

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

*NUR 101  
College Lab Manual*

*Spring 2008*

Welcome to College Lab - The college lab is an environment to learn the skills essential to nursing practice. It is a place to learn about a nursing procedure and safely practice the skills in a controlled setting. You will be given a demonstration of the skill and possibly view a video about the procedure. Students should practice the skill until a comfort level is achieved. All students will be required to perform a return demonstration for selected skills (see skills list).

Students must achieve a satisfactory grade on all required skill procedures to pass the college lab portion of NUR 101. It is essential that students attend all college lab sessions to stay current with skills and topics. The college lab's goal is to prepare you for patient care in the healthcare facility.

Have a great semester!

*The NUR 101 Course Team*

Mercer County Community College  
Division of Science and Health Professions  
Nursing Department  
NUR 101 Lab Manual Spring 2008

**NUR 101 students are expected to:**

1. Review related class notes, reading assignments and specific lab objectives prior to each college lab.
2. Complete assigned worksheets prior to each lab.
3. Access the Nursing Skills Online website lesson assignment prior to each lab.
4. Participate in discussion topics listed for each lab.
5. Bring college lab manual to each lab.
6. Bring required equipment to each lab.
7. Properly perform return demonstration on selected skills.
8. Obtain sign-off from lab instructor after successful return demonstration of skill.
9. Attend all scheduled college lab sessions.
10. Arrive at the scheduled time for lab (repeated late arrivals will require intervention by NUR 101 Course Coordinator).

**College Lab Weekly Content**

Week 1: Introduction to College Lab, Medical Asepsis, Infection Control, Isolation Techniques, Protective Barriers, Handwashing & Standard Precautions.

Week 2: Body Mechanics: Lifting, Moving, Mobility and Transfers; Active and Passive ROM Exercises.

Week 3: Bed Bath, Bed Making, Personal Care, Emptying Bed Pans, Urinals, Foley Bags & Ostomy Bags; Intake and Output Measurement.

Week 4: Vital Signs, Pain Assessment, Basic Physical Assessment, Introduction to Nursing Math and Dosage Calculation.

Week 5: Continuation of Vital Signs, Physical Assessment & Nursing Math.

Week 6: Continuation of Vital Signs, Physical Assessment & Nursing Math.

Week 7: Medication Administration (Non-Parenteral) & Dosage Calculation.

Week 8: Continuation of Medication Administration & Dosage Calculation.

Week 9: Medication Administration sign offs, Oxygen Therapy and Oxygen Delivery Devices & Use of Pulse Oximeter.

Week 10: Safe Environment, Use of Restraints: Restraint Free Environment, Chemical Restraints, Pressure Ulcer Prevention, Pressure Ulcer Care.

Week 11: Nutrition Lab: Use and care of feeding tubes, nasogastric tubes, therapeutic diets, feeding patients.

Week 12: Elimination Lab: Enema's, suppositories, ostomy care, urine and stool collection & incontinence care, Dosage Calculation exam.

Week 13: Fluid & Electrolyte Lab: Potter & Perry CD Rom tutorial, IV fluids, intake and output.

Week 14: Dosage Calculation Remediation Exam; Sleep Lab: Sleep disorders.

Week 15: Parenteral Administration of Medications Workshop: IM, SQ, injections, needle & syringe selection.

Required Textbooks/Resources:

1. Smith, S.F.; Duell, D.J.; Martin, B.C. (2008). Clinical Nursing Skills: Basic to Advanced Skills. (7<sup>th</sup> ed.). Upper Saddle River: Pearson Education, Inc.
2. Nursing Skills Online for Fundamentals of Nursing. (6<sup>th</sup> ed.) (2006). St Louis: Mosby Elsevier.
3. Pickar, G. D. (2008) Dosage Calculations. (8th ed.). Albany: Delmar Publications.
4. Potter, P. A., Perry, A. G. (2005) Fundamentals of Nursing. (6th ed.). St. Louis: Elsevier Mosby.

**Nursing 101 Lab Skills Evaluation**

**Student:** \_\_\_\_\_

<b>SKILLS</b>	<b>DATE/INSTRUCTOR SIGNATURE</b>	
	<b>1<sup>ST</sup> ATTEMPT</b>	<b>2<sup>ND</sup> ATTEMPT</b>
Hand washing and gloving (clean)		
Bed Making: Occupied (Folded down - unoccupied)		
Blood pressure		
Pulses: Radial & Apical		
Respirations		
Temperature		
Lifting, moving and transfers		
Bed bath/Oral care		
Bed pan/urinal/adult incontinence care		
Focused physical assessment		
Oral medication administration		
Eye medication administration		
Ear medication administration		
Passive range of motion exercises		
Positioning/Skin care		

## **LAB #1**

**TITLE:** INTRODUCTION TO COLLEGE LAB, MEDICAL ASEPSIS AND INFECTION CONTROL, HANDWASHING & PROTECTIVE BARRIERS

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Demonstrate the ability to apply principles of asepsis to handwashing.
2. Perform proper procedure for handwashing.
3. Demonstrate correct method of gloving, gowning, and mask use for isolation.
4. Discuss the various types of isolation precautions utilized in health care.
5. Discuss the “chain of infection”.
6. Identify methods utilized within healthcare facilities to reduce nosocomial infection.
7. Identify clients most at risk for infection.
8. Explain standard precautions.
9. Identify the differences between medical and surgical asepsis.

### **REQUIRED READING:**

Potter & Perry - Chap. 36, pgs. 930 - 937; Chap. 46, pgs. 1421 1422  
Smith, Duell and Martin - Chap. 14, pgs. 405-443

### **AVAILABLE VIDEOS:**

Basic Infection Control Measures (Concept Media) 25 min.  
Handwashing & Gloving (Concept Media) 25 min.  
Medical Asepsis & Infection Prevention (Mosby) 16 min.  
Preventing Nosocomial Infections (Medcom) 32 min.  
The Ins and Outs of Protective Barriers (Lippincott) 16 min.

### **REQUIRED ASSIGNMENT:**

Worksheet for Medical Asepsis/Infection Control (complete prior to lab)  
Nursing Skills Online - Infection Control Lesson 1-2

### **REQUIRED PROCEDURES:** (In Smith, Duell & Martin)

Handwashing – pgs. 421-424  
Donning and Removing Isolation Attire – pgs. 435-437  
Donning and Removing Clean Gloves - pgs. 424-426



Student Name:

Date:

- 5 Place in sequence from 1 to 6 the protocol for leaving an isolation room.
- \_\_\_\_\_ A. Take off mask
  - \_\_\_\_\_ B. Wash hands
  - \_\_\_\_\_ C. Remove gown
  - \_\_\_\_\_ D. Take off gloves
  - \_\_\_\_\_ E. Untie gown at waist
  - \_\_\_\_\_ F. Untie gown at neck
- 6 Define the following terms:
- A. Asepsis:
  
  - B. Bacteriostatic:
  
  - C. Barrier nursing:
  
  - D. Nosocomial infection:
- 7 Two major factors that determine whether an infection occurs include:
- A. age and general health status.
  - B. underlying disease status and exposure time to infectious agent.
  - C. inherent health and immunologic status.
  - D. type of organism and age.
- 8 State four protective barriers used to reduce the risk of exposure to potentially infective materials.
- A.
  - B.
  - C.
  - D.

Student Name:

Date:

- 9 In the following statements, circle T if the statement is true or F if the statement is false.
- T F A. Gloves should be worn for contact with blood and body fluids of all clients.
- T F B. Gloves should be changed after contact with blood or body fluids; otherwise, it is not necessary to change them between client care.
- T F C. Gowns should be worn at all times when caring for clients with drainage.
- T F D. Health care workers with open lesions should wear double gloves when providing client care.
- 10 State the single, most effective medical asepsis practice:
- 11 The most effective method of preventing the transmission of infection is:
- A. wear a mask if the organism is airborne.
- B. wear gloves when giving client care.
- C. wear a gown when giving client care.
- D. good handwashing.
- 12 Transmission of hepatitis B virus is through:
- 13 Disposal precautions are followed for:
- A. isolation equipment.
- B. syringes and needles.
- C. thermometers.
- D. plastic items.
- 14 AIDS is transmitted through all of the following mechanisms *except*:
- A. transfused blood products.
- B. intravenous drug use with shared needles.
- C. body-to-body contact.
- D. broken skin area.
- 15 In which situation are gloves not necessary?
- A. When in contact with urine
- B. When suctioning clients
- C. When changing an ostomy pouch
- D. When delivering a food tray to an AIDS client
- 16 Two major gerontologic concerns for clients requiring isolation include:
- A.
- B.

## **LAB #2**

**TITLE:** BODY MECHANICS, LIFTING, MOVING, MOBILITY, TRANSFERS, ACTIVE AND PASSIVE ROM EXERCISES

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Identify the importance of maintaining proper body alignment for clients and nurses.
2. Demonstrate techniques for transferring a client.
3. Choose the appropriate assistive device for the client.
4. State two expected outcomes of using proper body mechanics.
5. Demonstrate the procedures for moving a client to the side of the bed, up in bed, turning to a lateral position and assisting out of bed.
6. Outline the steps in logrolling a client.
7. Compare and contrast passive range of motion exercises using all muscle groups.
8. Demonstrate full passive range of motion exercises.

### **REQUIRED READING:**

Potter & Perry - Chap. 46, pgs. 937 - 955, 1458 - 1466  
Smith, Duell & Martin - Chap. 12 and Chap. 13, pgs. 377-394

### **AVAILABLE VIDEOS:**

Basic Care: Body Mechanics (Medcom) 14 min.  
Transfer Techniques (Medcom) 22 min.  
Lifting and Moving the Patient (Medcom) 17 min.

### **REQUIRED ASSIGNMENT:**

Worksheet for Body Mechanics, Lifting, Moving, Mobility, Transfers, & ROM Exercises  
Nursing Skills Online - Safety Lesson 3

### **REQUIRED PROCEDURES:** (In Smith, Duell & Martin)

Passive Range of Motion Exercises: pgs. 382-386  
Transfer from Bed to Chair: pgs. 365-366  
Turning and Positioning the Patient in Bed, pgs. 359-363  
Demonstrate Proper Body Mechanics While Turning and Lifting, pgs. 349-354

Student Name:

Date:

**WORKSHEET FOR BODY MECHANICS, LIFTING, MOVING, MOBILITY,  
TRANSFER & ROM EXERCISES**

1. List the five steps to follow when establishing correct body alignment prior to moving a client.
- A.
  - B.
  - C.
  - D.
  - E.

2. Match the description in column B with the bed position in column A.

	Column A		Column B
_____	A. High-Fowler's	1.	Section of bed raised under lower extremities
_____	B. Semi-Fowler's	2.	Head of bed elevated to 60°
_____	C. Fowler's	3.	Head of bed elevated to 45°
_____	D. Knee-gatch	4.	Head of bed elevated to 30°

3. Briefly describe the steps for dangling a client at the bedside.
4. How is a client stabilized while dangling at the side of the bed?
5. When getting a client out of bed, where is the wheelchair placed in relation to the bed?
6. The primary rationale for the nurse to use proper body mechanics is to:
- A. protect the patient.
  - B. prevent injuries.
  - C. establish body alignment.
  - D. maintain body alignment.

Student Name:

Date:

7. Match the definition in column B with the correct joint movement in column A.

	Column A		Column B
_____	A. Abduction	1.	Bending the head backward
_____	B. Adduction	2.	Movement toward the midline of the body
_____	C. Inversion	3.	Turning a joint inward
_____	D. Eversion	4.	Movement away from the midline of the body
_____	E. Flexion	5.	Bending a joint, resulting in a decreased angle between two bones
_____	F. Hyperextension	6.	Turning a joint outward

8. Define passive and active exercises.

A. Passive

B. Active

9. Bedridden or immobilized clients should be given what type of exercises to prevent complications?

10. Describe the process for placing a wrist through range of motion. Include flexion, extension, and abduction movements.

11. Circle T if the statement is true or F if the statement is false.

- |   |   |    |  |
|---|---|----|--|
| T | F | A. | Extension and flexion of the neck are included in range of motion exercises.                                   |
| T | F | B. | Range of motion exercises are performed only in the supine position.   |
| T | F | C. | Plantar flexion positions the foot with the toes pointed in the upward position.                               |
| T | F | D. | When ambulating a client, have her look down toward her feet to create better stability.                       |
| T | F | E. | When ambulating a client with a cerebral vascular accident (CVA), you should stand on the unaffected side.     |
| T | F | F. | If a client is falling, guide the client to the floor.   |
| T | F | G. | When using a cane, a client should be instructed to place the cane directly to the side of the unaffected leg. |

Student Name:

Date:

12. When instructing a client in the use of a walker, the nurse explains that the client should:
- A. lift up the walker and move forward several inches, then walk toward the walker.
  - B. Lift up the walker, move forward, and at the same time move the naffected leg with the walker.
  - C. Move the walker forward, keeping all four feet of the walker on the floor, then move toward the walker.
  - D. Move the walker forward by pushing and walking at the same time.
13. The most appropriate instruction for a client requiring the use of a cane should be to:
- A. hold the cane on the weak side of the body.
  - B. place the cane directly in line with the foot when beginning to ambulate.
  - C. move the unaffected leg forward then move the cane.
  - D. move the cane forward and then move the affected leg.

### **LAB #3**

**TITLE:** BEDMAKING, PERSONAL CARE & BED BATH, EMPTYING BED PANS, URINALS, FOLEY BAGS AND OSTOMY BAGS

#### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to demonstrate correct techniques for:

1. Assisting a client with hygiene needs related to bathing:
  - a. Back care
  - b. Foot care
  - c. Perineal care
2. Assisting a client with hygiene needs related to:
  - a. Oral care
  - b. Shaving
  - c. Shampoo
3. Provide denture care.
4. Assisting a client with the use of a bedpan/urinal.
5. Making an unoccupied bed.
6. Making an occupied bed.
7. Moving a client in bed.
8. Linen handling.
9. Assess for skin breakdown.
10. Discuss how to prevent skin breakdown/skin tears.
11. State rationales and demonstrate proper skin massage techniques.
12. Demonstrate emptying of bed pans, urinals, foley bags and ostomy bags.
13. Providing hair care.
14. Record output from urinals, foleys and bedpans.

#### **REQUIRED READING:**

Potter & Perry - Chap. 38  
Smith, Duell & Martin – Chaps. 8 and 9

#### **AVAILABLE VIDEOS:**

Bed Bath (Medcom) 20 min.  
Ostomy, Urinary Drainage & Catheter Care (Medcom)

#### **REQUIRED ASSIGNMENT:**

Worksheet for Bedmaking, Personal Hygiene & Bed Bath

Bed Bath - pgs. 187-189  
Back Care - pgs. 202-204  
Foot Care - pg. 229  
Perineal Care - pgs. 236-238  
Shaving - pgs. 222-223  
Denture Care – pg. 216  
Making an Unoccupied Bed - pgs. 178-180  
Making an Occupied Bed - pgs. 181-183  
Use of a Bedpan/Urinal – pgs. 232-233  
Preventing Skin Breakdown - pgs. 196-198  
Oral Care - pgs. 214-215, 217-218  
Measuring Intake and Output - pgs. 764-765

Student Name:

Date:

### WORKSHEET FOR BEDMAKING, PERSONAL HYGIENE & BED BATH

1. Circle T if the statement is true or F if the statement is false.
  - T    F    A.    When making an unoccupied bed, make up one side of the bed and then the other side
  - T    F    B.    All bottom sheets have mitered corners at the head and foot of the bed
  - T    F    C.    Other than the fact that they are left in high position, surgical beds are completed as an unoccupied bed
  - T    F    D.    Pull sheets are made from drawsheets and placed on the bed instead of plastic sheets
  - T    F    E.    When making an occupied bed, it is best to place the client in a supine position
  
2. Place in order by numbering from 1 to 8 the steps in making an occupied bed.
  - \_\_\_\_\_ A.    Remove bath blanket and straighten top sheet
  - \_\_\_\_\_ B.    Place client in side-lying position
  - \_\_\_\_\_ C.    Miter corner of bottom sheet
  - \_\_\_\_\_ D.    Miter corner of bottom sheet at head of bed
  - \_\_\_\_\_ E.    Roll client over linen to opposite side of bed
  - \_\_\_\_\_ F.    Loosen bottom linens on your side of bed
  - \_\_\_\_\_ G.    Place center fold of sheet in middle of mattress
  - \_\_\_\_\_ H.    Pull linen across mattress and straighten under client
  
3. Identify four objectives for bathing clients.
  - A.
  
  - B.
  
  - C.
  
  - D.

Student Name:

Date:

4. Number the body areas from 1 to 8 in the appropriate sequence for bathing a client.
- \_\_\_\_\_ A. Feet
  - \_\_\_\_\_ B. Abdomen
  - \_\_\_\_\_ C. Face
  - \_\_\_\_\_ D. Arms
  - \_\_\_\_\_ E. Back
  - \_\_\_\_\_ F. Genital area
  - \_\_\_\_\_ G. Chest
  - \_\_\_\_\_ H. Axilla
5. The RN observes two team members placing the bed clothes they have taken off a client's bed on the floor. The appropriate intervention is to:
- A. bring the staff members a clothes basket and tell them to use it the next time.
  - B. explain the principles of medical asepsis to both team members.
  - C. tell them that this is unacceptable and you will counsel both of them later.
  - D. do nothing because the bedclothes are on their way to the laundry to be disinfected.
6. The primary purpose of A.M. care is to enable the client to freshen up early in the morning.
- A. True
  - B. False
7. Monitoring the client's skin condition involves several specific nursing actions that include:
- A. check skin color.
  - B. assess skin temperature.
  - C. observe for areas of dryness, flaking, and texture.
  - D. examine skin for water retention.
  - E. observe client for alertness and attention span.
- 1. All except D and E
  - 2. All of the above
  - 3. All except E
  - 4. A and B

Student Name:

Date:

8. You are assigned to provide oral care to an unconscious client. Considering the following steps of the procedure, which intervention is missing?  
“Gather equipment, wash hands, brush external surfaces, brush inner surfaces of the teeth.”
  - A. Place bulb syringe or suctioning equipment nearby.
  - B. Rinse the mouth cavity.
  - C. Floss the teeth.
  - D. Check the vital signs.
  
9. The appropriate cleansing action for cleaning the eyes is wiping from \_\_\_\_\_ to \_\_\_\_\_ canthus.
  - A. Inner, outer
  - B. Outer, inner
  
10. State at least five nursing interventions used to promote skin integrity.
  - A.
  
  - B.
  
  - C.
  
  - D.
  
  - E.
  
11. Two interventions used for clients with interrupted skin integrity include:
  - A.
  
  - B.

## **LAB #4, 5 & 6**

**TITLE:** VITAL SIGNS, PAIN ASSESSMENT AND BASIC PHYSICAL ASSESSMENT. INTRODUCTION OF NURSING MATH

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Describe correct techniques for measurement of temperature, pulse and respiration.
2. Discuss routes for measuring temperature and pulse.
3. Identify characteristics of peripheral pulses.
4. Demonstrate accurate assessment of oral temperature, apical and radial pulses, and respiration.
5. Describe correct techniques for measurement of blood pressure.
6. Demonstrate accurate assessment of blood pressure.
7. Identify four factors that affect blood pressure.
8. State the normal T/P/R/BP for an adult.
9. Demonstrate accurate documentation of TPR and BP on the clinical flow sheet.
10. Describe the body's physiologic response to pain.
11. Describe a pain scale.
12. Demonstrate a pain assessment.
13. Demonstrate head to toe basic physical assessment. Practice reporting physical assessment findings.
14. Identify gerontologic considerations in relation to physical assessment.

### **REQUIRED READING:**

Potter & Perry - Chaps. 31, 32  
Smith, Duell & Martin – Chaps. 10, 11 and 16

### **AVAILABLE VIDEOS:**

Head to Toe Physical Assessment  
Vital Signs (Mosby) 30 min.  
Nursing Assessment Series (Blanchard & Loeb) - Cardiac Signs & Symptoms, Vascular Signs & Symptoms, Respiratory Signs & Symptoms

### **REQUIRED ASSIGNMENT:**

Worksheet for Vital Signs & Pain Assessment  
Interactive website for math ([www.testandcalc.com](http://www.testandcalc.com))

REQUIRED PROCEDURES: (In Smith, Duell & Martin)

Temperature - pgs. 260-265  
Radial Pulse - pgs. 267-268  
Apical Pulse – pgs. 268-270  
Respirations - pgs. 275-276  
Blood Pressure - pgs. 278-283  
Head to Toe Physical Assessment - pg. 292  
Palpating Peripheral Pulses - pgs. 270-271

REQUIRED PRACTICE DEMONSTRATION:

In groups of 3, perform a head to toe physical assessment including vital signs. One student is the nurse, one is the patient and the third will critique the nurse performing the assessment.

Student Name:

Date:

### WORKSHEET FOR VITAL SIGNS & PAIN ASSESSMENT

1. Circle T if the answer is true or F if the answer is false.
  - T    F    A.    The body's temperature represents the heat loss through conduction.
  - T    F    B.    Body temperature is regulated by the pituitary gland.
  - T    F    C.    The environment plays a major role in maintaining temperature.
  - T    F    D.    Core temperature is maintained when heat production equals heat loss.
  - T    F    E.    When the body core is cooled below 98.6°F, heat conservation is affected.
  - T    F    F.    Heat production is decreased with shivering.
  - T    F    G.    The "set point" is critical because it determines when the heat-conserving mechanism is altered.
  - T    F    H.    Rectal temperatures measure 1°F lower than oral temperatures.
  - T    F    I.    The circulatory system is under the dual control of autoregulation and the central nervous system.
  - T    F    J.    The radial pulse is taken for 1 full minute.
  
2. The normal range for an oral temperature is:
  - A.    96° - 105°F
  - B.    97° - 99.5°F
  - C.    98.6° - 99.6°F
  - D.    97.6° - 98.6°F
  
3. Six factors affect blood pressure. Three of them are hormones and enzymes, chemoreceptors, and cardiac output. List the remaining three.
  - A.
  - B.
  - C.

Student Name:

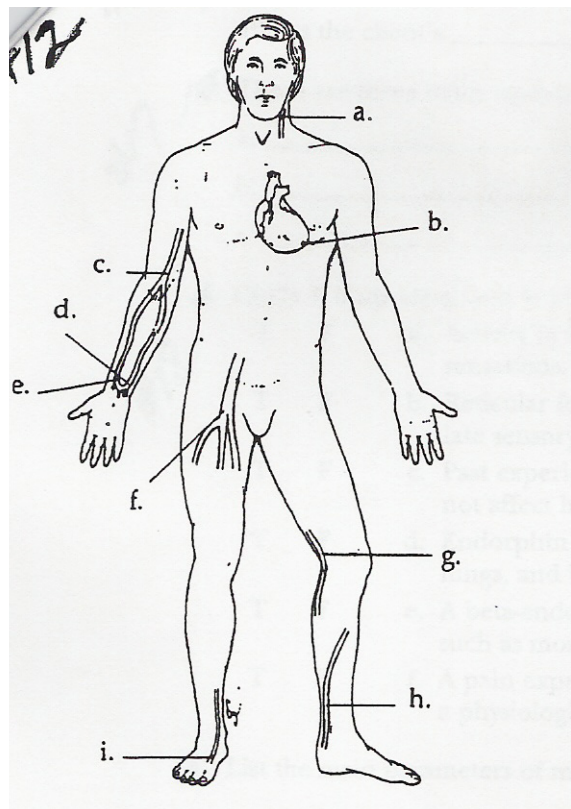
Date:

4. List the characteristics of peripheral pulses.
  - A. 0 =
  - B. 1+ =
  - C. 2+ =
  - D. 3+ =
  
5. Complete the following statements about taking a blood pressure.
  - A. Wrap cuff snugly around upper part of arm with center of bladder over the \_\_\_\_\_ artery.
  - B. Palpate the artery with fingertips. Close valve on manometer pump. Inflate cuff \_\_\_\_\_ mmHg above level at which pulsations are no longer felt.
  - C. Place bell of stethoscope on medial antecubital fossa. Deflate cuff until first \_\_\_\_\_ sound is heard, which indicates the \_\_\_\_\_ pressure. This sound indicates maximal pressure in the aorta following \_\_\_\_\_.
  - D. The second reading is termed the \_\_\_\_\_ sound and is taken when the \_\_\_\_\_ sound \_\_\_\_\_.
  
6. When taking an oral temperature, the client states he just had a cup of coffee. You should wait \_\_\_\_\_ minutes before taking the temperature.
  - A. 5-10
  - B. 10-15
  - C. 15-20
  - D. 10-20
  
7. After comparing the results of several blood pressure readings, you determine that the last blood pressure you obtained was abnormally high without an apparent cause. What possible causes could account for the high blood pressure reading?
  - A.
  - B.
  - C.

Student Name:

Date:

8. You have been obtaining the client's vital signs every hour according to the usual procedures. You have just taken the radial pulse rate, and it now appears to be irregular. What is your next nursing action?
9. You receive an order to monitor pedal pulses every hour on a client with peripheral vascular disease. Your first assessment reveals a strong pedal pulse on the right and an apparent absence of a pulse on the left side. Your next intervention should be to:
- A. obtain a Doppler and assess for blood flow.
  - B. take the client's blood pressure to determine if the client is hypotensive.
  - C. warm the client's extremity and assess in 15 minutes.
  - D. assess for the presence of a posterior tibial and popliteal pulse.
10. When checking the nurse's notes prior to caring for a client who has had vascular surgery, you observe that the charting of the peripheral pulses states the client has a 2+ pedal pulse. What is your interpretation of this statement?
11. Name the pulse sites on the diagram.



- A.
- B.
- C.
- D.
- E.
- F.
- G.
- H.
- I.

Student Name:

Date:

12. While taking a radial pulse, you assess that it is irregular with a rate of 72. Your prep sheet indicates the pulse has been regular since admission. Your first nursing action is to:
  - A. notify the team leader immediately.
  - B. take the radial pulse again in 15 minutes.
  - C. document the findings and leave a note for the physician.
  - D. take an apical pulse for 1 full minute.
  
13. The appropriate method for obtaining an apical pulse is, using the:
  - A. bell of the stethoscope, listen at the second intercostal space, right side of sternum.
  - B. bell of the stethoscope, listen at the fifth intercostal space, left sternal border.
  - C. diaphragm of the stethoscope, listen at the second intercostal space, left sternal border.
  - D. diaphragm of the stethoscope, listen at the fifth intercostal space, midclavicular line.
  
14. If the client's arm is positioned below the level of the heart when taking the blood pressure, the reading will be:
  - A. lower than normal.
  - B. no different from if above the level of the heart.
  - C. higher than normal.
  - D. altered if the client has peripheral vascular disease only.
  
15. The fifth vital sign is now considered to be \_\_\_\_\_ because it affects the client's \_\_\_\_\_.
  
16. There are three main types of pain. They are:
  - A.
  
  
  - B.
  
  
  - C.

Student Name:

Date:

17. Circle T if the statement is true or F if the statement is false.

- |   |   |    |   |
|---|---|----|---|
| T | F | A. | Activity in large and small nerve fibers affects pain sensations.                                       |
| T | F | B. | Reticular formation monitors in the brainstem regulate sensory input.                                   |
| T | F | C. | Past experiences of pain are usually forgotten and do not affect how a client responds to current pain. |
| T | F | D. | Endorphin receptors are formed mainly in the heart, lungs and kidneys.                                  |
| T | F | E. | A beta-endorphin is as strong as synthetic opiates such as morphine sulfate.                            |
| T | F | F. | A pain experience is a singular event affecting either a physiologic change or a physical sensation.    |

18. List the main parameters of measuring pain.

A.

B.

C.

D.

19. State three nursing responsibilities that are carried out when medicating a client for pain.

A.

B.

C.

20. List and briefly describe the 4 examination techniques used in physical assessment.

A.

B.

C.

D.

21. Briefly describe the steps in a focused physical assessment.

A.

B.

C.

D.

E.

F.

22. Identify and briefly describe normal breath sounds.

A.

B.

C.





## LAB #7 & 8

TITLE: DRUG/DOSE TESTING/MEDICATION ADMINISTRATION/NON-PARENTERAL MEDICATIONS/DOSAGE CALCULATION/IV FLOW RATE CALCULATION

### LAB OBJECTIVES:

At the completion of this lab, the student will be able to:

1. ***Successfully complete the required Drug & Dosage Calculation Test with a score of 90%.*** Students who do not achieve 90% on this exam must retest until they achieve the required 90%. *No student will be allowed to pass medications in the clinical setting until they have successfully passed the Calculation and Administration portions of medication administration testing.*
2. Review the Medication Administration Records (MAR) used at the clinical facilities.
3. Demonstrate correct medication administration of oral and liquid medications.
4. Demonstrate correct medication administration of topical, inhaled, ophthalmic and otic medications.
5. Practice dosage calculation and nursing math.

### REQUIRED READING:

Website [www.testandcalc.com](http://www.testandcalc.com)  
Smith, Duell & Martin – Chap. 18, pgs. 567-601, 1090  
Pickar - Chaps. 5, 6, 7, 9, 10, 11, 14 (Review math problems)

### AVAILABLE VIDEO:

Oral Medication Administration

### REQUIRED ASSIGNMENT:

Worksheet for Dosage Calculation (Refer to Pickar)  
Worksheet for Drug/Dose Testing/Medication Administration Records/Non-Parenteral Medications  
Prepare drug cards for assigned medications using drug guide  
Nursing Skills Online - Safe Medication Administration Lesson 1-5

### REQUIRED PROCEDURES: (In Smith, Duell & Martin)

Oral Drugs - pgs. 580-584  
Topical Medications - pg. 586  
Transdermal Drugs - pgs. 587-588  
Eye Medications - pgs. 588-590  
Eardrops - pgs. 590-591  
Handheld Oropharyngeal Inhalers - pgs. 595-598  
IV Flow Rate Calculation - pg. 1090  
Sublingual Drugs - pg. 594

Student Name:

Date:

**WORKSHEET FOR DRUG/DOSE TESTING/MEDICATION ADMINISTRATION  
RECORDS/NON-PARENTERAL MEDICATIONS**

1. Match the abbreviation or symbol in column A with its definition in column B.

	Column A	Column B
_____	A. aa	1. with
_____	B. a.c.	2. intramuscular
_____	C. b.i.d.	3. intravenous
_____	D. ċ	4. of each
_____	E. g.t.t.	5. four times a day
_____	F. IM	6. drop
_____	G. npo	7. after meals
_____	H. IV	8. before meals
_____	I. p.c.	9. nothing by mouth
_____	J. q.i.d.	10. twice a day

2. The most direct, reliable, and rapid route of drug absorption is:

- A. oral.
- B. sublingual.
- C. inhalation.
- D. intravenous.

3. Most drugs are metabolized in which body area?

- A. Kidney
- B. Plasma
- C. Liver
- D. Intestinal mucosa

4. The “unit dose” method is used to dispense medications. This method has the advantage of allowing the nurse to:

- A. check the medication three times.
- B. place medication in a medicine cup before taking it to the client.
- C. check medication name and dosage on the package while handing to the client.

Student Name:

Date:

5. List four factors that affect drug metabolism (biotransformation).
  - A.
  - B.
  - C.
  - D.
  
6. List “The Six Rights” in the administration of medications.
  - A. D.
  - B. E.
  - C. F.
  
7. There are seven parts of a drug order. Which three parts are missing?
  - A. Name of client
  - B. Name of drug
  - C. Dose
  - D. Signature of individual order drug
  - E.
  - F.
  - G.
  
8. Briefly state the three times for checking medications during the preparation procedure.
  - A.
  - B.
  - C.

Student Name:

Date:

9. Circle T if the statement is true or F if the statement is false.
- |   |   |    |   |
|---|---|----|---|
| T | F | A. | When applying antibacterial cream to an open skin lesion, sterile gloves or sterile tongue blades are used. |
| T | F | B. | Vasodilator topical medications are placed on a pre-measured paper before being applied to the skin.        |
| T | F | C. | Eye drops are placed on the cornea for increased absorption.  |
| T | F | D. | Eye ointments are applied under the upper eyelid.   |
| T | F | E. | Ear drops are instilled into an adult's ear by lifting the pinna up and backward.                           |
| T | F | F. | Rectal suppositories are inserted into the rectum and positioned at the anal sphincter.                     |

10. An RN observes an LPN/LVN giving a client an injection and she is not wearing gloves. When the RN asks why the LPN/LVN did not put on gloves, she replies, "Oh, I know this client well, and there is no risk." The RN should reply:
- A. "The regulations state that all of us must wear gloves when giving an injection. If I see you without them, I will place you on report."
  - B. "Tell me your understanding of the principle of standard precautions for all clients."
  - C. "Well, if you are absolutely sure that you know this client, but I don't think that is safe nursing practice."
  - D. "I think we should clarify this with the charge nurse to see who is right."

11. It is very important to monitor for drug overdose in the elderly even if the dosage is within the normal range because:
- A. their digestive tracts function at a slower rate; therefore drug absorption rates are decreased.
  - B. they have more intracellular fluid than younger adults.
  - C. they have a lower percentage of fat than younger adults.
  - D. they have a decreased serum albumin level.

12. Match the correct definition in column B with the drug classification in column A.

	Column A	Column B
_____	A. Antiseptic	1. Mimics the action of sympathetic system.
_____	B. Antimicrobial	2. Promotes bowel elimination.
_____	C. Antihistamine	3. Mimics the action of parasympathetic system.
_____	D. Adrenergic	4. Inhibits growth of microorganisms.
_____	E. Cholinergic	5. Relieves symptoms of allergic reaction.
_____	F. Antiemetic	6. Prevents nausea and vomiting.
_____	G. Cathartic	7. Reduces or prevents the infectious process.

Student Name:

Date:

13. Complete the following equivalents by filling in the blanks.

A. \_\_\_\_\_ drops = 1 mL

B. \_\_\_\_\_ mL = 1 pint

C. \_\_\_\_\_ gram = 1000 mg

D. \_\_\_\_\_ liter = 1000 mL

Mercer County Community College  
Division of Science & Health Professions  
Nursing Department  
**NUR 101 Dosage Calculation Worksheet**

The purpose of this worksheet is to prepare students for the dosage calculation portion of the course. This is a self taught module. The chapters will be assigned from the textbook, Dosage Calculations 7<sup>th</sup> Edition by Gloria Pickar. The student will be expected to review the content in the assigned chapters and solve assigned practice problems. If the student has difficulty with solving problems, please review chapter content and seek out an instructor for additional assistance. The dosage calculation exam will be given when the college lab instructor feels the majority of the class is prepared to take the exam (approximately week 12 of the semester). This exam will be given in college lab. Calculators will be allowed. The exam will be timed. The expectation for this exam is 90% or better. If the student does not achieve the 90 % on the first attempt, a remediation session must be attended by the student and a new test will be taken. The Dosage Calculation exam is graded as pass/fail with a grade of 90% or better designating the pass grade. **Please bring the Pickar book to college lab for the next few weeks**

**Textbook: Dosage Calculations 7<sup>th</sup> Edition Gloria Pickar.**

Review basic math concepts in Chapter 1 (Fractions & Decimals) and Chapter 2 (Ratios, Percents, Simple Equations, and Ratio Proportion. Most of the math involved with dosage calculation centers on these basic math concepts. If you feel comfortable with these concepts and problems you should have no problem with dosage calculations.

If you are having difficulty with solving the problems in Chapter 1 & 2 you may benefit from visiting the campus Learning Center and seek out some assistance with basic math.

Next review concepts specific to nursing math and dosage calculation. The following Pickar chapters should be reviewed for understanding of content.

Chapter 3: Systems of Measurement

Chapter 4: Conversions: Metric, Apothecary & Household Systems

Chapter 6: Equipment Used in Dosage Measurement

Chapter 7: Interpreting Drug Orders

Chapter 8: Understanding Drug Labels

Solve a few problems in each of the above chapters to see if you have an understanding of the content. It is not necessary to solve all the problems. Again, if you are having difficulty understanding a particular content area, review the chapter and seek out additional assistance.

To further prepare for the dosage calculation exam, the student should be able to solve the problems found in the following Pickar chapters. Solutions for all practice problems are located in the back of the Pickar book. There is also a User Tutorial CD-ROM that is included with the textbook. It is beneficial to first review the chapter content then solve the assigned problems. Check your answers for accuracy then move on to the next chapter. The actual dosage calculation exam will include problems similar to what is assigned in this worksheet.

Please complete problems in Review Set 25; Problems 1 -20 (Answers on pg. 482)  
Oral Liquids: Review Set 26, Problems 1- 30 (Answers on pg. 483)  
If additional practice is needed please complete the practice problems on pgs. 178-179, problems 1 – 27.

#### Chapter 10: Parenteral Dosage of Drugs

Please complete problems in Review Set 27; Problems 1-20 (Answers on pgs. 485-488.  
Insulin: Please read the content on Insulin and complete the problems in Review Set 28  
Problems 1 -30. (Answers on pages 488-490.)  
If additional practice is needed on this content, please complete the practice problems on page 212-217.

#### Chapter 11: Reconstitution of Solutions

Please complete the practice problems in Review Set 29; Problems 1-15 (Answers pg.493-497)

#### Chapter 12: Using Ratio-Proportion to Calculate Dosages

Please complete practice problems in Review Set 31 page 268.  
If additional practice problems are needed, complete problems on page 270 problems 1-20.

#### Chapter 13: Pediatric and Adult Dosages Based on Body Weight

Please complete the problems in Review Set 32; pages 288-293. (Answers on pages 502-504)  
If additional practice is needed, complete the problems on page 294-306.

A final review for Chapters 9-13 would be to complete the self evaluation on pages 308-319.

There will also be problems dealing with Intravenous Solutions, please review Chapter 14: Intravenous Solutions, Equipment, and Calculations. These problems will deal with solving for rate of flow in drops per minute in manual regulated IV's. Please review content on pages 341-348, and complete the problems in Review Set 38, problems 7-15 and the problems in Review set 39, problems 1 -15.

#### TEMPERATURE CONVERSIONS

##### **Celsius to Fahrenheit**

$$F = \frac{9}{5}C + 32$$

$$40^{\circ}C \times \frac{9}{5} = 72 + 32 = 104^{\circ}F$$

##### **Fahrenheit to Celsius**

$$C = \frac{5}{9}(F - 32)$$

$$100^{\circ}C - 32^{\circ} + 68 \times \frac{5}{9} = 37 - 7^{\circ}C$$

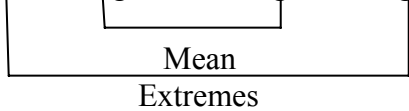
## BODY WEIGHT CONVERSIONS

Change 150 lbs. to Kilograms. Divide 150 by 2.2 = 68 Kg.

Change 60 Kgs. to Pounds. Multiply 60 x 2.2 = 132 lbs.

## USE OF RATIO AND PROPORTION

1 gram : 15 grains :: 0.8 grams : x grains



$$1x = 0.8 \times 15$$

$$1x = 12$$

$$x = 12 \text{ grains}$$

## IV FLOW RATE

Calculate mL/hr

Total volume = mL/hr

Total time = (hours)

Calculate drops per minute

Total volume x Drop factor = gtt/min

Total time (minutes)

$$\frac{1000 \text{ mL}}{6} = 166.6 \text{ mL/hr or } 167$$

$$\frac{1000 \text{ mL} \times 15}{480 \text{ min}} = \frac{15,000}{480}$$

$$= 31.25 \text{ gtt/min or } 31 \text{ gtt/min}$$

## CALCULATE ML/HR FOR VOLUMETRIC INFUSION PUMP

$$\frac{\text{Amount of Solution}}{\text{Minutes to Give}} = \frac{\text{mL/hr}}{60 \text{ min}}$$

$$\frac{50 \text{ mL}}{30 \text{ min}} = \frac{x \text{ mL}}{60 \text{ min}}$$

$$30x = 3000$$

$$x = 100 \text{ mL/h}$$

## VOLUME AND WEIGHT EQUIVALENTS

<u>Metric System</u>	<u>Apothecary System</u>	<u>Household Measurements</u>
	<i>Volume</i>	
1 milliliter	1 minim	1 drop
4-5 milliliters	15-16 minims	15-16 drops
15 milliliters	1 dram (60 minims)	1 teaspoon (60 gtts)
30 milliliters	4 drams (3-4 teaspoons)	1 tablespoon (1/2 ounce)
180 milliliters	1 ounce (8 drams)	2 tablespoons (1 ounce)
240 milliliters	6 ounces	1 teacup
500 milliliters	8 ounces	1 glass/measuring cup
1000 milliliters (1 liter)	1 pint	1 pint (16 ounces)
	1 quart	1 quart (32 ounces)
	2 pints	1 quart
	4 quarts	1 gallon
	<i>Weight</i>	
0.60 - 0.65 milligrams	gr 1/100	—
0.5 milligrams	gr 1/120	—
0.4 milligrams	gr 1/150	—
0.3 milligrams	gr 1/200	—
0.2 milligrams	gr 1/300	—
1000 micrograms	gr 1/60	—
1 mg (1000 mcg)	gr 1/60	—
4 mg	gr 1/15	—
6 mg	gr 1/10	—
10 mg	gr 1/6	—
15 mg	gr 1/4	—
60 milligrams	1 grain	—
1 gram (1000 mg)	15 grains	—
4-5 grams	1 dram	—
15 grams	4 drams	—
30 grams	8 drams	1 ounce
1 kilogram (1000 grams)	—	2.2 pounds

## **REQUIRED ASSIGNMENT: NUR 101 DRUG CARDS**

Each student is to prepare a drug card using an index card for the listed medications, using the proper format. When drug cards are required during the semester for clinical, the Drug Card format presented below should be used.

### DRUG CARD FORMAT

Name of Drug - generic & trade names  
Classification of Drug  
Adult Dose Range  
Mechanism of Action  
Side Effects/Adverse Effects  
Nursing Considerations

### DRUG LIST

Furosemide (Lasix)  
Metoprolol (Lopressor)  
Acetaminophen (Tylenol)  
Lanoxin (Digoxin)  
Ducosate (Colace)  
Enalapril (Vasotec)  
Percocet (Oxycodone & Acetaminophen)  
Sertaline (Zoloft)  
Amlodipine (Norvasc)  
Atorvastatin (Lipitor)

## **LAB #9**

**TITLE:** OXYGENATION, OXYGEN DELIVERY DEVICES & PULSE OXIMETRY

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss the importance of respiratory preventive and maintenance measures such as coughing and deep breathing and incentive spirometry.
2. Discuss selected oxygen delivery devices.
3. Demonstrate correct application of nasal cannula and face masks.
4. Demonstrate positioning and techniques for administering chest physiotherapy.
5. Demonstrate proper technique for oral suctioning.
6. Demonstrate proper use of an incentive spirometer.
7. Participate in a group presentation on oxygen delivery devices.
8. Discuss the correct use of the pulse oximeter.

### **REQUIRED READING:**

Smith, Duell & Martin – Chap. 26, pgs. 942-966; Chap. 10, pg. 272; Chap. 26, pg. 959

### **AVAILABLE VIDEO:**

Basic Care: Oxygen Administration (Medcom) 17 min.

### **REQUIRED ASSIGNMENT:**

Worksheet for Oxygenation, Oxygen Delivery Devices and Pulse Oximetry  
Group Activity: Research and present to class a selected oxygen delivery device  
Nursing Skills Online - Airway Management Lesson 1-2

### **REQUIRED PROCEDURES: (In Smith, Duell & Martin)**

Instructing client to deep breath and cough - pg. 947  
Use of incentive spirometer - pg. 948  
Use of nasal cannula - pg. 962

Student Name:

Date:

## **WORKSHEET FOR OXYGENATION, OXYGEN DELIVERY DEVICES AND PULSE OXIMETRY**

1. The client is placed in a \_\_\_\_\_ position when teaching deep breathing and coughing exercises. Have the client take a \_\_\_\_\_ breath through the \_\_\_\_\_ until the chest is expanded and abdominal muscles rise.
2. Instructions for coughing exercises include having the client \_\_\_\_\_ deeply and to cough using \_\_\_\_\_ and respiratory muscles.
3. Complete the following instructions for clients requiring diaphragmatic breathing: The client is to breathe in deeply through the \_\_\_\_\_. The client is to exhale by \_\_\_\_\_. To assist in exhaling effectively, instruct the client to tighten the \_\_\_\_\_ muscles.
4. Which of the following instructions are correct when using a flow incentive spirometer?
  - A. Hold spirometer at 45° angle
  - B. Sit in Fowler's position when using the device
  - C. Take in a deep breath and form a tight seal around lips before exhaling into device.
  - D. Keep ball elevated for 5-10 seconds
  1. 2 only
  2. 2,3
  3. 1,4
  4. All except 3
5. A primary objective for use of the incentive spirometer is:
  - A. to assist with breathing function.
  - B. decrease the work of breathing.
  - C. to improve pulmonary ventilation.
  - D. to prevent hyperventilation.
6. CPAP provides \_\_\_\_\_ pressure to establish minimal airway value at the end of exhalation.
7. Early signs and symptoms of hypoxia include:
  - A. Bradycardia.
  - B. Restlessness.
  - C. Low blood pressure.
  - D. Shallow breathing.

Student Name:

Date:

8. Symptoms of chronic hypoxia include \_\_\_\_\_ and \_\_\_\_\_ of fingers and toes.
9. When caring for a client receiving nasal cannula oxygen, routine care includes providing nasal care with only \_\_\_\_\_ products.
10. Match the oxygen delivery device to the FIO<sub>2</sub> oxygen flow rate.

Simple face mask \_\_\_\_\_

A. FIO<sub>2</sub> 24-50%

Venturi mask \_\_\_\_\_

B. FIO<sub>2</sub> 60-100%

Nonrebreather mask \_\_\_\_\_

C. FIO<sub>2</sub> 35-65%

Face tent \_\_\_\_\_

D. FIO<sub>2</sub> 28-100%

## **GROUP ACTIVITY: OXYGEN DELIVERY DEVICES**

In groups of 4 - 5 students, research one of the following oxygen delivery devices and present information to the class. The presentation should include the following:

- How the device is used?
- Amount of oxygen that can be delivered.
- How is oxygen regulated with the device?
- Safety precautions with the device.
- Contraindications to device.

### ADULT OXYGEN DELIVERY DEVICES

1. Nasal cannula
2. Simple face mask
3. Venturi mask
4. Mask with reservoir bag (partial rebreather or non-rebreather mask)
5. Bipap/CPAP

## **LAB #10**

**TITLE:** SAFE ENVIRONMENT: USE OF RESTRAINTS, RESTRAINT FREE ENVIRONMENT, PRESSURE ULCER PREVENTION, PRESSURE ULCER CARE

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss the use of restraints and their nursing implications with recognition of legal issues.
2. Discuss the use of chemical restraints.
3. Demonstrate the application of wrist restraints.
4. List the components that should be included when charting the application of restraints.
5. List and briefly describe 4 guidelines for using restraints to prevent injury.
6. Identify and discuss alternatives to the use of restraints.
7. Discuss fall prevention and fall risk assessment.
8. Discuss pressure ulcer risk factors.
9. Demonstrate how to care for stage I and II pressure ulcers.

### **REQUIRED READING:**

Smith, Duell & Martin – Chap. 7, pgs. 136-145, 148-151, 157-161; Chap. 25, pgs 915-926

### **AVAILABLE VIDEOS:**

Restraints: A Last Resort (Granstrom) 23 min.  
Restraint Alternative: Finding the Right Solution (Granstrom) 20 min.  
Pressure Ulcer Prevention Series (Smith & Nephew)

### **REQUIRED ASSIGNMENT:**

Worksheet for Restraints and Restraint Free Environment  
Nursing Skills Online - Safety Lesson 1-2; Wound Care Lesson 4



## **LAB #11**

**TITLE:** NUTRITION, ENTERAL FEEDING TUBES, FEEDING PATIENTS

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss selected therapeutic diets and their use.
2. Participate in a simulated dependent oral feeding.
3. Identify the type of patient that would require tube feedings.
4. Demonstrate irrigation and checking residual of a feeding tube.
5. Demonstrate checking placement of a feeding tube.

### **REQUIRED READING:**

Smith, Duell & Martin - Chap. 19

### **AVAILABLE VIDEOS:**

Nutrition (Mosby) 16 min.

To Be Series: Enteral Feeding Tubes, Parts 1 & 2 (Concept Media) 18 & 24 min.

### **REQUIRED ASSIGNMENT:**

Worksheet for Nutrition, Enteral Feeding Tubes

Nursing Skills Online - Enteral Nutrition Lesson 1-5; Safety Lesson 4

### **REQUIRED PROCEDURES:**

Assisting a client to eat - pgs. 649-650

Irrigating/Maintaining Nasogastric Tube - pg. 657

Giving a Feeding Via a Nasogastric or PEG Tube- pgs. 664-666

Student Name:

Date:

### WORKSHEET FOR NUTRITION, ENTERAL TUBE FEEDINGS

1. State two nursing diagnoses that could be used when a nutritional problem is evident.
  - A.
  
  - B.
  
2. Describe three nursing actions the nurse carries out in preparation for serving a food tray.
  - A.
  
  - B.
  
  - C.
  
3. When instructing a client to follow a low-potassium diet, the nurse tells her to avoid which of the following foods?
  - A. Fish
  - B. Raw apples
  - C. Dry cereal
  - D. French bread
  1. A only
  2. B, D
  3. A, B
  4. All except A
  
4. Match the food from column B to the appropriate nutrient in column A (more than one may be indicated).

	Column A		Column B
_____	1. High potassium	a.	Fruits
_____	2. High iron	b.	Bread
_____	3. High sodium	c.	Potato
_____	4. Low sodium	d.	Red meat
_____	5. High protein	e.	Frozen entrees
_____	6. High cholesterol	f.	Organ meats
_____	7. High carbohydrate	g.	Green vegetables
		h.	Eggs

Student Name:

Date:

5. A high fiber diet is prescribed to treat \_\_\_\_\_ and \_\_\_\_\_.
6. Number in order of progression the diet of a person who has had surgery?  
\_\_\_\_\_ clear liquids                      \_\_\_\_\_ full liquids  
\_\_\_\_\_ NPO                                      \_\_\_\_\_ regular diet
7. The use of a straw increases the risk of aspiration.  
A. True  
B. False
8. Describe the procedure for checking placement of an enteral feeding tube or nasogastric tube.
9. What methods are available to check placement of a nasogastric tube?  
A. \_\_\_\_\_  
B. \_\_\_\_\_  
C. \_\_\_\_\_
10. What angle should a client's head of bed be to receive enteral tube feeding?  
A. 20 - 25°  
B. 30 - 45°  
C. 10 - 15°  
D. 15 - 20°

## **LAB #12**

**TITLE:** ELIMINATION, URINE & STOOL COLLECTION, ENEMA AND SUPPOSITORY ADMINISTRATION, OSTOMY CARE, INCONTINENCE CARE, DOSAGE CALCULATION EXAM

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss the importance of urinary and bowel elimination as a basic human need.
2. Demonstrate application of a condom catheter.
3. Discuss specimen collection methods for urine and stool.
4. Demonstrate correct technique for enema and suppository administration.
5. Discuss proper techniques for ostomy care.
6. Demonstrate measuring urine output.
7. Discuss incontinence care.

### **REQUIRED READING:**

Smith, Duell & Martin - Chap. 22,- pgs. 756-769, 789-794; Chap. 23 - pgs. 811-837, Chap. 20, pgs. 684-688, 689-693, Chap. 9 - pg. 238, Chap. 18 - pg. 599

### **REQUIRED ASSIGNMENT:**

Worksheet for Elimination, Specimen Collection, Enemas and Suppository Administration

Nursing Skills Online - Specimen Collection Lesson 1&2, Urinary Catheterization Lesson 3-5, Bowel Elimination/Ostomy Lesson 1-4

### **REQUIRED PROCEDURES (In Smith, Duell & Martin):**

Male Condom Catheter - pg. 767  
Enema Administration - pgs. 831-837  
Collecting Midstream Urine - pg. 685  
Collection Specimen from a Closed System - pg. 793  
Monitoring Intake & Output - pgs. 1104-1106, 764-765  
Providing Incontinence Care - pg. 238

### **REQUIRED EXAM:**

Dosage Calculation exam to be given during the first hour of lab.

Student Name:

Date:

**WORKSHEET FOR ELIMINATION, URINE & STOOL COLLECTION AND ENEMA ADMINISTRATION**

1. A decrease in urinary output may be due to:
  - A. enlarged prostate.
  - B. decrease in ADH secretion.
  - C. alcohol intake.
  - D. diuretic administration.
  
2. All of the following actions can be used to stimulate voiding *except*:
  - A. putting oil of wintergreen on a cotton ball in the bedpan.
  - B. placing a hot washcloth on the client's abdomen.
  - C. ambulating the client.
  - D. providing a sitz bath.
  
3. Match the physiologic function in column B with normal renal tubular function in column A.

	Column A	Column B
_____	A. Proximal tubule	1. Sodium is actively transported from the filtrate into the tubule.
_____	B. Loop of Henle	2. Reabsorption of water occurs due to influence of ADH.
_____	C. Distal tubule	3. Obligatory reabsorption of water occurs.
  
4. Which one of the following interventions assists in effective bowel evacuation?
  - A. Include more complex carbohydrates in the diet
  - B. Administer bulk-forming medications
  - C. Administer bowel retraining program before meals
  - D. Maintain fluid intake at 2000 mL/day
  
5. When administering an enema, the nurse follows which one of the following nursing actions?
  - A. Warm the enema solution to 99°F
  - B. Insert the enema tubing 6-8 inches into the rectum
  - C. Instill 100-200 mL solution slowly
  - D. Raise the enema container to a height of 18 inches
  
6. After administering a tap water enema, the solution was not returned. Which of the following interventions could be helpful in expelling the solution?
  - A. Gently massage the client's abdomen
  - B. Instruct the client to turn side-to-side
  - C. Replace the rectal tube and lower the bag below bed level
  - D. Administer a stronger enema solution, such as soap suds

Student Name:

Date:

7. Which one of the following statements is true regarding the collection of a stool specimen?
  - A. Specimens needed for amoeba or flagellate identification should be refrigerated immediately.
  - B. Parasite identification can occur even following a barium enema procedure.
  - C. Stool contaminated with urine cannot be used to detect the presence of amoebas.
  - D. One specimen is sufficient to determine the presence of trophozoites.
  
8. Which one of the following statements identifies a correct nursing action when collecting a 24-hour urine specimen that is to begin at 9:00 AM?
  - A. Have the client void at 9 AM, place urine in the container, and label as beginning time for 24-hour specimen.
  - B. A specimen is collected at 9 AM and discarded, and then at the next voiding, the time is documented as the starting time and urine is saved for the next 24 hours.
  - C. The urine is saved for a 24-hour period starting and ending with a voided specimen at 9 AM each day.
  - D. The first voided specimen at 9 AM is discarded, the urine is saved for 24 hours, with the last specimen collected at 9 AM the following day.
  
9. The most common reason for inaccurate reporting of a urine culture and sensitivity is:
  - A. specimen sent to laboratory in unsterile container.
  - B. specimen not sent to laboratory immediately after collection.
  - C. cleansing agent not appropriate.
  - D. contaminated specimen.

## **LAB #13**

**TITLE:** FLUIDS AND ELECTROLYTES

**LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss fluid and electrolyte balance and regulation.
2. Identify different electrolyte imbalances.
3. Demonstrate measuring intake and output.
4. Identify the variables affecting normal fluid and electrolyte balances.
5. Discuss the use of IV fluids in the healthcare setting.

**REQUIRED READING:**

Smith, Duell & Martin - Chap. 28, pgs. 1069-1075, 1103-1107, 1089-1102

**REQUIRED CD-ROM:**

Potter & Perry, Fundamentals of Nursing, 6<sup>th</sup> edition CD-Rom companion (students are required to bring CD-Rom to this class).

**REQUIRED ASSIGNMENT:**

Potter & Perry, Fundamentals of Nursing, 6<sup>th</sup> edition CD-Rom companion, Fluid and Electrolyte tutorial (to be completed in class).

**REQUIRED PROCEDURES:**

None

## **LAB #14**

**TITLE: SLEEP AND SLEEP DISORDERS  
DOSAGE CALCULATION REMEDIATION EXAM**

*\* Please Note: If you are required to take the Dosage Calculation Remediation exam, please arrive at the scheduled lab start time, if you do not need to re-take the exam, please arrive 1 hour after your scheduled lab start time.*

### **LAB OBJECTIVES:**

At the completion of this lab, the student will be able to:

1. Discuss the characteristics of rest and sleep.
2. Discuss mechanisms that regulate sleep.
3. Explain the functions of sleep.
4. Identify nursing diagnoses appropriate for clients with sleep alterations.
5. Discuss common sleep disorders.
6. Identify nursing interventions designed to promote normal sleep for clients of all ages.

### **REQUIRED READING:**

Potter & Perry, 6<sup>th</sup> edition - Chap. 41

### **AVAILABLE VIDEO:**

Sleep Disorders (Discovery) 50 min.

### **REQUIRED ASSIGNMENT:**

Online or paper and pencil quiz on sleep disorders

### **REQUIRED PROCEDURES:**

None

## **LAB #15**

TOPIC: PARENTERAL MEDICATIONS, IM AND SQ ADMINISTRATION

LAB OBJECTIVES:

At the completion of this lab, the student will be able to:

1. Identify parts of a syringe and indicate those that must remain sterile.
2. List needle sizes and rationales for their use.
3. Demonstrate correct procedure for preparing injections from a vial, pre-filled syringe, and ampule.
4. Demonstrate correct procedure for reconstituting a powdered medication prior to injection.
5. Demonstrate correct procedure for mixing insulin.
6. Describe anatomical landmarks used in locating injection sites.
7. Demonstrate correct technique for administering intradermal, subcutaneous and intramuscular injections.
8. Identify variations for administration of heparin.

REQUIRED READING:

Smith, Duell & Martin – Chap. 18, pgs. 602-627

REQUIRED VIDEO:

None

REQUIRED ASSIGNMENT:

Worksheet for Parenteral Medications  
Nursing Skills Online - Injections Lesson 1-5

REQUIRED PROCEDURES: (In Smith, Duell & Martin)

Subcutaneous Injection - pg. 608  
Intradermal Injection - pg. 607  
I.M. Injection - pgs. 617-622  
Insulin Injection – pgs. 610-612  
Insulin Mixing – pg. 610

Student Name:

Date:

## WORKSHEET FOR PARENTERAL MEDICATIONS

**Clinical Situation:** Janice is a 40-year-old obese client who has just returned from surgery following a partial gastrectomy. She has several medications ordered using the parenteral route. Questions 1 through 5 relate to this clinical situation.

1. Janice complains to severe pain. She has an order to a pain medication, which is to be given Sub Q. Which one of the following needles should be used?
  - A. 26 gauge, ½ inch
  - B. 25 gauge, 5/8 inch
  - C. 22 gauge, 1 inch
  - D. 20 gauge, 1 ½ inch
  
2. Janice has an order for a medication if she becomes nauseated. The medication is to be given using the intramuscular route. Which one of the following needles should be used?
  - A. 22 gauge, 1 ½ inch
  - B. 20 gauge, 1 inch
  - C. 18 gauge, 1 ½ inch
  - D. 23 gauge, 1 inch
  
3. Janice requires an Imferon injection. It is administered using the Z-track method. Which one of the following statements is *most* correct regarding the Z-track?
  - A. All of the air is expressed from the needle and syringe before administration.
  - B. It is necessary to massage the skin following each injection.
  - C. Aspiration to check for needle placement is not necessary.
  - D. It is important to wait 10 seconds after injecting medication before removing needle.
  
4. Which muscle is preferred for intramuscular injections when possible?
  - A. Vastus lateralis
  - B. Gluteus maximus
  - C. Deltoid
  - D. Ventral gluteal
  
5. Subcutaneous injections for pain are most commonly injected in which area?
  - A. Abdomen
  - B. Buttocks
  - C. Arm
  - D. Lateral thigh

6. Complete the statements below by filling in the blank with the correct answer.
- A. Subcutaneous injections are administered at a \_\_\_\_\_ angle.
  - B. Intramuscular injections are administered at a \_\_\_\_\_ angle.
  - C. Air is *not* injected into insulin *solution* to prevent \_\_\_\_\_ in the solution.
  - D. Insulin bottles are rotated to bring the solution into \_\_\_\_\_.
  - E. When two types of insulin are being administered, the intermediate-acting insulin is drawn into the syringe \_\_\_\_\_ the short or rapid-acting insulin.
7. The reason for not massaging the site following a heparin LMWH injection is to:
- A. prevent rapid absorption of medication.
  - B. maintain the medication in Sub Q tissue.
  - C. prevent tissue damage.
  - D. prevent tracking medication onto the skin.
8. Complete the following insulin chart:

<b>insulin preparation</b>	<b>onset</b>	<b>peak</b>	<b>duration</b>
Humalog			
Humulin R			
Humulin N			
Humulin 70/30			
Humalog 75/25			
Humulin Ultralente			

9. Which of the following statements is true concerning the Z-track method for medication administration?
- A. It is not necessary to aspirate before injecting the medication.
  - B. The skin is pulled laterally away from the injection site.
  - C. Medication is injected slowly and needle removed immediately.
  - D. Massage is used following injection to assist with absorption.

Student Name:

Date:

10. You have been exposed to blood or body fluid through an accidental needle stick. Your first action is to:
  - A. complete an unusual occurrence form and notify the charge nurse.
  - B. cover the site with a sterile dressing and see a physician immediately.
  - C. immediately cleanse the site with Betadine for 10 minutes.
  - D. express blood from the site and scrub with soap and water.
  
11. In what situations would the Z-track method be used?
  - A.
  
  
  - B.
  
12. Your client is to receive 2000 units of Heparin by IV push. The vial contains Heparin 5000U/mL. How many mL will you give? \_\_\_\_\_
  
13. The type and size of the syringes and needles used for injections are dependent upon:
  - A.
  
  
  - B.
  
  
  - C.