

UNIVERSITI TEKNOLOGI MARA

**EFFECTS OF VOLAR AND RADIAL
WRIST SPLINT FOR DE-
QUERVAIN'S TENOSYNOVITIS ON
PAIN, DEXTERITY AND PINCH
STRENGTH**

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ABSTRACT

One of the most common work-related upper limb disorders is De-Quervain Tenosynovitis (DQT). DQT is a painful reaction of the tendons on the thumb side of the wrist. It affects the tendons synovial sheaths of the Abductor Pollicis Longus (APL) and the Extensor Pollicis Brevis (EPB) muscles. This disorder often affects women and people who are 40 years and above. The symptoms include pain on the radial side of the wrist and the persistence of the symptom may affect the ability to engage in daily activities and decreased in occupational performances. The common management for De-Quervain's disease is a non-operative/ conservative treatment like splinting. There are two types of splints often prescribed by Occupational Therapists namely the Volar Wrist/Thumb Immobilized Splints (VWTIS) and the Radial Wrist/Thumb Immobilized Splints (RWTIS). Even though these splints are fabricated differently and have a different shape but they serve the same purpose. However, there is an uncertainty and non-consensus in determining as to which splint type is really more effective to reducing pain, facilitating dexterity, pinching strength and facilitating the specific functional activity. Hence, the aim of the study is to compare the volar and radial wrist/thumb splints and finally to determine which is more effective and highly recommended for DQT patients. The methodology engaged by the study is one of a pre-test and post-test experiments. The tests involved 38 samples of patients suffering with DQT. They were divided into two groups i.e. the VWTIS group and the RWTIS group. Both of the groups received a conservative DQT treatment protocols for six weeks. Samples were assessed at day 1, week 2, week 4 and week 6. The pain level was tested using the Visual Analogue Scale (VAS). Dexterity was assessed using the Purdue pegboard while the pinching strength was tested using the pinch gauge. Results of the study showed that both splints with DQT program protocol elicited statistically significant levels of pain reduction, increased in pinch strength, improved functional performances and increased hand dexterity and were cost-effective. However, the RWTIS was more effective based on time compared to VWTIS in reducing the symptoms of DQT. Consequently, this study discovers that splints and Occupational Therapy intervention play very important role in the treatment of patients with DQT. This study also facilitates Occupational Therapists the opportunities to make the right selection on the type of splints based on the objective of treatment for the respective patients with DQT.

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