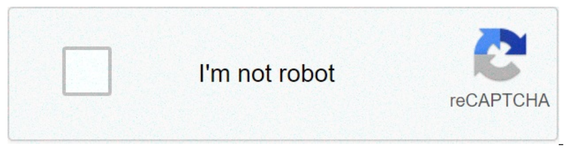

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Nursing diagnosis for tibia fracture

Chapter 63 Damien Zsiros and Mary Wollan Dreams are the touchstones of our character. Henry David Thoreau Learning Outcomes 1. Differentiate among the etiology, pathophysiology, clinical manifestations, and collaborative care of soft tissue injuries, including strains, sprains, dislocations, subluxations, bursitis, repetitive strain injury, carpal tunnel syndrome, and injuries to the rotator cuff, meniscus, and anterior cruciate ligament. 2. Relate the sequential events involved in fracture healing. 3. Compare closed reduction, cast immobilization, open reduction, and traction in terms of purpose, complications, and nursing management. 4. Evaluate the neurovascular assessment of an injured extremity. 5. Explain common complications associated with a fracture and fracture healing. 6. Describe the collaborative care and nursing management of patients with various kinds of fractures. 7. Describe the indications for and the collaborative care and nursing management of the patient with an amputation. 8. Describe the types of joint replacement surgery for arthritis and connective tissue disorders. 9. Prioritize the preoperative and postoperative management of the patient having joint replacement surgery. Key Terms carpal tunnel syndrome (CTS), p. 1509 compartment syndrome, p. 1522 fat embolism syndrome (FES), p. 1523 phantom limb sensation, p. 1531 repetitive strain injury (RSI), p. 1508 Reviewed by Julie Darby, RN, MSN, Assistant Professor, Baptist College of Health Sciences, Memphis, Tennessee. Musculoskeletal problems resulting from trauma, along with common orthopedic surgical procedures, are discussed in this chapter. The nurse's role in prevention of complications and promotion of function in patients with fractures and orthopedic surgery is emphasized. The most common cause of musculoskeletal injuries is a traumatic event resulting in fracture, dislocation, and/or soft tissue injuries. Although most of these injuries are not fatal, the cost in terms of pain, disability, medical expense, and lost wages is enormous. For all age-groups, accidents are exceeded only by heart disease, cancer, chronic lower respiratory tract diseases, and strokes as a cause of death.1 Accidental injuries (e.g., motor vehicle collisions, drowning, burns) are the leading cause of death in young adults in the United States. Patient Goal Experiences no peripheral neurovascular dysfunction In this nursing care plan guide are 11 nursing diagnosis for fracture. Know the assessment, goals, related factors, and nursing interventions with rationale for fracture in this guide. A fracture is the medical term used for a broken bone. They occur when the physical force exerted on the bone is stronger than the bone itself. They commonly happen because of car accidents, falls or sports injuries. Other causes are low bone density and osteoporosis, which cause weakening of the bones. Fracture is sometimes abbreviated FRX or Fx, Fx, or #. Types of Fracture There are many types of fractures, but the main categories are complete, incomplete, open, closed and pathological. Five major types are as follows: Incomplete: Fracture involves only a portion of the cross-section of the bone. One side breaks; the other usually just bends (greenstick). Complete: Fracture line involves entire cross-section of the bone, and bone fragments are usually displaced. Closed: The fracture does not extend through the skin. Open: Bone fragments extend through the muscle and skin, which is potentially infected. Pathological: Fracture occurs in diseased bone (such as cancer, osteoporosis), with no or only minimal trauma. Nursing Care Plans Nursing care planning of a patient with a fracture, whether in a cast or in traction, is based upon prevention of complications during healing. By performing an accurate nursing assessment on a regular basis, the nursing staff can manage the patient's pain and prevent complications. On emergency trauma care basic include triage, assessment and maintaining airway, breathing, and circulation, protecting the cervical spine and assessing the level of consciousness. Here are eleven (11) nursing care plans (NCP) and nursing diagnosis (NDx) for fracture: Nursing Diagnosis Nursing Diagnosis Risk factors may include Loss of skeletal integrity (fractures)/movement of bone fragments Weakness Getting up without assistance Desired Outcomes Client will maintain stabilization and alignment of fracture(s). Client will display callus formation/beginning union at fracture site as appropriate. Client will demonstrate body mechanics that promote stability at the fracture site. Nursing Interventions Rationale Maintain bed rest or limb rest as indicated. Provide support of joints above and below fracture site, especially when moving and turning. Provides stability, reducing the possibility of disturbing alignment and muscle spasms, which enhances healing. Secure a bed board under the mattress or place patient on the orthopedic bed. A soft or sagging mattress may deform a wet (green) plaster cast, crack a dry cast, or interfere with the pull of traction. Support fracture site with pillows or folded blankets. Maintain a neutral position of affected part with sandbags, splints, trochanter roll, footboard. Prevents unnecessary movement and disruption of alignment. Proper placement of pillows also can prevent pressure deformities in the drying cast. Use sufficient personnel for turning. Avoid using abduction bar for turning patient with a spica cast. Hip, body or multiple casts can be extremely heavy and cumbersome. Failure to properly support limbs in casts may cause the cast to break. Observe and evaluate splinted extremity for resolution of edema. Coaptation splint (Jones-Sugar tong) may be used to provide immobilization of fracture while excessive tissue swelling is present. As edema subsides, readjustment of splint or application of plaster or fiberglass cast may be required for continued alignment of fracture. Maintain position or integrity of traction. Traction permits pull on the long axis of the fractured bone and overcome muscle tension or shortening to facilitate alignment and union. Skeletal traction (pins, wires, tongs) permits the use of greater weight for traction pull than can be applied to skin tissues. Ascertain that all clamps are functional. Lubricate pulleys and check ropes for fraying. Secure and wrap knots with adhesive tape. Ensures that traction setup is functioning properly to avoid interruption of fracture approximation. Keep ropes unobstructed with weights hanging free; avoid lifting or releasing weights. An optimal amount of traction weight is maintained. Note: Ensuring free movement of weights during repositioning of patient avoids sudden excess pull on fracture with associated pain and muscle spasm. Assist with placement of lifts under bed wheels if indicated. Helps maintain proper patient position and function of traction by providing a counterbalance. Position patient so that appropriate pull is maintained on the long axis of the bone. Promotes bone alignment and reduces the risk of complications (delayed healing and nonunion). Review restrictions imposed by therapy such as not bending at the waist and sitting up with Buck traction or not turning below the waist with Russell traction. Maintains integrity of pull of traction. Assess the integrity of the external fixation device. Hoffman traction provides stabilization and rigid support for fractured bone without the use of ropes, pulleys, or weights, thus allowing for greater patient mobility, comfort and facilitating wound care. Loose or excessively tightened clamps or nuts can alter the compression of the frame, causing misalignment. Review follow-up and serial X-rays. Provides visual evidence of proper alignment or beginning callus formation and healing process to determine the level of activity and need for changes in or additional therapy. Administer alendronate (Fosamax) as indicated. Acts as a specific inhibitor of osteoclast-mediated bone resorption, allowing the bone formation to progress at a higher ratio, promoting healing of fractures and decreasing rate of bone turnover in the presence of osteoporosis. Initiate or maintain electrical stimulation if used. May be indicated to promote bone growth in the presence of delayed healing or nonunion. References and Sources Recommended references and sources for this fracture nursing care plans: Black, J. M., & Hawks, J. H. (2009). Medical-surgical nursing: Clinical management for positive outcomes (Vol. 1). A. M. Keene (Ed.). Saunders Elsevier. [Link] Gulanick, M., & Myers, J. L. (2016). Nursing Care Plans: Diagnoses, Interventions, and Outcomes. Elsevier Health Sciences. [Link] Hommel, A., Kock, M. L., Persson, J., & Werntoft, E. (2012). The Patient's view of nursing care after hip fracture. ISRN nursing, 2012. [Link] Willis, L. (2019). Professional guide to diseases. Lippincott Williams & Wilkins. [Link] See Also You may also like the following posts and care plans: Musculoskeletal Care Plans Care plans related to the musculoskeletal system: INTRODUCTION General This case presentation aims to identify and determine the general heath problems and needs of the patient with an admitting diagnosis of Open Complete Comminuted Fracture at the left tibia, fibula. This presentation also intends to help patient promote health and medical understanding of such condition through the application of the nursing skills. Specific To raise the level of awareness of patient on health problems that he may encounter. To facilitate patient in taking necessary actions to solve and prevent the identified problems on his own. To help patient in motivating him to continue the health care provided by the health workers. To render nursing care and information to patient through the application of the nursing skills. A fracture is any break in the continuity of bone. Fractures are named according to their severity, the shape or position of the fracture line, or even the physician who first described them. It is defined according to type and extent. In some cases, a bone may fracture without visibly breaking. Fractures occur when the bone is subjected to stress greater than it can absorb. It can be caused by a direct blow, crushing force, sudden twisting motion, or even extreme muscle contraction. When the bone is broken, adjacent structures are also affected, resulting in soft tissue edema, hemorrhage into the muscles and joints, joint dislocations, ruptured tendons, severed nerves, and damaged blood vessels. Body organs may be injured by the force that caused the fracture or by the fracture fragments. Among the common kinds of fractures are the following: Open (compound) fracture: The broken ends of the bone protrude through the skin. Conversely, a closed (simple) fracture does not break the skin. Comminuted fracture: The bone splinters at the site of impact, and smaller bone bone fragments lie between the two main fragments. Greenstick fracture: A partial fracture in which one side of the bone is broken and the other side bends; occurs only in children, whose bones are not yet fully ossified and contain more organic material than inorganic material Impacted fracture: One end of the fractured bone is forcefully driven into the interior of the other. Pott's fracture: A fracture of the distal end of the lateral leg, with one serious injury of the distal tibial articulation. Colles' fracture: A fracture of the distal end of the lateral forearm in which the distal fragment is displaced posteriorly. Fractures may also be described according to anatomic placement of fragments, particularly if they are displaced or nondisplaced. Injuries to the skeletal structure may vary from a simple linear fracture to a severe crushing injury. The type and location of the fracture and the extent of damage to surrounding structures determine the therapeutic management. Maximum functional recovery is the goal of management. The most common fracture below the knee is one of the tibia and fibula that results from a direct blow, falls with the foot in a flexed position, or a violent twisting motion. Fractures of the tibia and fibula often occur in association with each other. The patient presents with pain, deformity, obvious hematoma, and considerable edema. Frequently, these fractures are open and involve severe soft tissue damage because there is little subcutaneous tissue in the area. The signs and symptoms of a fracture include unnatural alignment, swelling, muscle spasm, tenderness, pain and impaired sensation and decreased mobility. The position of the bone segments is determined by the pull of attached muscles, gravity, and the direction and magnitude of the force that caused the fracture. ANATOMY AND PHYSIOLOGY Lower Limb Each lower limb has 30 bones in four locations: (1) the femur in the thigh; (2) the patella; (3) the tibia and fibula in the leg; (4) and the 7 tarsals in the tarsus, the 5 metatarsals in the metatarsus, and the 14 phalanges in the foot. The femur, or thigh bone, is the longest , heaviest and strongest bone in the body. Its proximal end articulates the acetabulum of the hip bone. Its distal end articulates with the tibia and patella. The patella, or kneecap, is a small, triangular bone located anterior to the knee joint. It is a sesamoid bone that develops in the tendon of the quadriceps femoris muscle.The patella functions to increase the leverage of the tendon of the quadriceps femoris muscle, to maintain position of the tendon when the knee is bent, and to protect the knee joint. The tibia, or shin bone, is the larger, medial, weight-bearing bone of the leg. The tibia articulates at its proximal end with the femur and fibula, and its distal end with the fibula and the talus bone of the ankle. An interosseous bone connects the tibia and fibula. The fibula is parallel and lateral to the tibia, but it is considerably smaller than the tibia. The proximal end, the head of the fibula, articulates with the inferior surface of the lateral condyle of the tibia below the level of the knee joint to form the proximal tibiofibular joint. The distal end has a projection called the lateral malleolus that articulates with the talus bone of the ankle. The tarsus is the proximal region of the foot and consists of seven tarsal bones. They include the talus and calcaneus, the cuboid, the three cuneiform bones called the first, second, and third cuneiforms. The metatarsus is the intermediate region of the foot and consists of five metatarsal bones numbered I to V, from the medial to the lateral position. The first metatarsal is thicker than the others because it bears more weight. The phalanges comprise the distal component of the foot and resemble those of the hand both in number and arrangement. They are numbered I to V being with the great toe, which is medial. What Do You Think?