

Skeletal

Business



**ASSIGN
BUSTER**

There was no trauma to her head, nor does she complain of right or left wrist pain. However, she reports severe pain in the right hip and upper thigh, and was unable to get up after her fall.

An injection of oxymoron hydrochloride (Morphine) helped relieve her pain and she was taken to the radiology department for an X-ray of her right leg and hip. Physical examination: The patient was alert, oriented to time, place and date, and was responding appropriately to questions despite being in considerable pain. There were no signs of trauma to the head, neck, torso, arms or left leg.

The right thigh and hip were extremely tender and were immobilized by a leg splint. Heart and lung sounds were normal and abdominal sounds were reduced. Radiology report: The X-ray of the right hip revealed a complete, comminuted, anteroposterior (top part of the femur) fracture of the right hip.

No other fractures were noted in the right leg. There were also long-term osteoporosis changes in the femur, tibia and fibula. Questions 1. What is meant by a “complete, comminuted, anteroposterior fracture of the right hip?” 2.

Draw a picture of what you think Margarita’s fractured femur looks like. 3.

The radiologist reports signs of osteoporosis. How is osteoporosis bone different from regular bone? 4. Why do bones become osteoporosis in some people? (What, specifically, is happening in the bones themselves?)

Surgeons performed an open reduction of Margarita’s fracture, immobilizing the bones with internal pins. “Open reduction surgery is a procedure in

which the broken bones are realigned and long, thick pins are inserted lengthwise into the bone tissue.

The pins are held in place by screws drilled in from the outside of the bone.

5. Describe the changes that a broken bone undergoes as it is healing.

During her long recovery, Margaret is advised by her physician to begin weight-bearing as soon as she can. To aid her in this regard, Margaret begins light physical therapy. 6. How does weight-bearing influence the bone healing process? (Be detailed!) 7.

In addition to the physical therapy benefits, why else might Margarita's physician want her to avoid prolonged bed-ridden activity? (Think of Wolf's Law) 8.

What risk factors does Margaret have for osteoporosis? 9. What bones are most vulnerable to osteoporosis and why? Following her recovery, Margaret was placed on three medications: oral calcium supplements, oral estrogen and oral alendronate sodium (Fosamax). (Fosamax is a drug which inhibits the activity of osteoclasts.) 10.

Specifically describe how each of these medications works to treat Margarita's condition. Mini Case-studies 1. A 12 year-old boy fell while playing basketball. The physician explained that the head (epiphysis) of the femur was separated from the shaft (diaphysis).

Although the bone was properly set, by the time the boy was 16 it was apparent that the injured lower limb was shorter than the normal one.

Explain why this difference occurred. 2. One day while shopping, Ms. Want Bargain picked up her 3-year-old son, Some, by his right wrist and lifted him into a shopping cart. She heard a clicking sound and Some immediately began to cry and hold his elbow. Given that lifting the child caused a separation at the elbow and not a fracture, which is more likely: separation of the radius and humerus or separation of the ulna and humerus? Why?