

Pomerance J, Fine I. Outcomes of Carpal Tunnel Surgery With and Without Supervised Postoperative Therapy. J Hand Surg 2007; 32A:1159-1163.

Design: Randomized clinical trial

Population/sample size/setting:

- 150 patients (54 men, 96 women, mean age 46) operated on for CTS in Illinois
- Eligibility criteria were pain and paresthesias in the median nerve distribution, awakening at night due to symptoms, being employed at the time of surgery, and a confirmatory nerve conduction study
- Exclusion criteria were cervical pathology, advanced disease (thenar atrophy, etc), prior hand or wrist surgery, endocrine disease (diabetes, hypothyroidism) and arthritis of hand or wrist

Main outcome measures:

- All patients had short-incision CTS release
- All patients were instructed that they would not have restrictions to motion after surgery, and that no splints would be used; all were instructed in tendon gliding exercises and scar massage
- Randomized to a 2-week course of postoperative hand therapy (n=73) or no therapy (n=77)
- Therapy group had 6 sessions of supervised hand therapy (nerve glide, range of motion, strengthening, massage, fluidotherapy)
- Evaluations were done every 2 weeks for the next month and at 3 months and 6 months after surgery by a staff member blinded to group assignment
- Workers' compensation (WC) patients (n=40) were somewhat slower to return to work than commercial insurance patients; at 6 weeks, 85% of commercial insurance patients had returned to work, but only 75% of WC patients had returned to work; however, 20 of the 40 WC patients were classified as heavy or very heavy work; only 2 of the 93 commercial insurance patients were classified as heavy and none as very heavy
- Return to work time did not differ between therapy and no therapy groups
- Similarly, grip and pinch strength, pain scores, and DASH (Disabilities of Arm, Shoulder, and Hand) scores did not differ; groups improved equally at all times of follow-up
- Therapy sessions added an average of \$900 to costs of WC patient care

Authors' conclusions:

- Routine use of postoperative hand therapy for carpal tunnel syndrome uncomplicated by comorbidities such as arthritis, endocrinopathies, or advanced disease, is not supported by these results
- Hand therapy may add significantly to the cost of care, and this expense is not justified

Comments:

- Randomization and blinding were adequate, and follow-up was 100% without crossovers between groups
- All patients were working at the time of surgery, and all patients, including the WC patients, had returned to work at 12 weeks after surgery
- The presentation of the sample size and power is not completely clear; the article states that a sample size was calculated for pinch and grip strength using a power of 85% with a 0.05 significance level, but the sample size needed for this power is not clearly stated—it may have been the exact sample size obtained, or it may have been a different number
- However, the number of patients appears adequate to demonstrate an important effect of hand therapy after surgery

Assessment: High quality for an evidence statement that routine use of hand therapy after surgery does not improve functional or symptomatic outcomes in carpal tunnel syndrome uncomplicated by other disease