**O’Connor D, Page MJ, Marshall SC, Massy-Westropp N. Ergonomic positioning or equipment for treating carpal tunnel syndrome. *Cochrane Database of Systematic Reviews* 2012; Issue 1.**

**PMID:** 22259003

**Reviewer:** Linda Metzger 9-24-15

**Design:** Cochrane Systematic Review (No meta-analysis)

**Objective:** To assess the effects of ergonomic positioning or equipment compared with no treatment, a placebo or another non-surgical intervention in people with carpal tunnel syndrome (CTS).

**Summary of Results:**

* Includes 2 trials with a total of 105 participants comparing ergonomic versus placebo keyboards.
* In one small trial (25 participants), an ergonomic keyboard significantly reduced pain after 12 weeks (MD -2.40; 95% CI -4.45 to -0.35). The other trial (80 participants) reported no significant difference in pain severity after six months when using any of the three ergonomic keyboards versus a standard keyboard.
* The authors concluded that there is insufficient evidence from the two studies in this review, which represent all the available evidence of sufficient quality for inclusion, to determine whether ergonomic positioning or equipment is beneficial or harmful for treating carpal tunnel syndrome. There is no strong evidence for or against the use of ergonomic keyboards for the treatment of CTS.

**Reasons not to Cite as Evidence:**

* Both trials were over 15 years old. Neither study assessed short-term overall improvement (the primary outcome), adverse effects, or need for surgery as outcomes.
* The present search went through June 2011.
* From these two small trials, there is very limited and very low quality evidence comparing ergonomic versus a placebo keyboard. No primary outcome data and limited data for secondary outcomes were available, and no pooling across studies was possible.
* Overall the quality of the evidence was very low and methodologically flawed, as both trials had unclear allocation concealment, one trial did not blind participants and was at high risk of bias due to incomplete outcome data (Tittiranonda 1999), and both studies were at high risk of bias due to selective reporting of outcomes.
* The quality of evidence available for the purpose of this review is very low. Because of the very low quality of the evidence and no outcome data on short-term overall improvement, we are uncertain about the magnitude of the effects and no useful conclusions can be drawn.

**Assessment:**

* High quality Cochrane review that shows there is inadequate evidence for the effectiveness of using ergonomic keyboards for the treatment of carpal tunnel syndrome (CTS).

**References:**

* Rempel D, Tittiranonda P, Burastero S, Hudes M, So Y. Effect of keyboard keyswitch design on hand pain. Journal of Occupational and Environmental Medicine 1999; 41(2): 111–9. [PUBMED: 10029956].
* Tittiranonda P, Rempel D, Armstrong T, Burastero S. Effect of four computer keyboards in computer users with upper extremity musculoskeletal disorders. American Journal of Industrial Medicine 1999; 35(6):647–61.