

Is There a Benefit of Sling Immobilization after Open Latarjet Surgery for Anterior Shoulder Instability? A Randomized Control Trial

Patrick Goetti¹, Tiago Martinho, Hugo Bothorel, Alexandre Ladermann

¹Orthopedic surgery, Lausanne University Hospital and University of Lausanne

INTRODUCTION: Recurrent traumatic anterior shoulder instability occurs most commonly in young to middle-aged male athletes. The Latarjet procedure was reported to enable early return to sport compared to capsulolabral repair. Recent research has highlighted the negative effect of immobilization on shoulder rehabilitation. However, only few studies evaluated different rehabilitation programs after open Latarjet and their potential impact on complication rates, stiffness and time to return to sport. The reported immobilization periods ranged from zero to three weeks, and different types of mobilization protocols were used. The aim of this study was to evaluate the benefit of sling immobilization after open Latarjet procedure for anterior shoulder instability. The hypothesis was that immediate self-rehabilitation without sling immobilization would result in improved functional scores at 6 months compared to patient wearing a sling for 3 weeks postoperatively.

METHODS: We randomized 72 patients with anterior shoulder instability scheduled for open Latarjet procedure into sling and no-sling groups. Two partially 1 cm apart threaded 4.0-mm cancellous screws were used to secure the graft. Both groups started the same immediate self-rehabilitation protocol. Patients were evaluated clinically using Rowe score, the Single Assessment Numeric Evaluation (SANE) instability score, as well as visual analogue pain scale (VAS) preoperatively and at 1.5, 3, and 6 months. A computed tomography was performed at 6 months to evaluate graft healing.

RESULTS: Both groups had similar preoperative patient characteristics. Both groups had a significant improvement in Rowe score (from 38.8 ± 20.4 to 81.6 ± 17.8 , $p < 0.001$), SANE instability score (from 42.5 ± 20.5 to 84.7 ± 13.2 , $p < 0.001$), and VAS (from 27.7 ± 21.8 to 13.9 ± 16.1 , $p < 0.001$) at 6 months postoperative. There was no difference in functional outcomes between the two groups at 6 months. Mean Rowe score was respectively 80.7 ± 15.9 and 82.6 ± 19.6 in the sling and no-sling group ($p = 0.64$). Mean SANE instability score was 83.7 ± 13.0 and 85.7 ± 13.6 ($p = 0.53$) and mean VAS 15.6 ± 14.8 versus 12.2 ± 17.5 ($p = 0.38$), for sling and no-sling group respectively. Finally, computed tomography evaluation revealed no significant differences regarding bone graft healing between both groups ($p = 0.35$).

DISCUSSION AND CONCLUSION: Both treatment groups resulted in excellent early functional outcomes. Absence of sling immobilization did not increase complication rates after open Latarjet. Sling immobilization seems therefore optional after open Latarjet procedure.