

## Early Rupture of Extensor Pollicis Longus Tendon after a Non-Displaced Distal Radius Fracture: A Case Report

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吳政達 林柏君 陳文顯  
高雄長庚紀念醫院骨科部

**Introduction:** Incidence of rupture of extensor pollicis longus (EPL) tendon after distal radius fractures ranged from 0.3% to 5%. It usually occurs at 6~7 weeks in non-displaced fractures. We present a case of early rupture of EPL tendon after a non-displaced distal radius fracture.

**Materials and Methods:** A 52-year-old lady had right wrist pain after a minor fall on her outstretched right hand. Radiogram at nearby clinic did not show obvious fracture and she was treated conservatively by physiotherapy including gentle manipulation and massage. At 19 days, she suddenly found that she could not extend her right thumb.

Physical examination revealed mild pain at right wrist with maximal tenderness at Lister tubercle. Extension of interphalangeal joint of the thumb was lost. Radiogram showed a minimally displaced distal radius fracture with slight prominence of the Lister tubercle.

At 25 days, surgical exploration demonstrated a healed distal radius fracture through the Lister tubercle. The proximal fragment displaced dorsally for 1 mm and the EPL tendon ruptured at that level. The proximal tendon stump retracted for 3 cm and the distal stump frayed with marks of attrition for 1.5 cm. The prominent Lister tubercle was excised. The ruptured ends of the tendon were rerouted subcutaneously and approximated after gentle dissection. Side-to-side repair of the ruptured tendon was performed under proper tension. A volar splint to immobilize the thumb in extension was applied for 6 weeks. At 3 months, she returned to full activity with painless wrist and thumb with full range of motion.

**Discussion:** Causes of EPL rupture after non-displaced distal radius fracture might be obscure. Our case demonstrated a minimally dorsal displaced bony fragment at Lister tubercle. Motion of the thumb with excursion of the tendon on the sharp edge of the proximal fragment, resulted in attrition, fraying, laceration and rupture of the EPL tendon.

## Resection Arthroplasty of Basilar Joint of the Thumb

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林琮凱 林茂仁 林承志 許弘昌  
中國醫藥大學附設醫院骨科部

**Introduction:** Thumb basilar joint osteoarthritis is 2<sup>nd</sup> common site of hand OA and the patients suffer from pain, stiffness, function loss and even carpal tunnel syndrome. Resection arthroplasty is one of the effective procedure to treat this bothering disease. There are variant technique of the resection arthroplasty and trapeziectomy with suspension sling with Flexor carpi radialis was one of it. Here, we present a revised technique(suspension sling with abductor pollicis longus) and the clinical result was also recorded.

**Materials and Methods:** From 2010 Jan to 2011 Dec, 8 patients with severe thumb basal joint osteoarthritis received the revised technique. These cases were followed at least 7months(7~18). The outcome are analyzed by pain scale, functional score and patient's satisfactory.

We make a longitudinal dorsal incision in the anatomical snuffbox and locate the basal joint/FCR/APL tendon. Removed the trapezium and harvest half of the APL( cut from proximal tendon part). Make a tunnel with K-pin over the base of thumb metacarpal bone and pass APL graft from lateral to medial side. Suspension sling with APL graft through the FCR tendon and suture the distal end of graft onto capsule of the thumb basal joint. No artificial/hardware implant used. No tendon ball interposition.

**Results:** In our cases, there was no intra-operative or post operative complication. The pain scale got much improved at last follow up. Key pinch strength, the ability of opposition and the grip strength were also improved significantly. All the patients were satisfied with the operation.

**Discussion:** By using this revised technique, we don't have to aware about complications of metal/hardware failure and the procedure was relative simple compared with arthrodesis. The clinical outcome is also satisfactory. We recommend this procedure as a relative simple and also effective surgery for treating thumb basilar joint osteoarthritis.