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Arthroscopic Latarjet procedure

Technique and clinical results after 15 years of experience

Trutz Vogelsang[1] · Jonas Pallmann[2] · Sebastian Dugaro[3] · Assil Alimy[4] · Jens Agneskirchner[2]

[1] Raphaelsklinik Münster, Münster, Germany
[2] Klinik für Gelenkchirurgie und Orthopädie Hannover (go:H), Hannover, Germany
[3] Orthopädie am Clubgarten Goslar, Goslar, Germany
[4] Institut für Anästhesie Schmerztherapie Akupunktur, Hannover, Germany

Abstract

First described almost 70 years ago, the Latarjet procedure today is a standard tool for the treatment of anteroinferior shoulder instability, especially in cases of recurrence after failed capsulolabral repairs and cases with relevant glenoid bone loss. Like many other surgeries, the Latarjet procedure has developed from a primary open procedure to a more minimally invasive or even arthroscopic surgery. Initially seen as something far too difficult and almost crazy, in our institution, with advances since 2007, the all-arthroscopic Latarjet procedure has become an indispensable treatment option for (recurrent) anterior shoulder instability with many referrals by other surgeons. In this article we share our experience with this procedure throughout the years, showing that in trained hands the all-arthroscopic Latarjet procedure is a safe and effective surgery for a difficult and highly demanding patient population.

Keywords
Anterior shoulder instability · Glenoid bone loss · Recurrent instability · Bone block · Arthroscopy

Introduction

Shoulder instability, or dislocation of the glenohumeral joint, is the most common dislocation of a major joint. In the literature, the incidence of a first-time glenohumeral dislocation varies between 11 and 51 per 100,000 population [5, 16]. When treated operatively, a capsulolabral repair, commonly known as a "Bankart procedure," is applied in most cases. However, failure of Bankart repair, which means a recurrence of glenohumeral dislocation, is reported to be as high as 21.1% [3]. In cases of failure of previous soft-tissue stabilization or relevant anterior glenoid defects, the Latarjet procedure is indicated and used by surgeons around the world to address instability in many cases.

First described in 1954 by Michel Latarjet, the original Latarjet procedure features a translocation of the coracoid process together with the conjoint tendons to the anterior scapula neck with a double screw fixation [13]. Arthur J. Helfet modified this procedure in 1958 by passing the coracoid tip through a horizontal subscapularis split [5] fixing it with a single screw, which became known as the "Bristow procedure". The Latarjet procedure is highly effective and yields superior results regarding recurrence or redislocation in comparison with the Bankart procedure in a long-term follow-up [3, 12]. Initially described as an open procedure, the Latarjet procedure has evolved to become a more minimally invasive operation, thus resulting in an all-arthroscopic technique available today. The first arthroscopic Latarjet procedure was performed by Dr. Laurent Lafosse in 2003, and a specific technique and instrumentation was developed in the years thereafter [14]. As with many other procedures in orthopedic surgery, the advantages of an arthroscopic approach may be a better visualization with the ability to treat other pathologies, improved cosmesis, fewer infections, less soft tissue damage with possibly shorter recovery times, and even possibly lower complication rates

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Table 1 Technical steps of arthroscopic Latarjet procedure	
1	Diagnostic arthroscopy
2	Arthroscopic preparation: a. Intra-articular: preparation of anterior capsule/labrum/glenoid neck b. Extra-articular: subdeltoid dissection with preparation of subscapularis/coracoid/conjoint tendon/axillary nerve
3	Subscapularis tendon/muscle split
4	Coracoid osteotomy and transfer, screw fixation

[8]. Data from a meta-analysis study reveal comparable results with similar complication rates for both the open and arthroscopic Latarjet procedure [11]. However, it should be mentioned that the arthroscopic Latarjet procedure is a technically challenging surgery with a flat and slow learning curve [4, 11].

The aim of this paper is to report our 15-year experience with this procedure. Starting in 2007 with the first cases, the arthroscopic Latarjet procedure has become a standard procedure at our institution. While in the early years we performed five to ten procedures per year, we now carry out around 60–70 arthroscopic Latarjet operations annually, still facing an increasing number of referrals from many patients and surgeons from a large catchment area. Most of these cases include glenoid erosions and failures after one or more previous operations. Highly active sport enthusiasts and athletes as well as difficult cases (e.g., patients with epilepsy) are among our patient group.

In this paper, we summarize the surgical technique throughout our 15 years of experience showing favorable results, but also a number of complications as well as still-open questions for proper patient selection and indication.

Operative technique of the arthroscopic Latarjet procedure

Positioning and arm holder

Patients are placed on a T-MAX Shoulder Positioner (Smith & Nephew, London, UK) in the beach chair position. The shoulder is prepped and draped with wide medial (anterior and posterior) access. The posterior part of the shoulder is well supported to prevent instability and rotation of the scapula during the procedure. The arm is put into an arm holder (Spider; Smith & Nephew, London, UK) for stable and secure fixation without the need of an assistant holding the arm. It is necessary to place the anterior drapes right next to the sternum to have enough space for the deep anteromedial portal. The equipment we use is the Latarjet Procedure Kit developed by Laurent Lafosse (DePuy Synthes/Mitek, Raynham, MA, U.S.).

Steps of the operation

The steps of the operation are summarized in ◘ Table 1 and described in detail in the sections that follow.

1. Arthroscopic preparation

a. Intra-articular: preparation of anterior capsule/labrum/glenoid neck

The whole procedure is starting with a diagnostic arthroscopy through a standard posterior portal (red dot in ◘ Fig. 1). The primary—and possibly secondary—pathologies are identified. Next, the glenoid bone loss is inspected from an anterolateral view (green dot in ◘ Fig. 1). The defective parts of the anterior and anteroinferior capsule, the inferior glenohumeral ligament, the middle glenohumeral ligament, and labral remains are removed through an anterior portal (yellow dot in ◘ Fig. 1) and the anterior glenoid neck is debrided and shaped with a burr. The articular surface of the subscapularis muscle comes into view and is carefully prepared and freed from the capsular tissue. As the last step of this phase, the rotator interval is opened wide to get access to the extra-articular subcoracoid and subdeltoid spaces of the shoulder.

b. Extra-articular: subdeltoid dissection and preparation of the coracoid as well as axillary nerve

The second step is the extra-articular dissection of the anterior shoulder in the subdeltoid space (◘ Fig. 2). Stepwise with the arthroscope in an anterolateral viewing portal, the anterior (extra-articular) subscapularis tendon and muscle lateral and posterior of the coracoid/conjoint tendon are prepared. Using shaver and bipolar radiofrequency, the coracoacromial ligament (CAL) is removed. Then the lateral and anterior parts of the coracoid are prepared. The subcoracoid space is dissected and cleaned of bursa and adhesions. Here in every case the axillary nerve is visualized and carefully prepared to prevent damage during the further steps of the procedure (◘ Fig. 3). After the coracoid has been released posteriorly and laterally, the arthroscope is inserted into the anterior portal (yellow dot in ◘ Fig. 1) and an exchange rod is used through the anterolateral portal to elevate the deltoid muscle, improving visualization and the working space anterior and superior to the coracoid. Through a supracoracoidal approach (blue dot in ◘ Fig. 1), the pectoralis minor is then carefully dissected from the medial border of the coracoid, down to the level of its junction with the conjoint tendon (◘ Fig. 4). Next, two K-wires are drilled through the coracoid with the help of an aiming device placed in the supracoracoidal portal. Prior to definite drilling, the correct position of the wires is checked with the arthroscope placed in the supracoracoidal portal. Then a 3.2-mm cannulated drill is used over the K-wires and two specific threaded washers ("top hats") are inserted into the drill holes (◘ Fig. 5).

2. Subscapularis split

The next step is the subscapularis split. The arthroscope is placed in a deep anterolateral portal (dark blue dot in ◘ Fig. 1) and a deep anteromedial portal (light blue dot in ◘ Fig. 1) is created. From the deep anteromedial portal, the subscapularis split is made using the radiofrequency probe. The location of the split is aimed at a specific level, leaving two thirds of the superoinferior subscapularis extension superior to the split. In the mediolateral extension, the subscapularis split starts at the musculotendinous junction, splitting the muscle 1–2 cm into the medial direction and splitting the tendon laterally up to 1 cm according to individual anatomy and corresponding glenoid neck (◘ Fig. 6). A maximum of attention at this step is necessary to protect the axillary nerve, which is visualized medial to the conjoint tendon. A specific strong metallic rod is then used from the posterior portal transarticularly,

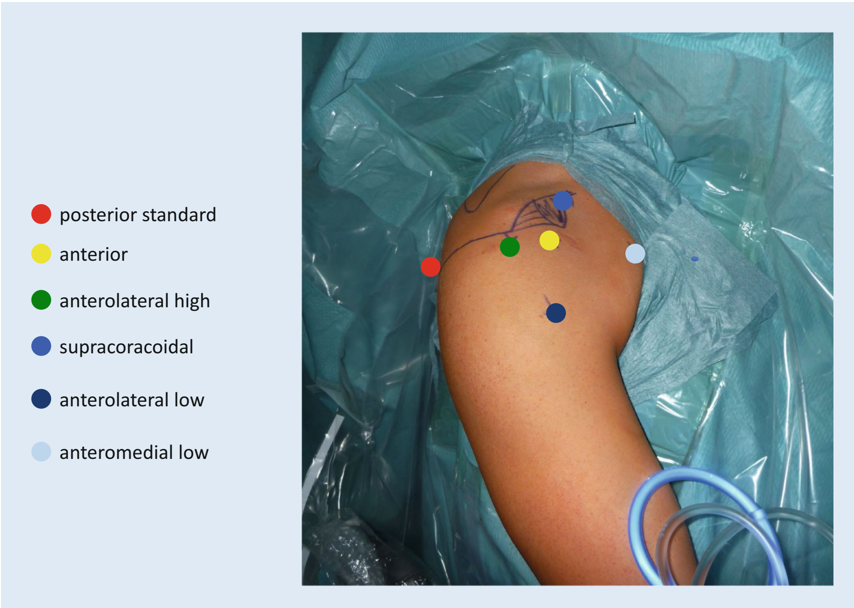

Fig. 1 ▲ Illustration of the portals

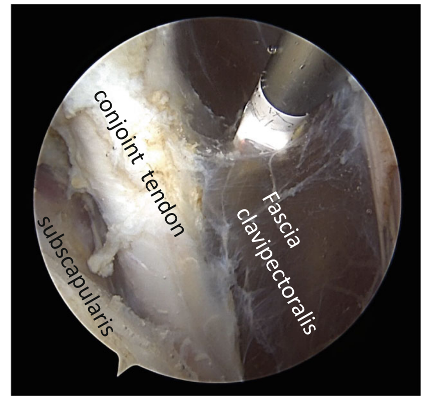

Fig. 2 ▲ View of the subdeltoid space

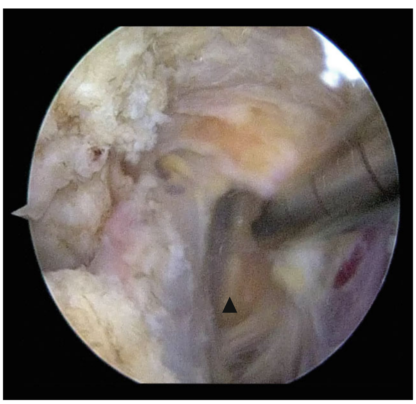

Fig. 3 ▲ View from an anterolateral portal: axillary nerve (*triangle*)

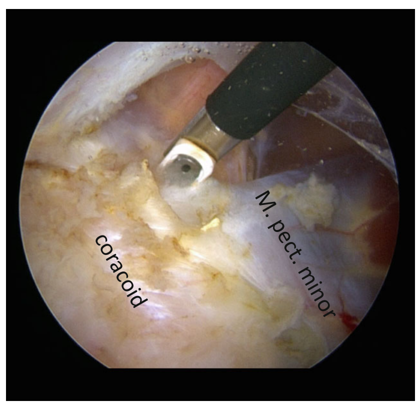

Fig. 4 ▲ Preparation of the coracoid and pectoralis minor dissection

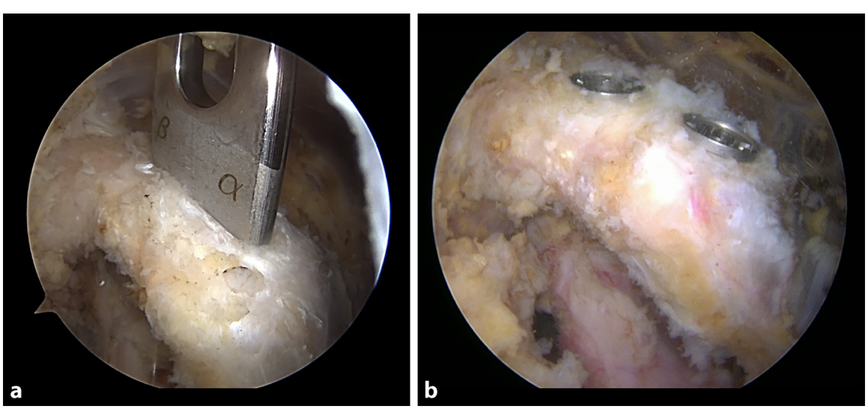

Fig. 5 ▲ Coracoid drilling device (**a**) and insertion of top hats (**b**)

which is used to elevate the subscapularis superiorly during the transfer of the coracoid to the glenoid neck.

3. Coracoid osteotomy, shaping, and transfer of coracoid with fixation

Hereafter, the next step is the osteotomy of the coracoid. The arthroscope is placed anteromedially and an oval burr is used to create a groove at the undersurface of the coracoid base from the anterolateral portal. The definite osteotomy is made with a curved osteotome inserted through the supracoracoidal portal. Then the coracoid-aiming device is put through the deep anteromedial portal and the coracoid is fixed to it with two temporary specific long screws. The coracoid is then further shaped and modeled with the burr until it is congruent to the scapula neck.

The last step is the fixation of the coracoid to the glenoid. Therefore, the coracoid-aiming device is placed in the deep anteromedial portal and then firmly attached to the coracoid process. It is then used to manipulate the coracoid, so that it is being pushed through the subscapularis split (◘ **Fig.** 7). Again, the exchange rod in the posterior portal is used as a retractor for the subscapularis split to help maneuver the graft meticulously between 3 and 5 o'clock flush with the glenoid surface. With the aiming device, the coracoid is held in correct position on the scapula neck, two K-wires are drilled through the cannulated screws of the aiming device until they penetrate the skin posteriorly and are secured with clamps. It is important to avoid screw obliquity, i.e., the screws should be placed relatively parallel

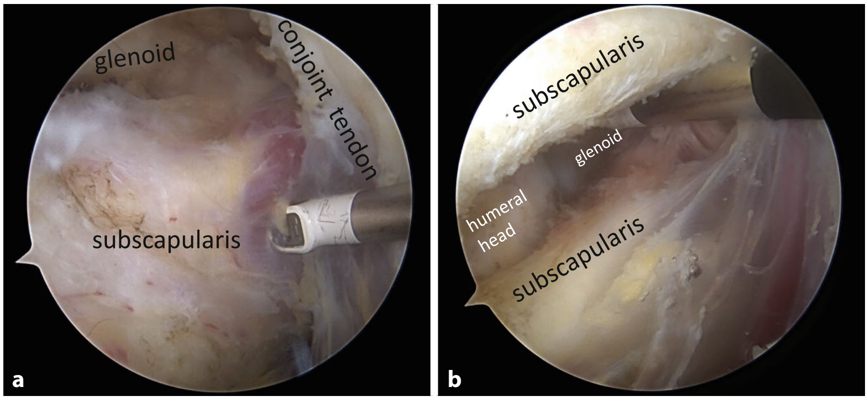

Fig. 6 ▲ Execution of the subscapularis split

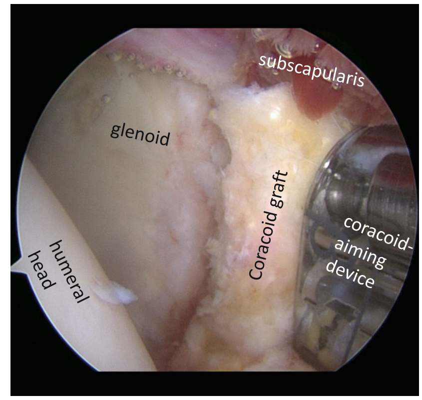

Fig. 7 ▲ Positioning of the coracoid graft

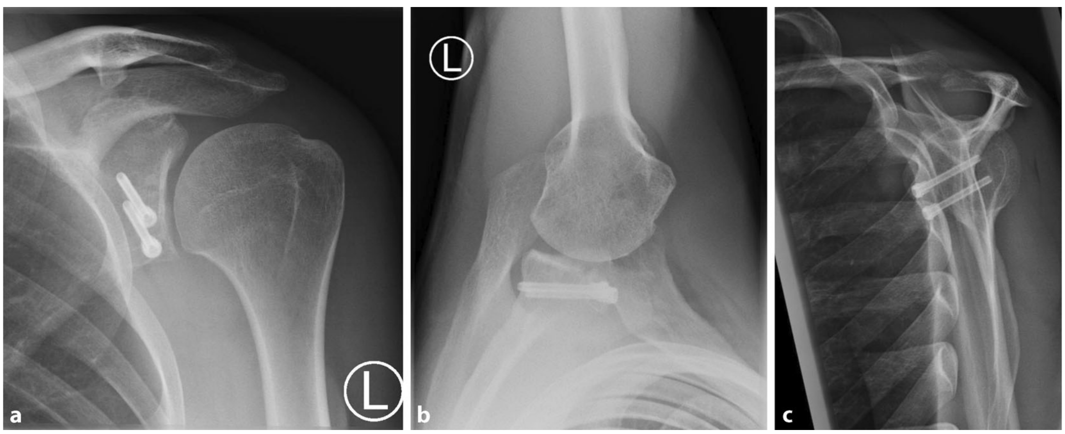

Fig. 8 ◀ Postoperative x-ray after Latarjet procedure

to the glenoid surface. After the screws of the aiming device have been removed, the 3.2-mm drill is drilled over the K-wires and two specific Latarjet screws (3.5 mm cannulated titanium) are inserted and used to compress the coracoid against the glenoid neck ([2, 9]; ◘ **Fig. 8**).

Special focus on anesthesia management

The arthroscopic Latarjet procedure requires an extraordinarily good intraoperative view. A careful surgical arthroscopic technique as well as meticulous bleeding control throughout the procedure are indispensable factors.

Furthermore, specific anesthesia management is crucial as indicated in ◘ **Table 2**.

We perform the Latarjet procedure with the patient under general anesthesia in a beach chair position. For this demanding surgery, it is required to keep the patient's systolic blood pressure well below 100 mm Hg for best visualization. To prevent damage in terms of reduced cerebral oxygenation an In-Vivo Optical Spectroscopy (INVOS; Medtronic, Dublin, Ireland) oximeter is used to monitor the adequacy of brain perfusion. In addition, 100% of patients receive an interscalene block.

As described above, we recommend an optical spectroscopy device to measure the regional cerebral oxygen saturation continuously during the procedure. This offers an immediate opportunity to the anesthetist to counteract critical blood pressure. In addition, this system encourages the communication between the surgeon, who provides information about the actual visualization and receives feedback if there is a possibility of decreasing the blood pressure to a safe area if necessary.

The authors recommend a mean arterial pressure (MAP) of 60 mm Hg with adequate brain oxygen saturation (◘ **Table 2**). Furthermore, regional anesthesia (interscalene block or catheter) should be used to decrease pain and sympathetic tone. We recommend a moderately high end-expiratory CO_2 ($ETCO_2$) of 40–50 mm Hg, which leads to a cerebral vasodilatation and ventilation with 100% O_2 as well as low inhalational anesthesia such as sevoflurane, which is associated with significantly less cerebral desaturation [1].

Results

A total of 623 patients underwent the arthroscopic Latarjet procedure performed by the senior author of this article during the period 2007–2022. Two thirds of these patients had previous stabilization operations (capsulolabral repair: Bankart operation) that had failed and led to recurrence (◘ **Fig. 9**). These patients themselves or following a referral by their previous surgeons came to our institution for the revision stabilization. Thus, the arthroscopic Latarjet was performed as a revision procedure in the major proportion of this series. One third of the patients received the arthroscopic Latarjet procedure as primary procedure for stabilization (patients with indications of inadequate repair and at high risk for failure after

Table 2 Controlled arterial hypotension	
1	Always regional anesthesia (scalene block), to eliminate pain and avoid high sympathetic tone during the procedure
2	Continuous measurement of cerebral oxygen measurement (e.g., INVOS, Covidien, Medtronic)
3	Systolic blood pressure should be kept below 100 mm Hg (better below 90 mm Hg)
4	Inhalatory (sevoflurane) anesthesia
5	High level of end-expiratory CO_2 (> 40 mm Hg)
6	Medication for blood pressure control: α1-adrenozeptor-antagonist (e.g., Urapidil)

a Bankart repair: relevant glenoid bony erosions (> 13%), hyperlaxity, intraoperative irreparability of capsulolabral tissues, athletic contact sports etc.).

The data of 328 patients (43% women, mean age of women: 28 ± 5 years, mean age of men: 25 ± 6 years, range 15–56 years) were analyzed. After a mean of 8 years (range 1–15 years) of follow-up (FU), the mean Oxford shoulder score was 40 ± 10.5 compared to 18.7 ± 6.6 preoperatively. This meant an excellent result in 75% of the cases (19% good, 6% poor). The mean ASES score was 86.9 ± 13.1 (39.4 ± 16.2 preoperatively). The mean Walch–Duplay score was 84 (86) ± 17.9 (36 [38] ± 19.9 preoperatively). The mean Rowe score was 79 (81) ± 22.5 (37 [41] ± 15.4 preoperatively).

Range of motion deficit to the contralateral side was 5.8° in abduction (ABD), 10.5° external rotation (ER) in 0° ABD, 12.8° ER in 90° ABD, and 6° in internal rotation (IRO).

Complications

Of the 328 patients, 19 (5.8%) underwent 24 revision surgeries (**Figs. 10 and 11**). Overall, 14 (74%) had a recurrent dislocation, of whom six patients had a major or incidental injury, two of them during a seizure attack. All recurrences occurred within 2 years of surgery. After 2 years, there were no other recurrences in our patient cohort except for the patients with seizure. Of those who did not have recurrence, two (10.5%) had persistent pain due to screw impingement, one (5.3%) had an infection, and one (5.3%) had revision for graft resorption and screw breakage.

There were six contact athletes in the revision group. In two the injury occurred during their sports exercise. One had a recurrence causing screw breakage during weightlifting. One had a recurrence due to a distal graft breakage without a traumatic cause. One underwent revision because of persistent pain due to an anterior screw impingement and one revision was performed because of graft resorption and medial misplacement. We documented two handball players who did not return to sports because of inability to throw but with stable shoulders. **Table 3** provides an overview of the documented revision surgeries and their secondary outcome.

Discussion

The all-arthroscopic Latarjet procedure was introduced in 2003 by Laurent Lafosse. Initially, some surgeons viewed it very critically as something impossible, dangerous, and almost crazy. The major concern was that the complexity and problems of visualization could be that significant that there could be potentially more dangers than benefit for the patient.

Today the arthroscopic Latarjet procedure has evolved for over almost 20 years. Besides the screw fixation from anterior position, alternative techniques with suture and button fixation from anterior or posterior position were developed. With specific instruments released in 2010 [6] and advancing arthroscopic technologies such as high-quality radiofrequency ablation, the (extra-articular) dissection has improved substantially. Over the years surgery time has also decreased. Taking more than 2 h in the beginning, the all-arthroscopic Latarjet procedure is now performed in less than 50 min in our institution.

We have underlined the absolute importance of a clear visualization during this procedure. Bad conditions with poor visualization are inadequate for a safe Latarjet procedure. Therefore, specific conditions regarding the anesthesia management are required for success. A controlled arterial hypotension with a systolic blood pressure not exceeding 90 mm Hg is aimed for. Deep anesthesia with an interscalene block and continuous measurement of cerebral oxygen measurement (e.g., INVOS) is necessary.

Today the all-arthroscopic Latarjet procedure is an indispensable standard treatment in our practice. There are only a few rare exceptions where the Latarjet procedure is being performed as an open technique: (1) patients who do not tolerate blood pressure management with an MAP of 60 mm Hg due to pre-existing cardiovascular and cerebrovascular diseases; (2) patients with pre-existing coracoid fractures or coracoid pseudarthrosis that sometimes occurs, e.g., in patients with severe epilepsy—if the coracoid is mobile or flipped downward, the drilling holes cannot be made precisely in an arthroscopic fashion.

Overall, the arthroscopic Latarjet procedure has shown mostly excellent or at least good results in our institution as judged by the Oxford Shoulder Score (40 ± 10.5) and other score systems (ASES, Rowe, Walch–Duplay) as well as concerning the revision rate. It must be noted that this patient series comprises a highly demanding patient population: patients of young age, athletes with new injuries, the majority had at least one previous surgery, patients with seizure etc. Nonetheless, 6% had a poor outcome requiring a revision operation. Considering the endpoint of "instability," 96% of patients did not suffer from recurrent instability. Nevertheless, complications led to revision surgery in 5.8%, which were mostly managed by Eden–Hybinette bone grafting or screw removal (see **Table 3**).

It should be mentioned that, due to clear visualization and a maximum of attention to these structures, we did not have a single patient suffering nerve damage (axillary nerve, musculocutaneous nerve, suprascapular nerve) through this procedure in our hands.

Our results are similar to the results reported in the literature for open Latarjet in shoulder centers with a high case load for this procedure. The complication rate and patient satisfaction are comparable to results reported by Walch et al. [7, 15]

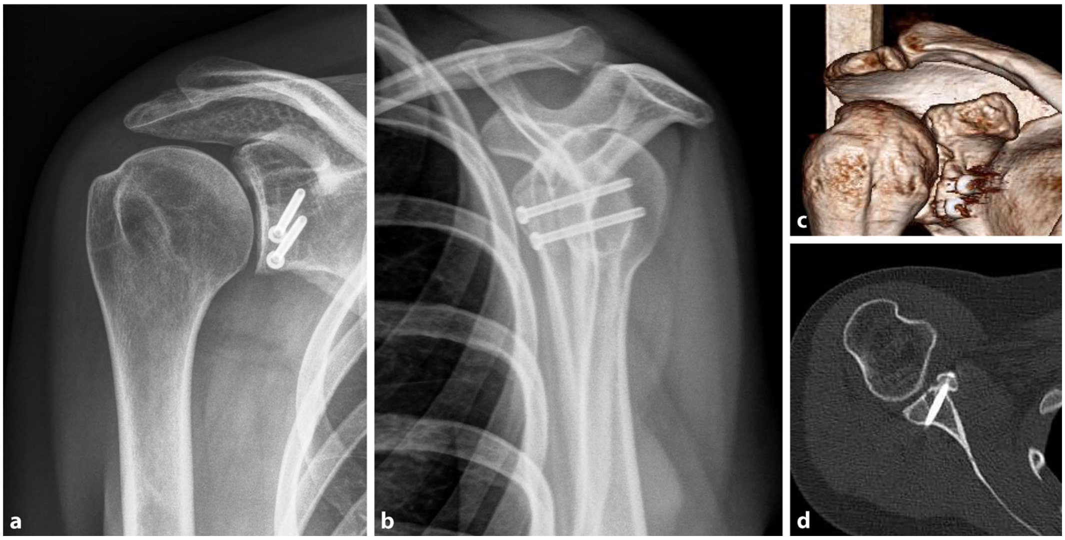

Fig. 9 ◂ X-ray and three-dimensional computed tomography scan of a 28-year-old female patient after arthroscopic Latarjet as a first-line therapy following three recurrences with anterior bony erosions

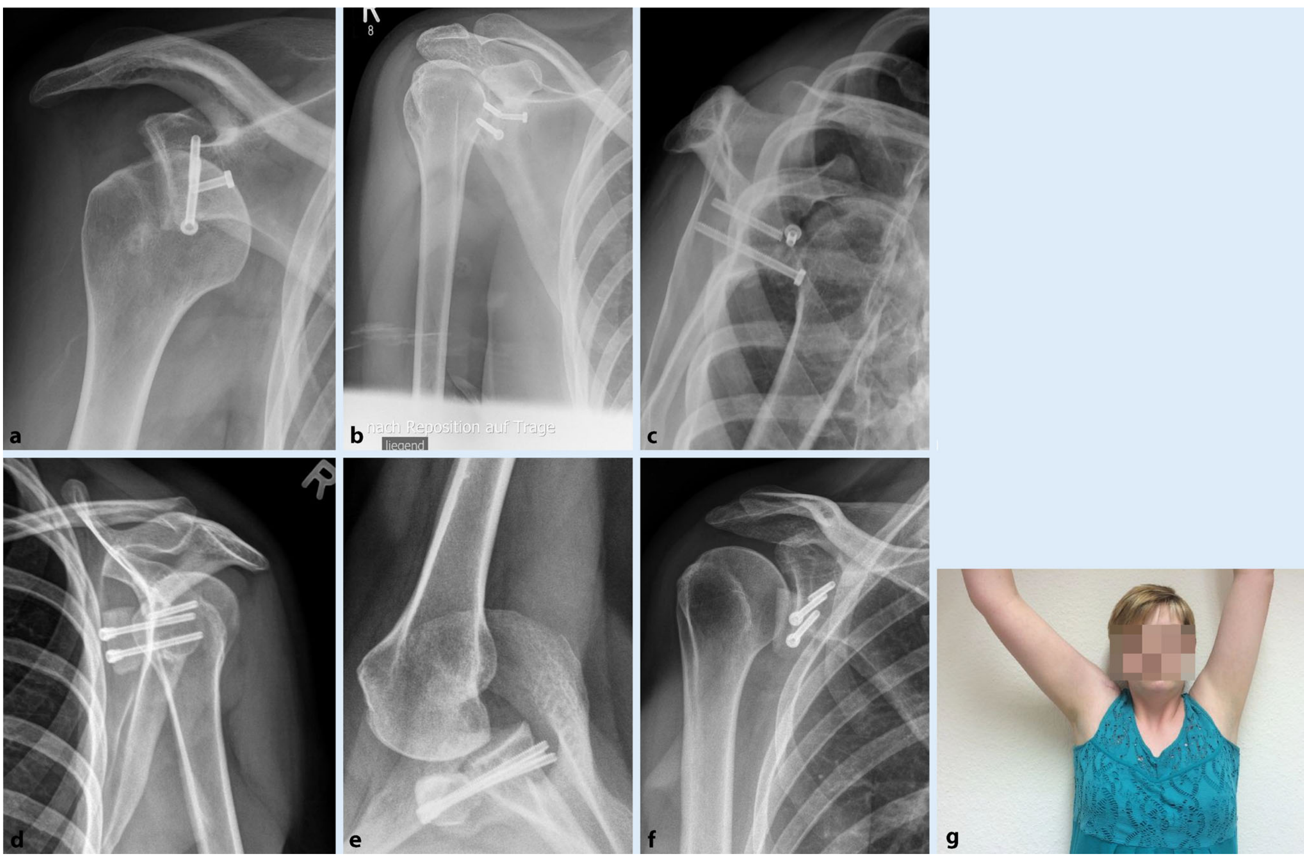

Fig. 10 ▴ **a**–**c** Anterior dislocation and screw breakage after a traumatic fall on the operated side. **d**–**g** X-ray and outcome after open revision with an iliac crest graft (Eden–Hybinette)

and Hovelius et al. with an even longer 15-year follow-up [10]. Both authors report a high patient satisfaction rate of 98% and rates of recurrence between 3% and 6% [7, 10, 15]. A meta-analysis by Hurley et al. with 547 cases of arthroscopic Latarjet showed a recurrent instability of 2.4% and a revision rate of 5.4% [11]. The main reason for revision in our patient population was a recurrent instability after injury with or without screw breakage in 3.4% of cases. Rarely, screw complications or graft complications with no recurrent dislocation leading to revision surgery were both seen in 0.6% of cases in our study population. Hurley et al. report screw complications in 1.9% and graft complications in 3.2% of cases, but it is not clear which of these led to revision surgery. Only one case of infection (0.3%) led to revision surgery in our population. As mentioned, no neurological complications occurred. In our study, all revisions were necessary within the first 2 years of follow-up. Af-

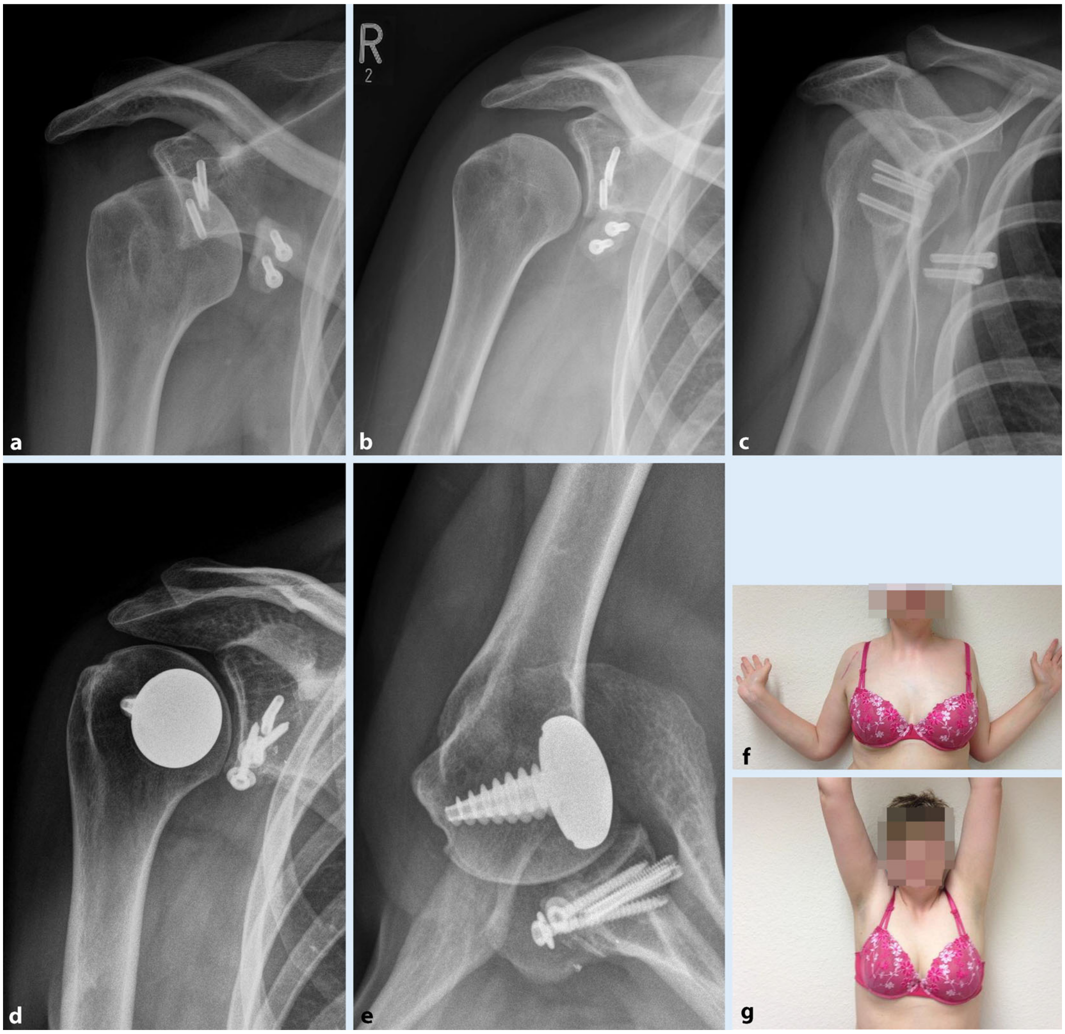

Fig. 11 ◀ **a–c** Traumatic fall again 6 months later with anterior luxation of the head and redislocation of the graft. **d–g** X-ray and outcome after open re-refixation of graft (second Eden–Hybinette) + Hemicap for Hill–Sachs lesion after a renewed recurrence

ter this period, we did not observe any recurrences except for patients with new seizure attacks. This strengthened the assumption of less risk of recurrence and redislocation with longer follow-up time compared with a capsulolabral repair [12]. In summary, this shows that the arthroscopic Latarjet procedure can be a safe and effective surgery with excellent results when performed in experienced hands.

At our institution, two thirds of the patients received the Latarjet due to recurrence after one or more failed previous operations. Only one third of the patients were treated primarily with a Latarjet operation.

The exact composition of a patient population has to be kept in mind when comparing or classifying results of instability repair. We had a challenging cohort with many highly demanding athletes. Keeping these factors of patient population in mind, our results can be considered favorable, and we can present them to future patients as a valid forecast of what to expect after this procedure.

Still some open questions for a proper indication within a special population group remain: According to our experience, individuals with epilepsy who have shoulder instability during a seizure have to receive neurological treatment first to decrease the incidence of seizures, otherwise the Latarjet procedure is also at high risk of failing during another attack. The outcome in this group is unpredictable and thus the indication for surgery has to be made cautiously and depends on the patient's level of suffering.

Limitations of the study

Our study is a single-center case series with no control group. The follow-up examination was performed clinically and radiographs were only taken postoperatively until the patient had finished with their rehabilitation and not on a routine long-term scientific basis. Therefore, we cannot draw conclusions from graft positioning and remodeling in all patients. Furthermore, we faced a rather big number of dropouts due to long follow-up and patients no longer reachable many years after the procedure (change of address, change of telephone numbers etc.). Theoretically, this could mean that a higher number of patients had recurrence or revision in other places than we report in this paper. However, in our long-term experience also with other orthopedic procedures, most patients definitely return to the surgeon who operated on them primarily, and they usually do not contact different surgeons as first choice when there is a problem after surgery.

Table 3 Overview of the documented revision surgeries and their secondary outcome

Number	Reason for revision	What happened	Revision surgery	Number of revisions	Outcome
1	Major injury	Redislocation with breakage of both screws	Screw removal	1	Satisfied
2	No injury	Recurrence, medial graft misplacement and resorption	Eden–Hybinette	1	Satisfied
3	Major injury	Recurrence, screw breakage	Removal of 1 screw, capsulorrhaphy	1	Satisfied
4	3 minor injuries	3 recurrences, breakage of screws	Eden–Hybinette, 2nd Eden–Hybinette, Hemicap	3	Satisfied
5	No injury	Infection	2 times lavage	2	Satisfied
6	Minor injury	Recurrence	Eden–Hybinette	1	Satisfied
7	Minor injury	Recurrence, screw breakage	Screw removal, Eden–Hybinette, Hemicap	3	Not yet known, recent revision
8	No injury	Recurrence, graft breakage distally	Eden–Hybinette	1	Satisfied
9	No injury	Posterior screw impingement	Screw removal	1	Satisfied
10	Minor injury	Recurrence with medial graft misplacement	Revision outside	1	Not known
11	Major injury	Recurrence, screw breakage with graft dislocation	Re-refixation of graft	1	Satisfied
12	Seizure attack	Recurrence, screw breakage with graft dislocation	Eden–Hybinette	1	Dissatisfied, recurrence in another seizure attack
13	No injury	Screw impingement anterior	Screw removal	1	Satisfied
14	Seizure attack	Recurrence	Eden–Hybinette	1	Satisfied
15	Minor injury	Screw breakage	Screw removal	1	Dissatisfied, refuses further operations
16	Major injury	Recurrence, screw breakage with graft dislocation	Re-refixation of graft	1	Unknown, patient not reachable
17	No injury	Recurrence with correct graft and no graft or screw failure	Capsulorrhaphy	1	Dissatisfied, refuses further operations, psychiatric hospital
18	Minor injury	Graft resorption and medial misplacement	Eden Hybinette	1	Satisfied
19	Minor injury	Recurrence, screw breakage	Eden Hybinette	1	Revision recently

Practical conclusion

- **First described almost 70 years ago, the Latarjet procedure today is a standard tool for the treatment of anteroinferior shoulder instability, especially in cases of recurrence after failed capsulolabral repairs and cases with relevant glenoid bone loss.**
- **Like many other surgeries, the Latarjet procedure has developed from a primary open procedure to a more minimally invasive or even arthroscopic surgery.**
- **Today the all-arthroscopic Latarjet procedure can be an indispensable treatment option for (recurrent) anterior shoulder instability.**
- **In trained hands the all-arthroscopic Latarjet procedure is a safe and effective surgery for difficult cases and a highly demanding patient population.**

Corresponding address

PD Dr. Jens Agneskirchner
Klinik für Gelenkchirurgie und Orthopädie Hannover (go:H)
Bertastraße 10, 30159 Hannover, Germany
jens.agneskirchner@g-o-hannover.de

Declarations

Conflict of interest. T. Vogelsang, J. Pallmann, S. Dugaro, A. Alimy and J. Agneskirchner declare that they have no competing interests.

For this article no studies with human participants or animals were performed by any of the authors. All studies mentioned were in accordance with the ethical standards indicated in each case.

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Zusammenfassung

Arthroskopische Latarjet-Operation. Technik und Ergebnisse nach 15 Jahren Anwendung

Die vor fast 70 Jahren erstmals beschriebene Operation nach Latarjet ist heute ein Standardverfahren zur Behandlung der anteroinferioren Schulterinstabilität, insbesondere bei Rezidiven nach fehlgeschlagenen kapsulolabralen Rekonstruktionen und Fällen mit relevantem Knochenverlust des Glenoids. Wie viele andere Operationen hat auch das Latarjet-Verfahren eine Entwicklung von einem primär offenen Verfahren zu einem eher minimal-invasiven oder sogar rein arthroskopischen Eingriff durchlaufen. Nachdem die rein arthroskopische Latarjet-Operation in den Anfängen zunächst als ein viel zu kompliziertes und im Grunde technisch unmögliches Operationsverfahren angesehen wurde, ist diese Operation in arthroskopischer Durchführung in der Einrichtung der Autoren seit 2007 zu einem unverzichtbaren Behandlungs-Tool für (rezidivierende) vordere Schulterinstabilitäten geworden, für die die Autoren von anderen Kollegen viele Zuweisungen zur Versorgung erhalten. Mit diesem Artikel möchten die Autoren ihre langjährigen Erfahrungen hierzu mit der Leserschaft teilen und zeigen, dass die rein arthroskopische Latarjet-Operation in geschulten, erfahrenen Händen eine sichere und effiziente Operation für eine schwierige und sehr anspruchsvolle Patientengruppe ist.

Schlüsselwörter
Vordere Schulterinstabilität · Glenoidaler Knochenverlust · Rezidivierende Instabilität · Knochenblock · Arthroskopie