

Bone Break & Repair Notes

MMHS Science
Anatomy and Physiology

Classification of Bone Breaks

A. Bone breaks (fractures) are classified according to:

- External Appearance
- Site of the fracture
- Nature of the break.

Classification of Breaks

1. Closed or “simple” fractures are completely internal.
2. Open or compound fractures project through the skin.
3. Bone separating into 2 pieces is a complete fracture.
 - a. Transverse fracture—right angle to long axis.
 - b. Spiral fracture—spiral shaped break.
 - c. Comminuted—splintered bone

Classification of Breaks

4. Bone not separated into 2 separate pieces is an incomplete or “partial” fracture.
 - a. hairline fracture—thin, difficult to see.
 - b. greenstick fracture—one side of the bone breaks but the other side simply bends.
 - occurs in children because bones haven’t completely ossified.

Fracture types



Oblique



Comminuted



Spiral



Compound

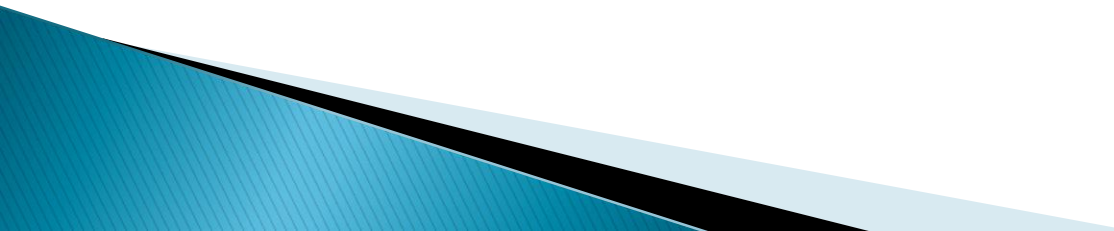


Femoral neck fracture



Intertrochanteric fracture

Bone Repair

- A. Bone breaks cause bleeding into the area (=fracture hematoma).
*the area around the break swells.
 - B. Cells of damaged endosteum divide to produce the internal callus of **cancellous bone**.
 - C. Cells of damaged periosteum divide to produce an external callus of **cartilage**.
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Bone Repair

D. **Osteoblasts** replace cartilage with bone.

1. osteoclasts and osteoblasts restore the original appearance of the bone.

2. the fractured area may actually become thicker and stronger. (like a weld)

E. Doctors cast **fractures** to immobilize the area and promote healing.

Bone Breaks and GORE!

