

Imperial Valley College  
Division of Nursing Education and Health Technologies  
Spring 2013

**LVN 130 - Common Health Problems II**

I. Course Description:

The second of three eight-week courses designed to provide a progressive and sequential study of common well-defined health problems is presented. Emphasis is placed on the immune, endocrine, hematological, cardiovascular, and musculoskeletal systems. Concepts acquired in previous courses are applied with increasing complexity in caring for individuals of all ages. Physiological, psychological, emotional, cultural and social aspects are integrated into the planning and implementation of nursing care. Concurrent clinical experiences are provided whenever possible. In conjunction, appropriate nursing skills are learned in the classroom.

II. Texts:

A. Required:

1. Osborn, Medical-Surgical Nursing, 1<sup>st</sup> ed., Pearson, 2010
2. Ricci, Maternity & Pediatric Nursing, 1st ed., Walters Kluwer/Lippincott Williams & Wilkins, 2009
3. Lynn, Taylor's Clinical Nursing Skills, 2<sup>nd</sup> ed., Walters Kluwer/Lippincott Williams & Wilkins, 2008
4. Kozier, Fundamentals of Nursing, 8<sup>th</sup> ed., Prentice Hall, 2008
5. Roth, Nutrition & Diet Therapy, 9<sup>th</sup> ed., Thompson, 2007
6. ATI – Review Texts

B. Recommended:

1. Ricci, Study Guide for Ricci & Kyle's Maternity & Pediatric Nursing, Walters Kluwer/Lippincott Williams & Wilkins, 2009
2. Doenges, Nursing Care Plans, F.A. Davis, 2009

III. Prerequisites:

VN 120, VN 122, VN 124 or permission of the instructor.

IV. Course Requirements:

- A. Hours VN 130, Common Health Problems II, is a 5.5 unit course. It is divided into theory and clinical components as follows:

	<u>Units</u>	<u>Hours</u>
Theory Lecture	2	36
Skills Lecture	.5	9

	2.5	45
Clinical	2.5	144
Skills Laboratory	<u>.5</u>	<u>27</u>
	3.0	171

During this eight (8) week course, clinical experience will be in medical-surgical and pediatric nursing.

B. LVN Program Grading

The Licensed Vocational Program complies with the Imperial Valley College grading policies in the current catalog **and** the LVN program grading policy as outlined.

- 1.) All assignments are graded on the following scale and grades are **not** rounded.

A = 92%-100%  
 B = 83%-91%  
 C = 75%-82%  
 D = 68%-74%  
 F = Below 68%

**F= When the clinical evaluation is unsatisfactory regardless of the theory grade.**

**The final examination must be passed with a 75% or a grade of "F" for the course will be issued as outlined in the LVN student handbook.**

\* The student is responsible for making an appointment with their instructor any time their grade average drops below 76%.

- 2.) Student must maintain a "C" average in all nursing courses to advance in the program.
- (a.) Both the clinical and classroom aspects of each course must be passed. Failure in either part results in failure of the course and requires re-taking the entire course.
- (b.) Scoring requirements for successful completion of each course:
- (i) 75% or better of total possible points accumulated from all written work and examinations (overall coursework), and
- (ii) 75% or better of the total possible points accumulated from the major unit exams as designated in the course syllabi, and

- (iii) 'Satisfactory' and / or 75% or better in clinical performance, including non-graded written assignments and pre-lab preparation
- 3.) Major Unit Exams and Remediation
- 1.) The student who fails the 1<sup>st</sup> unit exam shall:
    - (a.) Complete remediation in the Nursing Learning Center with a tutor.
    - (b.) Demonstrate knowledge of those areas identified by the faculty as being deficient prior to sitting for the next modular exam.
    - (c.) Receive a 0% on any subsequent exam, if non-compliant with remediation.
  - 2.) The student who fails a 2<sup>nd</sup> unit exam or has an accumulated average less than 75% shall:
    - (a.) Meet with the teaching team.
    - (b.) Develop and submit a personal learning contract that includes all items of deficiencies and specific plan for improving test success.
  - 3.) The student who fails a 3<sup>rd</sup> unit exam or has an accumulated average less than 75% shall:
    - (a.) Meet with the teaching team to consider withdrawal from the nursing program.
    - (b.) If the drop date has passed, the student will meet with the teaching team regarding the possible failure of the nursing course.

**4.) ALGORITHM FOR DIAGNOSTIC EXAMS (ATI):**

- (a.) Refer to LVN Handbook for information.
- (b.) Scores will be considered as a unit exam.

**C. Clinical and Skills Laboratory Performance Grading:**

- 1. Clinical and skills laboratory performance will be determined on a satisfactory or unsatisfactory basis.
  - a. Receive one unsatisfactory in clinical/skills laboratory, complete a NLC referral (remediation) established by the instructor prior to the next clinical/skills laboratory.
  - b. If a second clinical/skills lab is "unsatisfactory", complete NLC referral (remediation) established by the instructor prior to the next clinical/skills lab.
  - c. Receive a third "unsatisfactory" in clinical/skills lab, student will meet with the teaching team to consider dismissal from

the nursing course. Please bear in mind that two or three "unsatisfactory" clinical/skills lab performances could be received in one day.

- d. A formal clinical evaluation will be conducted by the clinical instructor at the completion of each 4 week rotation. A comprehensive classroom and clinical evaluation will be completed by the clinical instructor in conjunction with the team leader at the completion of the eight-week course.
- e. When a care plan is returned to a student with an unsatisfactory grade, the student is expected to correct the plan within the designated time frame and return it to the instructor. If a student fails to correct the care plan on time or if the returned plan continues to be unsatisfactory, it will be reflected as unsatisfactory performance for the rotation.

- 2. Theory, clinical, and skills laboratory requirements must be satisfactorily completed independent of each other in order to successfully complete the course.

D. Grade Components:

1. Theory

- a. A maximum of six (6) Module exams will be given.
- b. One comprehensive final exam will be given.
- c. Other written assignments may be given at the discretion of the instructor. Written assignments will be assigned completion dates by the instructor. Materials handed in late may be given an "unsatisfactory" grade. Written assignment grades will be averaged in with other grades according to the grading scale policy. **All written assignments must be typewritten and follow APA format.**

2. Skills Laboratory

- a. All skills described later in this course must be satisfactorily demonstrated to the instructors or the Nursing Learning Center tutors by the dates designated on the schedule.
- b. Clinical instructor may refer a student back to the skills lab if in his/her judgment more practice on a skill is needed.

3. Clinical

- a. A Student Progress Report form will be given to each student at the beginning of the course. A performance assessment will be conducted at the completion of 4 weeks. A comprehensive evaluation will be conducted at the end.

E. Pharmacological Dosage Calculation Exam:

- 1.) Purpose: Because patient safety is the utmost priority, each student will be required to take and successfully demonstrate competence (pass) a drug calculations exam each semester.
- 2.) Minimum requirements:
  - a.) 10 – 25 questions / calculations appropriate to the level of each semester
  - b.) Student must show their work
  - c.) Pass with a score of 92 % or higher. The score is not included in the grade point average for the course as it is a pass/fail assignment.
  - d.) Time limits assigned as appropriate to the number of questions.
  - e.) Correct units must be stipulated to count as correct: i.e. ml/hr, units/hr, etc.
- 3.) The student is allowed three (3) attempts to pass
  - a) Students who do not pass:
    - (i) Must seek tutoring from faculty and /or math department and/or computerized software in the nursing learning center.
    - (ii) Cannot administer any medication in a clinical setting, except under the direct supervision of the instructor: ensuring the 5 rights, review of drug action, nursing considerations, calculations, rates, relevant labs and administration with the instructor present.
    - (iii) If the student is unsuccessful of the 3<sup>rd</sup> attempt, the student cannot progress to the next nursing course.

#### D. Attendance

1. According to the Imperial Valley College catalog: Regular attendance in all classes is expected of all students enrolled. Instructors are expected to take a student's record into account in computing grades. A student may be excluded from further attendance in a class during any semester when absences after the close of registration have exceeded the number of class hours which the class meets per week. Further, an instructor may drop any student judged to be a disturbing element in the class. However, the attendance policy of the Nursing Program is implemented as follows:
  - a. LVN students in the Imperial Valley College Associate Degree Nursing Program are expected to attend all classes and clinical practice assignments. Absences will be limited to the following for the semester:

## VN 130: 11.5 hours

A student who reaches the maximum allowable number of hours absent will file a petition to remain in the nursing program. The student will meet with the teaching team to discuss the situation and will be considered for dismissal. If remediation is considered, the student will be required to match missed hours, in excess of the maximum allowable, with assigned hours of study. These assignments will be based upon the classroom and clinical objectives. The instructor(s) will determine the appropriate type of remediation.

- b. VN students in the Imperial Valley College Vocational Nursing Program are expected to meet the attendance requirements approved by the Board of Vocational Nurse and Psychiatric Technician Examiners as posted on the bulletin board.
- c. Students who are late to class three times in any nursing course will be considered absent for one day. Class includes lecture and clinical.

### E. Disabilities

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible.

DSP&S  
Room 2117  
Health Sciences Building  
(760) 355-6312

### V. Course Content: VN 130 – Common Health Problems II

Common medical and surgical problems of the immune, endocrine, hematological, neurological, and musculoskeletal systems are considered. Nursing interventions are presented with focus on the pathophysiology, nutrition, pharmacology required to restore or maintain homeostasis dependent on these systems throughout the lifespan. Emphasis is also on the legal and ethical issues involved. Cultural concerns are presented.

VI. Course Objectives:

1. Plan nursing care for patients being treated medically or surgically for disorders of the immune and hematological system.  
**Include the following:**
  - a. Pathophysiology
  - b. Diagnostic tests
  - c. Pharmacologic agents
  - d. Nutritional requirements
  - e. Teaching/learning needs
  - f. Nursing interventions
  - g. Growth and developmental needs
  - h. Coping mechanisms
  - i. Legal/ethical issues
  - j. Cultural aspects
  - k. Psychosocial needs
2. Develop technical skills required to provide effective nursing care to patients with hematological disorders.
3. Construct teaching plans for patients (and their families) with immune and hematological disorders.
4. Explain surgical interventions common to patients with hematological and endocrine disorders.
5. Assist individuals and families to cope with chronic, long term illnesses requiring a change in lifestyle.
6. Explain medical and nursing interventions common to immune hematological and endocrine disorders.
7. Identify common health problems of the immune, endocrine, hematological, cardiovascular, and musculoskeletal systems that impact on individuals throughout the lifespan.
8. Plan nursing care for adult and pediatric patients with disorders of the cardiovascular system. Include the following:
  - a. Pathophysiology
  - b. Diagnostic tests
  - c. Pharmacologic agents
  - d. Nutritional requirements
  - e. Teaching/learning needs
  - f. Nursing interventions
  - g. Growth and developmental needs
  - h. Coping mechanisms
  - i. Legal/ethical issues
  - j. Cultural aspects
  - k. Psychosocial needs
9. Develop technical skills required to provide effective nursing care to

patients with cardiovascular disorders.

10. Construct teaching plans for patients (and their families) with cardiovascular disorders.
11. Plan nursing care for patients with disorders of the endocrine system.  
Include the following:
  - a. Pathophysiology
  - b. Diagnostic tests
  - c. Pharmacologic agents
  - d. Nutritional requirements
  - e. Teaching/learning needs
  - f. Nursing interventions
  - g. Growth and developmental needs
  - h. Coping mechanisms
  - i. Legal/ethical issues
  - j. Cultural aspects
  - k. Psychosocial needs
12. Develop technical skills required to provide effective nursing care to patients with disorders of the endocrine system
13. Construct teaching plans for patients (and their families) with endocrine disorders.
14. Plan nursing care for adult and pediatric patients with disorders of the musculoskeletal system  
Include the following:
  - a. Pathophysiology tests
  - b. Diagnostic tests
  - c. Pharmacologic agents
  - d. Nutritional requirements
  - e. Teaching/learning needs
  - f. Nursing interventions
  - g. Growth and developmental needs
  - h. Coping mechanisms
  - i. Legal/ethical issues
  - j. Cultural aspects
  - k. Psychosocial needs
15. Develop technical skills required to provide effective nursing care to patients with disorders of the musculoskeletal system.
16. Construct teaching plans for patients (and their families) with musculoskeletal disorders.
17. Provide patients and families with information pertaining to the services available through community agencies: emotional/physical support, disease detection and prevention.



## VII. Student Learning Outcomes:

1. Establish and prioritize the patient's needs utilizing both primary and secondary data related to current and past physical and psychological status.
2. Plan, implement and evaluate nursing care of adult and or pediatric patients with common problems of hematology, cardiovascular and or musculoskeletal systems.
3. Demonstrate theoretical knowledge, nursing principles such as asepsis, infection control related to patients requiring isolation.
4. Student will demonstrate personal responsibility by meeting deadlines and completing skill in the workplace and classroom as assigned.
5. The student will demonstrate the ability to think critically by passing the dosage calculation exam with a score of 92% or better on the first attempt.

## VIII. Content Modules:

- Module A: Application of the Nursing Process in Caring for the Adult and Child with Common Health Problems of the Hematological System
- Module B: Effects of Inflammatory-Immune System in Response to Pathophysiological Processes
- Module C-1: Application of the Nursing Process in Caring for Patients with Common Health Problems of the Cardiovascular System
- Module C-2: Application of the Nursing Process in Caring for the Pediatric Patient with Common Problems of the Cardiovascular System
- Module C-3: Application of the Nursing Process in Caring for the Adult Patient with Common Problems of the Cardiovascular System
- Module D: Application of the Nursing Process in Caring for Patients with Common Health Problems of the Endocrine System
- Module E-1: Application of the Nursing Process in Caring for Pediatric Patients with Common Health Problems of the Musculoskeletal System
- Module E-2: Application of the Nursing Process in Caring for Adult Patients with Common Health Problems of the Musculoskeletal System

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LVN 130  
SPRING 2013

**Module A: Application of the Nursing Process in Caring for the Adult and Child with Common Health Problems of the Hematological System**

1. Statement of Purpose

This module will provide an introduction to nursing considerations essential to the adult and child experiencing a dysfunction of the blood and blood-forming organs. An overview of the hematological system and its functions provide an understanding of the common disorders related to red blood cells, defects in hemostasis, and immunologic-deficiency disorders. Many of the hematological dysfunctions are inherited and chronic. Disorders may produce widespread systemic and structural responses in the body. Immediate and extended nursing interventions are planned to assist the patient and family cope with, and adjust to, the hematologic disorder or its complications.

2. Terminology

Hematologic system

Plasma proteins

albumin

globulin

fibrinogen

Formed elements

erythrocytes

leukocytes

thrombocytes

Hemopoietic organs

Reticuloendothelial system

Anemia

iron deficiency anemia

sickle cell anemia

B-thalassemia (Cooley's anemia)

aplastic anemia

pernicious anemia

Hemostasis

hemophilia

von Willebrand disease

idiopathic thrombocytopenic purpura (ITP)

Henoch-Schonlein purpura (HSP)

granulocytopenia  
disseminated intravascular coagulation (DIC)  
epistaxis  
Immunodeficiency disorders  
acquired immune deficiency disease (AIDS)  
human immunodeficiency virus (HIV)  
persons with AIDS (PWA)  
severe combined immunodeficiency disease (SCID)  
Wiskott-Aldrich syndrome  
Lymphoma  
Hodgkin's disease  
non-Hodgkin's lymphoma (NHL)  
Polycythemia vera  
Multiple myeloma

3. Classroom Objectives

3.1

- a. Identify the major functions of the formed elements of the blood and the mechanisms involved in normal coagulation.
- b. Review the mechanisms involved in humoral (antibody) and cell-mediated immunity.
- c. Discuss the pathophysiology, clinical manifestations, nursing interventions, and medical and surgical modalities for the patient with common disorders of the blood or blood-forming organs.
- d. Identify the subjective data obtained during nursing assessment of the adult or child with hematological dysfunction.
- e. Discuss the various anemias and contrast the etiology, clinical manifestations, and therapeutic management of each.
- f. Identify common defects in hemostasis, the blood-clotting mechanisms, and the most common coagulation disorders.
- g. Discuss the clinical manifestations, treatment modalities, and nursing interventions for the care of the patient with neoplastic disorders of the blood and blood-forming organs.
- h. Review the functions of the immune system; the etiology and clinical manifestations of common disorders.
- i. Identify congenital disorders of the blood and blood-forming organs, and discuss the nursing management for each.
- j. Identify pharmacological agents which interfere with coagulation, and discuss the instructions given to the patient about the medication.
- k. Discuss nursing care of the bone marrow donor or recipient.
- l. Describe the preoperative and postoperative nursing care for the patient experiencing surgery due to a disorder of the

blood and blood-forming organs.

3.2 Learning Activities

- a. Know terminology.
- b. Review the anatomy and physiology of the hematological system.
- c. Discuss, in class, the role of the various components of the blood and blood-forming organs.
- d. Identify diagnostic studies common to the patient with disorders of the blood and blood-forming organs.
- e. Read current articles assigned.
- f. Review assigned audio-visual materials related to disorders of the hematological system.
- g. Complete assigned computer programs.

3.3 References

- a. Current textbooks
- b. Current Anatomy & Physiology Text

4. Clinical Objectives

- a. Complete a nursing plan of care for the adult and child with a hematological disorder. Include family, community, cultural, and psychosocial considerations.
- b. Develop a teaching plan for home care of a person with a dysfunction of the hematological system.
- c. Identify community resources available to assist in the care and management of a person with a hematological disorder.
- d. If possible, interview the family of a person with a hematological disorder to identify the psycho social impact and coping/support mechanisms of the family unit.
- e. Assess, plan, intervene and evaluate adult and child clients with common disorder of blood and blood forming organs.

5. Skills Laboratory Requirements

- a. Review I.M. injection technique.

**Module B: Effects of the Inflammatory and Immune System  
in Response to Pathophysiological Processes**

1. Statement of Purpose

The body's most uniform reaction to disease or injury is inflammation. Frequently this is followed by transient or permanent immunity. It is important that the nurse be able to recognize the difference between wellness and disease processes and to provide nursing care accordingly.

2. Terminology

Serous	Autoimmune
Purulent	Antigen
Fibrinous	Antibody
Catarrhal	Immunoglobulins
Leukocytosis	Immunity (active, passive)
Allergy	Interferon
Anaphylaxis	Allergen
HLA system	Hypersensitivities
Desensitization	Immunodeficiency
	Immunosuppression
	HIV
	SLE

3. Classroom Objectives

3.1

- a. Identify major concepts of the biological defense system including specific and nonspecific mechanisms.
- b. Explain the steps in the inflammatory process, containment of infection, and inflammatory resolution.
- c. Explain the normal immune response and differentiate between cellular and humoral immunity.
- d. Discuss the concept of immuno suppression and the role of the nurse in caring for the immuno suppressed patient.
- e. Identify common immune disorders associated with impaired immune responses experienced by the adult and child.
- f. Discuss the nurse's role in providing health teaching in regard to immunizations, and for immunity-related problems.
- g. Identify common pharmaceutical agents used for providing immunity.
- h. Explain the principles of infection control instituted for the protection of the patient, self, and others.

3.2 Learning Activities

- a. Know terminology

- b. Review anatomy and physiology (Immune System)
- c. Discuss, in class, the role of the immune system in anaphylaxis, autoimmune disease, graft rejection, and delayed hypersensitivity.
- d. Identify, in class, the five cardinal signs of inflammation and describe local and systemic manifestations of inflammation.
- e. Review assigned computer programs, A-V materials and journal articles.

### 3.3 References

- a. Current texts

## 4. Clinical Objectives

- a. Complete a nursing care plan for the patient with a problem related to impaired immune response.
- b. Complete a nursing care plan for a patient receiving steroid therapy.
- c. When possible, care for a patient using isolation precautions recommended by CDC guidelines.
- d. Demonstrate application of the principles of infection control for the protection of the patient, self, and others.

## 5. Skills Laboratory Requirements

- a. Review - CPR
- b. Review - Isolation Procedures
- c. Review - Medical-Surgical Asepsis
- d. I.V. site care

### Review

- 1) Regulation of flow rates
- 2) Discontinuing I.V.'s
- 3) I.V. drop rate calculations & monitoring

### References

- Current texts

**Module C-1: Application of the Nursing Process in Caring for Patients with  
Common Health Problems of the Cardiovascular System**

1. Statement of Purpose

The cardiovascular system is responsible for transporting oxygen and nutrients throughout the body and for carrying waste products to the organs of elimination. Failure in any part of the system may result in a threat to an individual's survival. This module will present conditions which may occur throughout the lifespan, and that require appropriate nursing interventions.

2. Terminology

aortic valve	premature atrial beat
atrioventricular (AV) node	premature junctional beats
automaticity	premature ventricular beats
bicuspid valve	second-degree AV block
cardiac output	sinus arrhythmia
chest pain	sinus bradycardia
chordae tenineae	sinus tachycardia
conductivity	third-degree AV block
contractility	ventricular fibrillation
cyanosis	ventricular tachycardia
depolarization	acute myocardial infarction
diastole	acyanotic heart defects
dyspnea	aneurysm
edema	aortic regurgitation
electrocardiogram	aortic stenosis
endocardium	atrial septal defect (ASD)
epicardium	cardiac tamponade
excitability	coarctation of the aorta
left atrium	congenital heart disease
left ventricle	congestive heart failure
myocardium	coronary artery disease
orthopnea	coronary occlusion
P wave	coronary thrombosis
pericardium	cyanotic heart defects
PR interval	dissecting aneurysm
pulmonic valve	hypertension
Purkinje system	left-to-right shunting
QRS complex	left ventricular failure
refractoriness	loading or digitalizing dose
repolarization	mitral regurgitation
right atrium	mitral stenosis
right ventricle	patent ductus arteriosus (PDA)

septum  
sinoatrial (SA)  
ST segment  
systole  
T wave  
tricuspid valve  
U wave  
arrhythmia  
dysrhythmia  
atrial flutter  
atrial tachycardia  
cardiopulmonary arrest  
cardioversion and  
defibrillation  
fibrillation  
first-degree AV block  
junctional rhythms  
multifocal ventricular  
beats  
paroxysmal atrial  
tachycardia  
atherosclerosis obliterans  
embolism  
essential hypertension  
intermittent claudication  
ischemia  
malignant hypertension  
Raynaud's disease  
thrombophlebitis  
vasodilator drugs

pericarditis  
pulmonary edema  
pulmonary stenosis  
rheumatic heart disease  
right-to-left shunt  
right ventricular failure  
subacute bacterial endocarditis  
(SBE)  
tetralogy of Fallot  
transposition of the great  
vessels  
tricuspid atresia  
tricuspid valvular disease  
truncus arteriosus  
ventricular septal defect (VSD)  
adventitia  
amputation  
angiography  
anticoagulant drugs  
arteriosclerosis  
arteriovenous fistula  
bruits  
endarterectomy  
fibrinolytic drugs  
intima  
ligation and stripping of veins  
peripheral vascular disease  
sympathectomy  
varicose veins

### 3. Classroom Objectives

#### 3.1

- a. Discuss the interrelatedness /of the cardiovascular, renal, respiratory, and the nervous systems as they impact on homeostasis.
- b. Explain common disorders of the cardiovascular system which cause interference in the delivery of an adequate blood supply to tissues and organs.
- c. Identify hereditary and environmental factors which impact on the functioning of the cardiovascular system.
- d. Discuss common diagnostic tests used to establish normal, or abnormal, functioning of the cardiovascular system.
- e. Identify high risk factors related to dysfunction of the cardiovascular system.
- f. Discuss nursing interventions designed to prevent, restore, or rehabilitate, the cardiovascular system to a normal state of homeostasis.

#### 3.2 Learning Activities



- a. Review the anatomy & physiology of the cardiovascular system.
- b. Using a simulated situation, prepare a nursing care plan for a heart attack patient; a stroke patient.
- c. Review acid-base imbalances.
- d. Review fluid & electrolyte changes.
- e. Know terminology.
- f. Review assigned computer programs, A-V materials and journal articles.

### 3.3 References

- a. Current textbooks

## 4. Clinical Objectives

- a. Perform a cardiac assessment on assigned patients.
- b. Complete a nursing care plan on a patient with a cardiac problem.
- c. Prepare an assigned patient for cardiovascular diagnostic testing.
- d. Record appropriately on all flow charts required on the patient with a cardiac disorder.
- e. Identify normal sinus rhythm on a patient monitor.
- f. Administer oral and parenteral (except I.V.) medications to patients with cardiovascular problems.
- g. Discuss social, psychological, emotional, ethical, financial, and cultural issues of patients with cardiovascular disease.
- h. Identify common coping mechanisms employed by the family and the patient with a cardiovascular problem.

## 5. Skills Laboratory Requirements

- a. Review a normal EKG strip.
- b. Review normal lab values for selected blood tests.
- c. Demonstrate cardiovascular assessment of an adult.

### Reference

- a. Current texts

**Module C-2: Application of the Nursing Process in Caring for the Pediatric Patient with Common Problems of the Cardiovascular System**

1. Statement of Purpose

Special emphasis will be given to common cardiovascular disorders in pediatric patients. Abnormalities in the development of the heart or blood vessels may occur prenatally and manifest at or shortly after birth. Children who have symptoms of deficient cardiac output may be treated medically or surgically. The nurse must be alert to the signs of cardiac distress, and must be proficient in technical and interpersonal skills in dealing with the patient and the family.

2. Terminology

Congenital Heart Disease  
Acyanotic Heart Defects  
Patent Ductus Arteriosus  
Coarctation of the Aorta  
Aortic Stenosis  
Pulmonic Stenosis  
Ventricular Septal Defect  
Atrial Septal Defect  
Cyanotic Heart Defects  
Tetralogy of Fallot  
Transposition of Great Vessels  
Tricuspid Atresia  
Truncus Arteriosus  
Rheumatic Fever

3. Classroom Objectives

3.1

- a. Identify common congenital heart defects.
- b. Discuss medical and surgical interventions for common congenital heart defects
- c. Plan care for a patient who is being treated medically for a cardiovascular disorder.

Include :

- 1) Pathophysiology
- 2) Diagnostic tests
- 3) Pharmacologic agents
- 4) Nutritional requirements
- 5) Teaching/learning needs
- 6) Nursing interventions
- 7) Growth and developmental needs
- 8) Coping mechanisms
- 9) Legal/ethical issues
- 10) Cultural aspects
- 11) Psychosocial needs

- d. Complete a plan of care for a patient who is having surgical intervention for a cardiovascular disorder. If a patient is not available, the instructor will provide a patient situation. Class discussion will include preoperative, intraoperative and postoperative care.
- e. Review medications administered to a pediatric patient with a common cardiovascular disorder
- f. Identify common infectious processes that result in cardiovascular problems.

### 3.2 Learning Objectives

- a. Know terminology
- b. Given a simulated case study, plan care for an infant or child who has a chronic cardiovascular problem.
- c. Given a simulated case study, develop a plan of care for a pediatric patient having cardiac surgery. Include preoperative, intraoperative and postoperative care.
- d. Review assigned cardiovascular audio-visual materials, computer programs and journal articles.
- e. Discuss psychosocial aspects of care for the child with cardiovascular problems.
- f. Discuss the role of the nurse in interaction with the patient, family, and community.

### 3.3 References

- a. Current textbooks

### 4. Clinical Objectives

- a. Provide nursing care for an infant or child with a cardiovascular problem. Evaluate use of a cardiac monitor

- when possible.
- b. Prepare a child and the family for diagnostic procedures.
  - c. Administer oral and parenteral medications to a cardiovascular pediatric patient (except IV medications).
  - d. Complete a nursing care plan for a pediatric patient with a cardiovascular problem.
  - e. Complete a nursing care plan for a pediatric patient with a cardiovascular problem.
  - f. Prepare a teaching plan for the family of a pediatric patient with a chronic cardiac condition.

5. Skills Laboratory Requirements

- a. Review CPR for children.
- b. Perform a cardiovascular assessment on:
  - 1) an infant
  - 2) a child

Reference

Current texts

**Module C-3: Application of the Nursing Process in Caring for the Adult Patient  
with Common Problems of the Cardiovascular System**

1. Statement of Purpose

As an individual matures the cardiovascular system may encounter stress which results in a variety of health problems. The role of the nurse is to provide appropriate nursing care, health promotion, maintenance, and rehabilitation, which become the keystone to better health for the individual, family and the community. Quality care which meets to the health needs of every individual is the responsibility of the nurse.

2. Terminology

Pericarditis  
Myocarditis  
Endocarditis  
Atherosclerosis  
Arteriosclerosis  
Plaque  
Collateral Circulation  
Hyperoxemia  
Hypoxemia  
Angina Pectoris  
Ischemic Heart Disease  
Myocardial Infarction  
Endarterectomy  
Thrombus  
Embolus  
Digitalis Toxicity  
Rotating Tourniquets  
Cardiogenic Shock  
Dysrhythmias (classifications)  
Hypertension  
Raynaud's Disease  
Buerger's Disease  
Varicose Veins

3. Classroom Objectives

- 3.1 a. Identify common conditions of the cardiovascular system that results in problems for the adults  
b. Plan nursing care for an adult patient with a cardiovascular problem.  
Include:

- 1) Pathophysiology
  - 2) Diagnostic tests
  - 3) Pharmacologic agents
  - 4) Nutritional requirements
  - 5) Teaching/learning needs
  - 6) Nursing interventions
  - 7) Growth and developmental needs
  - 8) Coping mechanisms
  - 9) Legal/ethical issues
  - 10) cultural aspects
  - 11) Psychosocial results
- c. Identify possible infectious processes that result in cardiovascular problems in the adult.
  - d. Discuss health teaching needs of patients with cardiovascular problems.
  - e. Identify pre and postoperative care of patients with common surgical procedures related to the cardiovascular system.
  - f. Complete a plan of nursing care for the adult patient with common complications of cardiovascular surgery.

### 3.2 Learning Activities

- a. Know terminology
- b. Review assigned audio-visual materials, computer programs and journal articles.
- c. Using simulated situation, develop a plan of care for patients with common cardiovascular problems.
- d. Discuss the psychological implications for the patient with a chronic cardiovascular problem.

### 3.3 References

- a. Current textbooks

## 4. Clinical Objectives

- a. Provide nursing care for patients with a variety of cardiovascular conditions.
- b. Prepare patients for diagnostic procedures.
- c. Administer medications (oral and parenteral, except IV) to patients with cardiovascular problems.
- d. Complete a nursing care plan for a patient with a cardiovascular problem.
- e. Assist with medical procedures relevant to cardiovascular patients as possible.
- f. Prepare a teaching plan for a cardiovascular patient. Include family needs in the teaching plan.

5. Skills Laboratory Requirements

- a. Continue with cardiovascular assessments.
- b. Examination of thorax

Imperial Valley College  
Division of Nursing Education and Health Technologies  
LVN 130  
Spring 2013

**Module D: Application of the Nursing Process in Caring for Patients with  
Common Health Problems of the Endocrine System**

1. Statement of Purpose

The endocrine system is essential in maintaining and regulating vital functions of the body. It operates primarily by a feedback mechanism that functions inter-dependently with other systems to maintain homeostasis. Endocrine disorders are difficult to diagnose because of the multiplicity of non-descriptive symptoms associated with glandular dysfunction. Nursing assessment needs to be sensitive to the variety of clinical manifestations that may be present. This module presents conditions that occur throughout the lifespan that require nursing intervention in this area.

2. Terminology

Hormones	HBGM (home blood glucose monitoring)
Enzymes	Glycosylated Hemoglobin A
Hypothyroidism	ADH (antidiuretic hormone)
Hyperthyroidism	Hypoglycemia
Thyroid Storm	Hyperglycemia
Pheochromocytoma	Diabetes Insipidus
Addison's Disease	Exophthalmos
Cushing's Syndrome	Goiter
Cortisone	Food Exchange Lists
Aldosterone	Ketostix
ACTH	Dextrostrip
Insulin	Diabetic Retinopathy
Ketoacidosis	Diabetic Neuropathy
Clinitest & Acetest	Diabetic Glomerulopathy
Hyperosmolar Hyperglycemic	Tetany
Nonketotic Coma	IDDM
	NIDDM

3. Classroom Objectives

3.1

- a. Review the functions and hormones secreted by each of the endocrine glands.
- b. Identify the diagnostic tests used to determine alterations in function of the endocrine glands.
- c. Outline the teaching needs of patients requiring hormone and steroid therapy.



- d. Discuss the interrelatedness of the endocrine system and the nervous system as they control homeostasis.
- e. Identify common health care problems encountered when alterations in endocrine function occur.
- f. Discuss pharmacological and nursing implications of hormonal and steroid therapy.
- g. Differentiate between insulin-dependent and non-insulin dependent diabetes.
- h. Distinguish among the types of insulins by source, purity, concentration, formulation, and time of activity.
- i. Describe the relationship between diet, insulin, and exercise, for persons with diabetes.
- j. Discuss hypoglycemia, diabetic ketoacidosis, and hyperosmolar hyperglycemic nonketotic coma.
- k. Discuss the pathophysiology of diabetes.

### 3.2 Learning Activities

- a. Review anatomy and physiology (Endocrine System)
- b. Know terminology.
- c. Review VN 112, Module D.
- d. Discuss, in class, each of the endocrine glands, their identifying functions, secretions, and alterations resulting from dysfunction.
- e. Develop a teaching plan for a newly diagnosed insulin-dependent diabetic which includes self administration of insulin, dietary planning, exercise regimen, personal hygiene, and sick-day guides.
- f. Explain, in class, the acute and chronic complications of diabetic mellitus and the relationship between diabetic control and prevention of complications.
- g. Investigate community services that are provided for the detection and prevention of diabetes and the education of persons who have the diabetes.
- h. Develop a one-week meal plan for a diabetic patient, using the ADA Exchange Lists.
- i. Discuss, in class, the nursing care, medical/surgical treatment modalities used for pituitary, thyroid, adrenal, parathyroid, and pancreatic endocrine dysfunction. Review audio-visual materials on the endocrine system.
- k. Read current articles as assigned by instructor.
- l. Complete assigned computer programs.

### 3.3 References

- a. Current textbooks
- b. Review Growth & Development chapters
- c. Anatomy & Physiology text.

4. Clinical Objectives

- a. Develop and implement a nursing care plan, including a teaching plan, for a newly diagnosed diabetic patient.
- b. Discuss social, financial and cultural aspects of the patient with diabetes.
- c. Administer, when possible, insulin on a sliding scale basis to a diabetic requiring intensive therapy.
- d. Prepare an assigned patient for diagnostic scanning; observe procedure when possible.
- e. Obtain fractional urine, perform clinitests and acetests correctly, and record results on patient's record.
- f. Obtain a 24-hour urine, when ordered, for 17-hydrocorticosteroids and 17-ketosteroids.
- g. Assess assigned patients for indications of endocrine dysfunction.
- h. Perform glucometer testing on a diabetic patient.

5. Skills Laboratory Requirements

- a. Review preparing and administering regular, NPH, and Lente insulin.
- b. Review collecting fractional and 24-hour urine specimens.
- c. Glucometer testing.

References

- a. Current required texts

**Module E-1: Application of the Nursing Process in Caring for Pediatric Patients with Common Health Problems of the Musculoskeletal System**

1. Statement of Purpose

The functions of the musculoskeletal system include protection, support, locomotion, mineral storage, hemopoiesis, and heat production. It is the largest system in the body and its well being and functions are interdependent with the rest of the body systems. Health problems can be caused by a variety of factors from congenital malformations to infections and trauma. Nurses play an important role in detecting congenital anomalies in the infant and in providing psychological support to parents and families. Therefore it is important that the nurse be familiar with abnormal conditions and proficient in making assessments. This module concentrates on common musculoskeletal problems in the infant, child and adolescent and emphasizes the importance of the nurse's role in health promotion of the child and support for the family.

2. Terminology

Tractions	Open Reduction
Russell	Internal Fixation (ORIF)
Bryant's	Closed Reduction
Buck's	Compartment Syndrome
Ninety-degree-90-degree	Capillary Refill
Dunlop	Slit Catheter
Balanced Suspension	
Epiphysis	Meniscectomy
Diaphysis	Fasciotomy
Osteomyelitis	Prosthesis
Scoliosis	Periosteum
Osteogenic	Callus
Pott's Disease	Sprain
Muscular Dystrophy	Strain
Torticollis	Articular
Legg-Calve-Perthes	Talipes Equinovarus
Osteosarcoma	Denis-Browne Splint

Ewing Sarcoma  
Systemic Lupus Erythematosus  
(SLE)  
Congenital Hip Dysplasia  
Isotonic  
Isometric  
Arthrography  
Arthroscopy  
Electromyography  
Spica Cast  
Foot Drop  
Subluxation

Juvenile Rheumatoid Arthritis  
(JRA)  
Osteogenesis Imperfecta  
Denver Developmental Testing  
Fractures  
Buckle  
Greenstick  
Complete  
Incomplete  
Periosteal  
Simple  
Closed

Milwaukee Brace  
Harrington Rod

Compound (open)  
Sequestrectomy

3. Classroom Objectives

3.1

- a. Identify common congenital anomalies of the musculoskeletal system.
- b. Discuss medical and surgical treatment modalities used for common musculoskeletal disorders.
- c. Describe a plan of care for a child who is being treated medically for a musculoskeletal disorder which includes consideration of the families needs.

Include:

- \*\*\* 1) Pathophysiology
  - 2) Diagnostic tests
  - 3) Pharmacologic agents
  - 4) Nutritional requirements
  - 5) Teaching/learning needs
  - 6) Nursing interventions
  - 7) Growth and developmental needs
  - 8) Coping mechanisms
  - 9) Legal/ethical issues
  - 10) Cultural aspects
  - 11) Psychosocial needs
- d. Describe common surgical intervention and appropriate nursing care for the child with common bone and joint problems.
  - e. Identify common infectious processes which result in musculoskeletal disorders.
  - f. Discuss cultural considerations when caring for a child with a musculoskeletal disorder.
  - g. Describe types of traction equipment used for the child with a structural abnormality.

- h. Identify types of fractures and discuss nursing principles involved in cast care, correctional devices and traction.
- i. Describe nursing assessment of the musculoskeletal system.
- j. Describe the significance of early assessment to the diagnosis of musculoskeletal dysfunction.
- k. Specify the diagnostic tests used for assessment of the musculoskeletal system specific to the pediatric patient.
- l. Specify common diagnostic tests and nursing responsibilities related to diagnostic procedures used in evaluation of the pediatric patient.
- m. List the bone cancers found primarily in children and the related treatment modalities.
- n. Discuss nursing interventions in children with bone cancer including the physical, emotional and financial needs.
- o. Discuss nursing measures to prevent complications of immobility.

### 3.2 Learning Activities

- a. Review anatomy and physiology and normal human growth & development of the musculoskeletal system.
- b. Know terminology.
- c. Review assigned audio-visual material and computer programs on the musculoskeletal system specific to the pediatric patient.
- d. Read current articles as assigned by instructors.
- e. Review common congenital malformations, diagnostic assessments, treatments, medical and surgical management, and nursing interventions.
- f. Discuss in class the medical and surgical management of a patient with scoliosis; include medical and nursing interventions.

### 3.3 References

- a. Current textbooks
- b. Anatomy & Physiology text

### 4. Clinical Objectives

- a. Provide nursing care to an infant or child with a musculoskeletal problem.
- b. Prepare a child and the family for a diagnostic procedure; observe when possible.
- c. Provide pre and postoperative nursing care for a pediatric

- patient with a musculoskeletal disorder.
- d. Observe a patient receiving physical therapy for a musculoskeletal disorder.
- e. Assist and observe the therapist applying traction to a pediatric patient. Provide nursing care for the patient in traction.
- f. Complete a nursing care plan for a pediatric patient with a musculoskeletal disorder.
- g. Administer medications (oral and parenteral) to a patient with a musculoskeletal disorder.
- \*\*\* h. Prepare a teaching plan for a patient and/or the family of a person with a long term or chronic musculoskeletal condition (i.e. scoliosis, CHD, muscular dystrophy).
- i. Visit the physical therapy department of the hospital; observe treatments when possible.

#### 5. Skills Laboratory Requirements

- a. Demonstrate musculoskeletal assessment.
- b. Demonstrate skeletal and skin traction.
- c. Demonstrate knowledge of:
  - 1) Thomas splint
  - 2) Hoffman Colles frame
  - 3) Buck's extension

#### References

Current texts

**Module E-2: Application of the Nursing Process in Caring for Adult Patients  
with Common Health Problems of the Musculoskeletal System**

1. Statement of Purpose

Problems of the musculoskeletal system are generally not life-threatening, but they have a significant impact on one's productivity and economic status. The occurrence of musculoskeletal problems is common, affect all age groups, and are encountered by the nurse practicing in any field. This module presents emphasis on adult health problems of the musculoskeletal system, nursing measures to ensure the patient's general health, and specific nursing measures to manage the patient's needs and prevent problems related to immobility. The psychological and socioeconomic impact of the problem causes a variety of reactions. The nurse must assist the patient in coping with the problems associated with musculoskeletal dysfunction and related therapies.

2. Terminology

Rheumatoid Arthritis	Crepitus
Raynaud's Phenomenon	Muscle Spasm
Rheumatoid Granulomas	Fat Embolism
Arthrodesis	Phantom Limb Sensations
Arthroscopy	Amputation
Bursitis	Dislocation
Tenosynovitis	Contusion
Carpal Tunnel Syndrome	Sprain
Osteomalacia	Strain
Multiple Myeloma	Shrink Bandage
Osteoporosis	Osteosarcoma
Osteoarthritis	Endoprosthesis
Arthroplasty	Gout

Classroom Objectives

## 3.1

- a. Describe the physiology of bone healing.
- b. Discuss common musculoskeletal disorders involving trauma, infection, inflammation, neoplasia and structural abnormalities.
- c. Plan nursing care for a patient with a musculoskeletal problem.  
Include:
  - 1) Pathophysiology
  - 2) Diagnostic tests
  - 3) Pharmacologic agents
  - 4) Nutritional requirements
  - 5) Teaching/learning needs
  - 6) Nursing interventions
  - 7) Growth and developmental needs
  - 8) Coping mechanisms
  - 9) Legal/ethical issues
  - 10) Cultural aspects
  - 11) Psychosocial needs
- d. Identify inflammatory and infectious processes that result in musculoskeletal problems in the adult.
- e. Discuss health teaching needs of patients with musculoskeletal problems.
- f. Discuss common safety measures that can protect the musculoskeletal system and prevent accidents from occurring.
- g. Compare the nursing needs of the patient undergoing total hip replacement to those of the patient undergoing total knee replacement.
- h. Using the nursing process, discuss the nursing care of the elderly patient with a fractured hip.
- i. Describe the rehabilitative and health education needs of the patient who has had an amputation.
- j. Compare the health teaching needs and nursing interventions of the patient in traction to those of the patient with a cast.
- k. Discuss the types of bone cancers, medical and surgical treatment modalities and nursing interventions.
- l. Differentiate between contusions, strains, sprains and dislocations.
- m. Identify assessment parameters used to identify pain and neurovascular complications related to musculoskeletal dysfunction.

3.2 Learning Activities

- a. Review physiology of bone healing.
- b. Know terminology.
- c. Review audio-visual material and computer programs on the musculoskeletal system as assigned.
- d. Read current articles as assigned by instructors.
- e. List the various types of casts, splints and slings, and their specific health teaching needs for each.
- f. Discuss, in class, the psychological implications of having chronic musculoskeletal problems.



- g. Discuss, in class, the differences in nursing management of a patient having a total hip replacement, hip pinning, and an Austin-Moore prosthesis.

### 3.3 References

- a. Linton & Maebius, Chapters 39,40,41
- b. Anatomy & Physiology text.

### 4. Clinical Objectives

- a. Assess assigned patients for evidence of alterations in musculoskeletal system integrity.
- b. Visit the radiology department of the hospital and observe how procedures are performed.
- c. Provide nursing care to an adult patient with a musculoskeletal problem.
- d. Prepare a patient for diagnostic procedure; observe when possible.
- e. Assist and observe the therapist applying traction to a patient. Provide nursing care for the patient in traction.
- f. Observe a cast application when possible. Provide nursing care for the patient in a cast.
  
- g. Complete a nursing care plan for a patient with a musculoskeletal dysfunction.
- h. Administer medication to patients with a musculoskeletal problem (oral and parenteral).
- i. Prepare a teaching plan for a patient and his/her family with a musculoskeletal dysfunction.

### 5. Skills Laboratory Requirements

- a. Demonstrate knowledge of cast care.
- b. Review crutch walking and use of walkers.
- c. Demonstrate knowledge in the application of splints, slings, and shrink bandages.
- d. Demonstrate positioning and exercises for the patient with an amputated limb.

### References

Delmar's Nursing Skills