Technical Section [TECHNICAL NOTES AND TIPS

Use of blocking guidewires to ensure accurate placement of femoral nails

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BACKGROUND

The high risk of causing anterior cortex fractures of the distal femur in cepho-medullary nailing for inter- or sub-trochanteric fractures due to poor positioning of nails has been described (Fig 1).¹ This problem is often a result of poor selection of the entry point, nail design, or abnormal anatomy. Such features can lead to notching of the anterior femoral cortex, thereby creating a stress riser on the tension side of the femur. Ensuring positioning of the nail distally into the medullary cavity reduces the risk of iatrogenic fractures.

TECHNIQUE

If the olive wire (OW) position is excessively anterior in the distal femur on the lateral fluoroscopic image, the OW can be retracted and one or more 3.2mm blocking guidewires (standard guidewires used for entry) can be placed percutaneously within the femoral shaft in the sagittal plane (Fig 2). Then, the OW can be passed below the blocking guidewire and allowed to progress more centrally down the femur into a better distal position (Fig 3). A reduction spoon can also

Figure 1 Intraoperative fluoroscopic image showing incorrect anterior positioning of a guidewire within the femur in the sagittal plane

Figure 2 Intraoperative intensified fluoroscopic image of a femoral nail and guidewire passing below a 3.2mm Kirschner wire placed eccentrically in the sagittal plane

Figure 3 Intensified fluoroscopic image demonstrating a satisfactory final position of a nail in the centre of the femoral canal

be used to help aid redirection of the OW posterior to the blocking guidewire.

DISCUSSION

Blocking guidewires are a useful intraoperative aid for optimising placement of OWs, the position of intramedullary nails, and fracture

reduction, as demonstrated in their use in proximal tibial fractures.² The technique for use with femoral nails has not been reported. We have described a simple, safe and inexpensive method for correction of poor positioning of blocking guidewires and nails that can prevent subsequent cortical penetration. To date, we have not witnessed tension-side femoral fractures using this technique.

References

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Implantation of the Cochlear Baha® 4 Attract system through a linear incision

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BACKGROUND

Increasingly, bone conduction ‘osseointegrated’ titanium implants coupled with implantable magnets are being offered to suitable patients. The established procedure of implantation of these devices involves a semicircular incision behind the ear followed by raising of a flap of soft tissue. Here, we describe a simplified incision that has been used in >30 patients with no associated complications.

TECHNIQUE

The incision site is marked in a conventional manner (Fig 1). An oblique line to mark the incision is drawn through the centre of the marked circle. After measuring skin thickness, a linear incision is made down to the periosteum and the wound undermined. An implant template is placed (Fig 2). Any bony prominences that have

Figure 1 Marking of the incision site

Figure 2 Placement of an implant template

Figure 3 The implant is placed in a conventional manner followed by the bone bed indicator

Figure 4 Placement of the implant magnet

been palpated are used as the implant site. The implant is placed in a conventional manner followed by the bone bed indicator (Fig 3) then the implant magnet (Fig 4). The magnet is secured and the wound closed (Fig 5).