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THE EFFICACY OF WRIST WORKING SPLINTS IN PATIENTS WITH RHEUMATOID ARTHRITIS: RESULTS OF A RANDOMIZED CONTROLLED STUDY

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Background: Wrist working splints are frequently prescribed to rheumatoid arthritis (RA) patients suffering from wrist arthritis. They aim to reduce pain and inflammation, and improve functional ability by providing rest, support and stabilization of the wrist. The effects of this type of splints have not thoroughly been investigated.
Objectives: The aim of this study was to examine the efficacy of wrist working splints after a period of splinting in RA patients.

Methods: A four-week randomized controlled trial was performed among RA patients with wrist arthritis. Selected patients were randomly allocated to the splinting group or the control group. Patients in the splinting group received a commercially available prefabricated wrist working splint and were instructed to use this splint as much as possible during the day, but especially during the performance of activities. To stimulate adherence with splint wearing, adherence-enhancing strategies, which were established in a former study (1), were included. Primary outcome measure was wrist pain, measured using a visual analogue scale (VAS). Secondary outcome measures were grip strength and functional ability. The latter was measured using the Disabilities of the Arm, Shoulder, and Hand questionnaire (DASH) and the short version of the Sequential Occupational Dexterity Assessment (SODA-S). Measurements were performed at baseline and after four weeks. Differences in change scores between the splinting and the control group were analysed using analyses of covariance with baseline scores of the outcome variable as covariate. To indicate the magnitude of the treatment effects, effect sizes were calculated.

Results: A total of 33 patients were enrolled in this study. No significant differences in patient characteristics between the splinting (n=17) and the control (n=16) group were found at baseline. Mean age of the patients in both group was respectively 60.3 (SD 10.8) and 55.1 (SD 12.8) years. Mean DAS28 scores were respectively 4.37 (SD 1.01) and 4.34 (SD 1.33). A large and highly significant treatment effect on wrist pain was found. VAS pain scores decreased with 32% in the splinting group and increased with 17% in the control group. Small and non-significant treatment effects were found with regard to nonsplinted grip strength and functional ability.

Conclusion: This randomized controlled study demonstrates that commercially available prefabricated wrist working splints are highly effective in reducing wrist pain after four weeks of splint wearing among RA patients with arthritis of the wrist.

References: 1. Veehof MM, Taal E, Willems MJ, van de Laar MAFJ. Determinants of the use of wrist working splints in rheumatoid arthritis. Arthritis Care Res (In press).

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