The double bend guidewire technique in intramedullary nailing

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BACKGROUND

The use of blocking (Poller) wires or screws is a key step in achieving optimal reduction during intramedullary nailing. In the scenario where multiple, closely packed blocking screws are used, navigating the ball tip guidewire to the correct position can be difficult. We present a double bend technique, which allows greater control of the guidewire tip.

TECHNIQUE

The guidewire is bent by 15° 1cm from the ball tip. A second bend of 15° 2cm proximal to the ball tip and perpendicular to the first bend is made (Fig 1). The guidewire can now navigate the blocking wires utilising a corkscrew manoeuvre (Figs 2 and 3).

DISCUSSION

In comminuted and displaced fractures of long bones, closed reduction can be difficult, and can result in malreduction and deformity. Poller wires or screws can be used to aid reduction. Where multiple screws are used in close proximity and in different planes, they can hinder the successful passage of the guidewire. Creating a single bend in the guidewire is a well established technique for overcoming this issue but it remains challenging with multiple screws.¹ A double bend in the guidewire provides greater control of the ball tip to aid its passage. The

Figure 1 Guidewire bending sequence

Figure 2 Anteroposterior mortise and lateral ankle views. The double bends in the guidewire enable it to navigate multiple blocking screws using a corkscrew manoeuvre.

Figure 3 Final position of the guidewire

flexible reamers pass over the straight portion of the guidewire, proximal to the bends, and are therefore not hindered. The guidewire is easily removed once the intramedullary nail has been passed as the bends are not acute enough to cause entrapment.²

References

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