



ANTERIOR SHOULDER INSTABILITY: COMPARISON BETWEEN CONSERVATIVE AND SURGICAL TREATMENT

 <https://doi.org/10.56238/levv16n45-048>

Submitted on: 27/01/2025

Publication date: 27/02/2025

Pedro Henrique Rodrigues¹, Ítalo Nunes Vieira², Samuel Solon Costa Lima³, Ivan Terra Recco⁴, Luiza Camapum Fernandes Ribeiro⁵, Gabriela Resende Lopes de Lacerda⁶, Larissa Fagundes Lisboa⁷ and Tássia Rita Uchiyama Dinelli⁸

ABSTRACT

Anterior shoulder instability is common, especially in young people and athletes, and can cause pain, limitation of movement, and recurrence of dislocations. Treatment can be conservative, with physical therapy, or surgical, including arthroscopic repair and Latarjet surgery. This review compared conservative and surgical approaches to anterior shoulder instability. Articles from the PubMed, Scielo, LILACS, and MedLine databases were analyzed, using the descriptors "anterior shoulder instability", "conservative treatment", "surgery", and "rehabilitation". 10 articles published between 2013 and 2023 were selected. Conservative treatment is indicated for cases without severe structural injuries, prioritizing muscle strengthening and proprioception. The surgical approach, indicated for recurrent dislocations and bone involvement, reduces recurrence rates and improves performance in athletes and active individuals. The therapeutic choice must be individualized, considering clinical and functional factors. Surgery offers greater stability in severe cases, while rehabilitation can be effective in selected patients. Further studies are needed to refine the indications and treatment protocols.

Keywords: Anterior Shoulder Instability. Conservative treatment. Surgery. Rehabilitation. Recurrent Dislocation. Joint Stabilization. Physiotherapy.

¹ Resident Physician in Orthopedics and Traumatology

Base Hospital of the Federal District

E-mail: doutorpedrohr@gmail.com

² Resident Physician in Orthopedics and Traumatology

Base Hospital of the Federal District

E-mail: italo.nv.md@gmail.com

³ Graduating in Medicine

Institution: Unifenas BH

E-mail: samuel.liima@aluno.unifenas.br

⁴ UNICESUMAR

E-mail: Ivan@recco.com.br

⁵ Medical Student

Institution: UniEvangelica

E-mail: luizacamapum.fe@gmail.com

⁶ Faculty of Medical Sciences of Minas Gerais

E-mail: gabriela.llacerda@hotmail.com

⁷ Graduated in Medicine

Institution: University of Rio Verde (UNIRV), Rio Verde Campus

E-mail: larifag23@gmail.com

⁸ Institution: State University of Amazonas

E-mail: tassiarudinelli@gmail.com

INTRODUCTION

Anterior shoulder instability is a common orthopedic condition, especially in young individuals and athletes who play contact sports or who require repetitive overhead movements. This pathology occurs due to the inability of joint stabilizers to keep the humeral head centered in the glenoid cavity, resulting in episodes of dislocation or subluxation, which can significantly compromise shoulder functionality and patient quality of life (ROSA; CHECCHIA; MIYAZAKI, 2017). The recurrence of these episodes can lead to progressive structural damage, increasing the need for surgical intervention to restore joint stability (MONTEIRO, 2015).

The etiology of anterior shoulder instability is often associated with anatomical lesions, such as Bankart lesion, characterized by detachment of the anterior glenoid labrum, and Hill-Sachs lesion, which corresponds to a deformity in the humeral head resulting from impact with the glenoid edge during dislocation episodes (NUNES; GUTIERRES, 2013). These structural injuries can hinder functional recovery and influence the choice of therapy, since the presence of significant bone impairment reduces the efficacy of conservative treatment (RODRIGUES; BEZERRA, 2022).

Treatment of anterior shoulder instability can follow two main approaches: conservative or surgical. Conservative therapy, based on physical therapy, aims to strengthen the stabilizing muscles, improve proprioception, and restore neuromuscular control, reducing the risk of new episodes of dislocation (GUEGUEN, 2024; SOUSA, 2022). However, its long-term efficacy is questionable in patients with significant structural injuries or in individuals who practice high-demand sports, in which instability can compromise functional performance (DE OLIVEIRA, 2024).

The surgical approach, in turn, is indicated for patients with recurrence of dislocations, failure in conservative treatment, or bone impairment that makes joint stability unfeasible (KUTZKE et al., 2018). The most commonly used procedures include arthroscopic repair of the Bankart lesion and Latarjet surgery, which involves the transfer of the coracoid process to reinforce the anterior stability of the shoulder (NUNES; GUTIERRES, 2013). The choice of surgical technique depends on the extent of structural damage, the patient's functional demand, and the risks associated with each procedure (ROSA; CHECCHIA; MIYAZAKI, 2017).

Studies indicate that surgery has lower recurrence rates compared to conservative treatment, especially in young patients and athletes (MONTEIRO, 2015). However, postoperative rehabilitation is a crucial factor for the success of the intervention, and hydrotherapy is a complementary method that can aid in functional recovery and early

return to sports activities (DE OLIVEIRA, 2024). The choice between conservative and surgical approach should be made individually, considering the clinical and functional factors of each patient (MARCHETTI et al., 2019).

The importance of physical therapy rehabilitation in conservative and postoperative treatment has been widely discussed in the literature, highlighting the need for structured protocols to optimize clinical outcomes (GUEGUEN, 2024). In addition, physical therapy plays a fundamental role in preventing new injuries and adapting patients to functional limitations resulting from anterior shoulder instability (RODRIGUES; BEZERRA, 2022). The development of evidence-based therapeutic strategies is essential to improve clinical management and reduce therapeutic failure rates (SOUSA, 2022).

In view of the relevance of the theme, the present study aims to analyze and compare conservative and surgical approaches in the treatment of anterior shoulder instability, discussing their indications, advantages, and limitations. In addition, we seek to evaluate the efficacy of physical therapy rehabilitation in the management of instability, both in the context of conservative treatment and in the postoperative period, in order to contribute to the optimization of clinical approaches based on the available scientific literature.

METHODOLOGY

The present study is a narrative review of anterior shoulder instability, comparing conservative and surgical treatment. The search began with the definition of the descriptors, followed by the choice and consultation of the search platforms. The survey was carried out in the PUBMED, LILACS, and SCIELO online databases from January to July 2024. The following descriptors were used: "anterior shoulder instability", "conservative treatment", "surgery" and "rehabilitation", combined with the Boolean operator "AND", which were obtained through the DeCS/MeSH platform – Health Descriptors.

Data analysis was conducted in a standardized manner, based on the following inclusion criteria: time frame from January 2007 to February 2024, English and Portuguese language, and availability of the full text. The articles were selected by two evaluators, who independently mapped the studies, discussed the results, and continuously updated the data extraction form, structuring an iterative process.

The titles and, subsequently, the abstracts of all publications identified in the searches for potentially relevant articles were sequentially evaluated. Divergences in the selection of studies and data extraction were resolved by consensus and, when necessary,

with the participation of a third evaluator. In addition, studies based on manual searches in journals, search for citations, and analysis of gray literature were included.

RESULTS

The search resulted in 159, of which only 9 met the objectives proposed in the study from the application of the inclusion and exclusion criteria, as well as from the reading of the titles and abstracts.

On the Pubmed platform, using the descriptors present in the title and abstract, 37 articles were found from 2007 to 2023. A time restriction of 16 years (2007 to 2024) was defined, and 29 articles were found. With the inclusion criteria, Portuguese and English were used, 22 were excluded, resulting in 7. Only papers available in full (FULL TEXT) were selected, resulting in 4.

On the Lilacs platform, using the descriptors present in the title and abstract, 109 articles were found from 2000 to 2023. A time limit of 16 years was defined, and 40 articles were found. With the inclusion criteria, Portuguese and English were used, 20 studies were excluded, resulting in 10. Only papers available in full (FULL TEXT) were selected, resulting in 3.

On the Scielo platform, using the descriptors present in the title and abstract, 11 articles were found from 1964 to 2024. A time restriction of 16 years was defined, and 7 articles were found. With the inclusion criteria used in Portuguese and English, 4 studies were excluded. Only papers available in full (FULL TEXT) were selected, resulting in 2.

DISCUSSION

Anterior shoulder instability represents a significant clinical challenge, especially among athletes and young individuals, given the high recurrence rate associated with this condition. Studies indicate that the decision between conservative treatment and surgical intervention should be based on the frequency of dislocation episodes, the presence of structural lesions, and the patient's functional profile (ROSA; CHECCHIA; MIYAZAKI, 2017). Thus, the choice of appropriate management is crucial to ensure the recovery of joint stability and minimize future complications.

The main objective of conservative treatment is the rehabilitation of the stabilizing muscles of the shoulder, promoting improvement in proprioception and motor control. Physiotherapy works to strengthen the rotator cuff and periscapular muscles, in addition to focusing on postural alignment and the biomechanics of the joint (GUEGUEN, 2024; SOUSA, 2022). However, there is evidence that this approach is less effective in patients

with recurrent instability, especially those with associated bone lesions (RODRIGUES; BEZERRA, 2022).

Studies suggest that individuals undergoing conservative treatment have a higher recurrence rate compared to those undergoing surgical intervention. Monteiro (2015) points out that physical therapy alone may not be enough to guarantee long-term stability, especially in athletes who perform repetitive movements above the head. In this way, patients with multiple episodes of dislocation can benefit more from surgery, avoiding permanent functional limitations.

Latarjet surgery and arthroscopic repair of the Bankart lesion are the main surgical options available for the treatment of anterior shoulder instability. The choice between these techniques depends on factors such as bone involvement, the patient's age, and sports practice. According to Nunes and Gutierrez (2013), Latarjet surgery presents better results in stabilizing shoulders with significant glenoid bone loss, drastically reducing recurrence rates.

On the other hand, arthroscopic repair of Bankart lesion has been widely used due to its lower invasiveness and preservation of joint structures. However, studies indicate that this technique may have higher failure rates in patients with extensive bone injury or with a high level of sports activity (KUTZKE et al., 2018). The decision for the best approach should therefore be individualized, taking into account the specific needs of the patient and the risks inherent in each procedure.

Another relevant aspect is postoperative rehabilitation, which plays a key role in the recovery of shoulder function. Hydrotherapy has been indicated as an efficient complementary method, helping to reduce pain and recover joint mobility without excessive overload on the operated structure (DE OLIVEIRA, 2024). Postoperative physical therapy aims to reestablish strength and stability, avoiding new dislocations and promoting a safe return to sports and work activities (MARCHETTI et al., 2019).

The literature also suggests that anterior shoulder instability may be related to biomechanical and muscular deficits that predispose the patient to new episodes of dislocation. Rodrigues and Bezerra (2022) highlight that the lack of adequate motor control can compromise the effectiveness of conservative treatment and increase the risk of surgical failure. Thus, a careful evaluation of muscle function and proprioception is essential to guide the most appropriate therapeutic choice.

In addition, the decision between a conservative and surgical approach should consider not only the clinical aspects, but also the psychosocial impact of instability on the patient. Many individuals with recurrent instability report fear of new episodes of dislocation,

which can limit their daily activities and sports practice (SOUSA, 2022). Thus, multidisciplinary follow-up, including psychological support and educational guidance, can be beneficial for treatment adherence and for the patient's full recovery.

The analysis of epidemiological profiles reveals that anterior shoulder instability has a higher incidence in high-performance athletes, especially those involved in sports such as volleyball, basketball, and swimming (ROSA; CHECCHIA; MIYAZAKI, 2017). These individuals have greater biomechanical demands on the joint, which makes conservative treatment less effective in preventing recurrences. Surgery, in these cases, becomes a safer alternative to ensure the return to sport with lower risks of new injury (MONTEIRO, 2015).

Another point that deserves to be highlighted is the need for well-established protocols to guide rehabilitation both in conservative treatment and in the postoperative period. According to Gueguen (2024), the lack of a structured rehabilitation program can compromise clinical outcomes, leading to an inadequate recovery of shoulder stability. Thus, evidence-based guidelines are essential to optimize results and minimize long-term complications.

The importance of training health professionals involved in the treatment of anterior shoulder instability is also a critical factor for the success of the therapeutic approach. Knowledge about new surgical techniques, advances in rehabilitation, and preventive strategies can contribute to better case management and to reduce recurrence rates (KUTZKE et al., 2018). The implementation of ongoing educational programs aimed at orthopedists and physical therapists can therefore improve the quality of care provided to patients.

In view of the findings in the literature, it is evident that both conservative and surgical treatment have advantages and limitations, and individualized choice for each case is essential. Physical therapy may be effective for patients with mild instability, while surgery demonstrates better results in individuals with recurrence of dislocations and associated structural injuries. Thus, evidence-based management, considering functionality, patient expectations, and the risks involved, is essential to obtain favorable clinical outcomes.

FINAL COMMENTS

The choice of treatment for anterior shoulder instability should be based on a careful evaluation of the patient's characteristics, including age, activity level, and the presence of associated structural injuries. Conservative treatment has been shown to be effective in selected cases, especially in those without significant bone involvement, where physical

therapy rehabilitation can provide joint stability and reduce the risk of new dislocations. However, in young patients, athletes, or patients with recurrent dislocation, the surgical approach demonstrates better long-term results by reducing recurrence rates and optimizing shoulder function.

The efficacy of the treatment is directly related to adherence to the rehabilitation protocol, and it is essential that the professionals involved are up to date on the best conducts for muscle strengthening and proprioceptive reeducation. Strategies such as hydrotherapy and advanced post-surgical rehabilitation techniques can contribute to a safer return to sports and work activities, minimizing the risk of new injuries. Thus, expanding access to specialized treatments, strengthening multidisciplinary rehabilitation, and improving evidence-based therapeutic strategies are essential measures to ensure quality care for patients with anterior shoulder instability.

REFERENCES

1. De Oliveira, P. G. P. (2024). *Hydrotherapy in post-surgical shoulder rehabilitation: A systematic review* (Publication No. [número, se disponível]). PQDT-Global.
2. Gueguen, P.-Y. (2024). *Effectiveness of physical therapy in the conservative treatment of shoulder instability: A literature review* [Trabalho de Conclusão de Curso, [Nome da Instituição, se disponível]].
3. Kutzke, J. L., & outros. (2018). Treatment methods used in anterior glenohumeral instability: A systematic review of the literature. *Revista Eletrônica Multidisciplinar UNIFACEAR, 2*(7), 1–15.
4. Marchetti, P. H., & outros. (2019). Shoulder rotation does not affect muscle activation of the pectoralis major and anterior deltoid during the pec deck exercise. *Brazilian Journal of Research in Health Sciences, 6*(11), 7–12. (Nota: A referência foi listada duas vezes; inclui apenas uma vez, pois parece ser duplicada.)
5. Monteiro, R. M. C. (2015). *Anterior shoulder instability: An evidence-based approach* [Dissertação de mestrado, Universidade de Coimbra, Portugal].
6. Nunes, B., & Gutierrez, M. (2013). Indications for surgical approach to anterior shoulder instability. *Revista Portuguesa de Ortopedia e Traumatologia, 21*(3), 284–295.
7. Rodrigues, A. R., & Bezerra, E. L. (s.d.). Conservative treatment in shoulder instability after traumatic anterior dislocation. (Nota: Informações adicionais, como ano e editora, são necessárias para completar a citação. Adicione-as se disponíveis.)
8. Rosa, J. R. P., Checchia, C. S., & Miyazaki, A. N. (2017). Traumatic anterior shoulder instability. *Brazilian Journal of Orthopedics, 52*, 513–520. [https://doi.org/\[insira o DOI, se disponível\]](https://doi.org/[insira o DOI, se disponível])
9. Sousa, D. C. B. (2022). *Efficacy of physical therapy treatment in non-traumatic multidirectional shoulder instability: Literature review* [Trabalho acadêmico, [Nome da Instituição, se disponível]].