



Service Priorities and Programmes
Electronic Presentations

Convention ID: 481

Submitting author: Ms Lisa HO

Post title: Occupational Therapist II, TKOH, KEC

Comparison of the Effectiveness of a Soft Wrist Brace and a Thermoplastic Splint for Patients with Carpal Tunnel Syndrome

Ho L (1), Yip CT (1), Chan SCC (2)

(1) Occupational Therapy Department (Integrated Rehabilitation Services), Tseung Kwan O Hospital (TKOH);

(2) Department of Rehabilitation Sciences, the Hong Kong Polytechnic University (HKPU)

Keywords:

carpal tunnel syndrome

conservative treatment

soft wrist brace

thermoplastic splint

occupational therapy

Introduction

Two types of orthoses, thermoplastic splint and soft wrist brace, are usually prescribed to patients with carpal tunnel syndrome (CTS) by occupational therapists (OTs) of TKOH to control neuropathic symptoms. Previous studies seldom compared these two types of orthoses in respect to their short-term or long-term effects on symptoms alleviation. A collaborated study with HKPU was carried out to investigate the topics.

Objectives

To compare the short-term effectiveness between a soft wrist brace and a thermoplastic splint in terms of neuropathic symptoms. The results could identify differential effects of the two types of orthoses and shed light on the prescription protocol to provide conservative treatments to patients with CTS.

Methodology

Clinical data of 109 patients (91 females) with CTS were retrospectively retrieved from the Clinical Management System in Tseung Kwan O Hospital between the years of 2014 to 2016. They were either prescribed with a soft wrist brace (n=88) or a thermoplastic splint (n=21) to keep the wrist joint at neutral position. Patients were educated on self-management skills about CTS in an education group. A number of outcome measures were obtained in the first OT outpatient session and 3 subsequent follow-ups with mean intervals at 10, 12 and 14 weeks. They included Carpal Tunnel Syndrome Symptom Severity Scale (CTSSSS), Carpal Tunnel Syndrome Functional Status Scale (CTSFSS), daytime numbness, nighttime numbness and nocturnal awakening frequency. Two-way repeated measures ANOVA was used to examine the short-term and long-term effectiveness among these two types of orthoses for patients with CTS.

Result

Significant improvement was found in the selected outcome measures of both orthoses groups in the first and second measure points, i.e. baseline and 1st follow-up ($p > 0.050$, repeated measures ANOVA). This suggested that the soft wrist brace and thermoplastic splint might have comparable short-term beneficial effects on improving CTS symptoms. The results suggested that soft wrist brace could be a short-term alternative choice for conventional thermoplastic splint in controlling CTS-related symptoms.