

UVA Research Day 2018
Kevin Laroche, MD

Title: Prospective evaluation of ulnar neuropathy treated with cubital tunnel decompression in patients with negative electromyogram findings.

Background: Ulnar neuropathy at the elbow (UNE) is the second most common entrapment neuropathy. Patients with UNE typically present with sensory disturbance in the ulnar digits of the hand, with or without hand weakness. Diagnosis of UNE is made through a combination of history, physical examination, and confirmatory nerve conduction testing. Nerve conduction studies may be used to confirm a clinical diagnosis of UNE but false negatives are possible as a result of variable compression of fascicles, because remaining large fiber function may produce conduction values that are within normal limits. The utility of electrodiagnostic testing (including electromyography [EMG] and nerve conduction studies [NCS]) has been called into question for the diagnosis of UNE, as 8-13% of patients with clinical symptoms suggestive of the condition have no evidence of ulnar dysfunction on EMG/NCS. Some authors have suggested that surgical interventions for UNE might be considered in the absence of electrodiagnostic findings to support the diagnosis.

Purpose: The purpose of the current study is to describe the clinical outcomes of patients with evidence of UNE on clinical examination, but lacking supportive electrodiagnostic criteria for the condition, that later underwent decompression of the ulnar nerve at the elbow.

Methods: After obtaining IRB approval, patients with signs and symptoms of UNE (EMG positive or negative) were given "Disabilities of the Arm, Shoulder, and Hand" short form ("Quick DASH") questionnaire preoperatively and then again at various intervals post-operatively to compare pre-op assessments with those post-operatively. Semmes Weinstein's score of each group were obtained concurrently. Student's t-test was used to determine the significance between groups.

Results/Conclusion: The average QuickDASH score was 18.78 ± 15.2 for EMG negative group and 16.32 ± 9.5 for EMG positive group thus far. Preliminary results suggest improvements in QuickDASH in EMG negative individuals with UNE. Currently, *QuickDASH* questionnaires are still being collected pre-op as well as at routine post-operative visits up to 1 year.