# Chronic Acromioclavicular Injuries: A Novel Approach to Reconstruction Combining Biological and Non-biological Techniques

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## INTRODUCTION:

Current evidence recommended surgery for Rockwood type IV, V and VI acromioclavicular joint (ACJ) injuries. Conventional techniques posed problems including inferior biomechanical constructs, non-anatomic restoration, failure of biological incorporation. Here, we report 3 cases of ACJ reconstruction for chronic ACJ injuries in Hospital Lahad Datu and their outcome.

## MATERIALS & METHODS:

ACJ reconstruction was performed using an ACJ tightrope and an autologous semitendinosus tendon graft for 3 cases of chronic ACJ injuries. 2 holes were drilled on the clavicle, 25mm and 45mm from the distal end of the clavicle respectively. Another hole was drilled in the coracoid process for the deployment of the tightrope. The tendon graft was looped under the coracoid process and then over the clavicle and passed through the medial clavicular hole. The tightrope was the deployed under the coracoid hole and passed through the lateral clavicular hole. It is then tightened simultaneously with the manual reduction of the ACJ.

## RESULTS:

Constant-Murley score (CMS), Pain Visual Analogue Score (VAS) and shoulder radiographs were employed to assess the outcome. All patients regained full functionality of the involved shoulder with no pain. Radiographic reduction remained acceptable for all 3 patients.

**Figure 1: Illustration of technique: ACJ reconstruction using semitendinosus tendon graft and ACJ tightrope device**

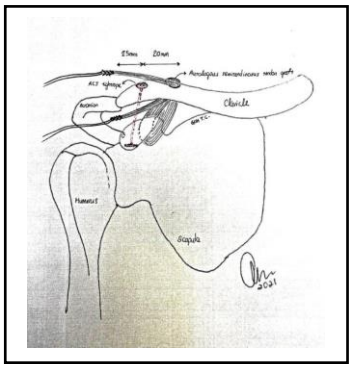


**Figure 2: Range of motion 6 moths post-reconstruction**

## DISCUSSIONS:

Recent evidence showed improvement of outcome of reconstruction of chronic ACJ injuries combining biological and non-biological components. This combination helps in the healing of the stretched joint capsule and ligaments around the ACJ.

## CONCLUSION:

This novel technique is able to reduce the risk of clavicular fracture, implant failure, osteolysis, osteoarthritis and implant removal. It also showed satisfactory return of function and maintenance of reduction post-operatively.

## REFERENCES:

1.Mahmoodian et al. (2021) Outcomes of acromioclavicular joint using tightrope arthroscopy. International Journal of Burns and Trauma, 11(2), 131