McKeon JM, Yancosek KE. Neural Gliding Techniques for the Treatment of Carpal Tunnel Syndrome: A Systematic Review. J Sport Rehabil 2008; 324-341.

Design: Systematic Review of clinical trials

Databases/selection and rating of articles:

- 6 studies of neural gliding for the treatment of carpal tunnel syndrome
- Databases searched through April 2008 included Medline (from 1980), CINAHL (from 1982), Cochrane Register (from 1964), and SPORTDiscus (from 1980)
- To be included, studies needed to address neural gliding in CTS in human populations, to include a comparison group, and use at least one of 8 outcome measures: Pain, Symptom Severity Scale (SSS), Functional Severity Scale (FSS), Phalen's test, Tinel's test, 2-point discrimination, grip strength, or pinch strength
- Methodological quality was assessed by 2 researchers working independently using the PEDro rating scale
- Meta-analysis was not done due to heterogeneity of the study designs, follow-up periods, and comparison groups
- For continuous variables, effect size was judged as how many standard deviations separated two treatment groups on the outcome measure; >0.7 SD is a large effect; 0.4 SD to 0.7 SD is a moderate effect, and <0.4 SD is a small effect
- Strength of evidence was based on the Oxford Centre for Evidence Based Medicine (CEBM), with 10 levels of evidence and 4 levels of grade of recommendation

Main outcome measures:

- Literature search yielded 20 studies, of which 6 met selection criteria
- The interventions used in control groups were not standardized and varied from study to study (splint, ultrasound, carpal mobilization, splinting)
- Follow-up times were short (4 to 10 weeks)
- Self-reported outcomes (Pain, SSS, FSS, 2-point discrimination), most had 95% confidence intervals that included zero (no effect of nerve gliding), and effect size estimates varied from weak to strong; only one study had a large effect size which did not include zero in the confidence interval, and it compared nerve gliding to a control group which received no intervention
- For pinch and grip strength, most studies showed effects whose confidence intervals included zero
- The studies were low in methodological quality, with inconsistencies in effect over alternative nonsurgical interventions

Authors' conclusions:

- The contribution of nerve gliding exercises to the treatment of CTS is not known; studies suggest a benefit, but the efficacy is unclear

- Based on the trend to improved outcomes with nerve gliding, it can be concluded that nerve gliding is better than no treatment
- The monetary cost of nerve gliding is very low, and their incorporation into a home exercise program may improve symptoms and function
- There is not sufficient evidence to recommend nerve gliding as the best nonsurgical treatment of CTS, but it is a reasonable option for clinicians treating CTS patients

Comments:

- The inclusion criteria only required that a comparison group be included in the study, and not that the studies be randomized
- Appropriate care was taken to use independent reviewers to assess the study quality and to avoid inappropriate pooling of numerical data

Assessment: Adequate to support an evidence statement that nerve gliding is likely to be more beneficial than no treatment, and that its cost is minimal; inadequate to recommend nerve gliding for routine use