Resting hand splint for carpal tunnel syndrome treatment

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Keywords: Carpal tunnel syndrome; Resting hand splint

Background.–Carpal tunnel syndrome: medical treatment or surgery? If the choice is connected to early diagnosis, the recent analysis of HAS recommends resting hand splint in first treatment, for patients without serious clinical signs and moderate changes on EMG.

Methods.–Since 2010, in PMR department (CHU Timone), 50 experiences of the same consultant physician benefited resting hand splint treatment. This experience brings naturally to wonder about the interest of this conservative treatment.

Results.–With a targeted questionnaire, different pieces of information were collected to test its efficiency: symptoms, correlations with laterality or patient business, contributing pathologies, criteria of prescription, instruction for use, failed improvement, other treatments in case of this therapeutic failure.

Discussion.–Through results obtained, the resting hand splint prescription during 2 months could be justified, in the novice forms, before envisaging more invasive treatments for the patients.

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An ICF based assessment for functional gait improvement with a Bent-knee prosthesis

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Keyword: Bent-knee prosthesis

Background.–This case report helps to assess pre- and post-intervention functional status using an ICF based tool in an adult with knee flexion deformity. It also illustrates that using ICF, appropriate assessment of impact of rehabilitation intervention can be effectively addressed. A 37-year-old lady presented with complaints of inability to walk upright due to painful flexion deformity of right knee since childhood. At presentation, she was not ambulant. Her left knee showed bivalar and correction of the knee deformity. Using an indigenously developed ICF core set for rehabilitation, her felt needs were assessed before and after providing ambulation training with a extension prosthesis and walking aids.

Methods.–Pre-intervention, she was independent in most of her activities and indoor mobility. Her outdoor mobility was impaired. By the end of her training, she was able to walk with the prosthesis and a single forearm crutch.

Discussion.–ICF based tool measures and describes how people function with their health condition. It brings out the impact of rehabilitation intervention on a person’s participation, which is not possible with other commonly available open-source tools.

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Functional outcome in a transmetacarpal left hand amputation with intact thumb

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Background.–Upper limb amputations traumatic/non-traumatic are common, resulting in disability and emotional disturbances. Left hand amputations are less frequent. Good surgery has good rehab outcome. Prehensile function of thumb should be preserved/reconstructed. Transmetacarpal amputation is a better choice out of many. The functional grips/binmanual activities and cosmeses are the long-term goals in left hand amputation.

Methods.–A 32-years-old male, having transmetacarpal left hand amputation with intact thumb, was observed for first referral to tertiary rehabilitation center in Rawalpindi. He was independent in all activities of daily living with left hand. The prehensile function/functional grips of thumb were excellent while opposing on soft tissue grafted myocutaneous flap over distal metacarpals. The flap and thumb served for key grip, pincer grip and other functional grips. He wanted prostheses for cosmesis only. A silicon finger filler with skin color sleeve and finger foam filler glove was provided. His roles as military infantry soldier remained the same.

Discussion.–Hand amputations of left side result in functional compromise. Replantation, polycization, finger/toe transfers has complications. Good reconstructive surgery holds a better functional outcome. Occupation prior to injury should remain the same because of intact thumb/reconstructed digit like musicians, soldiers.

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Using an ankle-foot orthosis improves aerobic capacity in subacute stroke patients

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Keywords: Stroke; Ankle-foot orthosis; Aerobic capacity

Background.–This study was undertaken to investigate aerobic capacity in subacute stroke patients with and without an ankle-foot orthosis (AFO).

Methods.–Fifteen subacute stroke patients (8 males and 7 females; average age, 62.1 years) were enrolled for this study. The inclusion criteria consisted of the ability to walk at least 3 m with or without an aid but without standby assistance. All subjects participated in two continuous, symptom-limited low-intensity graded treadmill exercise stress tests during 2 different situations (with AFO and without AFO). For assessment of cardiorespiratory responses, oxygen consumption (VO2), heart rate (HR), systolic & diastolic blood pressure (SBP & DBP), rate pressure product (RPP), and respiratory exchange ratio (RER) were measured with peak values. Rating of perceived exertion (RPE) was recorded immediately after each test. For assessment of gait function, 6-min walk test (6MWT) was measured.

Results.–When comparing cardiorespiratory responses and gait function during 2 different situations (with AFO and without AFO), VO2 peak (22.5 vs. 20.6, P = 0.17) and 6MWT (263.6 vs. 295.3, P = 0.12) were significantly greater in condition with AFO than condition without AFO. Other parameters were similar for both conditions.

Discussion.–These results indicate that using an AFO could improve aerobic performance in subacute stroke patients.

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