

Injury

- Damage of tissues, organs and organ systems
- Caused by external forces
- Mechanical, physical, chemical
- Monotrauma...polytrauma, life threatening
- Life-limb-function
- Influence on working and social life
- Most common cause of death under 40years of age

Anamnesis

- Common medical history :
 - risk factors
 - general status (morbidity, mortality)
 - drugs, allergies
 - pregnancy
- Mechanism of injury:
 1. Approximation of injury severity - triage
 2. Approximation of type of injury

AMPLE + MIST

- Allergies
- Medication
- Present medical history
- Last meal
- Events related to injury
- Mechanism of injury
- Injuries found and suspected
- Signs + Symptoms
- Treatment initiated

Triage criteria of polytrauma

- **Mechanism of injury**
 - Falls > 6 meters (second floor)
 - High risk auto crash (ejection, intrusion, death of another passenger, telemetry)
 - Motorcycle crash > 30 km/h
 - Auto vs. pedestrian/bicyclist > 30 km/h
- **Consider special conditions**
 - Age < 6y or > 55y
 - Cardiopulmonar comorbidity
 - Pregnancy
 - etc
- **Vital signs and level of consciousness**
 - GCS < 13
 - Systolic blood pressure < 90
 - Respiratory rate < 10 or > 29 (or need for ventilatory support)
- **Anatomy of injury**
 - All penetrating injuries
 - Pelvic fractures
 - Two or more proximal long-bone fractures
 - Crushed, degloved, mangled, or pulseless extremity
 - Amputation proximal to wrist or ankle
 - Open or depressed skull fracture
 - Paralysis

Mechanism → type of injury



Associated trauma:

- 1st-3th rib...plexus brachialis, a.et v.subclavia, trauma of thoracic aorta (dissection)
- Scapula fracture – high energy trauma
- Rib fracture in middle part...lung contusion...ARDS, PNO, hemothorax...
- Distal ribs... liver, spleen
- Pelvis...rectum, urinary bladder, venous plexus

Injuries:

- Superficial, deep, penetrating
- Open, close
- Soft tissues, skeletal trauma

- Monotrauma
- Combined trauma
- Polytrauma

Fyzik. vyšetření

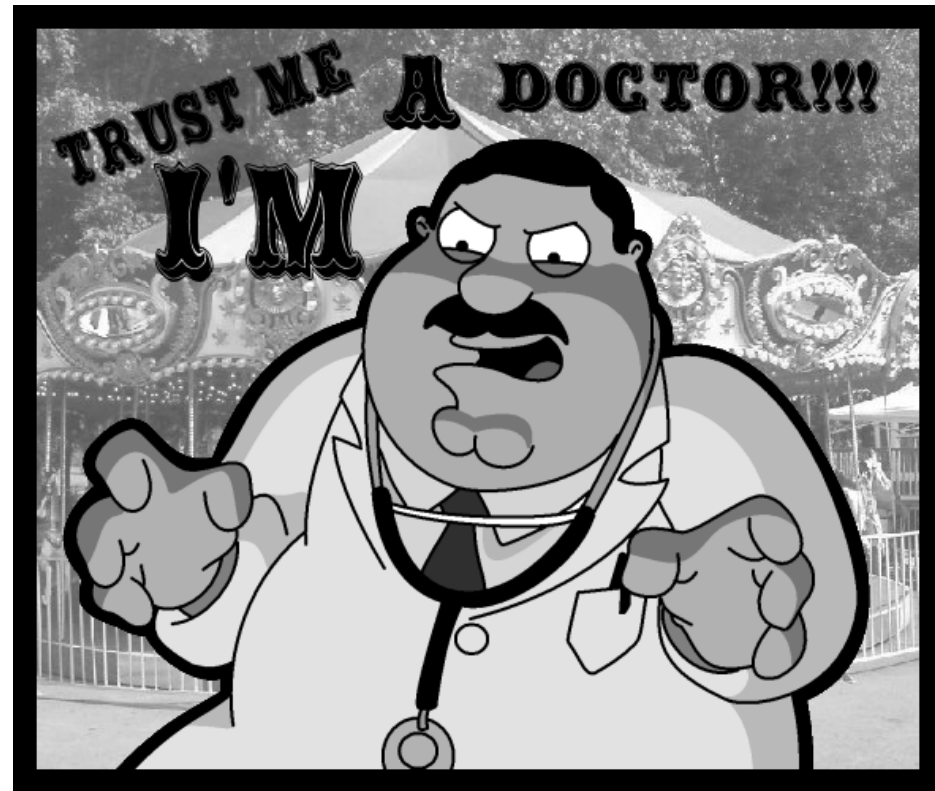
- Primary survey ABCDE
- Secondary survey
- Targeted examination

- Simple.... complex

- Physical examination

Physical examination

- I am a people person really...
- **Inspection**
- **Auscultation**
- **Palpation**
- **Percussion**
- **Rectal exam**



Inspection

- Swelling
- Hematoma, bleeding
- Wound
- Defiguration, deviation of extremities
- Breathing movements
- Skin karakter (cyanosis, sweating, paleness)
- Foreign bodies
-

Auskultation

- Heart sounds
- Lungs
- Abdomen

Palpation

- pain
- Creppitation, fluctuation
- Emphysema
- Pathological movement
- Peritoneal irritation
-

- Extremities: neurocirculation!!!!

Percussion

- Lungs
- Abdomen
- Soft tissues

Rectal exam?



Specific clinical syndromes

- **Beck's trias:** hypotension, increased load of cervical veins, decreased heart sounds
- Hypotension, tachykardia, increased load of cervical veins, decreased breathing sounds
- Kehr's sign
- Lucid interval
- Hypertension, bradykardia, decreased GCS
-

Battle's sign & Raccoon eyes



Fractures

- Certain signs:
- Visible bone – open fracture
- Deformity
- Pathological movement
- Creppitation
- Uncertain signs:
- Pain
- Swelling
- Damaged function

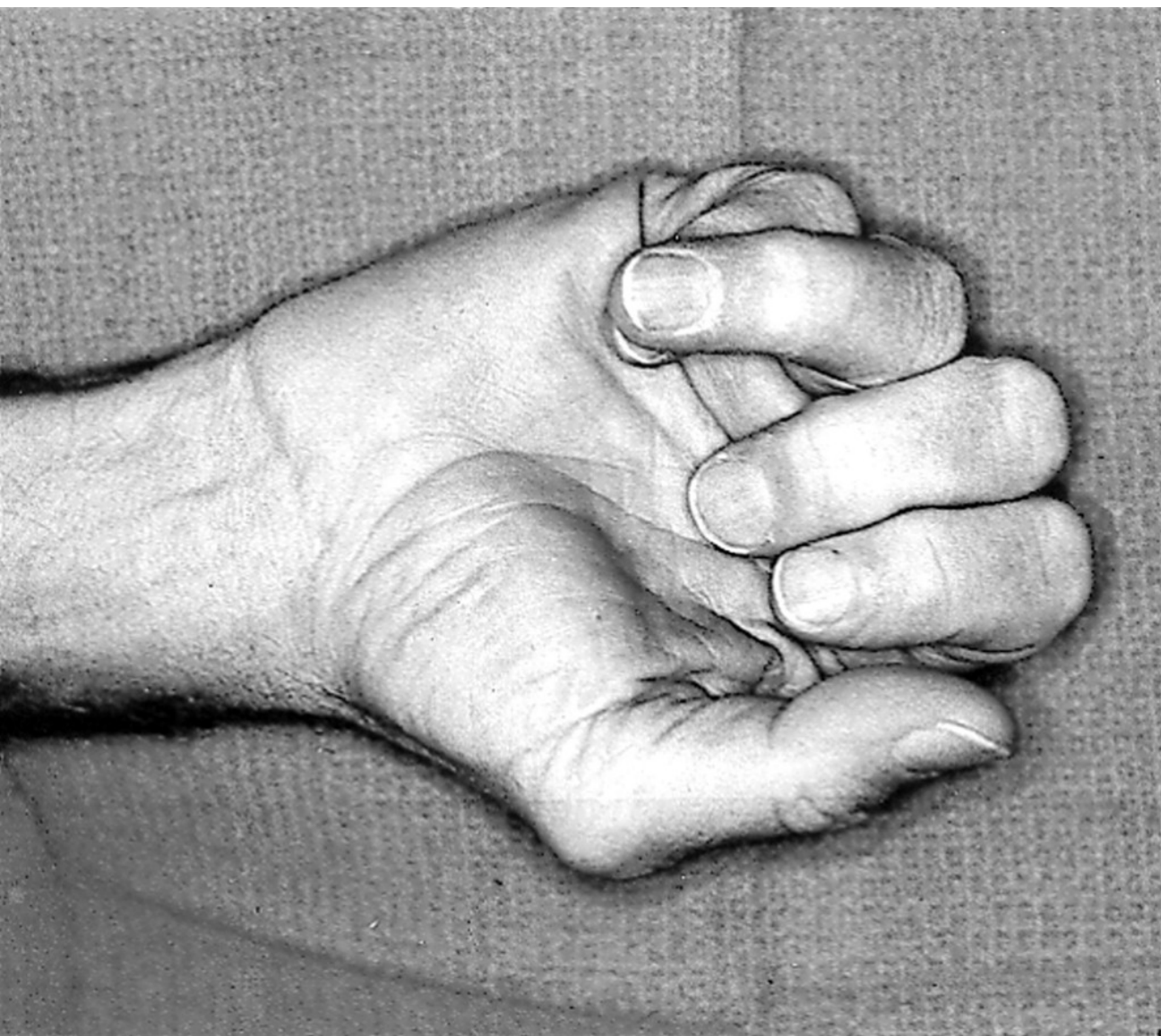








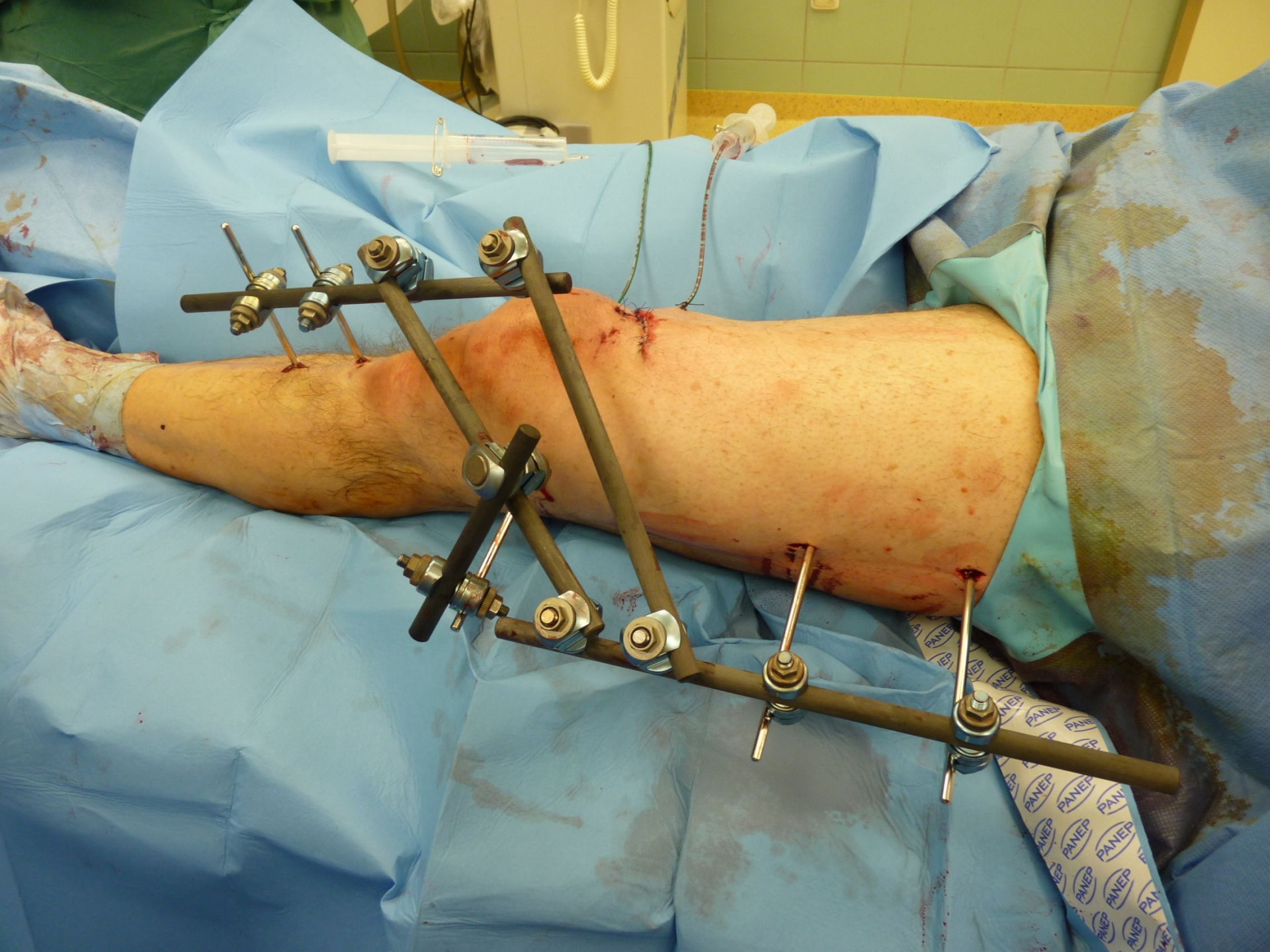






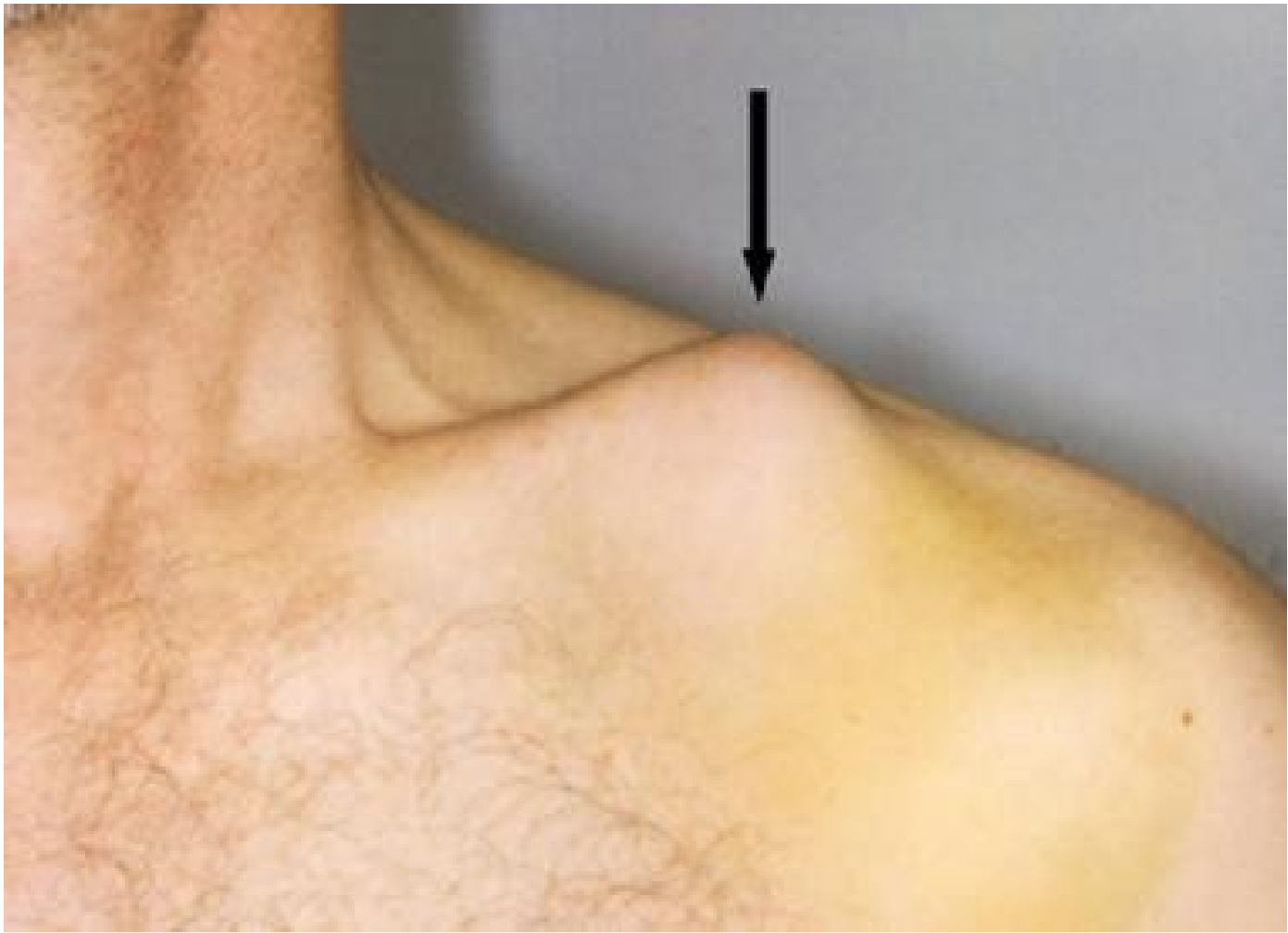








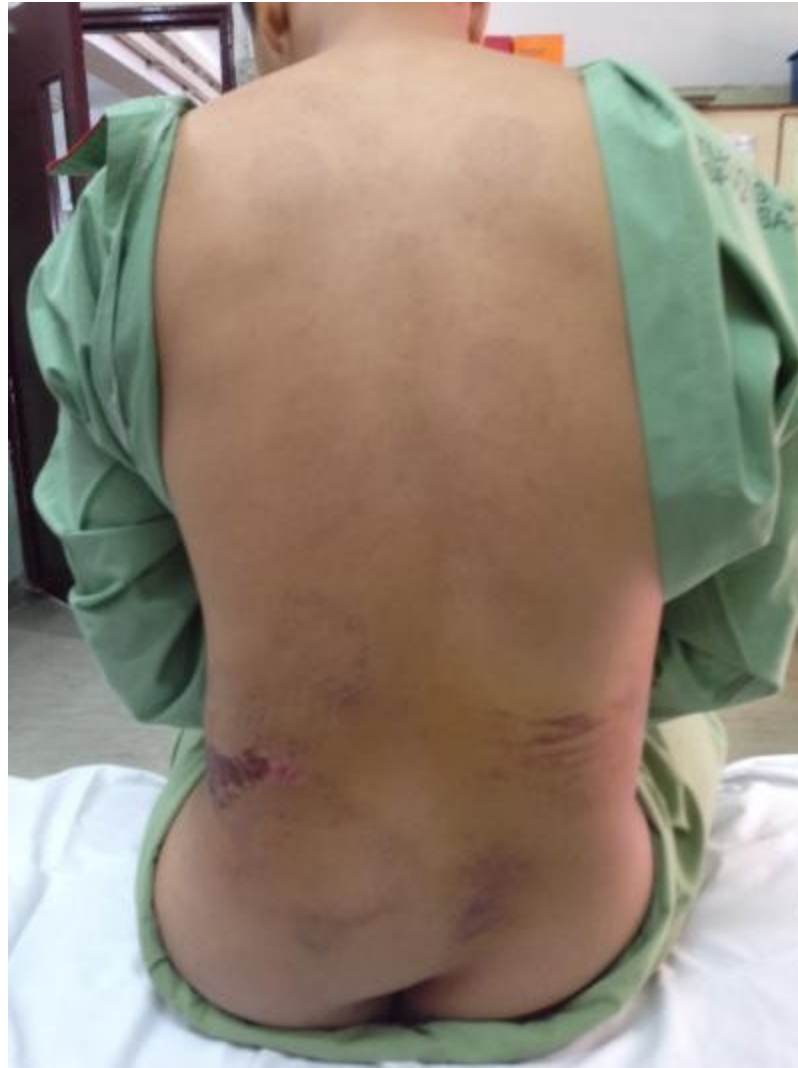












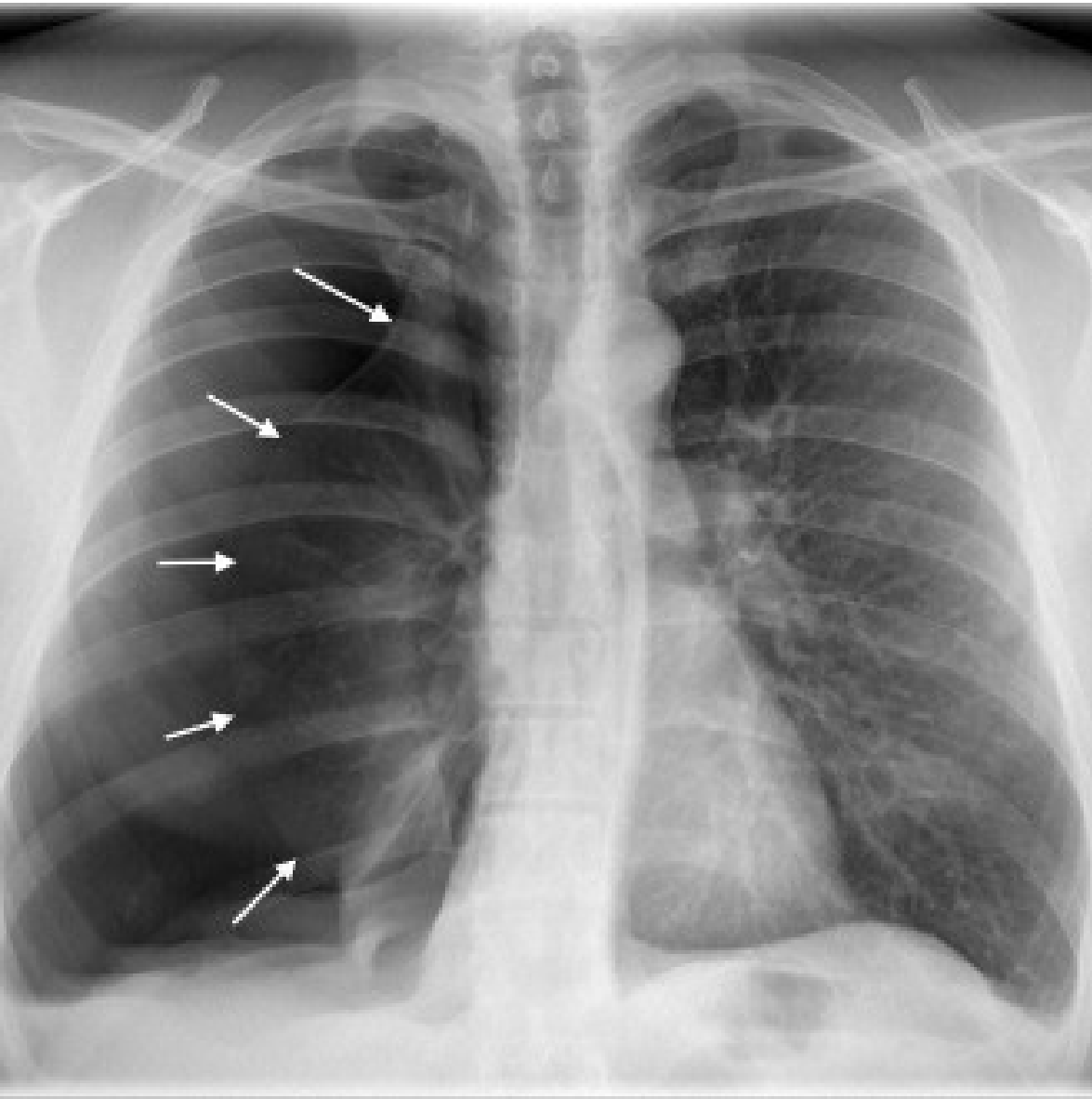
Seat Belt Injury

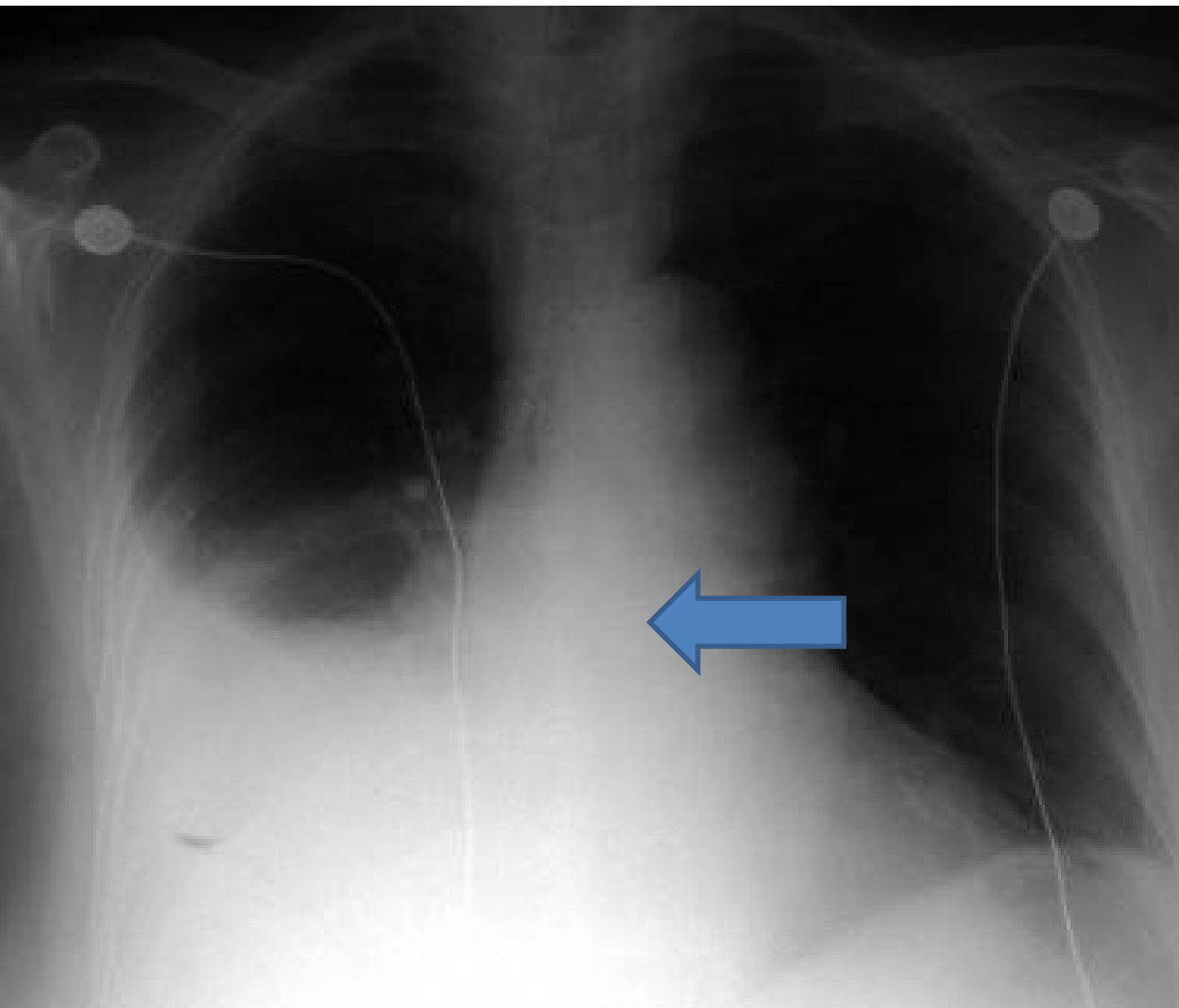
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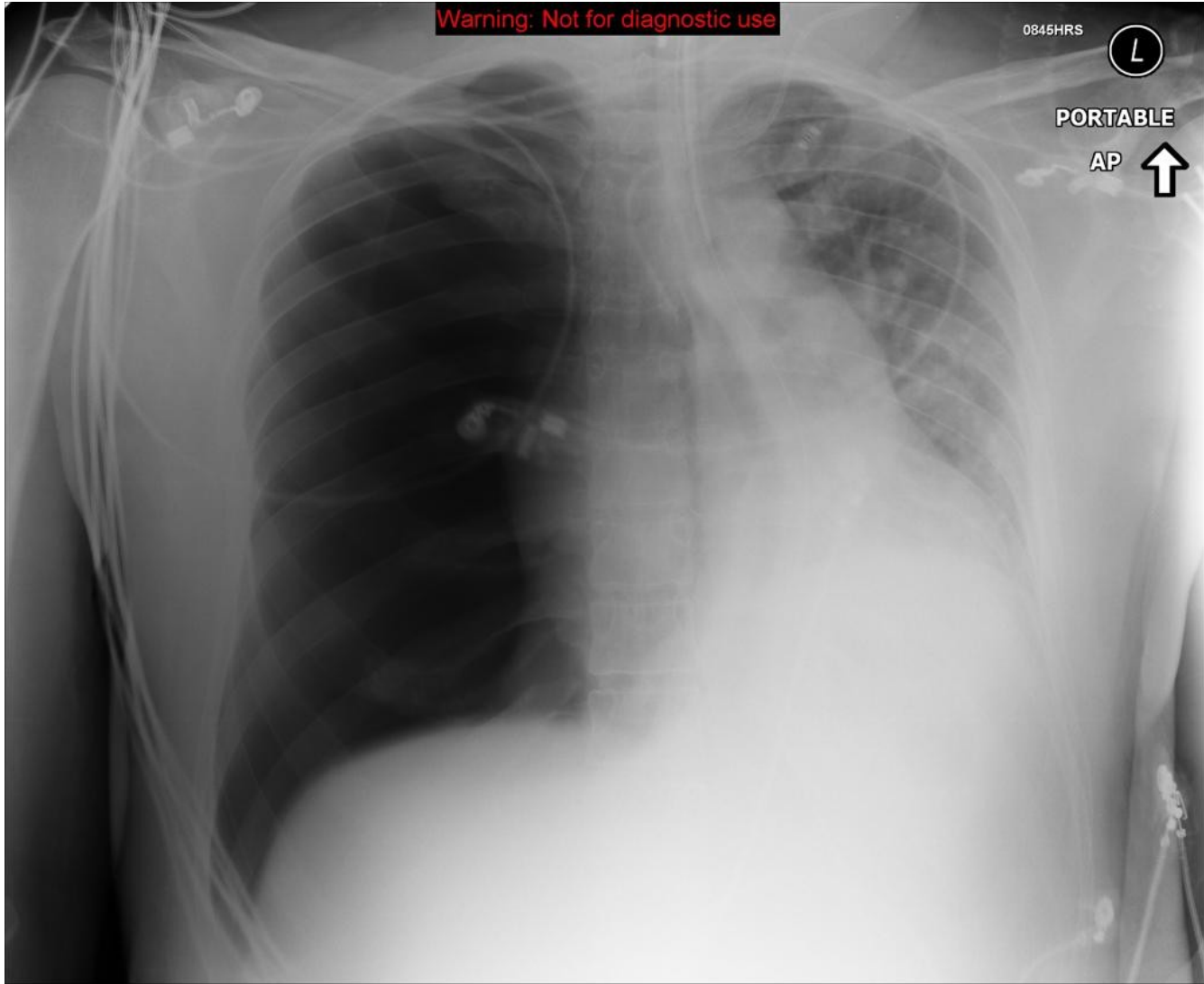
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Warning: Not for diagnostic use

0845HRS



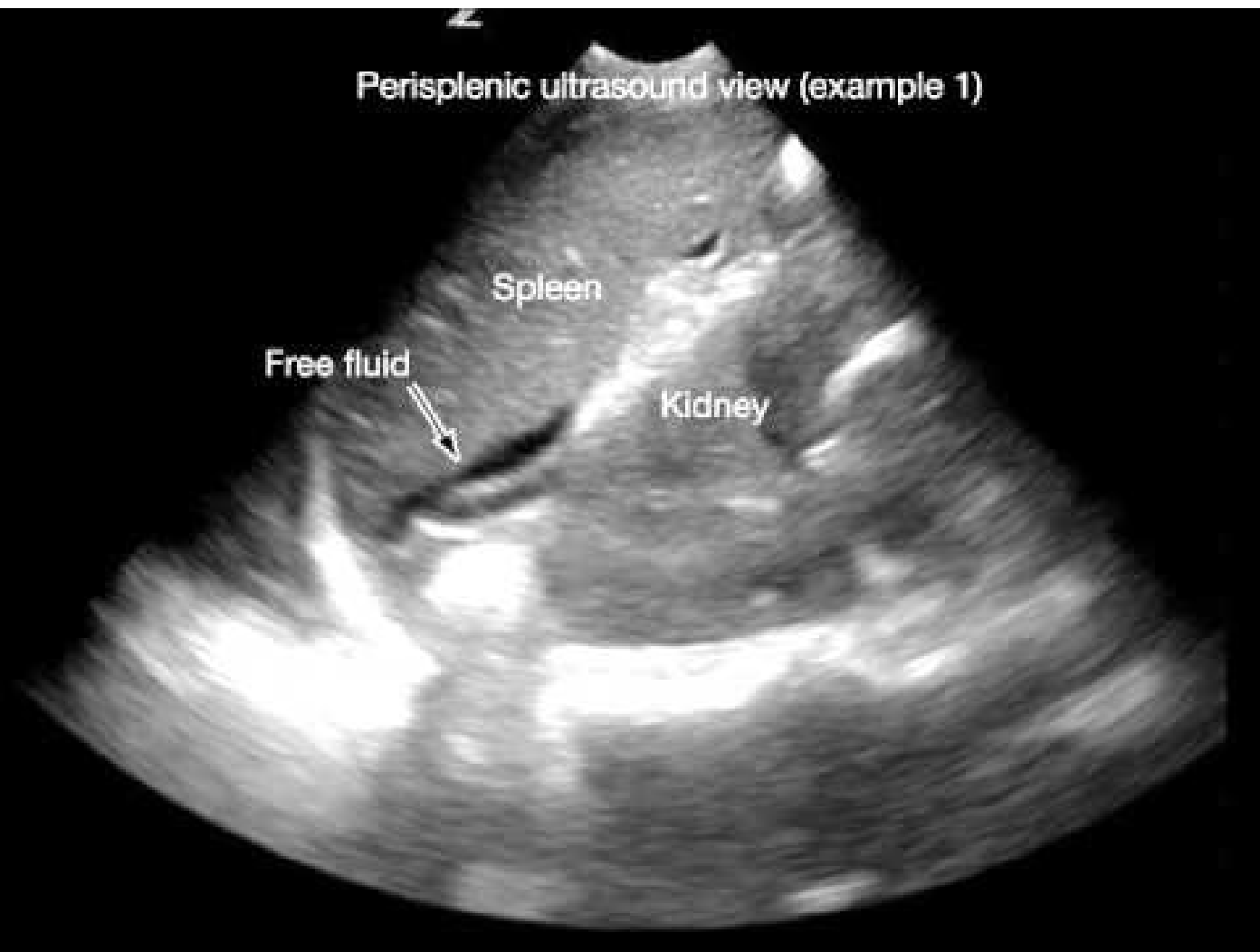
PORTABLE

AP



Perisplenic ultrasound view (example 1)

Spleen
Free fluid
Kidney



DX/2106/3
U AP
Pelvis
PELVIS

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321.0 mA
7.5 mAs
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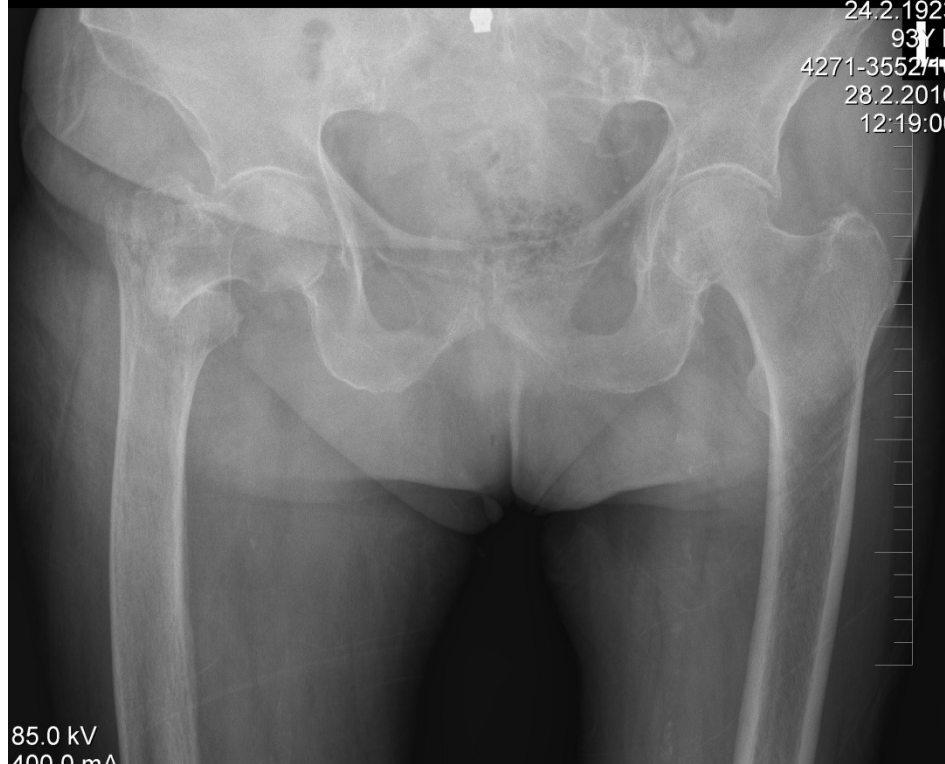
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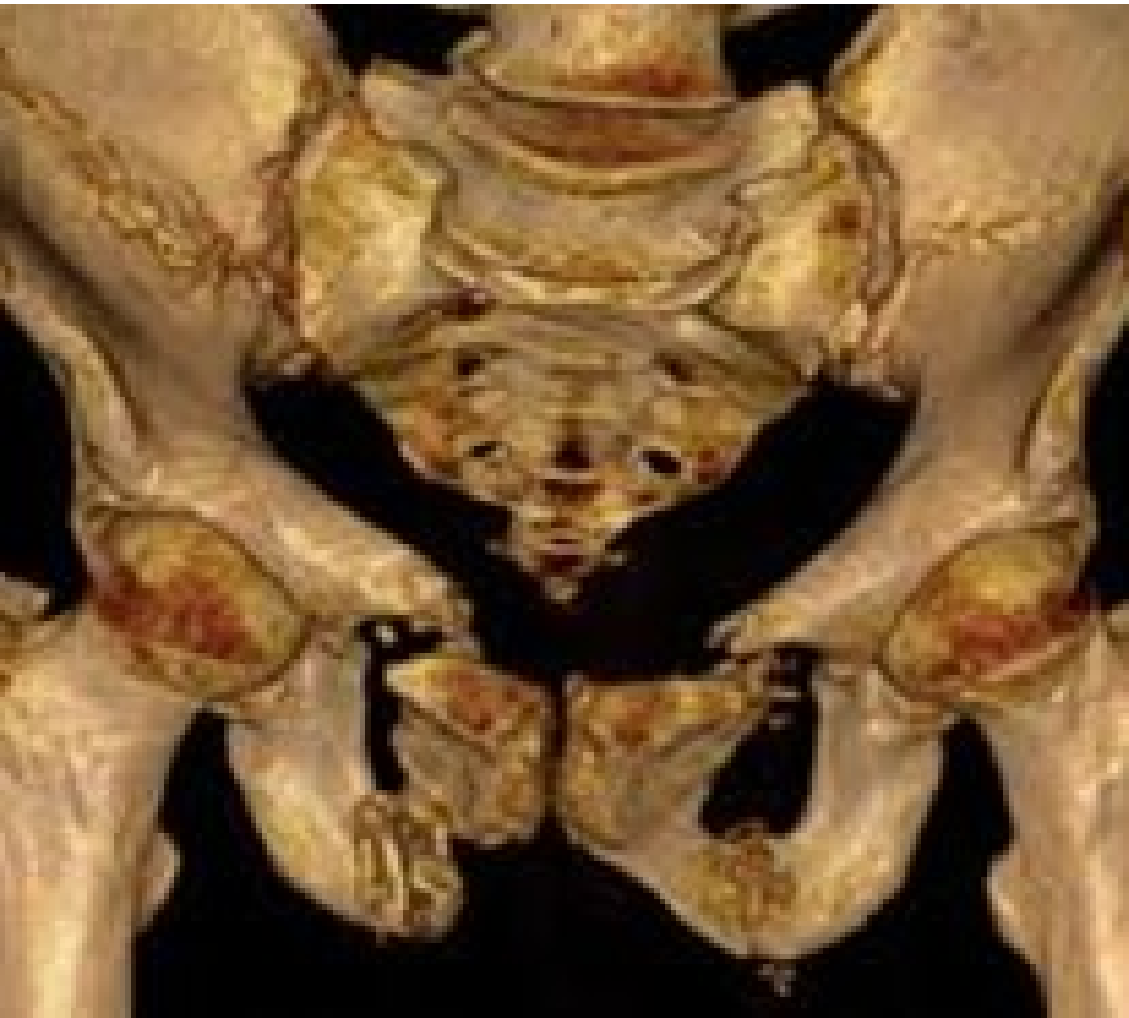
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85.0 kV
400.0 mA
10.0 mAs
Pixel size: 0.169 mm
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Thank you for attention

