

FRACTURE

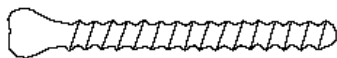
Definition: A fracture is a break in the continuity of the bone.1,6

Pathophysiology: The causes of fractures are varied. Common causes are trauma (such as falls, vehicular accident and prolonged unaccustomed use) and diseases (ex. osteoporosis, bone tumors, cysts)1,5

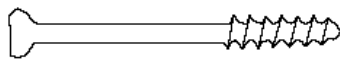
Affected People/Population: Fractures in the elderly are most commonly caused by accidents, falls, osteoporosis and diseases. The most common fractures on the elderly population are: Hip, femur(thigh), humerus(upper arm), spine and wrist. Menopausal women are on a higher risk for osteoporosis which can be a factor for spinal, hip and femoral fracture.1,2,4

Medications: Medications are given primarily to decrease pain and swelling. Examples are analgesics such as ibuprofen and mefenamic acid serve to decrease pain. Non-steroidal anti-inflammatory drugs are used to decrease swelling and pain. Antibiotics are given to control infection if the patient has undergone operation/surgery. Calcium supplements with vitamin D are sometimes given.1,3

Surgery: The primary goals in treating fractures are: stabilize the unstable part/s, maintain the mobility of the joints and maintain/restore the alignment of the injured bone. Open reduction of fractures involves operation/surgery. Pins, screws and plates can be used to stabilize unstable part/s of bone (see figure fx1-3 below) together with traction. Casting with plaster of paris can be also used for stabilization. In cases of closed reduction (meaning no operation/surgery to the patient), proper alignment and casting is used.1,2,4,5,6



Cortical screw



Cancellous screw

Screws



Plate



Pins

Physical Therapy: Physical therapy is vital in maintaining and restoring the injured body part. Application of modalities such as infrared radiation serves to decrease pain and hasten wound healing. Exercises such as active range of motion exercise and progressive resistive exercise serves to maintain joint motion, prevent muscle atrophy and maintain strength. Standing balance/tolerance exercises are used to prepare the patient for standing and eventually walking. Other more specific exercises for fractures are prescribed depending on the age, severity, site and medical condition of the patient. Please read the following pages for more specific fractures, treatment and physical therapy intervention.1,2,4,5,7

References:

1. Handbook of Orthopaedic Surgery 10th Ed. By Brasher and Raney
2. Physical Therapy and Rehabilitation by O'Sullivan 3rd Ed.
3. MIMS (Medical Index of Medical Specialties) 2nd Quarter 2006
4. Rehabilitation Medicine by De Lisa and Ganz 3rd Ed.
5. Orthopedic Rehabilitation by Brotzman
6. Merriam-Webster's Medical Dictionary
7. Therapeutic Exercises by Kissner and Colby 4th Ed.

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