

Anterior Column Screw

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In an attempt to overcome the morbidity of extensile surgical approaches in acetabulum fractures, percutaneous fixation can be done especially in patients with polytrauma, severe open injuries, extensive closed degloving injuries and in elderly with medical comorbid condition. Percutaneous techniques are associated with shorter surgical time, decreased soft tissue disruption, and the potential of early discharge from hospital.

Percutaneous fixation are recommended in cases of minimally displaced trans-tectal acetabular fractures, high anterior column fractures, and posterior hemitransverse fractures of the anterior column. In general in high anterior column fractures with the anterior superior iliac spine is attached to the externally rotated proximal fragment, so can be easily managed in an antegrade fashion, reduced with a rigid pin to the displaced fragment acting as a joystick. In low anterior column fractures retrograde percutaneous screws might be preferred to easily control the mobile superior pubic fragment, that is, to be fixed to the stable proximal fragment.

Usual implant used is either 7.3 or 8.0 mm cannulated screws, C-arm is placed perpendicular to the superior pubic ramus. The images required are inlet iliac view which helps to avoid guide wire penetration of the inner cortex of the superior ramus and outlet-obturator oblique view which helps to avoid guide wire penetration of the hip joint. It can be antegrade or retrograde. It could be difficult in obese patients.

Anterior column lag screw can be passed with iliofemoral approach, there is a safe technique of anterior column lag screw fixation called as “in-out-in technique”. The technique involved requires insertion of a screw (4.5 mm) or 6.5 mm partially threaded cancellous screw from the outer side of the iliac wing, 0.5–1 cm posterior and inferior to the anteroinferior iliac spine. The screw comes out of the bone surface to re-enter into the anterior part of ilio-pectineal eminence, and finally gains purchase in the lateral part of superior pubic ramus. The screw fixation procedure is under direct visualization without resorting to an image intensifier.