



Do Pre-operative Nerve Studies Predict Time to Resolution of Symptoms After Carpal Tunnel Release?

Maria Munsch, BS; John R Fowler, MD; William C Hagberg, MD; Joseph E Imbriglia, MD

Background

Anecdotally, patients with mild carpal tunnel syndrome (based on electrodiagnostic testing) experience resolution of their symptoms faster than patients with severe carpal tunnel syndrome. However, no studies have prospectively evaluated time to resolution of symptoms as the primary outcome measurement.

Methods

62 patients scheduled to undergo carpal tunnel release were prospectively enrolled. Demographic data, severity of pre-operative EDX, presence of night and daytime numbness, and 2 pt discrimination were recorded. Patients were contacted within 72 hours or surgery and then at 2 week intervals until both night symptoms and daytime numbness had resolved.

Results

	Mean Time to Resolution Mild or Moderate CTS in weeks (95% CI)	Mean Time to Resolution Severe CTS in weeks (95% CI)	p
Daytime symptoms	1.6 (0.6-2.5)	6.3 (3.9-8.8)	0.002
Nighttime symptoms	0.7 (0.5-0.9)	0.5 (0.4-0.7)	0.2
All Symptoms	1.7 (0.8-2.7)	6.3 (3.9-8.8)	0.005

	Mean Time to Resolution Periodic Numbness in weeks (95% CI)	Mean Time to Resolution Constant Numbness in weeks (95% CI)	p
Daytime symptoms	1.3 (0.4-2.2)	3.9 (2.5-5.4)	0.001

	Mean Time to Resolution Mild CTS weeks (95% CI)	Mean Time to Resolution Moderate CTS weeks (95% CI)	Mean Time to Resolution Severe CTS weeks (95% CI)	p
All Symptoms	1.6 (0.3-2.9)	1.9 (0.6-3.0)	6.3 (3.9-8.8)	0.02

Discussion

Patients with severe carpal tunnel syndrome, based on electrodiagnostic testing, took significantly longer to experience relief of daytime numbness and tingling. However, nighttime symptoms resolved equally in both groups. Patients with constant symptoms experienced slower resolution of symptoms than patients with periodic symptoms. All patients experienced relief of both daytime and nighttime symptoms by 12 weeks post-op.

This study gives surgeons data to counsel patients on the expected time frame for resolution of symptoms after carpal tunnel release. While nighttime symptoms resolve in the first week in the majority of patients, daytime numbness may linger for more than 6 weeks in patients with severe disease.