

## **Subcutaneous Anterior Transposition of the Ulnar Nerve For Recurrent Cubital Tunnel Syndrome**

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### **Purpose:**

We evaluated the effectiveness of subcutaneous anterior transposition of the ulnar nerve for recurrent cases of cubital tunnel syndrome. The current literature universally suggests that submuscular anterior transposition is the standard operative treatment for recurrent cubital tunnel syndrome.

### **Methods:**

In this retrospective review, 20 patients who had recurrent cubital tunnel syndrome underwent revision for a failed surgical treatment. Patients had an average of 106 (range 1-5) previous surgical procedures. Regardless of the type of initial failed procedure, which included submuscular transposition of the ulnar nerve with care to locate and release all sites of compression. Our technique includes the creation of a large fascial window in the origin of the flexor carpi ulnaris and resection of a significant portion of the medial intermuscular septum. All patients were followed for a minimum of 2 years postoperatively. Utilizing a published rating scale for ulnar neuropathy, patients were evaluated for changes in pain, paresthesias, two-point discrimination, and motor function.

### **Results;**

The most common sites of compression were the medial intermuscular septum and the flexor-pronator aponeurosis. Fifteen patients had a good or excellent outcome, and 5 patients had a fair or poor outcome. Relief of pain and paresthesias were the most consistent favorable results. Factors associated with a less favorable outcome were age greater than 50 years, more than one previous operation, and atrophy of intrinsic musculature.

### **Discussion:**

When compared to submuscular transposition, subcutaneous transposition involves less surgical dissection and provides for a less tortuous course for the ulnar nerve. We found that subcutaneous anterior transposition of the ulnar nerve proved to be an effective treatment for recurrent cubital tunnel syndrome. Our results compare favorably with the results from the literature standard of submuscular transposition.

### **Significance:**

This is the first report of subcutaneous anterior transposition for recurrent cases of cubital tunnel syndrome. Because of its effectiveness and minimal surgical morbidity, the subcutaneous technique of ulnar nerve transposition should be considered an appropriate alternative to submuscular transposition for cases of recurrent cubital tunnel syndrome.