

# Acetabulum fractures

**Fractures of the acetabulum** are *intra-articular* fractures. They are most commonly caused by an **indirect** mechanism, when the femoral head strikes the acetabulum socket; typically in car accidents or when falling on one side. The fracture accompanies hip luxation in 50% of cases.<sup>[1]</sup> The femur can also break through the acetabulum, this condition is referred to as **central luxation**.

## AO classification

Designation	Relationship	Morphology
<b>Type A</b>	partially intra-articular	fracture of one pillar
<b>Type B</b>	partially intra-articular	transverse fracture
<b>Type C</b>	completely intra-articular	fracture of both pillars ( <i>floating acetabulum</i> )

## Complications

A complication of acetabulum fractures is an associated fracture of the femoral head. In this, the vascular supply is often damaged and aseptic necrosis may occur, most commonly leading to deformity of the acetabulum and arthrosis of the joint. There is also a risk of injury of the adjacent nerves; n. ischiadicus in posterior edge fractures and n. obturatorius in central luxation. Damage to the n. ischiadicus may subsequently manifest with *cocked gait*. The patient has peroneal paresis and falls over on the toe.

## Clinical pictures

The patient is brought in with **sharp pain** in the hip and is usually unable to stand on the leg. The lower limb is in a position of relief - abduction + external rotation. When the acetabulum breaks, a shortening of the limb is seen.

## Diagnostics

Targeted images of the **anterior (oblique iliac) or posterior (oblique obturator)** edge of the acetabulum are most appropriate. Anteroposterior projection may not be sufficiently clear. Ideal overview is achieved with conventional CT or 3D reconstruction.

## Treatment

In non-displaced fractures, we can proceed conservatively by skeletal traction. Dislocated fractures are indicated for surgery and osteosynthesis with splints and screws. Due to the localization of the fracture, premature (post-traumatic) arthrosis occurs, which is usually resolved by total endoprosthesis.

## Links

### Related articles

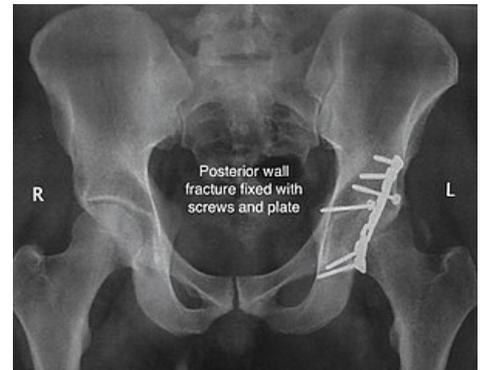
- Fractures of proximal femur
- Traumatic luxation of the hip joint
- Types of joint injuries and principles of treatment

### Literature used

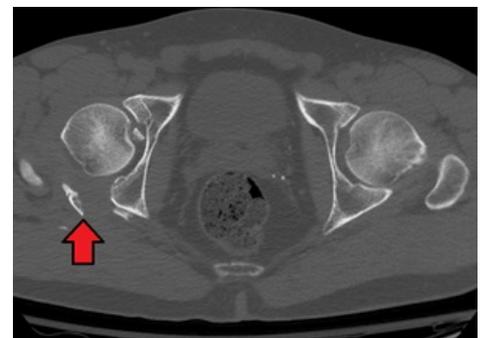
- VIŠŇA, Petr – HOCH, Jiří, et al. *Adult traumatology : a textbook for medical schools*. 1. edition. Prague : Maxdorf, 2004. 157 pp. ISBN 80-7345-034-8.
- CHMELOVÁ, Jana – DŽUPA, Valér. *Diagnostics of pelvic and acetabular fractures*. 1. edition. Prague : Galén, 2013. 113 pp. ISBN 978-80-7492-005-9.



Combined pelvic fracture with centrally luxated acetabulum fracture



Posterior arch fracture treated with osteosynthesis (splint and screws)



CT scan of acetabulum fracture

## References

1. VIŠŇA, Petr – HOCH, Jiří, et al. *Traumatologie dospělých : učebnice pro lékařské fakulty*. 1. edition. Praha. 2004. 157 pp. pp. 80–81. ISBN 80-7345-034-8.