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A CALCANEUS FRACTURE WITH INTERPOSED FLEXOR HALLUCIS LONGUS TENDON; A SURGICAL TIP TO AID TENDON REDUCTION

Editor,

Controversy still exists in the treatment of Os Calcis fractures. However, if surgical fixation is indicated the extended lateral approach is commonly used but an incarcerated flexor hallucis longus (FHL) tendon can block reduction of medial fracture fragments. We describe a simple, novel technique to aid reduction and help prevent FHL tendon interposition.

INTRODUCTION:

Os Calcis fractures typically occur in young, working-age adults after a fall from height¹. They make up 1-2% of all fractures². These injuries are often associated with extended recovery periods and can result in long-term morbidity including residual pain and loss of function.³ Controversy still exists with regards to operative vs conservative management for these complex fractures.^{1,4,5} A recent large, pragmatic, randomised controlled trial concluded that operative treatment compared with non-operative care showed no symptomatic or functional advantage after two years in patients with displaced intra-articular fractures.² However, many foot and ankle surgeons believe that with careful patient selection open reduction internal fixation (ORIF) of these fractures can restore mechanical alignment and restore subtalar articular congruity. In particular, fractures with incarcerated tendons are considered to be an indication for surgical treatment. The extended lateral approach is commonly used for ORIF but an incarcerated FHL tendon can block reduction of medial fracture fragments. We describe a simple and novel technique to aid reduction and help prevent FHL tendon interposition.

PRESENTATION

A 25 year old male was admitted with a displaced intra-articular calcaneal fracture following a fall from height. (Fig. 1) An incarcerated FHL tendon was suspected on the CT scan preoperatively. ORIF using a contoured locking plate was carried out through a standard extended lateral incision. Intraoperatively it was noted the fracture was difficult to reduce and the FHL tendon interposition was confirmed, from the lateral side, as the cause. To extricate the tendon from the fracture a small medial skin incision was made (approx. 3-4



Fig 1. Injury Radiograph, showing a communicated os calcis fracture (approximately 10 millimetres) and a MacDonald's dissector was introduced through the incision and used to manipulate the FHL tendon. See Fig. 2 for pre insertion of the MacDonald and Fig. 3 for the reduced tendon. As a result of this simple technique the fracture was easily reduced with no significant intraoperative delay or operative morbidity.

FOLLOW-UP

At a 3 month review the patient was pain free with reduced subtalar movement. Radiographs were satisfactory. At this stage he was allowed to wean out of his aircast boot and into normal footwear.

At a review 8 months post-surgery making a very good steady progress. Alignment is maintained and function is improving. There is no subtalar movement, however this was expected given the fracture pattern.

CONCLUSION

The MacDonald's dissector is a versatile surgical instrument. For this case if open reduction of the FHL tendon was considered there would have been an extensive lateral

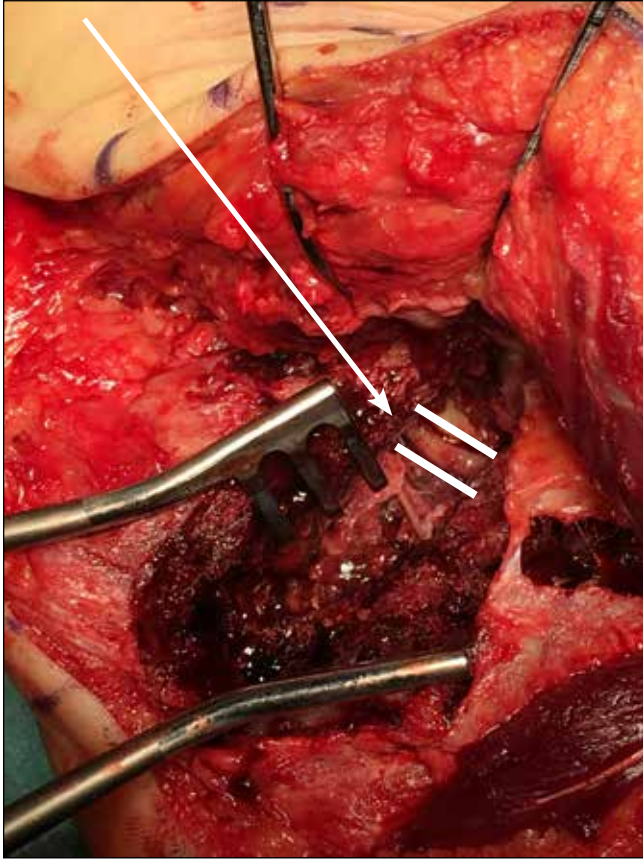


Fig 2. Interposed FHL tendon causing difficulty in fracture reduction

wound (for fracture fixation) and a significant medial wound for open tendon reduction. We have shown that a small percutaneous incision can be utilised to great affect with no additional operative morbidity.

We would advocate the use of this method for those who encounter this or similar surgical dilemmas.

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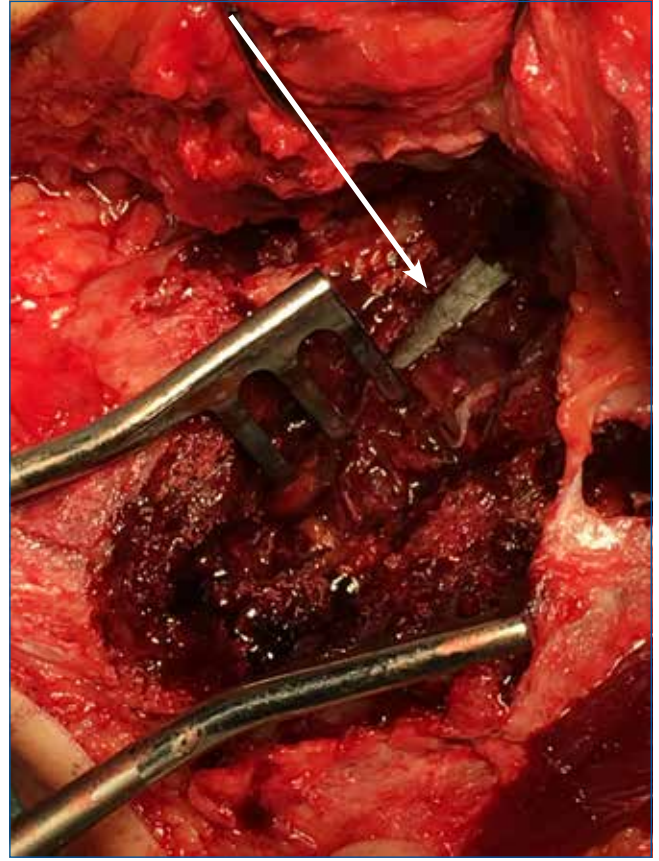


Fig 3. FHL now reduced using a MacDonald's Dissector with a minimally invasive approach

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