

Technical Note

The Posterolateral Portal: A New Approach for Shoulder Arthroscopy

Jean-Noël Goubier, M.D., Alain Iserin, M.D.,
and Bernard Augereau, M.D.

Abstract: Since the beginning of shoulder arthroscopy, many different approaches were described for Bankart repair to allow visualization and treatment. The anterior portals do not allow access to the posterior and inferior part of the glenoid. We present a new instrumental portal for shoulder arthroscopy. This approach is perfectly safe, without any anatomic risk. It is particularly helpful in the correct treatment of an anterior Bankart lesion, in repairing posterior and inferior extensions of a Bankart lesion, and in performing a plication in multidirectional hyperlaxity. **Key Words:** Shoulder—Arthroscopy—Bankart—Portal—Posterior approach.

Several approaches have been described for arthroscopic stabilization of the shoulder.¹⁻⁴ The posterior portal is the first to be made by all arthroscopic surgeons. This portal allows the placement of other approaches and the establishment of the outflow cannula. In addition, many anterior approaches exist that may be visualization portals to observe the anterior and inferior part of the glenohumeral joint, or instrumental portals to mobilize the different glenohumeral tissues, or for debridement in shoulder repair procedures.

No approach has been described that reaches the posterior and inferior part of the glenohumeral joint. Moreover, this area is not correctly reached by the classical anterior portals because of the humeral head and because the usual posterior approach is too parallel to the glenoid surface to allow any suture device.

We decided to create a new instrumental posterior approach, the “posterolateral portal.”

THE APPROACH

Shoulder arthroscopy is performed in the lateral position with distal and lateral traction. There is a slight (15° to 20°) posterior body tilt necessary to obtain a horizontal glenoid. It is also possible to use the beach-chair position for the placement of this approach. It is very important to locate the bony landmarks and to outline them before proceeding. We perform a double anterior approach with a superior anterior visualization portal and an inferior anterior instrumentation approach.⁴ The incision for the posterolateral portal is then placed 1.5 cm lateral to the acromion at its posterior third (Fig 1). A spinal needle is placed as a guide in the joint going downward and anteriorly. The needle placement is controlled using the arthroscope, which remains in the anterior and superior portal. The needle is able to reach the 7 o'clock area of the glenoid. When the needle is at the right place, a trocar follows the direction of the needle. Then it is replaced by an arthroscopic cannula to allow the placement of instruments and suture devices (anchors). All types of instrumentation can be used, e.g., shavers, rasps, and suture hooks.

From the Service de Chirurgie Orthopédique et Traumatologique, Hôpital Rothschild, Paris, France.

Address correspondence and reprint requests to Jean-Noël Goubier, M.D., 70 Avenue Galois, 92340 Bourg-la-Reine, France. E-mail: goubjnal@club-internet.fr

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0749-8063/01/1709-2697\$35.00/0
doi:10.1053/jars.2001.23588



FIGURE 1. Bony landmarks of the posterolateral approach.

ADVANTAGES

There are several advantages to this portal in treating particular conditions. In posterior Bankart lesions with posterior instability (Fig 2), it is very difficult to reach the posterior part of the glenoid with different instruments.⁵ In this type of instability, the capsular tear can spread from 6 o'clock to 11 o'clock, and it is impossible to repair this lesion with a classical posterior or anterior portal. The posterolateral portal allows access to and repair of the tear with the hook and the taking of a thick part of the capsule to obtain a strong suture.

Another situation involves posterior extension of a Bankart lesion (Fig 3). In anterior instability, many Bankart lesions reach the 6 or 7 o'clock position on

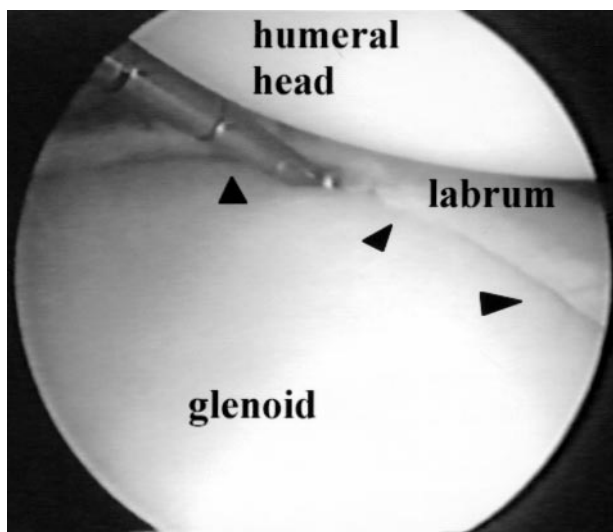


FIGURE 2. Posterior injury of the labrum in posterior instability.

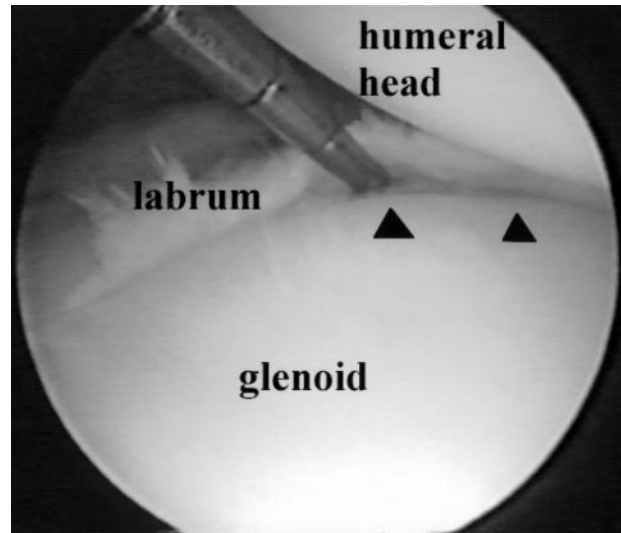


FIGURE 3. Posterior extension of a Bankart lesion.

the glenoid. It is important to repair this area of the capsule, to avoid recurrent postoperative anterior dislocation.⁶ Using the posterolateral portal, the technique is the same as that for the Bankart lesion with posterior instability.

The posterolateral portal also allows effective treatment of instability with hyperlaxity. It is important to reach this posterior zone to obtain a good reduction of capsular volume.⁷ This posterior capsular shift allows reduction of the posterior inferior laxity while avoiding subluxations,⁸ particularly when the arm is in adduction, internal rotation, and flexion.

ANATOMIC RISKS

This approach does not present any anatomic risk. The introduction point is posterior, and thus there is no possibility of contact with axillary or musculocutaneous nerves as with anterior portals.^{1,4,9,10} The average distance between the posteroinferior suture and the axillary nerve is 14.4 mm, 24.1 mm, and 32.3 mm for the inferior, posteroinferior, and posterior sutures, respectively.¹¹

DISCUSSION

To obtain good results, it is necessary to respect the principles of classical surgery in regard to anterior instability. In open surgical treatment of Bankart lesions, the suture or the anchors must be placed at the 2, 4, 6, or 7 o'clock positions,⁶ or the 1, 3, and 5

o'clock.¹² Even if the shoulder is open, it is very difficult to reach this last point. The classical portals in shoulder arthroscopy do not allow one to reach with existing instruments the area behind 6 o'clock. But in many cases, an extension of the Bankart lesion can reach the 7 o'clock area of the glenoid.

Most of the time, this zone is correctly observed, which is one of the greatest advantages of arthroscopy, but it can be very difficult to approach this area through classical portals. The posterior approach may be used to reach the 7 o'clock position,¹³ but we do not think it is logical to repair a posterior extension by increasing the capsule hole of a posterior portal even if this approach is placed more laterally.⁵ When using the posterior approach, the way to reach the 7 or the 9 o'clock point is certainly more difficult because the instruments are too horizontal. With the posterolateral approach, the instrument is almost vertical or oblique and the accessibility is perfect. A posterosuperior lateral portal has been described to treat type II SLAP lesions.¹⁴ However, the skin incision is closer to the acromion and the vector of entry more horizontal than with our portal and is aimed at the coracoid process. It provides a better angle of approach to reach the posterosuperior quadrant of the glenoid than to work with a suture hook in the posteroinferior quadrant or in the inferior part of the glenoid.

The posterolateral portal allows the arthroscopic surgeon to treat the complete posterior extension of some Bankart lesions. Finally, some capsular lesions are "around the clock" and it is not possible to suture them without using our portal.

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