

**Gerritsen AAM, de Vet HCW, Scholten RJPM, Bertelsmann FW, de Krom MCTFM, Bouter LM. Splinting vs. Surgery in the Treatment of Carpal Tunnel Syndrome [CTS]. JAMA 2002;288:1245-1251.**

Design: Randomized Clinical Trial

Population/sample size:

- 176 patients with electrophysiologically confirmed CTS who consented to randomization for open carpal tunnel release (n=87) or nocturnal splinting for 6 weeks (n=89)
- Exclusion criteria were prior splint or surgery rx for CTS, underlying causes of CTS (DM, pregnancy), thenar atrophy, wrist trauma

Main outcome measures:

- Principal outcome was response to treatment on 6 point questionnaire ordinal score, dichotomized into “success” if “completely recovered” or “greatly improved”; “failure” if any lesser degree of self-reported symptom relief
- Also scored on number of nocturnal awakenings during past week (0-7) and severity of chief complaint at time of randomization (0-10)
- Standard CTS Symptom Severity Scale and Functional Status Scale and results of nerve conduction studies at baseline and follow-up, with change in score from baseline to follow-up as measure of effectiveness
- Time of randomization used as reference point, with follow-up at 1, 3, 6, 12, and 18 months after randomization
- Main analysis by intention-to-treat, with additional comparisons of splinted group who proceeded to surgery with those who did not
- At 1 month, splint group had more “success” than surgical, but at 3, 6, 12, & 18 months surgical group had more success (90%) than splinted group (75%) on intention-to-treat analysis
- Similar emergence of advantages for surgery over splinting after 1 month was measured for secondary outcomes of symptom scores
- Additional analysis of 32 patients in splinted group that later received surgery had 94% success at 18 months; the 47 patients in splinted group who did not later receive surgery had 62% success at 18 months

Authors’ conclusions:

- Surgery has advantage over splinting in moderate CTS; no conclusions can be drawn about very severe or very mild CTS

Comments:

- Authors followed previously published protocol closely; inclusion of both intention-to-treat and on-treatment analyses enhances interpretability of results
- Symptomatic and functional scores both reported and show surgical advantage

Assessment: High-quality for evidence that surgery has a symptomatic and functional advantage over splinting alone