Effectiveness of Therapy Interventions for Heterotopic Ossification About the Elbow: A Systematic Review

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Heterotopic ossification (HO) is the presence of bone where bone normally does not exist. HO forms frequently at the elbow from various conditions including: Fracture, orthopedic surgery, certain genetic disorders, neurological injuries, amputation, and brain injury. A diagnosis of HO at the elbow can lead to decreases in range of motion which effects the person’s functional independence. Surgical excision to remove the bone can be done to improve functional outcomes, but is typically not performed until a year has passed from the time of injury. Even then, there have been instances where people have experienced recurrent HO post-surgery. Because of the gap that exists before the option of surgery, the toll that surgery can take on a person, and the possibility of HO recurring post-surgery, it is necessary for a person to receive occupational or physical therapy for treatment. This has led to a debate over the proper approach to implement therapy. The purpose of this study is as follows:

Objective: To determine if active and passive range-of-motion are equally effective in maintaining or improving range-of-motion in people with HO at the elbow.

Data Sources: Cochrane Database of Systematic Reviews, PubMed, CINAHL, PsycINFO, Web of Science, and OTSeeker were searched. To insure the search was comprehensive, the authors also conducted searches of the following journals: Burns and Trauma, Burns Journal, Burns Open, and the Journal of Hand Therapy.

Data Extraction: The PEDro scale was used to measure the validity of the methodological quality of each article.

Results: Five level V articles, as defined by the Oxford Centre for Evidence-Based Medicine were included for analysis.

Conclusion: There is insufficient literature to determine the efficacy of range-of-motion in people with HO. Future research is necessary to determine the clinical value of PROM versus AROM for patients diagnosed with HO at the elbow.