

Using Compression Gloves as Means for Reducing Pain and Improving Function, Following a Distal Radius Fracture

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Abstract

Distal radius fractures (DRF), may cause edema, joint stiffness, reduced range of motion (ROM) and increase in pain. All which may cause functional limitations in different daily activities and occasionally, these limitations become chronic. Despite the lack of research evidence from the clinic, we observed that the use of made-to-measure compression gloves reduced those symptoms. **Objective:** To test the benefit of using made-to-measure compression gloves for the reduction of symptoms that make participation in daily activities difficult post DRF. **Method:**

The research population comprised of 32 people post DRF, referred by Orthopedics doctors and randomly classified into two groups: a control group (N=15), which received a standard occupational therapy treatment, and a trial group (N=17), which received an additional made-to-measure compression glove. **Research tools included:** a demographic questionnaire; a Goniometer to measure the range of motion of fingers and wrist; a Dynamometer to measure grip strength; measurement of hand and fingers edema with a standard cm ribbon; a self-report questionnaire – Patient Rated Wrist Evaluation (PRWE) – to assess pain, hand function and participation in daily activities; and a questionnaire for assessing use of the gloves. With the help of the HandTutor™ technology, the trial group underwent measurements and comparisons of hand and wrist movements, with and without the gloves. **Results:** The findings show differences between the trial group and the control group, indicating that treatment with made-to-measure compression gloves has a significant positive effect on hand-use in specific functions ($F(1,30)=7.78, p\leq.01$), on participation in daily activities ($F(1,30)=6.23, p<.05$), on improvement of wrist ROM ($F(11,20) = 3.23, p<.05$), on the reduction of edema ($F(6,25) = 6.08, p<.001$), regarding and on use of analgesics ($X^2(1)=7.94, p<.01$). The importance of the research is in establishing evidence regarding the effect of using pressure gloves, as a unique intervention during occupational therapy treatments after DRF. The quick return to daily functions and the reduction of pain and symptoms demonstrated in this study, in an attempt to prevent chronic conditions, merits further investigation.