Sacral fracture

see also Lumbosacral fracture

Sacral fractures can result from a range of injury mechanisms.

While sacral fractures typically result from high-energy injuries, there is increasing identification of low-energy insufficiency fractures of the sacrum and pelvis in elderly and osteoporotic patients. The pattern, location, and stability of the fracture also vary greatly. Stable nondisplaced fractures are usually treated nonoperatively, while significantly displaced fractures require reduction and internal fixation.

Sacral fractures occur in approximately 45% of all pelvic fractures.

The pattern of the associated pelvic fracture has a significant impact on the location, stability, and treatment of the sacral fracture. The sacral fracture associated with lateral compression pelvic fractures is usually stable, since there is impaction of the sacrum. In contrast, sacral fractures associated with vertical shear pelvic fractures are usually unstable patterns. Sacral fractures may involve injury to the lumbosacral junction and result in varying degrees of lumbosacral instability or even lumbosacral dissociation.

The close association of the lumbosacral plexus places the neurologic structures at risk of a traction injury or transection in high-energy displaced fractures. Neurologic injury associated with sacral fractures can range from an incomplete injury of a single nerve root to involvement of the entire cauda equina.

Classification

Sacral Injury Classification System.

see Sacral insufficiency fracture.

Treatment

Sacral fracture treatment.