CHAPTER 3 – LATARJET PROCEDURE: THE MINIPLATE SURGICAL TECHNIQUE

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3.1 Introduction

The Latarjet procedure [1], first described in 1958 and used to address anteroinferior shoulder instability, involves using coracoid transfer to stabilize the shoulder by the static action of the transferred bone block and by the dynamic action of the attached conjoined tendon sling (short head of biceps and coracobrachialis). There are different effects by which to achieve shoulder stability with the Latarjet procedure:

- bone effect: bone graft can prevent engagement of a humeral bone lesion because the graft extends the glenoid arch to such a degree that the shoulder cannot externally rotate far enough to engage the Hill-Sachs lesion over the front of the graft [2];
- muscle effect: transfer of a coracoid graft and conjoined tendon over the top of the lower subscapularis tendon results in increased tension in the inferior fibers of the subscapularis, enhancing anterior stability;
- sling effect: conjoined tendon forms a sling across the anterior-inferior capsule when the shoulder is in 90° abduction and 90° external rotation, providing additional soft tissue restraint anteriorly, all of which act to prevent engagement of the Hill-Sachs lesion even before the anterior capsule is repaired;
- capsular effect: follows capsular restoration.

Shoulder instability is one of the most controversial joint diseases in terms of diagnosis and treatment. Several open surgical treatments for primary anterior glenohumeral instability have been published, including long-term follow-up of these methods, which are reliable and time-tested and can yield excellent clinical results [3]. The use of arthroscopy has improved the recognition of pathologic findings in shoulder instability and allowed a better understanding of the anatomopathology of instability and the correlation between symptoms and lesions. The arthroscopic technique allows reparative and reconstructive surgical procedures aimed at selective treatment of the injured structures, obviating tenotomy or splitting of the subscapularis, thus reducing the risk of iatrogenic damage. In international literature, some studies demonstrate the results of arthroscopic treatment of recurrent traumatic anterior instability comparable with those achieved historically with open procedures [4].

Despite these exciting advances, open surgery remains an acceptable method of treatment, particularly when a surgeon lacks the equipment, experience, or technical skills needed to perform an arthroscopic repair. Moreover, open surgery remains the preferred method of treatment in situations in which arthroscopic techniques cannot adequately address the anatomic lesion, such as anterior instability in the presence of glenoid and/or humeral bony defects or soft tissue deficiencies.

There are two basic types of surgical treatment for shoulders with anterior instability: anatomic and nonanatomic. The goals of the anatomic repairs (open or arthroscopic) are to restore the labrum to its normal position and to obtain the appropriate tension in the capsule-ligaments complex [5]. The goal of nonanatomic surgical procedures is to stabilize the shoulder by compensating for the capsule-labral and osseous injury with an osseous graft that blocks excessive translation and restores stability [1, 6]. Several studies [7] have demonstrated excellent outcomes with nonanatomic stabilizations, but there are reports that show complications, such as loss of motion, recurrent instability, and arthritis [8–10]. These nonanatomic procedures are mostly used by European surgeons, whereas many North American surgeons avoid them as a first approach [11, 12]. This is a crucial point between European and American techniques, as the latter use nonanatomic procedures in the presence of a bony defect >20–23% on the glenoid side. European surgeons generally adopt the principles of the French school, in which procedures such as the Latarjet are used not only in the presence of bone loss (both glenoid and humeral side, i.e., glenoid track), but also when capsular deficiency is present or after several dislocations, when soft tissue mechanical properties may change and become more