, and collaborative considerations. Identify nursing considerations for each order. Fill out the following table.

Order	How is the order related to infection?	Nursing considerations related to each order

Infection, Immunity

PROTECTIVE DETAILS!

Part 1: Instructions: Match the following isolation precautions to the correct descriptions.

Isolation Precaution	Description
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<p>a. Standard precautions</p> <p>b. Droplet precautions</p> <p>c. Airborne precautions</p> <p>d. Contact precautions</p>	<p>_____ Used for known or suspected illness transmitted by particles > 5 microns</p> <p>_____ Used for known or suspected illnesses easily transmitted by direct client contact or items in the client environment</p> <p>_____ Used for known or suspected illness transmitted by airborne particles <5 microns</p> <p>_____ Used in the care of all hospitalized individuals regardless of diagnosis or possible infection status. Includes protection from blood and body fluids.</p>
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Part 2: Instructions: Identify the type of isolation precautions that would be implemented for each case vignette. Complete the table by identifying the PPE that would be implemented. Note that the type of isolation may be used more than once.

Case vignette	Type of Isolation Precautions	PPE Needed (or per agency protocol)
1. You are caring for a 68-year-old client admitted with a cough and fever.		
2. You are caring for a client with a confirmed diagnosis of influenza.		
3. You are caring for an 18-month-old diagnosed with otitis media.		
4. You are caring for a 57-year-old homeless client diagnosed in the emergency department with tuberculosis.		
5. You are caring for a postoperative client who is having diarrhea. Lab results show <i>Clostridium difficile</i> .		

Part 3: Instructions: Review the proper steps of applying PPE. Demonstrate correct implementation of PPE by putting on the appropriate PPE indicated for each case. Remember to apply PPE in the correct order and remove and dispose of PPE correctly between cases.

BREAK THE CHAIN OF INFECTION

Associated Concepts:

Infection; Immune; Tissue integrity

The purpose of this activity is to review features related to infection prevention

Related Concept Learning Outcomes

1. Perform common procedures used to assess blood pressure.
2. Identify client risk factors related to blood pressure measurement.

Instructions: Complete the following:

1. Match the following components of the Chain of Infection.

Component	Description
____ 1. Infectious agent	a. Method by which a microorganism is transferred from an infectious agent to a host
____ 2. Reservoir	b. Microorganism that causes an infection
____ 3. Portal of exit	c. Person at risk for infection because of inadequate defenses
____ 4. Mode of transmission	d. Place where microorganism can survive and possibly multiply
____ 5. Portal of entry	e. Where the microorganism enters the body
____ 6. Susceptible host	f. Pathway that leads to exit from reservoir

2. Match the following examples of components the Chain of Infection.

Component	Description
____ 1. Infectious agent	a. Touching, coughing, toys, insect bite
____ 2. Reservoir	b. Garbage, sinks, toilets
____ 3. Portal of exit	c. Virus, bacteria, or fungus
____ 4. Mode of transmission	d. Chronic illness, young, elderly, immunocompromised
____ 5. Portal of entry	e. Skin, respiratory system, urine, feces, blood
____ 6. Susceptible host	f. Respiratory tract, urinary tract, mucous membrane

3. Identify mechanisms to break the Chain of Infection.

Component	Description
____ 1. Infectious agent	a. Immunizations up to date, follow healthy lifestyle b. Use soap and water; use antibiotics appropriately c. Drainage tubes below insertion site, perineal care d. Clean surfaces with correct substance, change soiled linens e. Maintain isolation precautions f. Maintain integrity of closed urinary systems, wound dressings
____ 2. Reservoir	
____ 3. Portal of exit	
____ 4. Mode of transmission	
____ 5. Portal of entry	
____ 6. Susceptible host	

4. For your assigned client, identify chain of infection concerns.

5. Complete the following assessment for your assigned client:

Factors that delay healing or increase risk of wound infection	How affects healing or wound infection	Factor present in your client?	
		Yes	no
Increased age			
Edema			
Fever			
Lifestyle			
Medications			
Multiple wounds			
Nutrition			
Tissue perfusion			

6. Identify the role of body defenses protecting your client.

Defense Mechanism	Role in Your Client
Primary defenses Skin and mucous membranes Respiratory system GI system Circulatory system GU systems	
Secondary defenses	

Fever Inflammatory response	
Tertiary defenses Immune response Active immunity Passive immunity	

7. Identify measures from your assigned client’s plan of care that relate to infection/risk for infection.

WASH IN—WASH OUT: HAND HYGIENE SUPER SLEUTH

Associated Concepts:

Infection; Immune; Health, Wellness and Illness

The purpose of this activity is to monitor compliance with hand hygiene practice. Hand hygiene refers to the cleansing of hands by using an alcohol-based hand rub or washing hands with soap and water.

Instructions: Part 1: Observe your assigned fellow student classmates. Record the observed occasions when hand hygiene (HH) is properly used during client care activities. Example of hand hygiene opportunities include before touching a client; before performing a procedure; after removing gloves; after touching the client, environment, or objects in client’s area.

Key:

Hand hygiene (HH) before touching the client

- If HH performed with an alcohol hand rub before touching a client, place an X in the box labeled yes—HR
- If HH performed with soap and water before touching a client, place an X in the box labeled yes—HW
- If no HH before touching client, place an X in the box labeled no
- If caregiver enters room but does not touch the client so HH not necessary, place an X in the box labeled N/A

Hand hygiene (HH) after touching the client, environment, or objects

- If HH performed with an alcohol hand rub after touching client or environment, place an X in the appropriate box (yes—HR or yes—HW)
- If no HH after touching client or environment, place an X in the box labeled no
- If caregiver enters room but does not touch anything or HH not necessary, place an X in the box labeled N/A

Gloves worn

- If gloves worn before touching client or environment objects, place X in box labeled yes
- If gloves not put on in appropriate situation, place X in box labeled no
- If HH performed with an alcohol hand rub after wearing gloves, place an X in the appropriate box (yes—HR or yes—HW)

HAND HYGIENE MONITORING SURVEY

Client care area: _____ Date: _____

Initials of Monitor: _____

Observation	Time	HH before client contact				HH after client or client area contact				Gloves needed?		Gloves worn?		HH after gloves removed?		
		yes HR	yes HW	no	N/A	yes HR	yes HW	no	N/A	yes	no	yes	no	yes HR	yes HW	no
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
Total																

HH = Hand Hygiene

HR = Alcohol-based Hand Rub Hygiene

HW = Hand Wash Soap Hygiene

N/A = Not applicable

Observation = Number of observed interaction between caregiver and client

WASH IN—WASH OUT: HAND HYGIENE SUPER SLEUTH

Instructions: Part 2: Analyze the results of your observations on the HH grid. Reflect on the following:

1. Why is hand hygiene considered to be a critical part of client care?
2. What factors can impact effective hand hygiene in the practice areas?
3. How would you summarize your completed observations?
4. Do you think that hand hygiene compliance was affected when the person knew they were being observed?
5. Did any factors create a barrier to being able to properly complete hand hygiene?
6. Write a brief outline of how you would address noncompliance with appropriate hand hygiene using the following:
 - a. Fellow nurse
 - b. Unlicensed assistive personnel
 - c. Alternate discipline staff such as radiology technician or dietary aide
 - d. Healthcare provider such as a physician or nurse practitioner
 - e. Client visitor
7. How will this exercise affect your personal use of hand hygiene?

Week 11: Metabolism

Clinical:

Clinical reasoning activities

Match the following term with the correct definition.

- | | |
|-------------------------------|---|
| _____ 1. Islets of Langerhans | a. breakdown of liver glycogen into glucose. |
| _____ 2. Alpha cells | b. the spilling of sugar into the urine which in normal kidneys occurs when the blood sugar reaches about 180 mg/dl. |
| _____ 3. Beta cells | c. cells producing somatostatin which is thought to inhibit production of glucagon and insulin. |
| _____ 4. Delta cells | d. hormone inhibiting excessive breakdown of glycogen in the liver and muscles and the breakdown of stored fat. It also facilitates the storage of fat and movement of glucose into many types of cells. |
| _____ 5. Insulin | e. formation of glucose from fatty acids and amino acids that occurs in the liver and to some degree in other tissues |
| _____ 6. Glycogenolysis | f. by-products of the metabolism of fat for energy which accumulate in the blood and can cause metabolic acidosis. They can be excreted from the body via the kidneys and lungs. |
| _____ 7. Gluconeogenesis | g. cells producing the hormone glucagon which elevates the blood sugar by stimulating the breakdown of glycogen in the liver to produce glucose, the breakdown of protein, and the breakdown of lipids in the liver and adipose tissue. |
| _____ 8. Glucosuria | h. groups of cells that perform the endocrine function of the pancreas producing the hormones necessary for metabolism and cellular utilization of carbohydrates, proteins, and fats. |
| _____ 9. Ketones | |
| _____ 10. Ketonuria | |
| _____ 11. Cortisol | |
| _____ 12. Somogyi effect | |

i. adrenocortical hormone that helps to regulate the metabolism of fats, carbohydrates, proteins, sodium, and potassium. Increased during episodes of stress.

j. cells producing insulin which lowers blood sugar by facilitating transport of glucose across cell membranes into cells and promoting protein synthesis by helping to move amino acids into cells.

k. presence of ketone bodies in the urine as a result of the rapid breakdown of fats for energy due to lack of insulin or a state of starvation.

l. is associated with dawn phenomenon or the early morning increase in blood sugar level that occurs between 4 AM and 8 AM in both Type 1 and Type 2 diabetics.

Complete the chart comparing Type 1 and Type 2 Diabetes:

FACTOR	TYPE 1	TYPE 2
Etiology		Impaired insulin production from increased glucose production from action of glucagon in the liver. Severe peripheral resistance to available insulin
Risk Factors	Genetic predisposition Viral illness as mumps, rubella, or coxsackie virus B4 Exposure to chemical toxins Often occurs in childhood or adolescence but can occur at any age Exposure to steroids as at onset of puberty, pregnancy, or in extreme stress situations Common in pts. of African or Asian descent	

Symptoms at onset		Gradual onset of symptoms Polyuria Polydipsia Fatigue Blurred vision Slow wound healing Numbness, tingling in hands & feet Dry itchy skin Frequent infections as of skin Diagnosed when treated for complications Usually enough insulin to prevent ketone formation
Treatment	Requires insulin Meal planning to meet caloric demand and offset calories needed for activities Exercise Blood glucose monitoring Education	
Characteristic Danger by Type of Diabetes	Ketoacidosis	Hyperosmolar Hyperglycemic State

Week 12: High-Risk Pregnancy

Lab:

1) Review the following conditions associated with high risk pregnancies. Identify the risk factors that result in the condition and list at least (2) nursing interventions that you would provide to the mother, baby, or both.

High Risk Pregnancy

Condition	Risk Factor(s)	Interventions
Pregnancy Induced Hypertension		
Diabetes		
Rh Isoimmunization		
Preterm Labor		
TORCH Disease		
Fetal Distress		

Week 13: High-Risk Newborn

Lab:

-Explain the physiologic challenges of the premature infant

1) Review the following physiologic challenges of the premature infant. List 2-3 nursing interventions you would provide to the newborn for each challenge presented.

Physiologic Challenge	Interventions
Respiratory Distress	
Thermoregulation	
Digestion	

Dehydration	
Infection	
Parent-Child Attachment	

Clinical:

Please complete the following assignment when you are on the clinical unit with newborns. Not all students will be on the newborn unit during this week.

Case Study--Newborn Assessment:

Write 2 nursing interventions to help achieve the following goals for the infant:

Goal:	Interventions:
Respiratory Adaptation	
Safety, including prevention of infection	
Thermoregulation	

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Week 14: Reproduction

Lab:

Activity: Family Planning

Lab groups: Discuss different religions and/or cultures that may have reservations about these types of reproductive technologies.

Reproductive Technology	Religion/Culture
Intrauterine insemination (IUI)	
IVF	
Gamete intra-fallopian transfer (GIFT)/zygote intra-fallopian transfer (ZIFT)	