UNIT 10 BUILDING CLINICAL COMPETENCE

Responses to Altered Peripheral Tissue Perfusion

FUNCTIONAL HEALTH PATTERN: Activity-Exercise

Think about clients with altered activity-exercise patterns and hematologic or peripheral vascular disorders for whom you have cared during your clinical experiences, and how the disease/disorder affected their activities.

- What were the clients' major medical diagnoses (e.g., hypertension, anemia, leukemia, aneurysm, peripheral vascular disease, chronic venous insufficiency)?
- What kinds of manifestations did each of these clients have? How were these manifestations similar or different among clients with different health conditions?
- How did the clients' patterns of activity and exercise contribute to their health problems? Conversely, how did the clients' health status interfere with their daily activities and ability to exercise? Did the clients exercise regularly? Were the clients' symptoms affected by exercise, temperature changes, or changes in position? Did you observe changes in skin color, condition or temperature, hair distribution, or sensation? What other chronic medical conditions were present? What was your clients' history of alcohol or tobacco use?

The Activity-Exercise Pattern describes patterns of activity, exercise, leisure, and recreation. Disorders that affect the blood or vascular system can lead to insufficient physiologic energy for activities, disrupting the activity-exercise pattern.

Blood transports oxygen, nutrients, hormones, and metabolic wastes; is vital to immune function; maintains hemostasis and contributes to homeostasis. Changes in the amount or composition of blood affect its function and ability to meet cellular metabolic demands, leading to manifestations such as:

- Fatigue (low RBC or hgb levels ▶ reduced oxygen-carrying capacity ▶ tissue hypoxia ▶ decreased cellular energy production ▶ weakness, fatigue, shortness of breath with activity)
- Frequent infections (impaired WBC production or increased WBC destruction ▶ impaired immune surveillance ▶ increased incidence of infections)
- Bruising, petechiae, bleeding tendency (impaired bone marrow function ▶ decreased platelet production ▶ impaired ability to form stable clots ▶ bleeding into tissues and external)

With each heartbeat, blood moves through a system of vessels that transport oxygenated blood to organs and tissues and return deoxygenated blood to the heart and lungs. The lymphatic system filters and returns excess tissue fluid (lymph) to the bloodstream.

Disorders of peripheral blood and lymphatic flow include constriction, obstruction, inflammation, and spasm. Arterial obstruction leads to tissue ischemia and inefficient oxygen to meet metabolic needs. Obstruction of a vein or lymph vessel increases pressure behind the obstruction, pushing fluid into interstitial spaces (edema), and interfering with oxygen delivery to the tissues. Manifestations often associated with peripheral vascular disorders include:

- Intermittent claudication and impaired sensation (arterial occlusion ▶ decreased blood flow ▶ tissue ischemia ▶ pain, neuron damage ▶ paresthesias, impaired sensation)
- Edema (venous or lymphatic vessel obstruction ▶ increased fluid pressure in capillary beds ▶ imbalance between capillary fluid loss and resorption ▶ increased interstitial fluid)

Priority nursing diagnoses within the Activity-Exercise Pattern that may be appropriate for clients with hematologic or peripheral vascular disorders include:

- Ineffective Peripheral Tissue Perfusion as evidenced by changes in skin color and temperature, lack of hair growth, skin irritations or ulcers
- Activity Intolerance as evidenced by weakness, fatigue, vital sign changes with activity
- Fatigue as evidenced by difficulty completing usual daily activities, frequent desire to rest
- Impaired Home Maintenance as evidenced by inability to maintain family roles
- Risk for Peripheral Neurovascular Dysfunction as evidenced by changes in color, temperature, sensation of extremities.

Two nursing diagnoses from other functional health patterns often are of high priority for the client with altered hematologic or peripheral tissue perfusion:

- Impaired Tissue Integrity (Nutritional-Metabolic)
- Effective Therapeutic Regimen Management (Health Perception-Health Management)