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A SIMPLE METHOD FOR REMOVAL OF A FRACTURED INTRAMEDULLARY NAIL

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Fatigue failure of an intramedullary nail may occur if there is delayed or nonunion of the fracture (Zimmerman and Klasen 1983; Winqvist, Hansen and Clawson 1984; Bucholz, Ross and Lawrence 1987) and the distal end of the fractured nail is then difficult to remove. Several methods have been described (Böhler 1968; Yoslow and LaMont 1986; Mooney, Chabon and Poehling 1991) to which we add a simple and reliable technique.

Patients. From 1986 to 1991 we treated five patients with fractured femoral intramedullary nails, all associated with painful delayed union or nonunion. Four nails were of the locking type and one was a Küntscher pattern. They had been in place for one to four years.

Technique. The operation is performed with the patient on a fracture table with image-intensifier control. The intramedullary canal is opened at the greater trochanter (Taylor 1992) and any locking screws are removed. The proximal part of the nail is removed and a nail which is 1 mm smaller in diameter than the fractured nail is passed down the intramedullary canal and gently impacted into the opening of the distal nail fragment. Both nails are then removed (Fig. 1). If there is delayed or nonunion the intramedullary canal is then reamed and a nail of larger diameter is inserted.

Results. In all five cases the removal of the distal nail fragment was easy and uneventful with no difficulties during extraction. The average time taken was ten minutes (7 to 15).

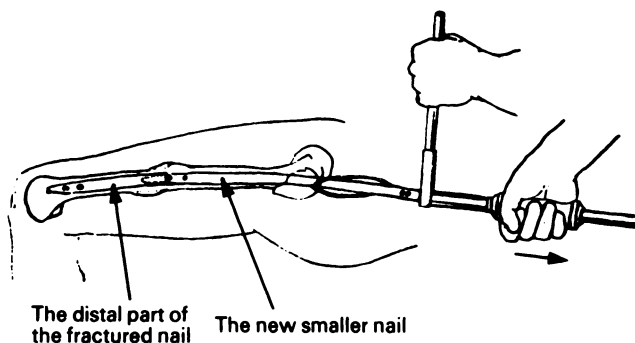


Fig. 1

Discussion. An intramedullary nail imparts stability only for a limited period of time until bone healing is attained. During this period there is a race between bone healing and fatigue failure of the implant and fractured nails will continue to be seen. Our method of removal is simple, reliable and safe and requires no special equipment. It could also be used in the tibia and the humerus.

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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 0301-620X/94/3R98 \$2.00
J Bone Joint Surg [Br] 1994; 76-B:502.
 Received 13 May 1993; Accepted 29 June 1993