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studyFINDER

Graded Motor Imagery for Women at Risk for Developing Type I CRPS following Distal Radius Fractures

Status: Recruiting

Eligibility Criteria

Age: 18 years and over

Healthy Volunteers: This study is NOT accepting healthy volunteers

Inclusion Criteria:

- age 55 and older - received closed treatment of distal radius fractures

Exclusion Criteria:

- central nervous system disorders (e.g., Brain injury, Spinal Cord Injury, Parkinson's, Multiple Sclerosis) - surgical fixation of fracture - non english speaking - multiple fractures to the same arm - conditions of the opposite upper limb which would result in painful and markedly limited active hand, wrist and forearm motion - cognitive disorders which make it difficult to follow testing commands and home program participation - significant visual impairment

Conditions & Interventions

Conditions:
Bone, Joint & Muscle

Keywords:
Clinics and Surgery Center (CSC), Closed, Complex Regional Pain Syndromes, Distal Radius Fracture, Fractures, Musculoskeletal Pain

More Information

Description: Background: Distal radius fractures (DRF) account for nearly one-fifth of all fractures in older adults, and women experience them 5x as often as men. Most DRF occur with low impact injuries to the wrist with an outstretched hand, and are often managed via closed treatment and cast immobilization. Women sustaining a DRF are at risk for upper limb immobility, sensorimotor changes, edema and type I complex regional pain syndrome (CRPS). Since CRPS onset is likely influenced by alterations in the brain's somatosensory region, a rehabilitation intervention, Graded Motor Imagery (GMI), aims to restore cortical representation, including sensory and motor function, of the affected limb. To date, there are no studies on the use of GMI in reducing risk of or preventing the onset of type I CRPS in women with DRF treated with cast immobilization. Due to a higher likelihood of women with this injury developing type I CRPS, it is important to early intervention is needed. Methods/Design: This article describes a six-week randomized comparative effectiveness trial, where the outcomes of a modified GMI program (mGMI) + standard of care (SOC) group (n=33) are compared to a SOC only control group (n=33). Immediately following cast immobilization, both groups participate in four 1-hour clinic-based sessions, and a home program for 10 minutes three times daily until cast removal. Blinded assessments occur within 1 week of cast immobilization (baseline), at three weeks post cast immbolization, cast removal, and at three months post cast removal. The primary outcomes are patient reported wrist/hand function and symptomology on the Patient Rated Wristand Hand Evaluation, McGill Pain Questionnaire, and Budapest CRPS Criteria. The secondary outcomes are grip strength, active range of motion as per goniometry, circumferential edema measurements, and joint position sense. Discussion: This study will investigate the early effects of mGMI + SOC hand therapy compared to SOC alone. We intend to investigate whether an intervention, specifically mGMI, used to treat preexisiting pain and motor dysfunction might also be used to mitigate these problems prior to their onset. If positive effects are observed, mGMI + SOC may be considered for incorporation into early rehabilitation program.

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