

A novel surgical technique to treat sacral fractures

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BACKGROUND

Two bilateral fixation points distal to the S1 vertebra are often required when treating displaced S1 fractures surgically. We obtain two distal fixation points bilaterally using a modification of the S2 alar iliac screw technique, first described by the senior author.^{1,2}

TECHNIQUE

Using an awl, define the first screw's entry point. This is located 1mm lateral and 1mm distal to the S1 dorsal sacral foramen. A 2.5mm drill, angled 40° lateral and 20–30° caudal, is used to create a hole crossing the sacroiliac joint and reaching to the far iliac cortex. This is facilitated by fluoroscopy (Fig 1). An anteroposterior view verifies that the drill is less than 20mm from the greater sciatic notch while a teardrop view confirms that the drill is in the thickest part of the ilium (Fig 2). A probe is used to confirm the hole is entirely intraosseous. A guidewire is placed in the hole and the hole tapped.

A second entry point is defined, 2–4mm lateral and 4–8mm distal to the S1 foramen. A second hole is drilled and tapped parallel to the first guidewire. Finally, two partially threaded cannulated screws of 9–10mm in diameter and at least 80mm in length are inserted. Figure 3 shows the postoperative computed tomography.

DISCUSSION

This reliable and reproducible technique stabilises sacral fractures and facilitates the correction of associated deformities. The technique can



Figure 2 Intraoperative anteroposterior and teardrop radiography confirming both screws are positioned satisfactorily

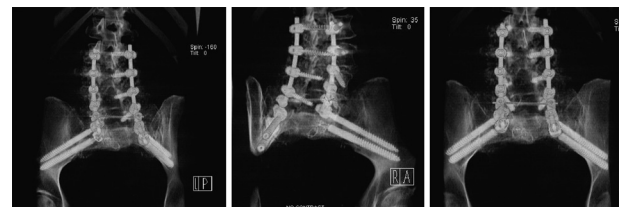


Figure 3 Postoperative computed tomography

also be used when treating fractures of the L5 vertebra and spinal deformities including high grade spondylolisthesis.

References

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2. O'Brien JR, Yu WD, Bhatnagar R *et al*. An anatomic study of the S2 iliac technique for lumbopelvis screw placement. *Spine* 2009; **34**: E439–E442.

A novel approach to closed reduction of distal femur fractures

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BACKGROUND

Fractures of the distal femur are common and periprosthetic fractures are becoming more prevalent. Muscle attachments often cause shortening, varus displacement and an extension deformity, which must be addressed at reduction.^{1–4} We describe the use of a posterior reduction device (PORD™; Orthofix, Bussolengo, Italy) to successfully achieve closed reduction and fixation of periprosthetic fractures of the distal femur.

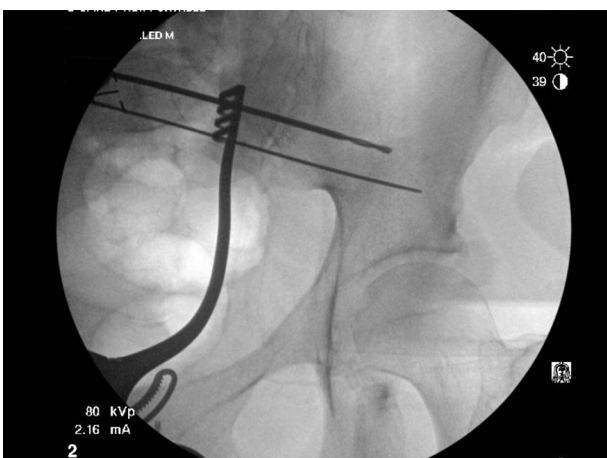


Figure 1 Intraoperative fluoroscopy showing guidewire in the distal hole and drilling of the proximal hole