

# Extensor Pollicis Longus Laceration - An Everyday Accident - Using Extensor Indicis Proprius As A Solution To Restore Function - Clinical Case And Literature Review



Centro Hospitalar  
de Entre o Douro e Vouga, E.P.E.  
Portugal

Alexandre Castro, Raquel Lima Cunha, Manuel Godinho, Marta Santos Silva, Artur Neto

## Background

Injuries to the extensor tendons due to sharp objects are common among young manual workers. Its inappropriate treatment results in the deterioration of hand function and quality of life of our patients. Initial evaluation of these patients requires a detailed clinical history, including age, occupation, hand dominance and mechanism of injury. Physical examination of both hands is essential and an open wound should always raise the suspicion of a tendon injury. Neurovascular assessment is also mandatory.

The extensor pollicis longus (EPL) is extremely important for the function of the thumb and, consequently, for the function of the hand, and, when it is injured, its proper repair is essential.

## Case Presentation

A 38-year-old man came to the emergency department after suffering a circular saw injury to the dorsum of the thumb, TIV zone, in his dominant hand. On evaluation, no apparent neurovascular lesions but incapable of thumb IF extension. He was subjected to formal irrigation and debridement of the wound. Surgical exploration revealed section of the extensor pollicis longus with a tendinous gap of about 3 cm. Due to the impossibility of primary repair, we performed a tendon transfer with *extensor Indicis proprius* (EIP) using the pulvertaft technique for tendinous suture. After the surgery he underwent a protocol of protected rehabilitation.

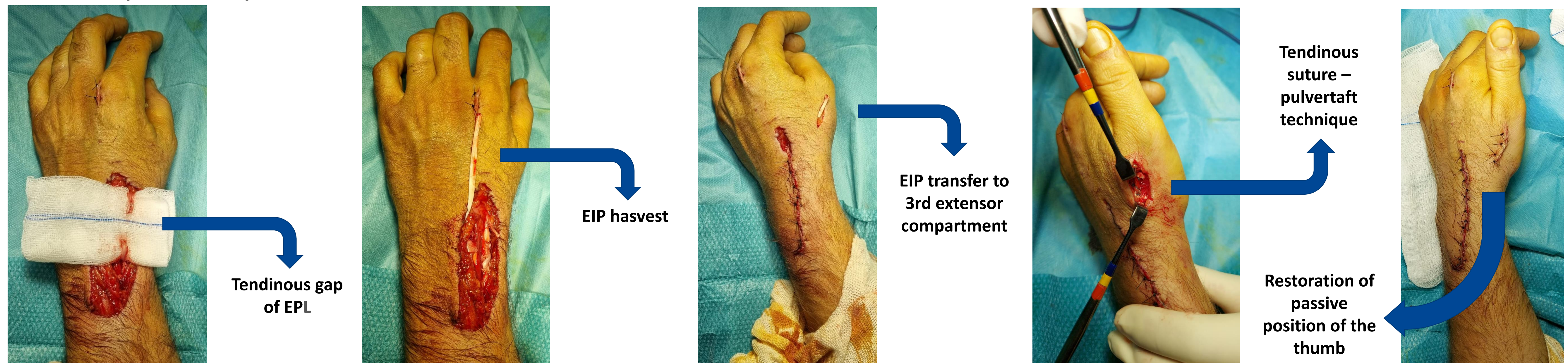


Fig.1: Surgical technique - *extensor Indicis proprius* transfer

## Results

During the first 4 weeks, the operative wound was monitored weekly and there were no complications.

He followed a 12-week rehabilitation protocol with progressive increase in the allowed range of motion of the thumb joints and the permission of active mobility.

At the 6-month evaluation, he reported a subjective loss of extension strength of the thumb and forefinger, although these did not affect his daily life activities.



Fig.2 – Postoperative evaluation of range of movement

## Discussion

In the initial evaluation of an extensor tendon injury, it is essential to differentiate the injury mechanism, affected finger and affected zone. This guide us in the treatment strategy and obtain better functional results. In this case, due to the tendon gap, it was necessary to resort to a tendon transfer technique. We preferred the *extensor Indicis proprius* to other frequent options due to the similarity with the EPL in length and direction of force, allowing its function to be more reliably restored. We currently know that, for a good result, we depend, in addition to the diagnosis and the appropriate surgical technique, on a good postoperative rehabilitation program. In addition to minimizing the likelihood of adhesions, it allows for a faster restoration of hand function, and increasingly aggressive rehabilitation protocols are currently being proposed.

## Conclusions

Due to the great variability of tendon injuries, there are different approaches to their treatment, and to achieve surgical success, surgical planning is essential for the proper treatment of each injury and its specificities.