Dr Harry Constantin

Beyond the labrum:

Anterior shoulder instability Contemporary patient-centred evidence-guided care

Recurrent anteroinferior shoulder instability presents a significant challenge for both patients and surgeons. Long-term studies demonstrate that patients younger than 22 years at the time of their first dislocation have up to a 70% risk of recurrence[11]. From the patient's perspective, repeated dislocations, emergency department visits for reduction, pain and apprehension can severely impair quality of life. For the surgeon, choosing between soft-tissue stabilisation and bone-block procedures has become increasingly complex in light of evolving evidence and patient expectations.

Traditionally, arthroscopic Bankart repair has been reserved for cases with minimal glenoid bone loss[2,14], while bone-block procedures are recommended once critical bone loss is present[10,16]. However, instability is increasingly recognised as a multifactorial problem that extends beyond the labrum alone.

Understanding the problem: instability is more than just the labrum.

During an anterior shoulder dislocation, the labrum typically avulses and the capsule stretches. In more severe cases, the anteroinferior glenoid rim fractures, resulting in a bony Bankart lesion. While surgeons can repair the labrum, retension the capsule, and restore bone, the plastic deformation of the capsule cannot be reversed. Once stretched, the capsule permanently loses its elastic potential, contributing to recurrent instability.

Critical bone loss is commonly assessed using the "circle of best fit" method. The inferior glenoid is circular, and bone loss exceeding 13% of this circle is considered critical[16]. In addition, humeral head defects such as engaging Hill-Sachs lesions further increase the risk of recurrence.

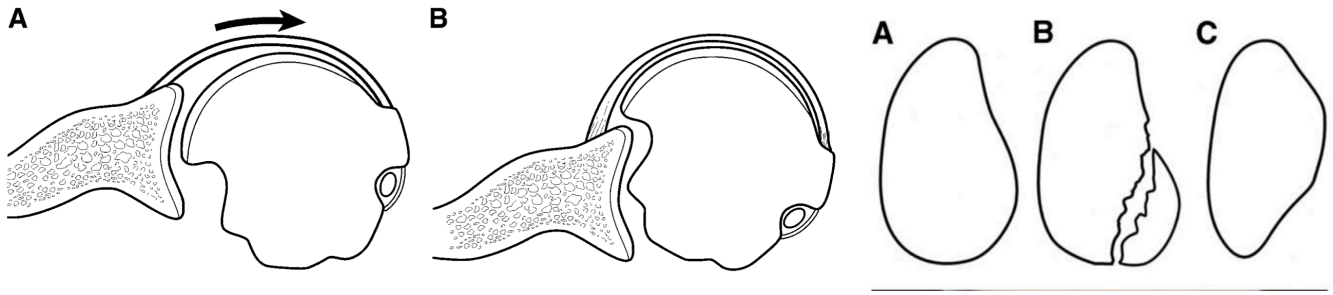

Figure 1: *Loss of the glenoid contour and the Hill Sachs Lesion. From: Burkhart SS, De Beer JF. Traumatic glenohumeral bone defects and their relationship to failure of arthroscopic Bankart repairs: significance of the invervear glenoid and the humeral engaging Hill-Sachs lesion. Arthroscopy. Oct 2000;16(7):677-946*

Figure 2: *3D reconstruction of a normal glenoid compared with one with critical bone loss.*

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The patient-centric approach

One can easily get trapped in looking at the imaging findings and determining what operation the patient may need.

It is easy to focus solely on imaging findings when planning surgery. However, in clinical practice, most answers emerge from a detailed history. **Key factors include:**

- Age at first dislocation
- Mechanism of injury
- Number of subsequent dislocations and mechanisms
- Frequency of emergency department reductions

Equally important are the patient's sporting activities, hobbies, and goals. Whether the individual is a weekend warrior or an elite competitor, a stable shoulder is essential for maintaining an active lifestyle. Many patients describe a loss of trust in their shoulder, and this subjective apprehension plays a critical role in decision-making. For patients seeking a robust, reliable shoulder, the surgical strategy must reflect these priorities.

The Instability Severity Index Score[1]

This score helps predict the risk of failure following arthroscopic Bankart repair by incorporating patient age, type and level of sport, clinical findings, and imaging features. Patients with a score of more than 6 have been shown to have approximately a 70% risk of recurrent instability after arthroscopic stabilisation.

For example, an 18-year-old club rugby player with a Bankart lesion would score at least 7, even before accounting for hyperlaxity. These factors must be carefully assessed during history and examination.

Table IV. Instability severity index score is based on a pre-operative questionnaire, clinical examination, and radiographs

Prognostic factors	Points
Age at surgery (yrs)	
≤ 20	2
> 20	0
Degree of sport participation (pre-operative)	
Competitive	2
Recreational or none	0
Type of sport (pre-operative)	
Contact or forced overhead	1
Other	0
Shoulder hyperlaxity	
Shoulder hyperlaxity (anterior or inferior)	1
Normal laxity	0
Hill-Sachs on AP* radiograph	
Visible in external rotation	2
Not visible in external rotation	0
Glenoid loss of contour on AP radiograph	
Loss of contour	2
No lesion	0
Total (points)	10

* AP, anteroposterior

Table 1: *The Instability Severity Index Score.*

What are the treatment options to consider?

Non-operative management:

Non-operative treatment typically consists of physiotherapy aimed at strengthening and neuromuscular re-education of the shoulder girdle. This approach is most appropriate for first-time dislocators.

Surgical Options

There are two main procedural approaches:

1. **Soft tissue stabilisation:** arthroscopic Bankart repair with or without Hill Sachs lesion remplissage.
2. **Bone-block procedures:** the Latarjet procedure, iliac crest autograft or distal tibial allograft.

In Australia, the Latarjet procedure is the most commonly performed bone-block technique.

What is the Latarjet procedure?

Michel Latarjet, a Lyonnais anatomist and surgeon first presented the procedure now known by his name in 1954[13]. The Latarjet involves transferring the coracoid process to the anterior glenoid neck to restore bone loss with the added effect of the conjoint tendon acting as a sling for the humeral head in the position of instability (abduction and external rotation – the apprehension position) and reinforcement of the capsule. This is akin to a seatbeat for the shoulder. Other bone block procedures do not have the same effect as the Latarjet but are still effective at restoring stability. The benefit of the Latarjet is that it is a combined bone block and tendon transfer procedure.

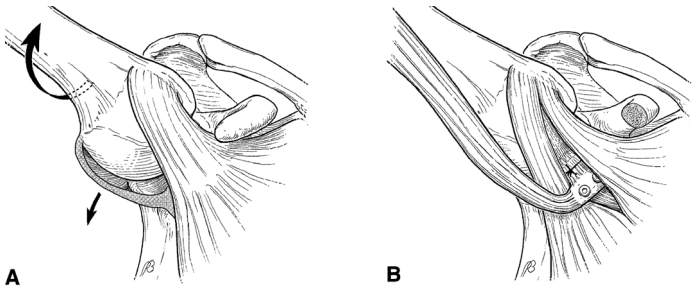

Figure 3: *In the position of apprehension, the sling effect in action.*
From: Edwards TB, Walch G.
The Latarjet Procedure for Recurrent Anterior Shoulder Instability: Rationale and Technique.
Operative Techniques in Sports Medicine. 2012/03/01/ 2012;20(1):57-64.8

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What does the evidence say?

High-quality evidence increasingly supports bone-block procedures in selected patients. A recent randomised controlled trial comparing arthroscopic Bankart repair with the Latarjet procedure demonstrated dislocation rates of 21% versus 2%, respectively[12]. Return to the previous level of sport was achieved in only 9% of the Bankart group compared with 56% in the Latarjet group[12].

These findings align with broader trends showing increased utilisation of bone-block procedures for recurrent anterior instability. Importantly, several studies demonstrate inferior outcomes when the Latarjet is performed as a salvage procedure following failed Bankart repair, with higher recurrence rates and worse patient-reported outcome measures.

Choosing the right operation?

In my practice, surgical choice is driven less by the absolute number of dislocations or degree of bone loss and more by the patient's sporting goals. Critical bone loss clearly favours a Latarjet procedure. However, even in cases of subcritical bone loss, contact athletes aiming for a rapid return to sport and a lower risk of recurrence may benefit more from a primary Latarjet than from soft-tissue stabilisation.

Is there are role for treating the 1st time dislocator with surgery?

Yes. Well-counselled young patients who participates in high-risk sports and understands the likelihood of recurrence may reasonably choose early surgical intervention. Conversely, those willing to modify their activities and accept a "zone of stability" may opt for non-operative care.

Is there a role for isolated Bankart repairs for anterior shoulder instability?

This remains controversial and I acknowledge a potential institutional selection bias from centres that perform Latarjet procedures on all patients irrespective of the degree of bone loss. However, the evidence around this topic is evolving to suggest that Latarjet performs better than arthroscopic Bankart alone. Delagdo et al. (2025) compared 10 year follow up results of arthroscopic Bankart with arthroscopic Latarjet (for critical bone loss greater than 15%) and found a recurrence of 35% compared to 10% respectively with better WOSI scores in the Latarjet group[7]. Can we extrapolate then that a 65% success rate for arthroscopic Bankart (vs 90% success rate) is a risk the patient and surgeon should take?

The evidence suggests that Latarjet as a salvage procedure after Bankart repair does not yield the same desirable outcomes as a primary Latarjet with the arthroscopic Bankart repair being an independent risk factors poorer results[9]. Even the recurrence of instability after salvage Latarjet is higher.[9,15].Furthermore, functional outcome scores, pain and apprehension are worse if the patient had a previous arthroscopic Bankart repair[15,17]. There is therefore not the same risk profile if a Bankart repair fails.

We know though that patient selection is key and the first time dislocator in their 30s who is happy to hang up to boots and has subcritical bone loss will do well with a labrum repair. The conversation goes back to being patient-centred and relying on the evidence.

There is no perfect operation

After reading this, you may think the Latarjet is the only reasonable option given the evidence. It is important to note that one still can dislocate after a Latarjet procedure, although less likely than the Bankart repair. Furthermore, there are risks worth considering that are more likely with Latarjet: axillary or musculocutaneous nerve injury, infection, stiffness and non-union.

A modern adaptation

The traditional gold standard involves fixation with two screws. More recently, suture-button fixation techniques have been developed and shown to provide comparable stability while reducing hardware-related complications[3-5]. This technique, which I adopted after training with Professor Boileau in Nice, has become my preferred method for Latarjet fixation.

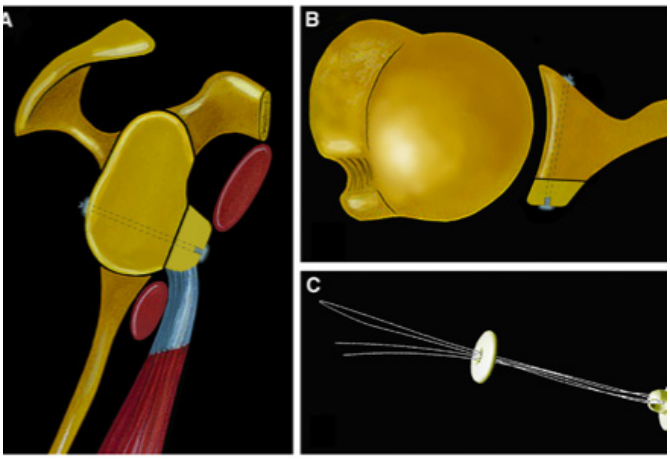

Figure 4: Suture button fixation. From: Boileau P, Gendre P, Baba M, et al. A guided surgical approach and novel fixation method for arthroscopic Latarjet. J Shoulder Elbow Surg. Jan 2016;25(1):78-89. doi:10.1016/j.jse.2015.06.001.

Take home messages:

- Patient history and individual goals are central to surgical decision-making
- Current evidence increasingly favours the Latarjet procedure when indicated
- The balance between surgical risk and the risk of recurrent instability must be carefully considered
- Above all, care must remain patient-centred and evidence-guided

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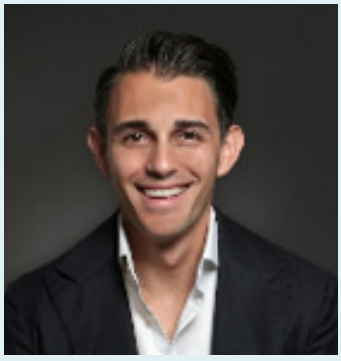

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