

medicine to address musculoskeletal conditions focus on self-management, building self-efficacy and empowering patients to manage their condition through education. If administered well, a self-management approach can simultaneously address many important factors that contribute to daily performance. The World Health Organizations' International Classification of Functioning, Disability and Health (ICF) is accepted as the international standard to describe and measure health and disability. Previous calls in hand therapy literature have urged therapists to apply the ICF in treatment and research. Utilizing an education-based self-management approach increases parity across many ICF domains. A LET therapy program completed in 4-6 visits that demonstrates improvements in pain and function while simultaneously addressing patients' needs, mitigates rising health care costs and would benefit therapists, patients and payors. The purpose of this study is to identify if a reproducible education-based self-management program completed over 4-6 therapy visits will decrease disability and pain ratings and track these outcomes over one year.

Methods: 94 participants diagnosed with LET were consented to this long-term cohort study. Participants were provided with 4-6 education based self-management intervention sessions and a concurrent home exercise program which was progressed every 2-3 weeks. The primary outcomes measures were the Quick Disabilities of the Arm, Shoulder and Hand (QuickDASH), and the 11-point Numeric Pain Rating Scale (0-10) used to rate pain with activity and at rest. Data was collected at 6, 12, 24 and 52 weeks. After one year 57 participants were retained. Participants were excluded due to, lost to follow up ($n=12$), comorbidities ($n=8$), injection for LET ($n=6$), not completing therapy sessions ($n=6$), receiving therapy elsewhere ($n=2$), withdrawing ($n=2$), and surgery ($n=1$). Outcome analyses were performed using IBM SPSS Statistics.

Results: Pain at rest and with activity significantly decreased when compared to initial visit and 6 week follow up (pain rest: $p=0.01$, pain activity: $p=0.00$). Pain at rest did not significantly change while pain with activity continued to decrease significantly at 12 (pain rest: $p=0.63$, pain activity: $p=0.00$), 24 (pain rest: $p=0.77$, pain activity: $p=0.00$) and 52 (pain rest: $p=0.81$, pain activity: $p=0.03$) week follow up. By week 12 pain at rest was near zero (0.2). QuickDASH scores demonstrated a significant decrease at 6 ($p=0.00$), 12 ($p=0.01$), and 24 ($p=0.00$) weeks. The improvement in QuickDASH scores from initiation of therapy to one year later was 19 points, meeting the criteria for MCID of 16 points.

Importantly the MCID was reached and sustained by week 12. Interestingly, there was a significant increase in QuickDASH scores at 52 weeks when compared to week 24 ($p=0.00$).

Conclusion: This study demonstrates that an education-based self-management program including 4-6 visits with a concurrent home exercise program for LET, can help individuals return to work, sports, and other daily interests with little to no lateral elbow pain. The increase in QuickDASH scores from week 24 to one year may be due to participants returning to activities that were not previously anticipated when completing previous QuickDASH self-assessments.

Previous hand therapy literature has demonstrated the utility of the ICF to consider multiple domains in intervention, achieve desired outcomes for elbow conditions, as well as the need for hand therapists to consider a variety of factors such as life style, health status, pain and daily activities to guide intervention. Therapy programs which empower patients to take control of their wellness and become self-managers can be helpful in returning them to normal pain-free functional activities and reduce health care costs.

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Perceptions of Adaptive Devices by Users: A Scoping Review N. KROLIKOWSKI^{1,2}

¹ OTA Program Director, South University, Norfolk, VA, United States

² Outpatient Rehabilitation Therapy, Sentara, Virginia Beach, VA, United States

Purpose: The purpose of this study was to identify the perceptions of clients' acceptance of adaptive devices as treatment strategies for use in hand therapy. Therapists select interventions that are client specific with the goal to meet the client's functional needs. Time constraints and productivity requirements limit the time needed to explore and construct custom fit adaptive devices that could increase use of the client's affected extremity. Clients' perceptions of adaptive devices further limit the acceptance and use of the device.

Methods: A scoping review was performed to examine literature on the clients' use of adaptive devices outside the therapy clinic. Articles that appeared in peer-reviewed journals were included in the study. Articles that were included in this review met the following criteria: a) device did not have electronic components, b) the device was issued by a health care provider, and c) the device was issued to address a functional deficit that incorporated use of the upper extremities.

Results: The majority of articles reviewed involved the use of surveys, questionnaires, interviews, and focus groups for data collection. The results of these studies showed that a majority of clients did not use adaptive devices for extended periods. Reasons for not using the devices included improved health, social stigmas, prescriptive approach to care, lack of involvement in the evaluation and design of the device, and a lack of involvement in the decision making process.

Those who continued to use the devices perceived a need for the device, felt the benefit for the device was explained, and felt included in decision making. The literature was lacking in adaptive devices provided specifically for use with upper extremity functional deficits.

Conclusion: Prospective studies are needed to explore the use of adaptive devices as a treatment strategy for clients treated by hand therapists and the benefits derived from their use as perceived by the clients.

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Interdisciplinary Instruction of Best-Practice Rehabilitation Protocols in the Burn Population L.C. WARE^{1,2}

¹ Hand Therapy Department, The Curtis National Hand Center, Middle River, MD, United States

² Rehabilitation, Johns Hopkins Burn Center, Baltimore, MD, United States

Purpose: Proper splinting and positioning of burn patients is essential to promote healing, prevent contracture formation, decrease swelling and to increase functional range of motion. Initial splinting and positioning plans are developed by the rehabilitation staff. However, all members of the burn team assist in carrying out the plan. It is vital for interdisciplinary communication between rehabilitation services and other members of the burn team for the splinting and positioning plan to be successful.

The purpose of this study is to investigate the effectiveness of using a self-guided learning module as an education tool for hospital staff to learn proper positioning and splinting when caring for acute burn patients.

Methods: A multi-disciplinary team of a regional burn center conducted a 3-month long study. The participants included nurses

and physician assistants on a Burn Wound Unit and Burn Intensive Care Unit. Participants were given one month each to complete a pre-test, a self-guided learning module and a post-test. The learning module content included best practice protocols for correct splinting and positioning for the acute inpatient burn population as determined by the occupational therapist and physical therapist. During the entire 3-month period friendly reminders were posted on the unit.

Results: Thirty staff members completed the pre-test. Among the participants, 66.66% also completed the learning tutorial and post-test. At completion of the study, it was found the average score on the pre-test was 77% and the average score on the post-test increased to 98%. Only 20% of participants received a perfect score on the pre-test and 90% of participants who completed the self-guided learning tutorial, received a perfect score on the post-test. Among all participants, questions pertaining to hand and ankle positioning had the highest rate of incorrect answers.

Conclusion: The use of the self-guided learning module is an effective way to educate clinical staff about splinting and positioning for the burn patient. Further research is needed to determine retention of learning module information upon a long-term follow-up with a larger sample size.

The results of this study indicate staff became more familiar with splinting and positioning without increased hours or cost within the hospital from completing a self-guided learning module. Furthermore, the study promoted discussion questions among the burn rehabilitation staff and nursing staff. Providing periodic continuing education on splinting and positioning to nursing and medical staff may be beneficial for patient care on a burn unit.

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Performance-Based Outcome Measures of Dexterity in Hand and Wrist Injuries: A Structured Review of Measured Constructs J. YONG¹, J.C. MACDERMID^{1,2}, T. PACKHAM¹

¹ School of Rehabilitation Sciences, McMaster University, Hamilton, ON, Canada

² Western University, London, ON, Canada

Purpose: Dexterity impairments are common and disabling. To date, there is no consensus on an operational definition to measure dexterity. This review aims to provide an overview of constructs measured by performance-based outcome measures of dexterity and hand function (PBOMD) validated for use in persons with hand and upper limb conditions (HULC).

Methods: Medline, EMBASE, CINAHL, PsychINFO were queried from inception, up to August 2018 using a predefined search criterion; screening was carried out by two independent reviewers. Two reviewers identified studies investigating the psychometric properties of PBOMD in persons with HULC. Additional references were identified from the reference list of included articles. Subsequently, original articles and manuals of validated PBOMD were obtained. Reviewers independently extracted and performed an inductive content analysis of the purpose and constructs of the PBOMD as reported by the authors/developers. A directed content analysis of the subtests and the method of quantification was also done using the International Classification of Functioning for Disability and Health (ICF) and Bernstein's definition of dexterity as a framework.

Results: Twenty-one PBOMD were identified from 4052 citations. There was considerable overlap between the use of the terms: 'dexterity' and 'hand function,' with 38% of PBOMD claiming to measure both. PBOMD either measure: 1) 'dexterity' as a latent construct through abstract tasks (35%), 2) hand function through a representative selection of tasks simulating 'real-world' activities (56%) or 3) hand function as a combination of physical capacities and tasks (9%). There is a shift toward measuring dexterity through representative tasks. The most common tasks include 1) self-care

[dressing, drinking, and feeding] and 2) productivity [writing, manual work, and shopping]. No PBOMD featured leisure activities or modern technologies like computers or smart-phones. Most PBOMD quantified dexterity through task efficiency (76%). Newer PBOMD included 'movement quality' as part of their construct (38%). No PBOMD explicitly measured a domain which Bernstein described as 'resourcefulness': the ability to adapt to environmental changes when completing tasks.

Conclusion: Dexterity is a complex construct which is incompletely captured by current PBOMD. Clinicians should consider tasks included in PBOMD, quantification method, and each PBOMD's limitations when choosing PBOMD. This study did not evaluate other psychometric properties of these PBOMD. Clinicians choosing measures should consider these properties when selecting a measure. Future research should be done to develop and validate PBOMD that include tasks featuring modern technology and leisure activities.

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Post-Surgical And Post-Procedural Interventions for Dupuytren's Contracture: Preliminary Outcomes of a Survey on Hand Therapy Practice Patterns

C. MCGEE, A. HARMANN, N. KOENKE, E. ANDERSON

Occupational Therapy, University of Minnesota, Minneapolis, MN, United States

Purpose: Background:

- Hand therapists play an important role in treating patients with Dupuytren's disease.
- Current literature describes rehabilitation following fasciectomy (FS), needle aponeurotomy (NA), and collagenase clostridium histolyticum injection (CCH) Dupuytren's contracture release.
- A comprehensive exploration of the practice patterns of rehabilitation therapists following surgical and procedural interventions for Dupuytren's contracture does not exist.

Research Questions:

How do hand therapist practice patterns differ following fasciectomy, needle aponeurotomy, and collagenase clostridium histolyticum Dupuytren's contracture release interventions? Specifically:

1. What evidence sources do therapists use to inform their clinical practice?
2. Do therapists use different assessments after FS, NA, and CCH?
3. Do therapists follow different therapy protocols after FS, NA, and CCH?
4. Do therapists prioritize treatment differently after FS, NA, and CCH?
5. Do therapists use occupations/activity as treatment?

Methods: Survey Design:

- Conducted literature review to identify gaps in evidence related to rehabilitation practices following surgical and procedural Dupuytren's contracture release interventions.
- Online survey designed on Qualtrics Survey Engine.
- Consulted survey design expert to improve survey format.

Ethics Review:

- IRB exempt status.

Survey Validation:

- Five expert hand therapists piloted survey for content validity.
- ASHT Research Board critically reviewed content/usability and approved survey for delivery via "eblast" to ASHT mailing list.

Delivery:

- Qualifying therapists who treated patients (within the last 8 years), following FS, NA, or CCH procedures.

Analyses:

- Analyzed with SPSS 25, & SAS 9.4.