A Simple Technique for Protecting Exposed K Wire Ends

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Abstract Several techniques have been described for protecting the sharp ends of Kirschner wires intraoperatively. We describe a simple, inexpensive technique, which can be used to protect the ends of the wires both intraoperatively and postoperatively.

Keywords K wire · Protection · Fracture · External fixator

Dear Sir,

Several techniques have been described for protecting the sharp ends of Kirschner wires intraoperatively [1–4]. These techniques aim to protect the surgeon and assistant, as well as limiting possible damage to soft tissues. The ends of the wires are usually bent over to avoid a sharp point, or alternatively may be covered with a rubber bung or similar. Both of these techniques have potential difficulties; bending the end of the K wire can be difficult and there is a small

chance of dislodging the wire. Small rubber bungs or pieces of tubing are easily dislodged from the end of the wire leaving exposed, sharp ends until the wire is removed.

We describe a simple, inexpensive technique, which can be used to protect the ends of the wires both intraoperatively and postoperatively. This is particularly suitable for external fixation devices made from K wires where bending the ends of the wires may affect the construct of the fixation device.

The K wires are inserted as required for fracture fixation. The metal collars from a 3-0 Prolene suture (Ethicon, UK) are placed over the ends of the wires and crushed with a heavy needle holder. This keeps the collar securely in place with no risk of becoming dislodged prematurely. The wire can easily be removed in the usual way once fracture healing has been achieved.

This technique is simple, quick and does not use expensive equipment. Most of our patients have surgery under regional anaesthesia and do not recover protective sensation for many hours; this technique helps to prevent soft tissue damage to adjacent digits before sensation returns. The suture is widely available and costs £36.59 per box of 12 sutures (£3.05 per suture). The metal collar is easily removed from the pack leaving the suture to be used during the surgical procedure if required.

We recommend this is simple, inexpensive and reliable technique for protecting the ends of K wires and therefore reducing the risk of soft tissue damage as well as inadvertent needlestick injuries (Figs. 1, 2 and 3).

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Fig. 1 Prolene suture including metal collars

Fig. 2 Closer view of collars and beads with suture

Fig. 3 Metal collars in place on K wire ends

References

1. Halsey T, Griffiths E, Rai A (2010) Intra-operative protection from exposed K-wires. *Ann R Coll Surg Engl* 92(5):441
2. Malahias M, Durrant C (2009) Safe method of bending Kirschner wires after insertion. *Ann R Coll Surg Engl* 91(1):87
3. Sharma P, Hardwicke J, Khan MA (2011) A safety device to prevent injury from Kirschner wires. *J Hand Surg Eur* 36(7):605–607
4. Thangaraj R, Singh S (2010) Intraoperative K wire protection. *J Plast Reconstr Aesthet Surg* 63(12):2199–2200