Exploring the Management of Bone Metastasis
According to the Roy Adaptation Model

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Purpose/Objectives: To explore bone metastasis using Roy’s Adaptation Model as a conceptual framework.

Data Sources: Published articles, conference abstracts, recent texts, and prescribing information.

Data Synthesis: Bone metastasis has a significant impact on the patient’s ability to maintain physical and psychosocial functions. Primary (self), secondary (family and occupation), and tertiary (community) roles, as identified by the Roy Adaptation Model, may be impaired as a result of bone metastasis. Patient education is a nursing intervention that frequently is used, as it allows an individual to interpret an aversive event and take action, thus promoting adaptation to illness. Medications for the underlying disease, bone metastasis, pain, and other symptoms warrant consideration. Active interventions, such as relaxation therapy, guided imagery, music, meditation, and therapeutic touch, also promote adaptation.

Conclusions: Bone is a common and potentially debilitating site of metastasis. The presence of bone metastasis indicates progressive and, almost always, incurable disease. Patient adaptation can be enhanced through the proper use of palliative therapies and other nursing measures.

Implications for Nursing Practice: Oncology nurses can assist in the physical and psychosocial adaptation of patients with bone metastasis through assessment, patient education, and symptom management.

According to the Roy Adaptation Model (Boston Based Adaptation Research in Nursing Society, 1999; Roy & Andrews, 1991), people are adaptive systems with the capacity to adjust to stressors that may originate internally (e.g., physiologic changes or perceptions) or externally (e.g., environmental). Men, women, and children are complex biopsychosocial spiritual beings. Although Roy acknowledged the need to view each patient holistically, she advocated the examination of different systems or functions to better understand the overall wellness of the patient. As such, adaptive modes or the way in which one adjusts to stressors may be physiologic or psychosocial in nature.

Roy identified four domains of adaptation, or adaptive modes: physical, self-concept, role function, and interdependence. Specific behaviors, actions, or interventions can be classified within one of the four modes. Modes are behaviors (physical or psychosocial) that are used to maintain positive responses, or adjustment, to a constantly changing environment. Behaviors are aimed at achieving adaptation through physical regulator (i.e., neural, chemical, or endocrine systems) or cognatur (i.e., perceptual and information processing, learning, judgment, and emotion) mechanisms (Roy & Andrews, 1999). When modes are not used or used unsuccessfully, ineffectual coping behavior occurs. Ineffectual behavior previously was referred to as “maladaptive” in earlier explanations of the Roy Adaptation Model (Roy, 1975).

When caring for patients, nurses identify and enhance positive behaviors in direct response to specific stressors. Given an abnormality, such as bone metastasis, stressors vary. Nursing interventions are developed based on a comprehensive assessment of each individual, abnormality, and existing environmental conditions. Before the identification of effective physiologic behaviors related to bone metastasis can begin, one must understand normal and pathologic physiology and psychosocial behaviors.

Pathophysiology of Skeletal Metastasis

Normal bone is in a constant dynamic state of resorption and formation mediated by osteoclasts (lytic or destructive cells) and osteoblasts (bone-forming cells). The remodeling

Key Points . . .

➤ The most common malignant tumors that affect patients, particularly patients with breast, prostate, or lung cancers, involve bone as a metastatic site.
➤ Bone metastasis is associated with considerable physical morbidity and psychological impairment.
➤ The Roy Adaptation Model provides a useful model for guiding the assessment and nursing management of bone metastasis.

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