

Editorial Commentary: Saucerization Is Superior to Total Meniscectomy in Patients With Symptomatic Discoid Lateral Meniscus



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Abstract: Current treatment recommendations favor meniscal rim preservation through partial meniscectomy with repair when indicated in patients with symptomatic discoid lateral menisci. Although many studies have shown the importance of meniscal rim preservation, some have shown that suture repair does not yield improved outcomes over partial meniscectomy without repair, considering the cost of repair and lack of available data. However, partial meniscectomy with repair is essential when peripheral instability is seen in patients with symptomatic discoid lateral menisci. Arthroscopic reshaping in young patients can be challenging for an inexperienced surgeon because visualization within the lateral joint space may be limited by a thickened meniscus and the small size of the pediatric knee. To preserve a stable peripheral rim, various meniscal repair methods should be used for stabilizing the reshaped meniscus on the capsule based on repair location, tear type, and surgeon preference.

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Surgical treatment can be performed for a symptomatic discoid lateral meniscus (DLM) and includes partial meniscectomy, complete meniscectomy, meniscal repair, and regenerative techniques such as meniscal allograft transplantation.^{1,2} Historically, total meniscectomy was preferred because it resulted in satisfactory clinical outcomes, and the collagen structure of the DLM differs from that of the normal meniscus.^{3,4} However, total meniscectomy is not currently the first-line treatment option because it leads to deterioration of the lateral compartment, such as early degenerative arthritis.^{5,6} Therefore, current treatment recommendations favor meniscal rim preservation through partial meniscectomy with repair when indicated.^{7,8} Nonetheless, a recent systematic review did not recommend suture repair of DLM tears because it does not yield improved outcomes over partial meniscectomy without repair, considering the cost of repair and lack of available data.⁹ However,

recent studies have found that peripheral instability in DLM patients occurs at a frequency of 38% to 88%. With arthroscopic findings showing peripheral instability, the only surgical option to avoid total meniscectomy is partial meniscectomy with repair, even in young patients. In my experience, partial meniscectomy with repair is essential in treating peripheral instability in patients with symptomatic DLMs (Fig 1).

Another issue in surgery for DLMs is the amount of peripheral rim to preserve during surgery as well as the choice of intraoperative anatomic references to prevent loss of function of the remaining DLM. Various guidelines for preserving the peripheral rim after reshaping in symptomatic DLM patients have been recommended (e.g., between 4-5 mm and 6-8 mm).¹⁰⁻¹² Recent research has shown that the mean remaining DLM width in the coronal plane on magnetic resonance imaging was not significantly different from the width of the medial meniscus midbody (9.1 ± 4.2 mm vs 9.4 ± 1.4 mm).¹³ On the basis of these findings, we posit that the size of the medial meniscus midbody resembling a normal lateral meniscus could be a reference for partial meniscectomy in a symptomatic DLM, bearing in mind that a larger volume of preserved DLM may lead to unfavorable outcomes of retear or inferior function to that of the normal lateral meniscus.

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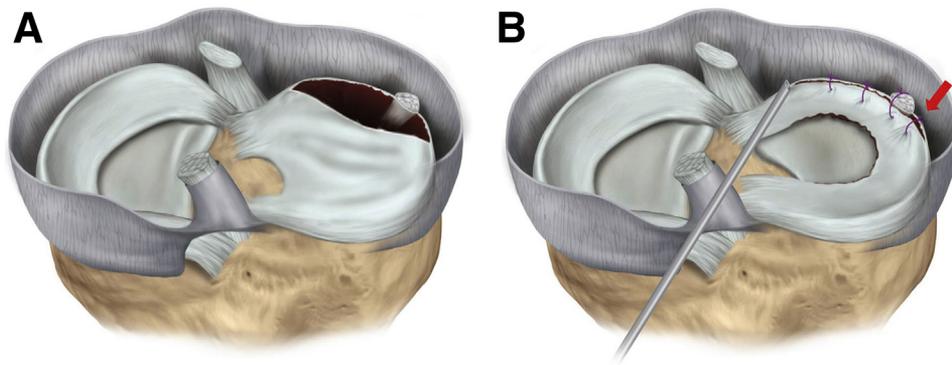


Fig 1. (A) In the proximal tibia of the left knee, an anterocentral shift of the discoid lateral meniscus is shown with a posterolateral peripheral tear (dark area at top right). (B) The recommended treatment is discoid lateral meniscus saucerization (partial lateral meniscectomy) with repair using 3 all-inside sutures and 1 outside-in suture (arrow).

In a study in this issue of *Arthroscopy*, “Magnetic Resonance Imaging T2 Relaxation Times of Articular Cartilage Before and After Arthroscopic Surgery for Discoid Lateral Meniscus,” Nishino, Hashimoto, Nishida, Yamasaki, and Nakamura¹⁴ documented changes in articular cartilage before and after arthroscopic surgery for DLMs. A retrospective series of 30 knees in 27 patients who underwent arthroscopic saucerization (saucerization alone in 3 knees and saucerization with repair in 27 knees) for torn symptomatic DLMs analyzed magnetic resonance imaging T2 relaxation results preoperatively and at 3, 6, 12, and 24 months postoperatively. The study results showed that the T2 relaxation time of the lateral femorotibial joint cartilage increased at 3 and 6 months postoperatively and decreased at 12 and 24 months. These results indicate that the cartilage was stressed during the early postoperative period and recovered later. This study supports the performance of saucerization with or without repair in younger populations with greater healing potential.

Arthroscopic reshaping in young patients can be challenging for an inexperienced surgeon because visualization within the lateral joint space may be limited by a thickened meniscus and the small size of the pediatric knee. To preserve a stable peripheral rim, various meniscal repair methods should be used for stabilizing the reshaped meniscus on the capsule based on repair location, tear type, and surgeon preference.

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