Wrist splints provide task-specific improvements for patients with rheumatoid arthritis

Wrist-joint involvement is common in rheumatoid arthritis (RA), and wrist splints are prescribed to reduce pain and inflammation. Previous research has found that patterns of splint wearing differ by task, and prescription of splints without knowledge of which patient activities are hampered by splint wear can lead to frustration and reduced splint use. In a Canadian study, investigators aimed to improve the understanding of task-specific benefits of splint wearing to maximize benefits and minimize inconvenience.

The study included 30 RA patients who had previously used a commercially available, circumferential, fabric-type, wrist working splint with a palmar, metal insert. The primary outcomes of pain, perceived difficulty and perceived splint benefit were assessed using visual analog scales, and work performance and endurance were measured using a work simulator; 10 tasks for work performance and 4 tasks for endurance were selected. Pain was measured before and after the tasks.

For most tasks the splint improved or did not change pain, did not increase perceived task difficulty, did not interfere with work performance, and increased or maintained endurance. Although the effect of splint use was generally positive, this varied greatly according to task: splint use was most beneficial for tasks incorporating the palmar metal slab, least beneficial in tasks where a tight, secure grip was required, and offered comfort and perceived benefit in tasks that did not necessitate a secure grip. The authors recommend that routine tasks are practiced with and without the splint, to determine a daily wear protocol.

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Original article Pagnotta A *et al.* (2005) Static wrist splint use in the performance of daily activities by individuals with rheumatoid arthritis. *J Rheumatol* 32: 2136–2143

Vitamin B₆ supplementation does not improve rheumatoid inflammation

Patients with rheumatoid arthritis (RA) have been shown to have lower static and functional levels of vitamin B₆ than healthy subjects. While early studies have indicated that it is likely that inflammation causes this deficiency, it's equally possible that impaired vitamin B₆ status itself exacerbates inflammation.

Chiang *et al.* have conducted the first randomized, double-blind, placebo-controlled trial to systematically examine the effect of pyridoxine supplementation on vitamin B₆ levels in patients with RA. A total of 28 patients with plasma pyridoxal 5'-phosphate levels that reflected impaired functional vitamin B₆ levels received either pyridoxine 50 mg (*n*=14) or placebo for 30 days. Despite an increase in the levels of most markers of vitamin B₆ status in the pyridoxine group, no change was observed in rheumatoid factor levels, plasma C-reactive protein levels, inflammatory cytokines, or erythrocyte sedimentation rate. No statistically significant improvements were found in the placebo group at the end of the study period.

Vitamin B₆ supplementation corrected the deficiency observed at baseline, but did not improve inflammation; these results indicate that vitamin B₆ inadequacy does not directly cause or exacerbate rheumatoid inflammation. Chiang *et al.* recommend that vitamin B₆ supplementation still be considered for RA patients, because of the potential consequences of vitamin B₆ deficiency, such as atherosclerosis. Further studies are warranted to determine the optimal dose, and to assess whether suppressing inflammation might improve vitamin B₆ status.

Katherine Sole

Original article Chiang E-PI *et al.* (2005) Pyridoxine supplementation corrects vitamin B₆ deficiency but does not improve inflammation in patients with rheumatoid arthritis. *Arthritis Res Ther* 7: R1404–R1411