

SURGICAL TREATMENT OF SHOULDER INJURIES BY THE WEAVER DUNN TECHNIQUE

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The shoulder structure is composed by sternoclavicular, glenohumeral and acromioclavicular joints, which move simultaneously. It means that the functional defect in any one of them compromises their movement. The acromioclavicular joint has four degrees of freedom that allow movement in the anterior / posterior and lower / upper planes and is stabilized statically and dynamically. Despite of the acromioclavicular joint having a coracoclavicular ligament of great strength, it can be easily damaged (Sellards, 2004).

Acromioclavicular joint dislocation is common in contact sports and can occur due to a violent fall on the shoulder, an impact received by the acromion or due to the impact of a fall on the outstretched upper limb. There are six types of acromioclavicular dislocations in which surgical treatment is recommended for the most severe injuries. In these cases, some different procedures for anatomic dislocation reduction can allow healing and stabilization of the distal clavicle. It can be cited the screw fixation through the acromioclavicular joint, coracoacromial ligament transfer using the Weaver-Dunn procedure, clavicle and coracoid fixation process using plates, muscle transfer and coracoclavicular suture fixation using nonabsorbable suture (Thomas et al., 2011).

In this study, the Weaver Dunn technique was evaluated and the analysis of the influence of coracoacromial ligament transfer was performed using three-dimensional models by the finite element method. In intact acromioclavicular joint, considering the proposed conditions, the trapezoid ligament showed higher stress values. The distance between the clavicle and the coracoid process showed similar behavior among the technique evaluated and the intact joint.

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