THE EFFECT OF KINESIO® TAPE ON GLENOHUMERAL JOINT KINEMATICS

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Background and Purpose

Kinesio® Tape (KT) is used to treat patients with various shoulder conditions. There are several proposed mechanisms for the therapeutic effects of KT. None have been conclusive. The purpose of this study was to investigate the effects of KT on glenohumeral joint kinematics of asymptomatic participants.

Subjects

Twenty participants (11 males and 9 females, $\bar{x}$ = 24 years, s.d. = 3.1 years) from the CSP DPT program volunteered for the study. All participants were right hand dominant.

Methods and Materials

Study design was based on one participant and two conditions (KT and no KT). The Polhemus G4 3D electromagnetic motion capture system (G4) (Colchester, Vermont) was used to collect kinematic data. Kinematic data was collected while the participants performed abduction, flexion, scapular plane abduction, internal rotation (IR), and external rotation (ER).

Analyses

Matched pairs t-tests were performed using IBM SPSS Statistics 23 (IBM, NY, NY). All statistical tests were performed at a probability level of $p < 0.05$.

Results

Significant differences found were an increase of 4.04° for abduction ($t = -2.236$, $p < 0.05$) and a decrease of 3.00° for ER ($t = 2.972$, $p < 0.05$) in the KT condition.

Conclusion

KT application significantly altered glenohumeral kinematics in abduction and ER. The results of this study support that the therapeutic effects of KT may be due to kinematic alterations. Future research should include a larger sample size.

Implications

While clinical relevance cannot be determined from these results, this is the first study that addressed the biomechanical effects of Kinesio® tape on the glenohumeral joint that may explain the therapeutic effects of KT.