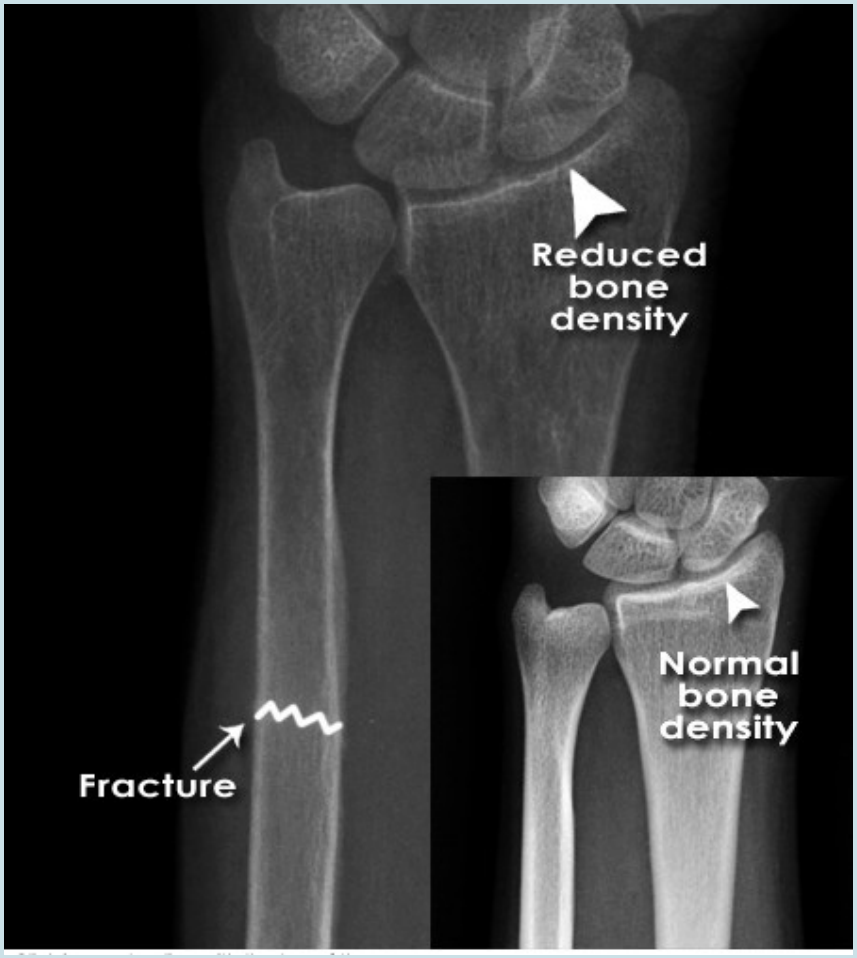
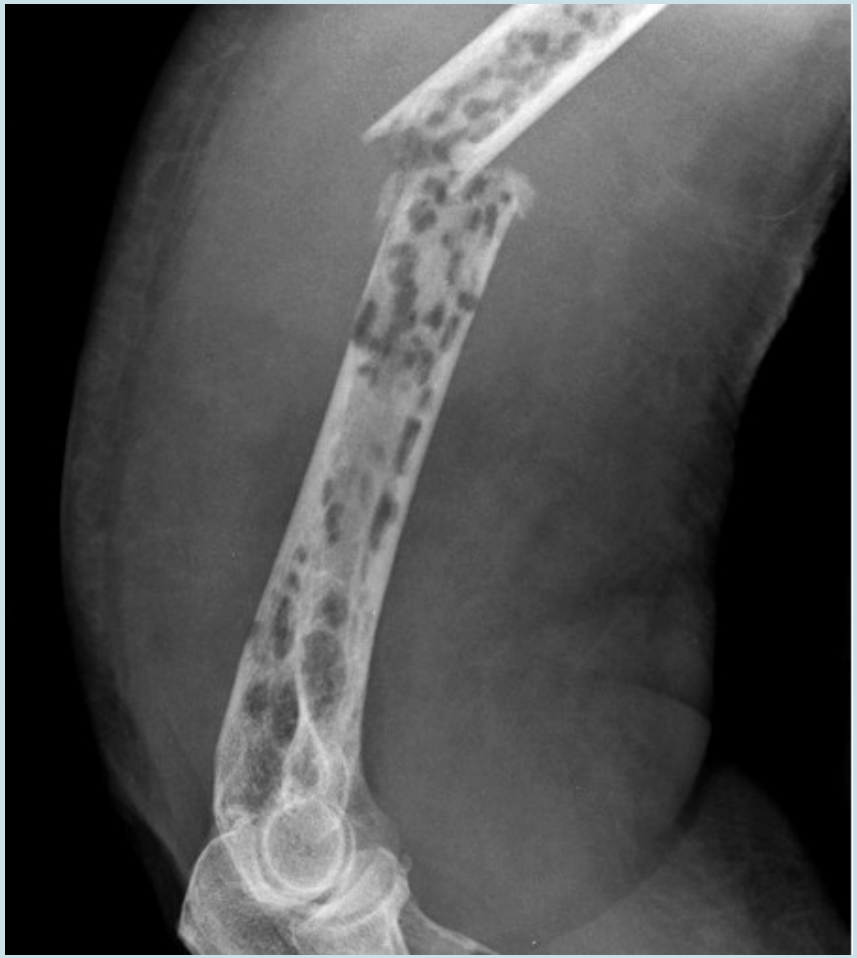
Fractures

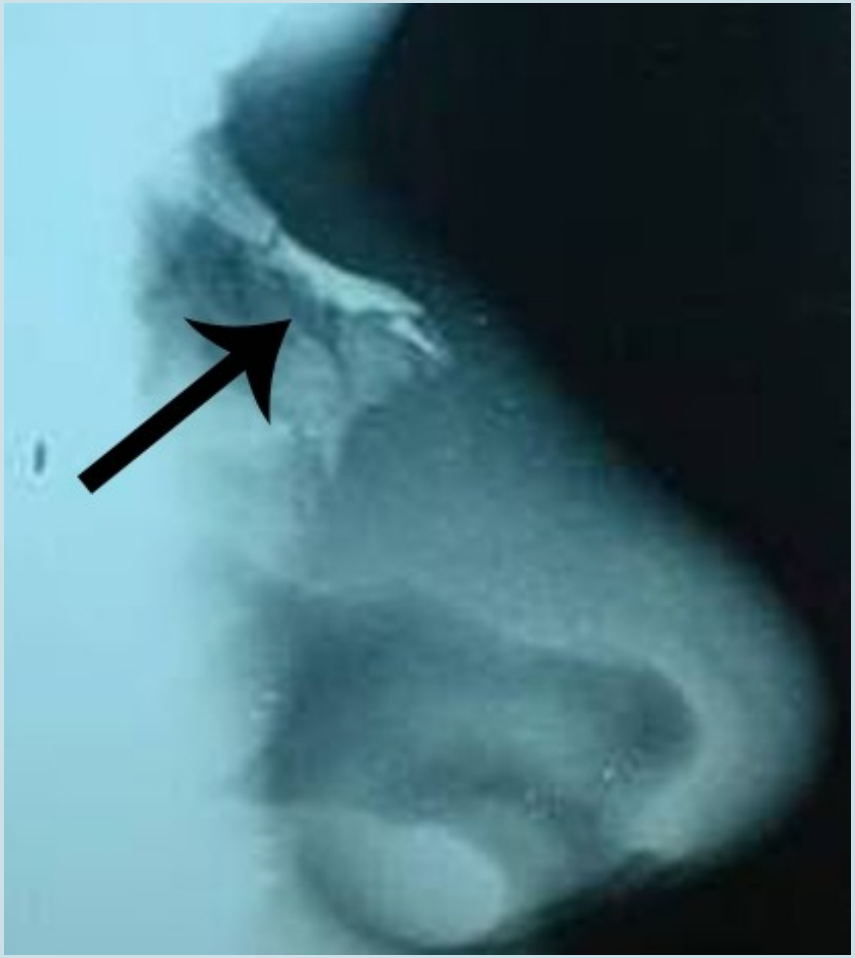
Fractura pathologica



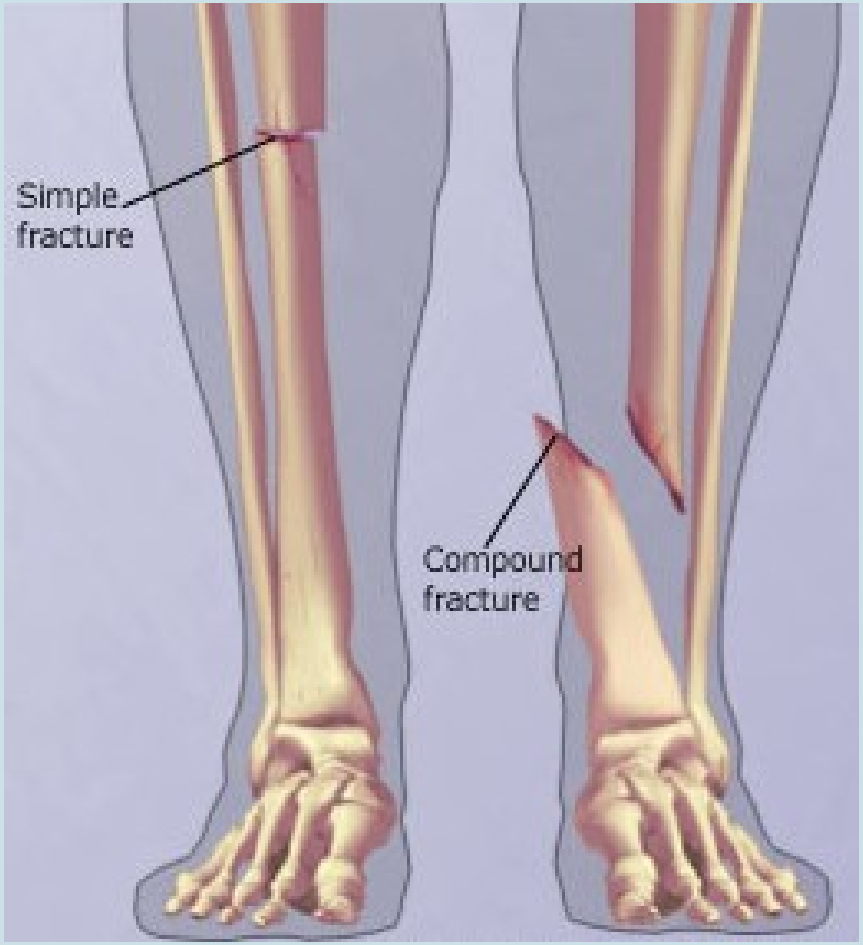


Myeloma

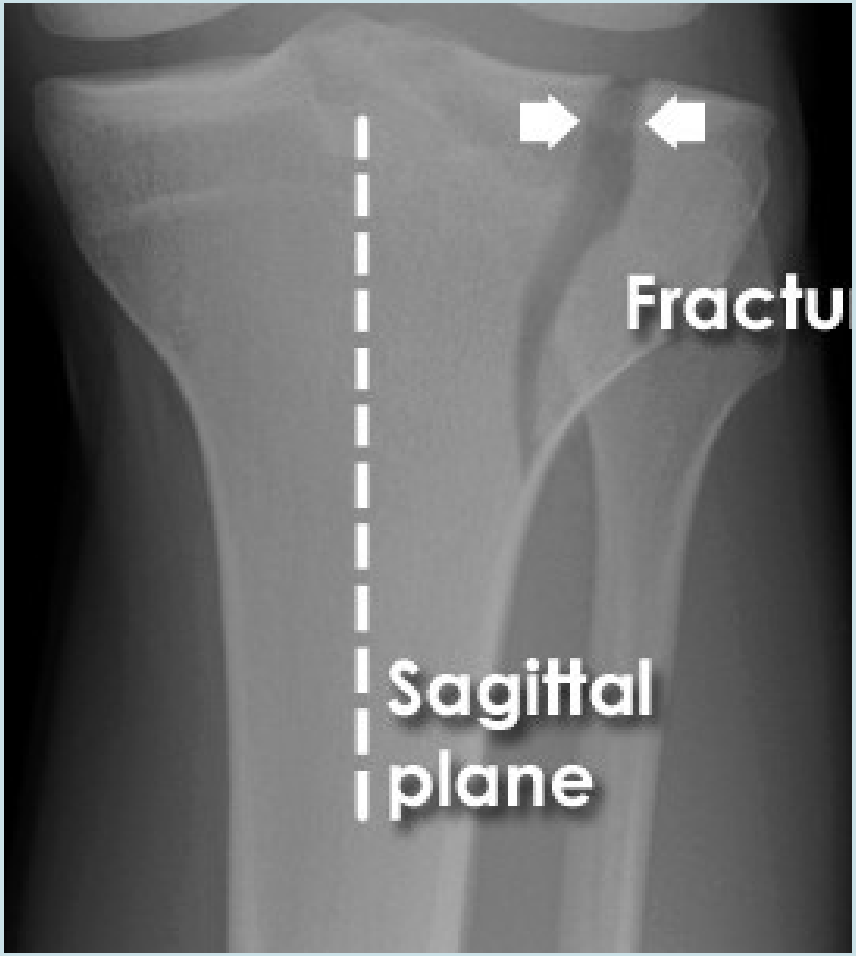
Fractura traumatica

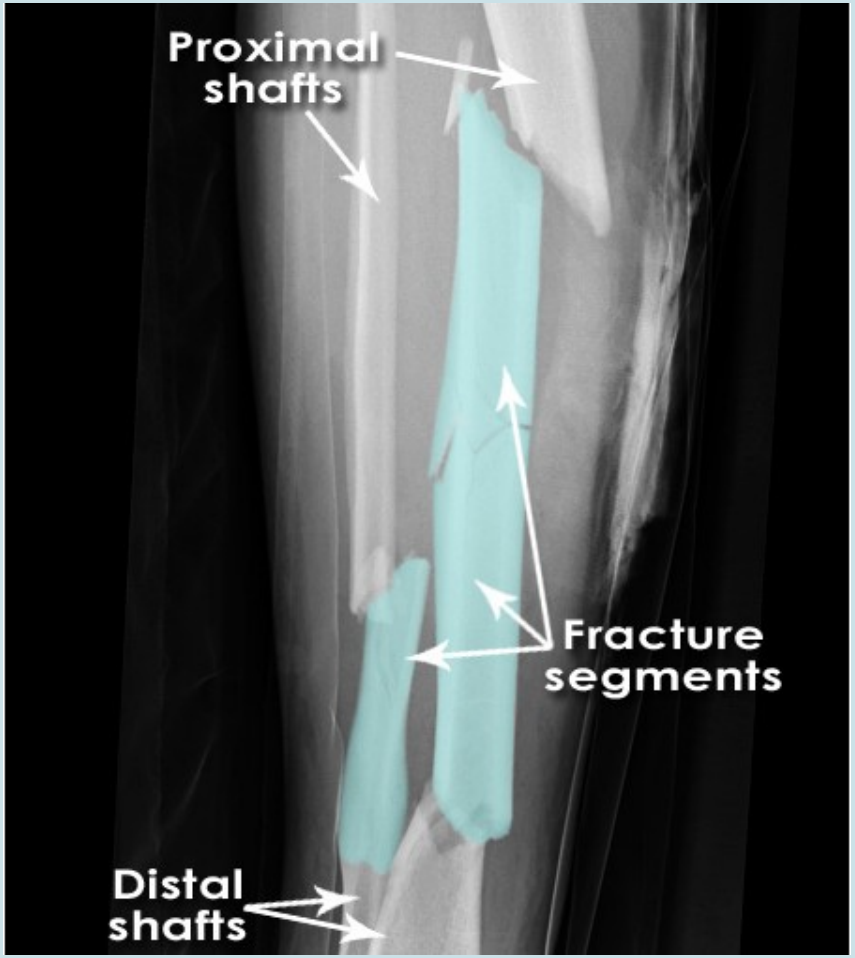


Fractura aperta/clausa

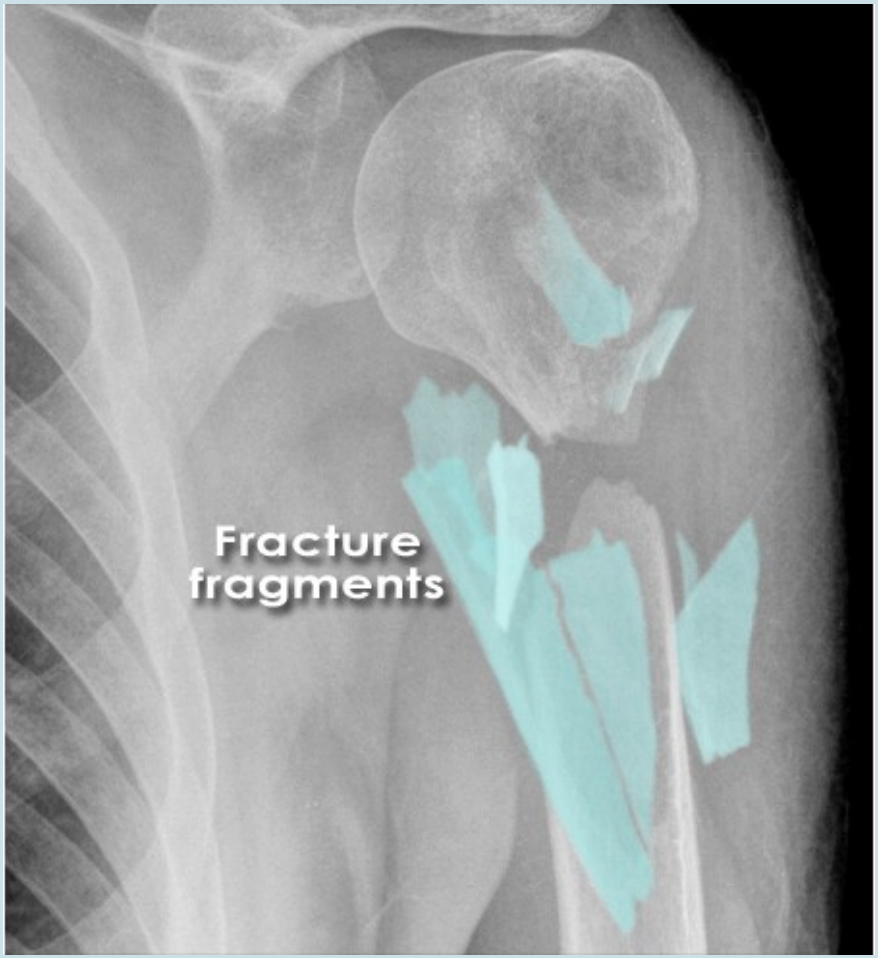


Fractura simplex/multiplex





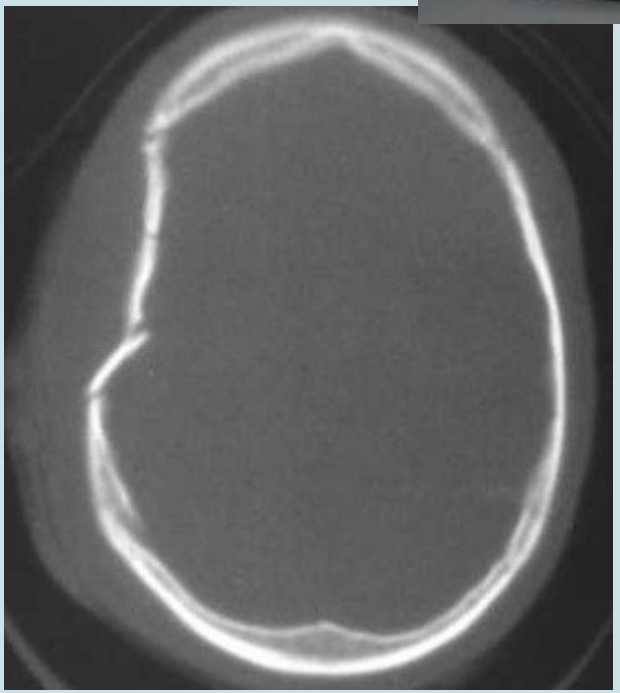
Fractura comminutiva

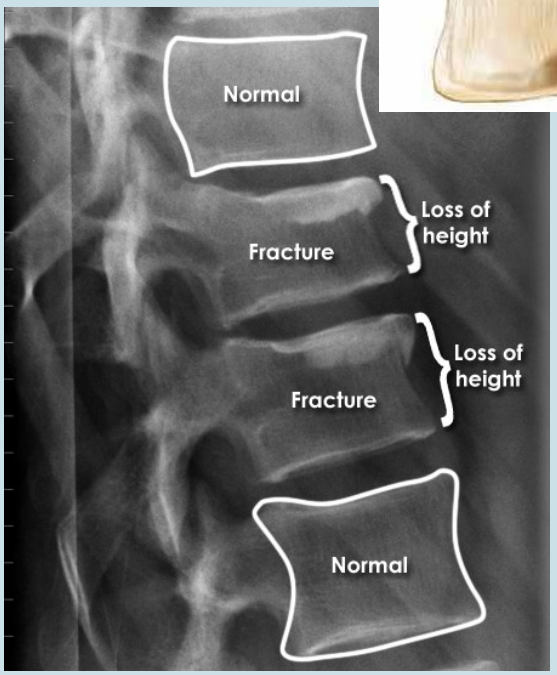


Fractura transversa/obliqua

Fractura spiralis/longitudinalis

Fractura compressiva/impressiva





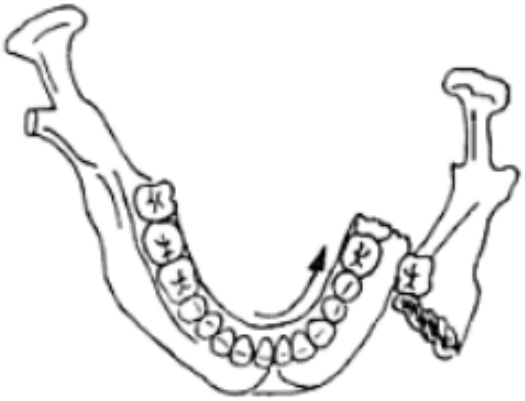
Fractura incuneata

Infractio = f. partialis = f. incompleta

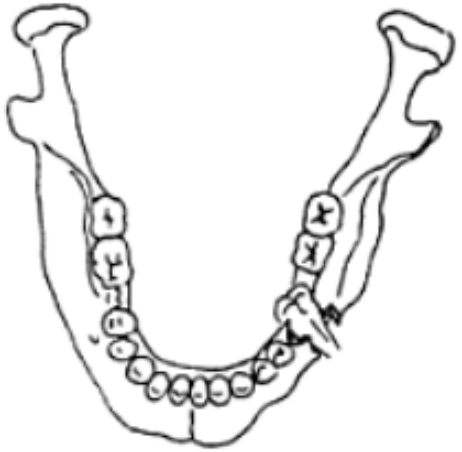
Fractura cum dislocatione

ad axim

ad latus



ad longitudinem cum contractione

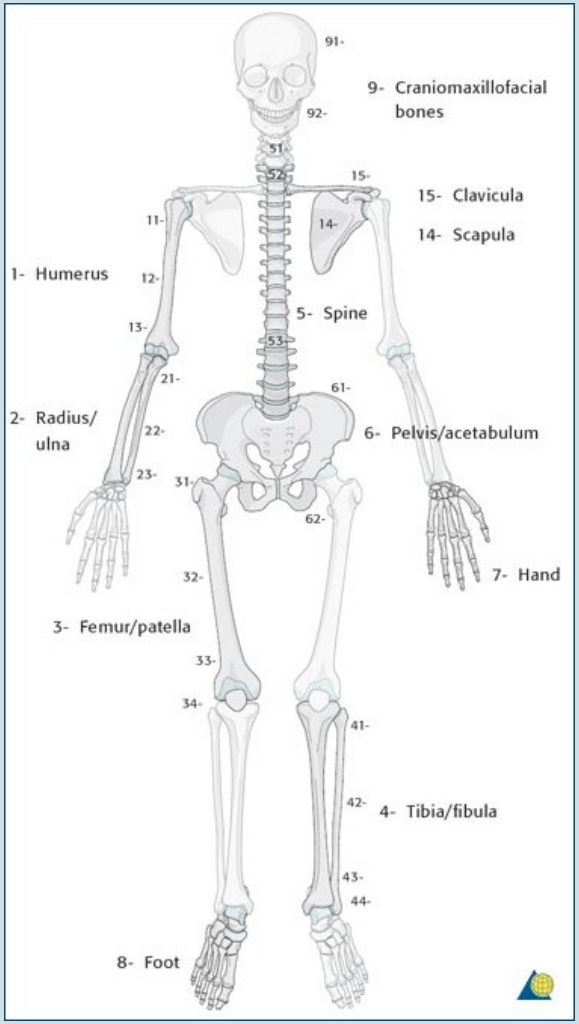


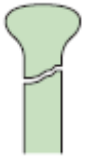
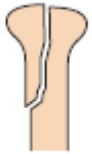
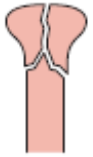
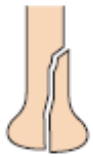
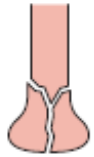
ad longitudinem cum distractione

AO Classification of fractures

Articulation points: 2

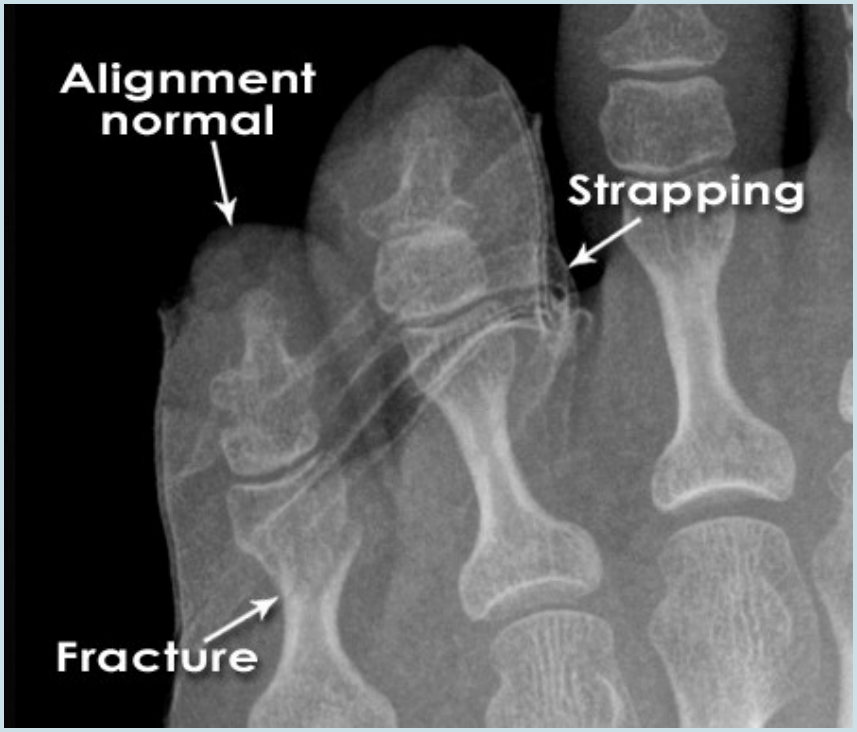
S 4220 Fractura colli chirurgici humeri l. dx. comminutiva AO 11-C3



	A	B	C
1 Proximal	 **Extraarticular** No involvement of displaced fractures extending into the articular surface	 **Partial articular** Part of the articular component is involved, leaving the other part attached to the meta-/diaphysis	 **Complete articular** Articular surface involved, metaphyseal fracture completely separates articular component from the diaphysis
2 Diaphyseal	 **Simple** One fracture line, cortical contact between fragments exceeds 90% after reduction	 **Wedge** Three or more fragments, main fragments have contact after reduction	 **Complex** Three or more fragments, main fragments have no contact after reduction
3 Distal	 **Extraarticular** No involvement of displaced fractures extending into the articular	 **Partial articular** Part of the articular component is involved, leaving the other part	 **Complete articular** Articular surface involved, metaphyseal fracture completely

Fracture Healing:
1: REPOSITIO = REDUCTIO fragmentorum

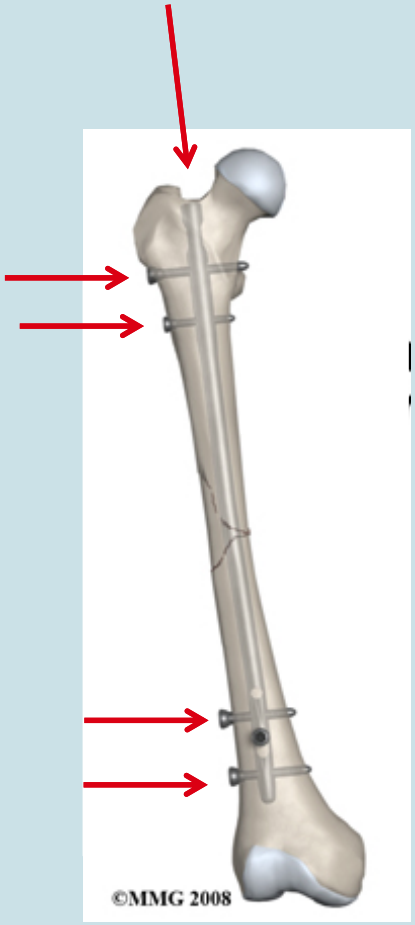
CLOSED (short /long term)



Fracture Healing:
2: FIXATIO = STABILISATIO fragmentorum

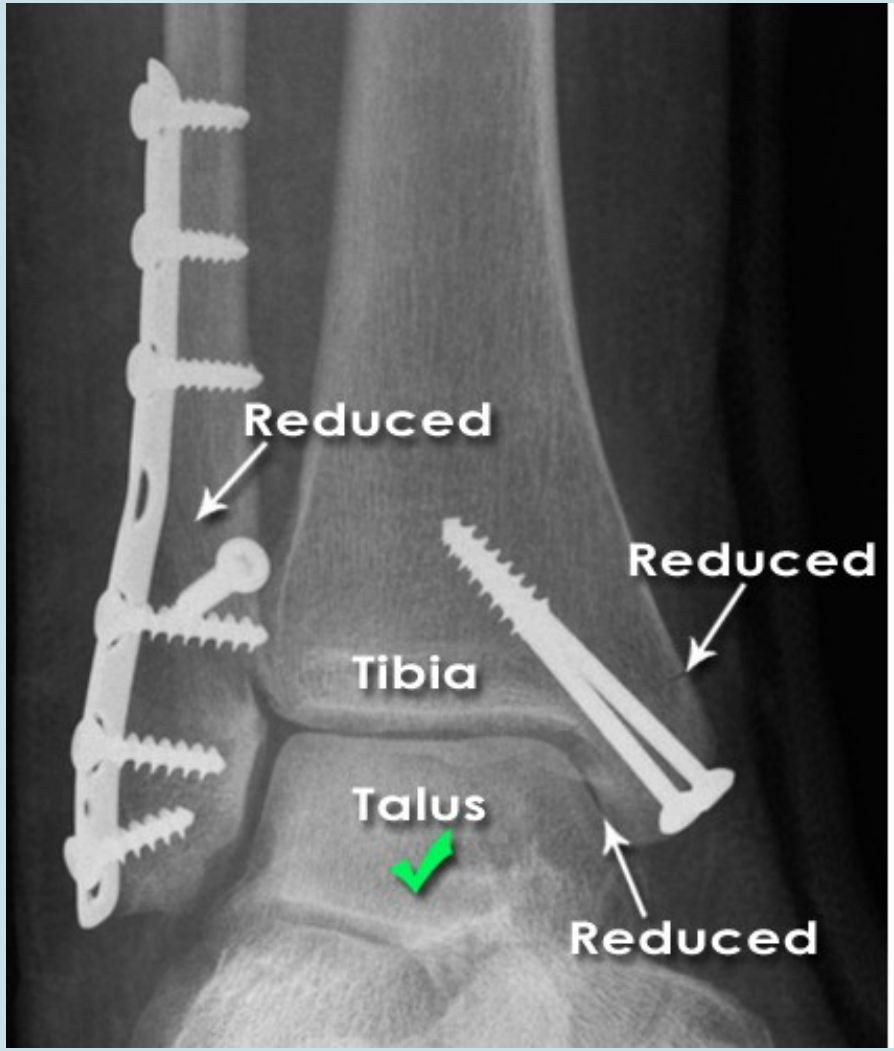
PLASTER CAST

INTERNAL FIXATION

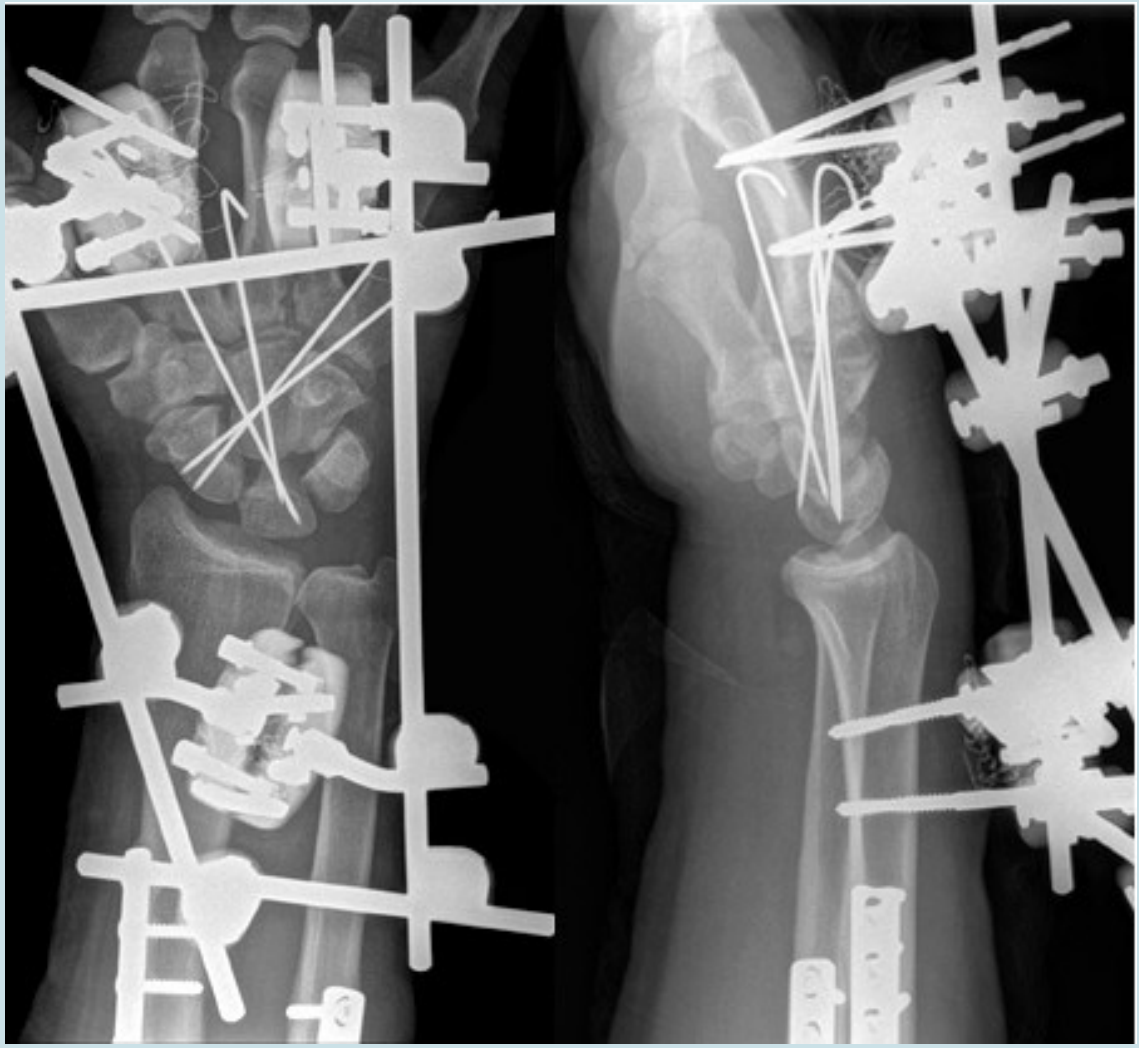


Fracture Healing:
2: FIXATIO = STABILISATIO fragmentorum

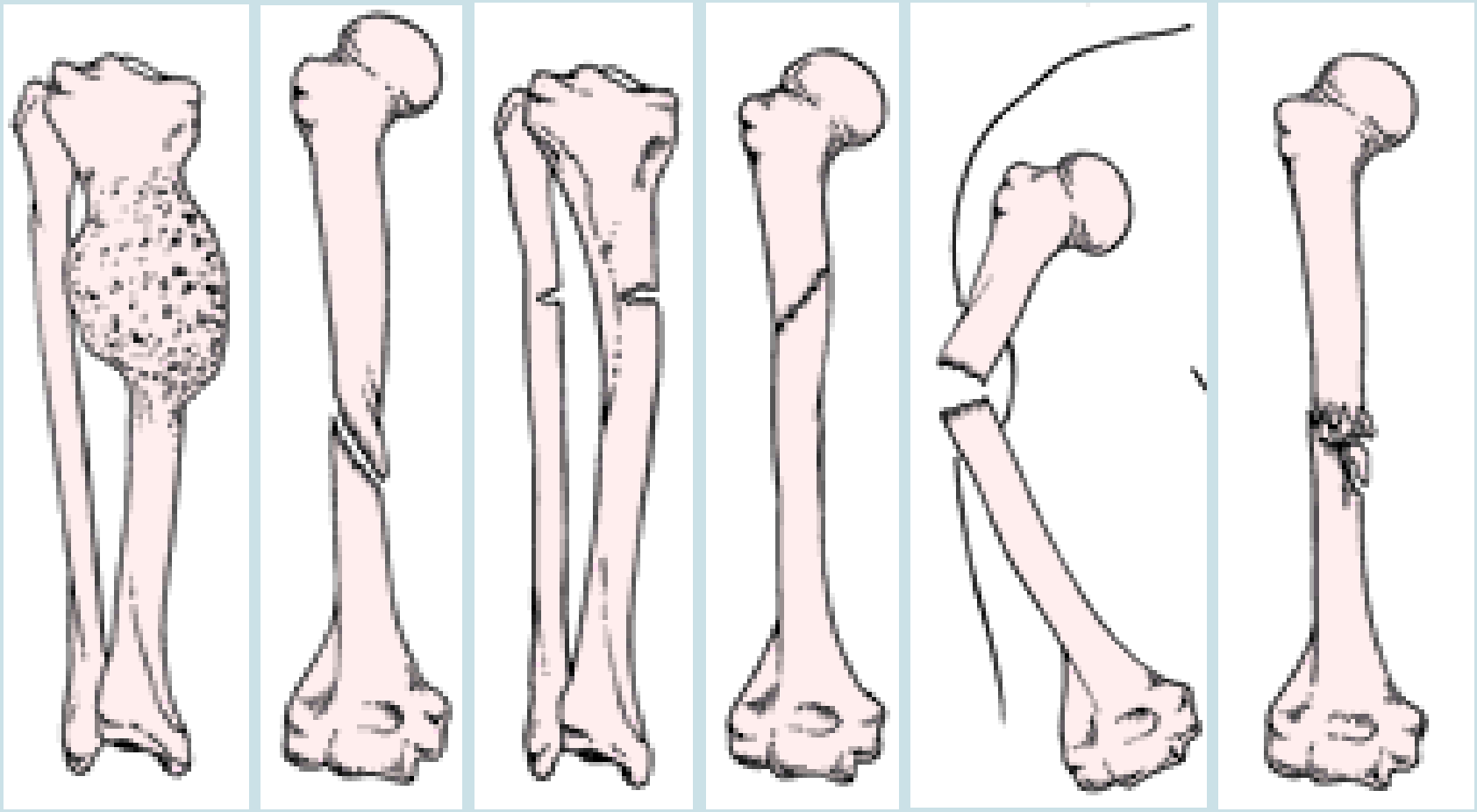
INTERNAL FIXATION



Fracture Healing:
2: FIXATIO = STABILISATIO fragmentorum

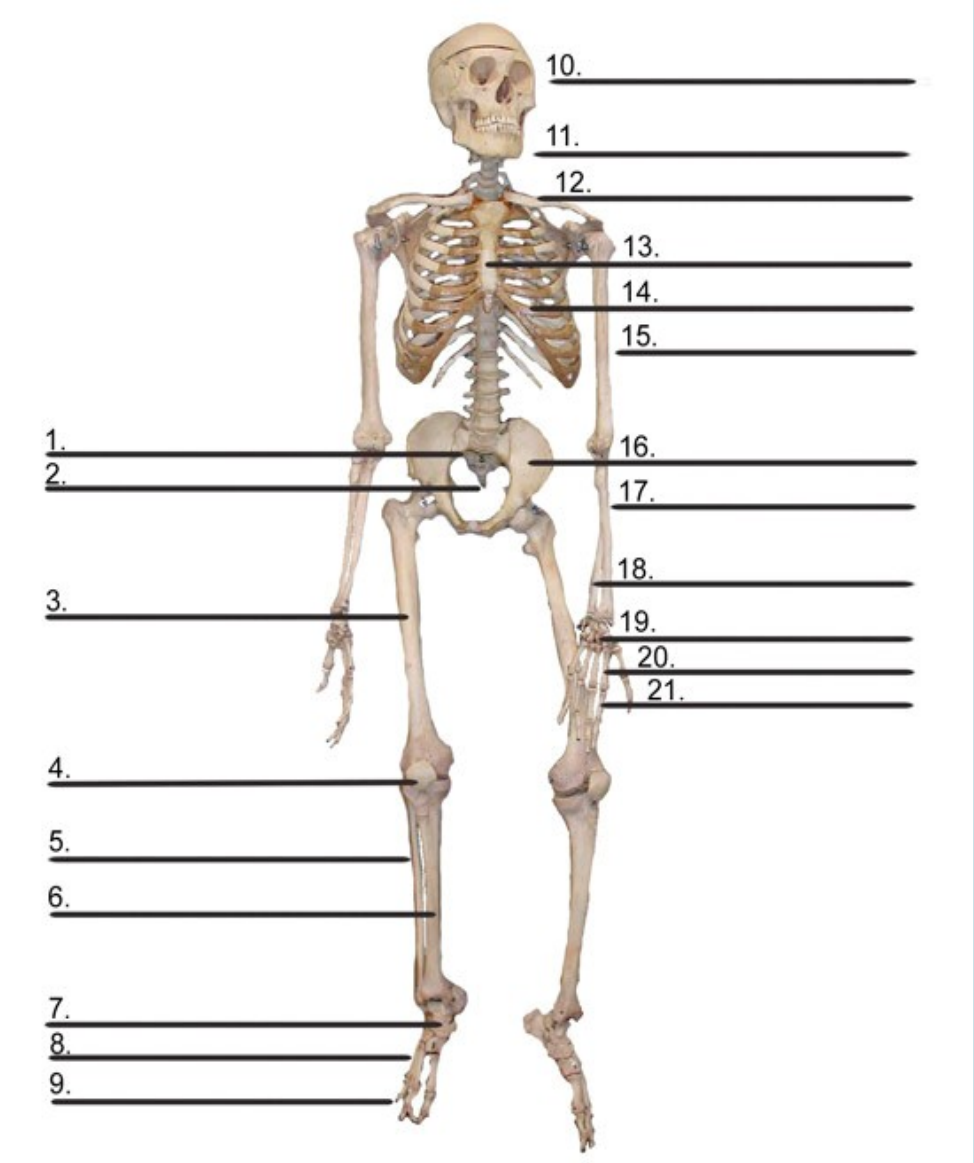


Name the type of fracture



A B C D E F

Choose a bone and break it. Try to write as much detailed diagnosis as possible.



Authentic reports :1

Dg:

S8220	Fr. cruris l.sin cum fr.fibulae duplex disloc.aperta stp. OS FE 17.7. 2010
V2331	Mot.x auto,;zra.při nás.,výs.;volný čas
S730	Luxatio coxae l.sin centralis stp. repositionem 17.7
S332	Luxatio art. SI l. sin stp. reposit. 17.7.
S3240	Fr. acetabuli l.sin transv.disloc. stp. OS 19.7.
S818	Decollement partis proximalis cruris l.sin.
S711	Vulnus lacerum reg. femoris l.sin.

collement = severe damage of soft tissues

Authentic reports :2

```
Dg: T068  Polytrauma
    I259   Srdeční selhání
S3200  Fractura corporis vertebrae lumbalis II.
    S2240  Fractura costarum IV.-XII. l.sin.
    S2700  Pneumothorax l.sin.
    S2710  Haemothorax l.sin.
    S3240  Fractura acetabuli l.sin.
    S3210  Fractura massae later. l.sin. ossis sacri
    S3250  Fractura rami superior et inferior ossis pubis l.sin.
    S7200  Fractura subcapitalis femoris l.sin.
    S4241  Fractura epicondyli ulnaris humeri l.sin. aperta Tscherne I
    W1311  Pád z bud.,konstr.n.propad.;obytné instituce;volný čas
```

Fr. aperta TSCHERNE I

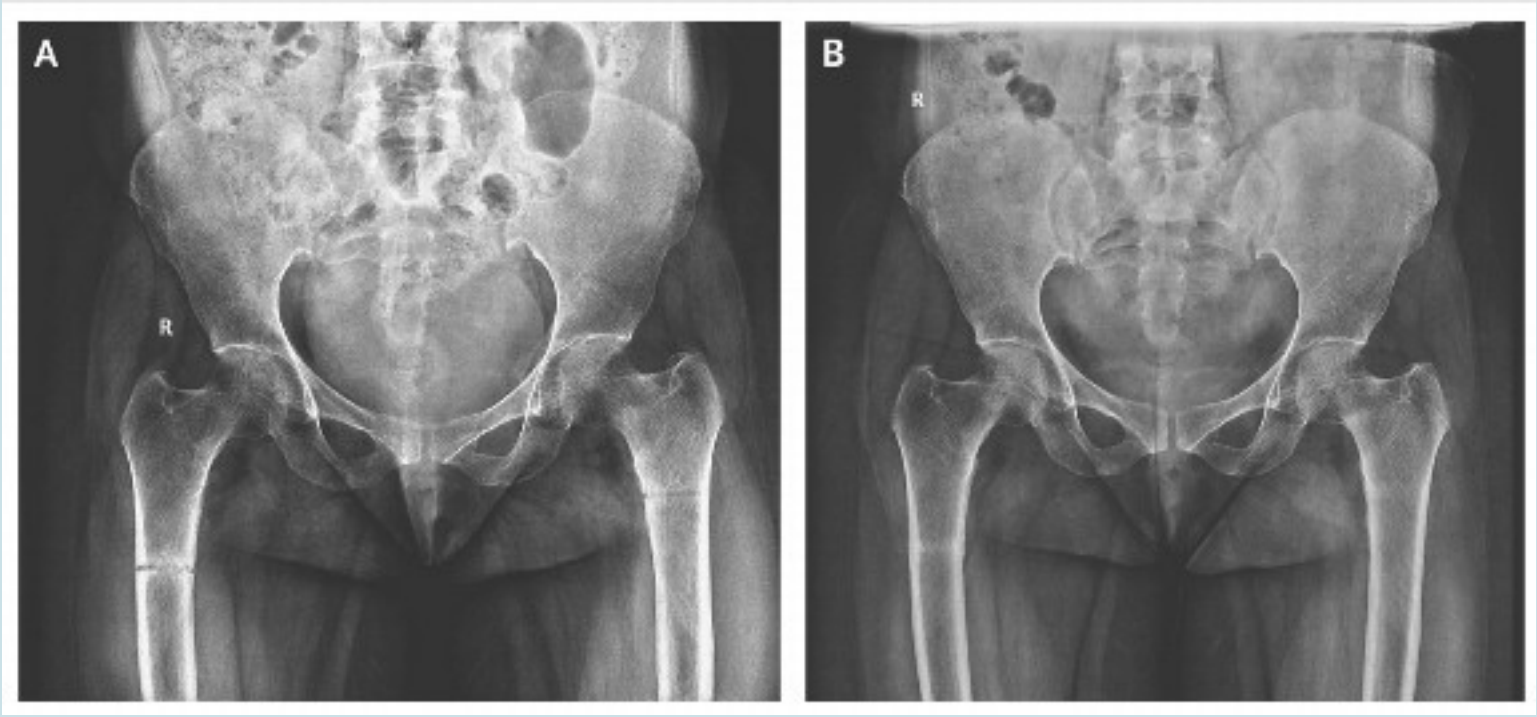
- open fracture with small skin injury without its contusion
- negligible bacterial contamination

Profesor Dr. Harald **Tscherne** (1933), Traumatology Clinic, Hannover: *Classification of fractures* published in 1982, T. divides fracture into open and closed. The most important for him is the degree of the soft tissues damage.

Authentic reports :3

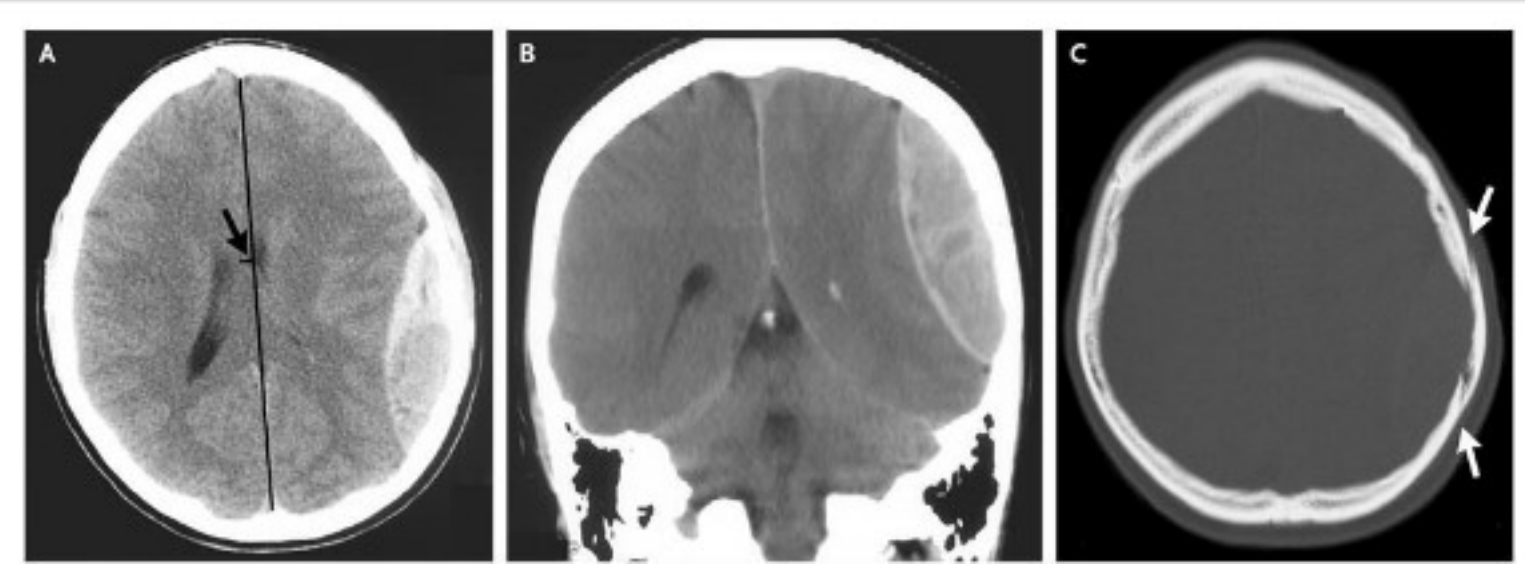
Dg: T068 Polytrauma
V1701 Cykl.řid.x pev.přek.;neprov.neh.;volný čas
S0640 Haemorrhagia epidurale reg. temporale l.sin
F100 Ebrietas aethylica
S0601 Commotio cerebri
S0240 Fr.compl. zygomaticomaxillaris l.sin cum hemosir
S4201 Fr.claviculae l.sin apeta
S4210 Fr. scapulae l.sin comminutiva
S0210 Fr.allae ossis sphenoidalis l.sin cum hemosinus
S2240 Fr.costarum II-IV hemithoracis l.sin
S2700 Pneumothorax traum. reg. dorsobasale l.sin /dle
S2720 Fluidothorax l.sin. min. dle RTG
S2730 Contuio pulmonisl.sin, reg.dorsobasale
S407 Excoriationes extrem.super. l.sin multipl.
S607 Excoriationes digitorum manuum bilat.
S013 Dilaceratio auriculae l.sin

1



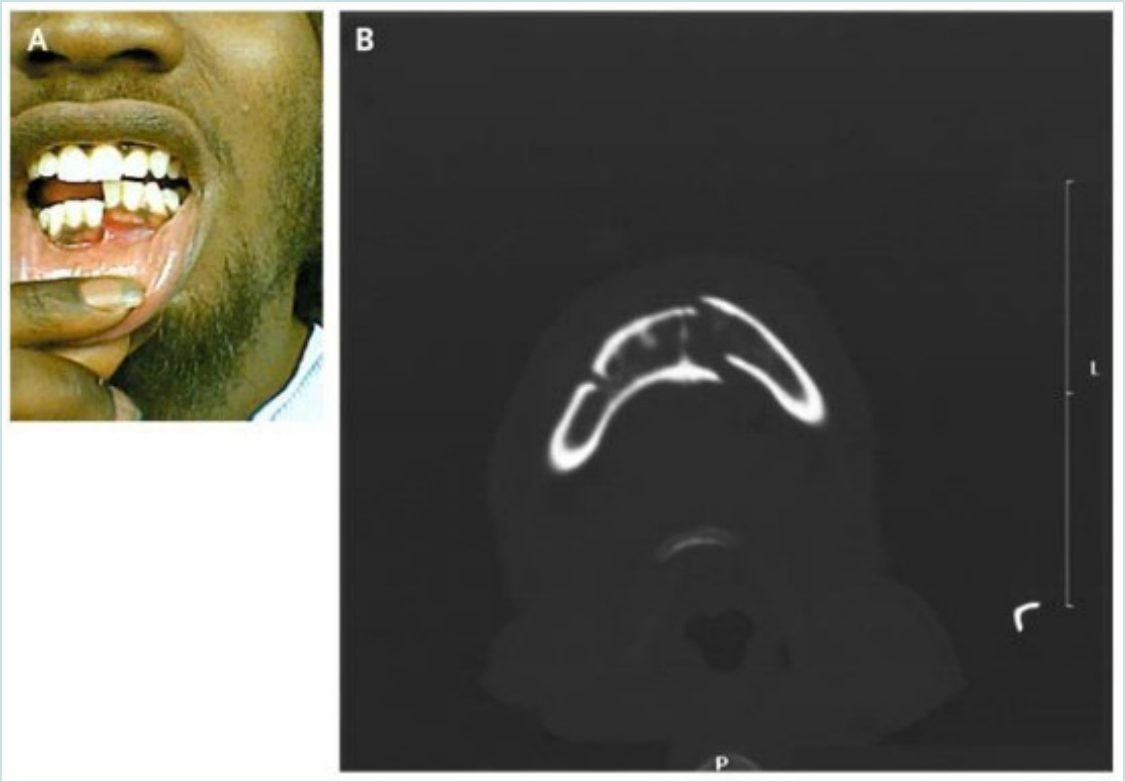
A 45-year-old woman presented with a 3-month history of generalized body pains nonresponsive to analgesic agents. Along with low back pain, she had progressive difficulty in getting up from sitting and supine positions and in walking. There was no history of trauma or any medication intake. She is an orthodox believer who wears a black veil outdoors and is completely covered, with little exposure to the sun. An anteroposterior radiograph of the pelvis showed an *undisplaced transverse fracture of the shaft of both femurs*. The patient was treated with therapeutic doses of calcium and vitamin D supplements.

2



An 18-year-old slightly intoxicated man was assaulted with a glass bottle on the left parietal region of his head and had a 5-minute loss of consciousness. Two hours after the injury he was presented to a local emergency with severe headache, nausea, and repeated vomiting. Computed tomography of the head revealed a 2.5-cm *epidural hematoma in the left parietal region* (Panels A and B) underlying *a linear nondisplaced skull fracture* (Panel C, arrows).

3



A 21-year-old man presented after being struck with a gun on his right lower jaw. Examination revealed displacement of the left half of his mandible with malocclusion on biting (Panel A). Computed tomography showed a *fracture of the left mandible and a fracture of the right mandibular body and angle* (Panel B). Given the U shape of the mandible, it is common for contralateral fractures to result from major injury. Intravenous analgesics and antibiotics were given; the patient underwent *open reduction with internal fixation of his fractures.*

4

A 26-year-old man was admitted to this hospital because of back pain and a mass in the lung. He had been well until 17 days before admission, when he bent down to lift something and felt a sudden snap in his back, followed by pain that was associated with profuse diaphoresis and muscle spasms that extended from the left shoulder to the buttocks but did not radiate to the legs. He was unable to stand up straight and had difficulty breathing and sleeping because of the pain. The next day, magnetic resonance imaging (MRI) of the spine at that facility revealed *a pathologic T9 vertebral fracture* with soft-tissue extension beyond the vertebral body, *a chronic anterior wedge-compression fracture of the L1 vertebra*, degenerative changes in the L5–S1 intervertebral joint, and a large pleural effusion on the left side.

5

A 34-year-old man was brought to the emergency department at the hospital because of multiple traumatic injuries that he sustained when a bomb exploded while he was watching the 2013 Boston Marathon. At the scene, the patient reportedly lost consciousness, had a complete amputation of his right leg directly below the knee, and had copious blood loss. A plain radiograph of the left tibia and fibula (Figure 3A Radiographs of the Injuries of the Left Leg.) revealed *multiple metallic foreign bodies around the knee and a nondisplaced fracture of the lateral tibial plateau*. Plain radiographs of the left foot and ankle revealed *a comminuted fracture of the calcaneus* (Figure 3B), minimally displaced cuboid and cuneiform fractures, and subluxation of multiple tarsometatarsal joints, evidence of a ligamentous Lisfranc injury (dislocation of the tarsometatarsal joints due to midfoot trauma; named after the military surgeon in Napoleon's army) (Figure 3C).

Literature

- Mazánek, J.: Traumatologie orofaciální oblasti. Praha : Grada, p. 24

- http://radiologymasterclass.co.uk
- http://anthropology.si.edu
- http://nejm.org (The New England Journal of Medicine)