

Piyaporn Rungsopaskul 2014: A Comparison of the Effect of Rubber Chain for Increase Strengthening and Endurance Upon Range of Motion in Female Patient with Frozen Shoulder. Master of Science (Sports Science), Major Field: Sports Science, Faculty of Sports Science. Thesis Advisor: Associate Professor Jaroen Krabounrat, Ed.M. 135 pages.

The purposes of this research were to study and contrast the effect of rubber chain for increase strength and endurance upon range of motion in female patients with frozen shoulder. Subjects of this study were 30 females with frozen shoulders (40 – 60 years) who were selected by volunteer random sampling procedures. The subjects were divided into 3 groups with 10 subjects in each group by randomly assignment. The control group performed hot pack 20 minute and mobilization technigue 20 minute. The first experimental group performed control program and strength training with rubber chain. While the second experimental group performed control programe and endurance training with rubber chain. Subjects were trained 3 days per week for period 6 weeks. Data were analyzed by using ANOVA and match pair t-test. The findings revealed that three groups increased their active range of motion in shoulder flexion, abduction, external rotation, internal rotation. However, there was no significant difference of average active range of motion in the direction of shoulder flexion. After six weeks of treatment, active range of motion of strength training group and endurance training groups was significantly ( $p < 0.05$ ).

These results of the study showed that the effect of rubber chain for increase strength and endurance upon range of motion in female patients with frozen shoulder was different in the 3 groups. Therefore, strength training group and endurance training group could be used to increase range of motion of shoulder joint in patients with frozen shoulder.

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Thesis Advisor's signature