

## **Modified Stiles-Bunnell Transfer to Address Persistent Claw Hand**

Liana J Tedesco<sup>1</sup>, Taylor Jay Bates, Gerardo Sanchez-Navarro, Jacques Henri Hacquebord

<sup>1</sup>NYP-Columbia Department of Orthopaedic Surgery

### **Background:**

Tendon transfers are in every hand surgeon's armamentarium for patients with nerve palsy. In patients with ulnar nerve palsy, key pinch is lost, which leads to significant functional limitations. In addition, clawing because of interossei dysfunction can prevent patients from being able to grasp round objects. The objective of tendon transfers for ulnar nerve palsy is to restore these vital functions. In the modified Stiles-Bunnell transfer, the flexor digitorum superficialis (FDD) tendon is divided in the palm, and each slip is passed volar to the transverse metacarpal ligament and inserted on the lateral band.

### **Purpose:**

In this technique video, we present the principles of tendon transfer technique in a case seeking to address a persistent intrinsic minus (claw hand) deformity and loss of thumb opposition of the right hand.

### **Methods:**

The anatomy, examination, diagnosis, and treatment options for ulnar nerve palsy are reviewed. We present a case of a 21-year-old female with a history of polyarteritis nodosa with autoimmune vasculitis complicated by ulnar nerve pathology, leading to persistent intrinsic minus deformity of the right hand after ulnar nerve decompression with reverse-end-to-side anterior interosseus nerve to ulnar nerve transfer. The patient also exhibited thenar atrophy and loss of opposition. Given her complex clinical picture and prior surgical interventions, she was indicated for tendon transfer.

### **Results:**

The post-operative clinical outcome showed well-healed incisions with no residual clawing. Furthermore, the patient was able to oppose the thumb to the ring finger with the thumb.

### **Conclusion:**

The Modified Stiles-Bunnell transfer is a viable surgical option for complex ulnar nerve palsy pathology cases. This treatment can correct clawing, restore key pinch, and improve overall hand function. Appropriate patient selection and adherence to post-operative rehabilitation are crucial for optimal outcomes.