Technical Section

TECHNICAL NOTES AND TIPS

Removal of an incarcerated intact intramedullary nail with a cement tap extractor

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BACKGROUND

Removal of intramedullary nails can be challenging and time consuming. Implant specific extraction devices are normally used. In certain cases, such equipment may be unavailable or the nail threads may be damaged, making removal of the nail extremely difficult. We describe a technique for removing an intact femoral intramedullary nail with a cement tap extractor when conventional methods fail.

TECHNIQUE

The proximal and distal screws of an intramedullary nail are removed using universal nail extraction equipment. Subsequently, a Moreland cement tap extractor (DePuy Synthes, Leeds, UK) (Fig 1), found in cemented hip revision kits, is screwed into the proximal portion of the nail. The extractor is then gently tapped out with a hammer, leading to successful removal of the nail (Fig 2).

DISCUSSION

Reports on removal of incarcerated intact intramedullary nails are fairly scarce. Techniques described previously include using a corkscrew femoral head extractor and proximal stacked wires.^{1,2} We used our technique on a patient who had an unknown implant inserted at another institution and for whom implant specific extraction

Figure 2 Moreland cement tap extractor inside a successfully removed intramedullary nail

equipment was therefore not available. To our knowledge, this technique has not been described previously. It should be used as a last resort as the tap extractor could potentially damage the nail, making any further attempts at removing it even more challenging. However, this technique did lead to a successful and straightforward removal of the nail for our patient, and it could prove to be of benefit in cases where conventional methods are unsuccessful.

References

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2. Weinrauch PC, Blakemore M. Extraction of intramedullary nails by proximal stacked wire technique. *J Orthop Trauma* 2007; **21**: 663–664.

Tightening a loose loop of suture in a continuous laparoscopic suture line

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Figure 1 Moreland cement tap extractor

When performing a continuous suture line laparoscopically, it is difficult for an assistant to keep appropriate tension. If a loose suture loop is identified on completion, a simple technique can be employed to deal with this. The middle of the loop is pulled tight using a needle