Comparing Exercise Rehabilitation Programs for Glenohumeral Multidirectional Instability

Multidirectional instability (MDI) is defined as symptomatic glenohumeral subluxation or dislocation in at least 2 directions, however the true prevalence of MDI is unknown. Physical therapy is recommended as the initial treatment to focus on strengthening shoulder muscles to compensate for the lack of passive stability. Surgical intervention is considered with failed conservative treatment, however long term outcomes of surgery are unknown due to the joint capsule’s high susceptibility to stretch.

In 2018, Warby et. all published the first randomized control trial that compares the effectiveness of two rehabilitation programs for non-traumatic, non-structural MDI. Research as been done to determine the effectiveness of physical therapy on MDI, however no two programs have been compared. 41 participants were randomly allocated to the Rockwood Instability program or the Watson MDI program and attended 12 weekly PT sessions. Outcomes were measured at 6, 12, and 24 weeks.1

The Rockwood Instability program consists of 2 phases that focuses on strengthening the glenohumeral rotators and deltoid with the arm at low degrees of elevation. Phase 1 provides 5 exercises for rotator cuff and deltoid with 6 progressive levels of theraband resistance. Phase 2 consists of the same exercises using a 4 kg weight with pulley unit. Weights progressed in increments of 1 kg once the participant was able to progress through all resistance bands in phase 1.1

The Watson MDI program consists of 6 stages that focuses on re-establishing patient-specific scapular motor control before any rotator cuff or deltoid strengthening. Physical therapists assessed faulty scapular biomechanics and determined the scapular position that the patient must retrain and maintain throughout the program. Stages progressed with an increase in load and range of GH elevation, and ended with functional and sport specific exercises.1, 2

Results showed that there was no difference between groups at 6 weeks, but a significant difference noted at 12 and 24 weeks. The Watson program was more effective than the Rockwood program at the 12 and 24-week follow up.

Being the first line of defense for MDI, it is important for clinicians to consider the most effective treatment programs for their patients. Building proximal scapular stability is optimal for distal control to allow the shoulder joint to function adequately. It is important to consider the length of time required for clinically significant changes to occur, as well as compliance of the individuals for a more complex treatment program.

1. Warby SA, Ford JJ, Hahne AJ, Watson L, Balster S. Lenssen R, Pizzari T. Comparison of 2 Exercise Rehabilitation Programs for Multidirectional Instability of the Glenohumeral Joint. *The American Journal of Sports Medicine. 2018;* 46(1): 87-97.

2. Watson L, Warby S, Balster S, Lenssen R, Pizzari T. The Treatment of Multidirectional Instability of the Shoulder with a Rehabilitation Program: Part I. *Shoulder & Elbow*. 2016; 8(4): 271-278.