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
   - Endoprothesis
   - Arthroplasty
   - Gout

3. **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.

*** Not required of the VN student.

   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.

*** IV medications are not required of the VN student.

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

*** Intravenous medications and teaching plans are not a clinical assignment for the VN student.