Secondary Motion of the shoulder arm elevation in patients with shoulder tightness

Introduction

Instinct anatomy of shoulder joint provides 6° of freedom. Because it’s a combination of the humerus and the scapula ( 3 + 3 axes). Primary and secondary motions play a huge role in the movement.

Shoulder motion is a result of the bony geometry, soft-tissue structures, and muscle activation.

Patients with shoulder impingement syndrome showed decreased upward rotation(4.1), decreased posterior tipping(average 7°)

4.3 Methodological considerations

Numerous factors could introduce error in determining kinematics from an anatomical coordinate system and skin-based marker method. All the coupled motions are dependent on the definition of the anatomical coordinate system. The coordinatesystem is also using the Wu standard

Theres limitation in direct application of the estimates because there was no sensor directly attached to the scapula.

Thus, the methods should be sufficient and the interpretations are significant.