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Verweij, Lukas P.E.; Doornberg, Job N.; van den Bekerom, Michel P.J.

Published in:
Arthroscopy - Journal of Arthroscopic and Related Surgery

DOI:
[10.1016/j.arthro.2023.01.094](https://doi.org/10.1016/j.arthro.2023.01.094)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2023

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Verweij, L. P. E., Doornberg, J. N., & van den Bekerom, M. P. J. (2023). Early Treatment of Shoulder Pathology May Be Necessary, but Let Us First Improve Patient Risk Stratification to Prevent Overtreatment. *Arthroscopy - Journal of Arthroscopic and Related Surgery*, 39(5), 1123-1125. <https://doi.org/10.1016/j.arthro.2023.01.094>

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Early Treatment of Shoulder Pathology May Be Necessary, but Let Us First Improve Patient Risk Stratification to Prevent Overtreatment



We have read with interest the editorial “Early Treatment of Shoulder Pathology Is Necessary but Not Enough Is Being Performed” by Lubowitz, Brand, and Rossi,¹ as it raises an interesting point with regard to the potential need for more (early) surgical intervention for patients with shoulder instability and rotator cuff tears.

The statement aligns with studies that demonstrate an international increase in surgical treatment for both shoulder pathologies.^{2,3,4,5,6} With high recurrence rates following a first-time anterior shoulder dislocation and a substantial number of rotator cuff tears transforming into irreparable cuff tears, one could argue that the need for early surgical treatment is inevitable.⁷ However, even though we agree that early surgical intervention may be beneficial for both shoulder pathologies, we would like to add future perspectives and a slight nuance by stressing the last two words of the authors’ abstract: research investigation. High-quality data for risk stratification: who (indeed) needs surgery?

There is high-quality evidence available consisting of randomized controlled trials demonstrating that surgical treatment can be effective to reduce recurrence rates in shoulder instability patients and improve function, mainly in the long term, for patients suffering from a rotator cuff tear.^{8,9,10,11,12} Patients that received surgical treatment in a later stage generally had worse outcomes, which explains the benefit of early surgical intervention.^{9,12,13} However, lacking external validity, these trials do not tell us which patients should be selected for (early) surgical intervention. When looking at studies that focus on patient selection (i.e., risk stratification), we find that these generally are of low quality and demonstrate high heterogeneity in meta-analyses ($I^2 > 50\%$) due to retrospective study designs, small sample sizes, and differences in definition and use of outcomes.^{14,15,16,17,18}

We cannot deny the fact that many patients also demonstrate excellent outcomes without surgical intervention. In line with the parameter “number needed to treat”, we should define a ratio of the number of patients who acutely receive surgical intervention to the number of patients who probably do not need it. The cut-off point for this ratio is based on a clinical and ethical discussion. However, with current knowledge, it can be difficult to stratify

patients that benefit from surgery. Nevertheless, as the authors correctly state, it is crucial to identify the patients who require this early surgical intervention to prevent more complex surgeries with a higher failure rate or worse outcomes in the future. We believe that there is a lot to be gained from setting up (inter)national prospective cohorts with homogeneous outcomes.¹⁹ To improve patient selection, we need to focus on increasing the sample size, standardized measurement and reporting, and sharing anonymous individual patient data to facilitate meta-analyses. This will help us identify instability in patients who are at risk of recurrence and patients with rotator cuff tears, which demonstrate tear progression. Furthermore, it would be interesting to know why some patients seek a medical professional for rotator cuff tears in the first place, as not all tears become symptomatic.²⁰ Research on individuals with a labrum lesion or rotator cuff tear who do not seek help from a medical provider will also improve our knowledge of these pathologies. These patients are beyond the scope of many studies, and surgeons generally do not see these patients. We are inherently biased by patients who have complaints and seek medical care.

The Core Outcome Measures in Effectiveness Trials (COMET) Initiative promotes development of core outcome sets (COS) with healthcare providers and patients.²¹ A COS is an agreed-upon standardized set of outcomes that should be measured and reported in studies for a specific clinical field and includes *what* should be measured and *how* this should be measured. This could be a start to standardize measurement and reporting in shoulder instability and rotator cuff tear research, which could be included in prospective cohorts or future clinical trials.

In conclusion, we agree that delayed surgical treatment may be a problem in a subset of patients, and selected patients may benefit from early surgical intervention when they suffer from shoulder instability or rotator cuff tears. However, we would like to stress that we first need to provide high-quality evidence and improve patient risk stratification by promoting (inter)national collaborations for prospective research with homogeneous outcomes to determine in which patients early surgical intervention is justified, as well as in

which patients nonoperative (initial) treatment is sufficient. This is to prevent overtreatment and unnecessary costs.

Lukas P.E. Verweij, M.D.

Academic Medical Center, University of Amsterdam,
Department of Orthopedic Surgery and Sports Medicine,
Amsterdam, The Netherlands
Amsterdam Movement Sciences, Musculoskeletal Health
Program, Amsterdam, The Netherlands
Amsterdam Shoulder and Elbow Centre of Expertise,
Amsterdam, The Netherlands

Job N. Doornberg, M.D., Ph.D.

University Medical Center, Groningen, Department of
Orthopaedic & Trauma Surgery, the Netherlands
Flinders University, Department of Orthopaedic
Trauma, Adelaide, Australia

Michel P.J. van den Bekerom, M.D., Ph.D.

Amsterdam Shoulder and Elbow Centre of Expertise,
Amsterdam, The Netherlands
Department of Orthopedic Surgery, Shoulder and
Elbow Unit, Amsterdam, The Netherlands
Department of Human Movement Sciences, Faculty of
Behavioral and Movement Sciences, Vrije Universiteit
Amsterdam, Amsterdam, The Netherlands

Note: The authors report the following potential conflicts of interest or sources of funding: L.P.E.V. received a grant from the Amsterdam UMC to complete his PhD. This is a personal grant and is not related to commercial entities (<https://www.amc.nl/web/leren/graduate-school/phd-1/mdphd-scholarship-amc.htm>). Full ICMJE author disclosure forms are available for this article online, as [supplementary material](#).

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<https://doi.org/10.1016/j.arthro.2023.01.094>

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Regarding “H-Plasty Repair Technique Improved Tibiofemoral Contact Mechanics After Repair for Adjacent Radial Tears of Posterior Lateral Meniscus Root: A Biomechanical Study”



With great interest, I read the report by Zhang et al.¹ in the July 2021 issue of *Arthroscopy*. I really like the publication and am hoping that applying H-plasty repair to patients may lead to more wonderful surgical repairs.

However, as a doctor in question, I would like to make a significant correction regarding the operation of the operative type. The points I doubt lie in the axial width of the posterior lateral meniscus root. When the incision is sutured, the area of 3 holes along the length of the incision may result in an iatrogenic rupture of the meniscus due to the injury punctured by the tip of the suturing instrument (with its specific diameter) (Figs 1 and 2). This occurs for a number of reasons, which are detailed to follow. First, the diameter of adult posterolateral meniscus root is approximately 7 mm.² However, when suturing, the minimum diameter of the equipment's

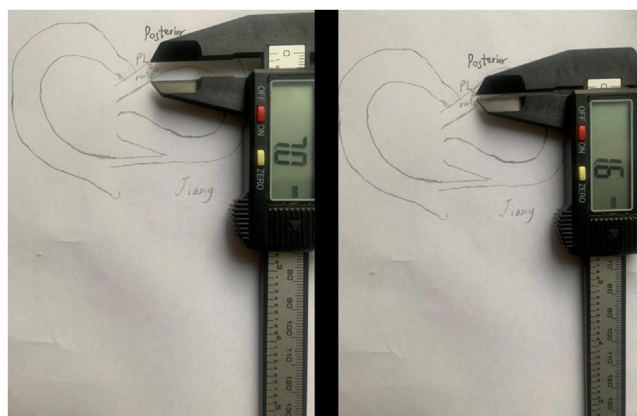


Fig 2. The 3 holes account for the diameter of the posterolateral meniscus root.

needle (Smith & Nephew, Andover, MA) is 1.6 mm (Fig 1). However, the total diameter of the 3 holes is 4.8 mm (Fig 2). Second, the fibers traveling through the meniscus are oblique rather than vertical while suturing (Fig 3), which enlarges the area of fiber damage. Third, as we all know,³ the lateral meniscus (1) is a red area that is fully vascularized, the middle (2) is a red and white junction area at the border of the vascular area, and the innermost (3) is a white area within the avascular area of the meniscus, which is difficult to heal (Fig 3). To summarize, this type of H-plasty repair is excellent and improved to the intact level, but it is likely to cause iatrogenic injury to the posterolateral meniscus.

Weiqi Jiang
Xinwei Liu, M.D.
Postgraduate Training Base
General Hospital of Northern Theater Command China
Medical University
Shenyang, China

Note: The authors report no conflicts of interest in the authorship and publication of this letter. Full ICMJE author disclosure forms are available for this article online, as [supplementary material](#).

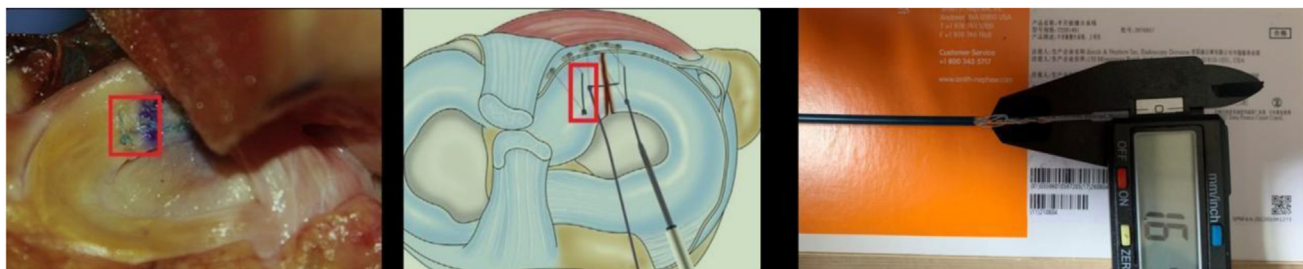


Fig 1. Shown are 3 longitudinal holes in the suture area in the original as well as the diameter of the equipment's needle (Smith & Nephew).