

## Should We Stabilizing Surgically the Shoulder of the Athlete after the First Episode of Instability? Comparative Study Versus Conservative Treatment in 138 Rugby Players

Yoann Bohu, MD, FRANCE  
Shahnaz Klouche, MD, FRANCE  
Nicolas Lefevre, MD, FRANCE  
**Herman Serge, MD, FRANCE**  
Antoine Gerometta, MD, FRANCE

Clinique du Sport  
Paris, FRANCE

### Summary:

This study suggests that surgical stabilization of the shoulder in an athlete after a first episode of instability, including dislocation, is not indicated in all patients. This decision must be adapted to the patient's profile such as age and recurrence despite a well conducted conservative treatment. In rugby players, bone block provides better postoperative outcomes than soft tissues surgery

### Abstract:

#### Introduction

Due to the significant risk of recurrence after conservative treatment, the current trend is to propose an early surgical treatment to patients with a first episode of glenohumeral dislocation, especially among young people and sportsmen. However, studies on the subject are few and published series include few patients. The main objective was to assess the benefit of surgical stabilization of the shoulder in rugby players after a first episode of instability in a large cohort.

#### Methods

In this retrospective study, all rugby players reporting a shoulder instability episode to the insurance company of the national Rugby Federation during the sporting season 2012-2013 were contacted. Patients completed a questionnaire online at least 2 years follow-up. The questions concerned the first episode of instability (dislocation or subluxation) which occurred on a rugby field during a match or a training in opposition. The primary outcome was return to rugby in match (yes/no). The study was approved by an institutional review board.

#### Results

138 patients filled in all data at  $3.9 \pm 2.6$  (2 to 21.3 years) of mean follow-up after the first episode of shoulder instability, either dislocation (78.3%) or subluxation (21.7%). This series included 132 men and 6 women, mean age at first episode  $22 \pm 5.9$  years, all rugby players whom 66% of professional players or competitors. After this first episode, 68.8% had a recurrence. Shoulder stabilization was performed in 70 (50.7%) patients whom 72.8% with a bone block in a period from less than 1 month to 5.4 years. Patients who underwent shoulder surgery were significantly younger ( $p=0.01$ ) and had presented before surgery a dislocation recurrence significantly more often ( $p=0.0001$ ). The rate of the return to rugby in match was similar between the operated and non operated patients (70.6% vs 73.5%,  $p=1$ ) in a significantly longer time for surgical group ( $20.4 \pm 12.4$  vs  $9.3 \pm 9.6$  months,  $p=0.0002$ ). At last follow-up, the level of sport and functional scores were comparable. The group "bone block" resumed their sport in match significantly more often than patients "soft tissues surgery" (76.5% vs 42.1%,  $p=0.01$ ) and at a higher or same level as before the first instability episode (53% vs 26.3%,  $p=0.01$ ). The factors facilitating the resumption of rugby in match assessed by a multivariate analysis were the professional level or competitors (OR=4.5, 95%CI [1.9-10.4],  $p<10^{-3}$ ) and a score of psychological readiness (Shoulder Instability-Return to Sport after Injury scale)  $>65$

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% (OR = 3.9, 95%CI [1.5-10], p=0.005).

### Conclusion

This study suggests that surgical stabilization of the shoulder in an athlete after a first episode of instability, including dislocation, is not indicated in all patients. This decision must be adapted to the patient's profile such as age and recurrence despite a well conducted conservative treatment. In rugby players, the bone block provides better postoperative outcomes than surgery on the soft tissues.