

Meniscus Allograft Transplant Scientific Update



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In recent years, meniscal allograft transplant (MAT) has become a popular procedure for treating symptomatic subtotal or total meniscectomy patients. New data evaluating MAT applications and techniques continues to be published. Currently there are 3 techniques for MAT fixation: all-soft tissue, double-bone plug, and the keyhole technique.

Advancements in technology and innovation have produced better techniques and instrumentation for meniscus allograft transplantation. This document summarizes published studies that describe the biomechanical data, surgical techniques, and clinical data for MAT.

[Prospective evaluation of allograft meniscus transplantation: a minimum 2-year follow-up.](#)

Am J Sports Med. 2006;34(6):919-27. doi:10.1177/0363546505284235

- Meniscus transplantation can be used for the symptomatic postmeniscectomy patient to alleviate symptoms and potentially prevent the progression of articular degeneration.
- 44 meniscus transplant cases were evaluated at a minimum follow-up of 2 years using a variety of patient-reported outcome measures.
- Patients demonstrated statistically significant improvements in standardized outcomes surveys. Overall, 77.5% of patients reported they were completely or mostly satisfied with the procedure, and 90% of patients were classified as normal or nearly normal using the International Knee Documentation Committee (IKDC) knee examination score at final follow-up.

Takeaway

Meniscus transplantation alone or in combination with other reconstructive procedures results in reliable improvements in knee pain and function at minimum 2-year follow-up.

[Outcomes of osteochondral allograft transplantation with and without concomitant meniscus allograft transplantation: a comparative matched group analysis.](#)

Am J Sports Med. 2018;46(3):573-580. doi:10.1177/0363546517744202

- Meniscus allograft transplant (MAT) and osteochondral allograft (OCA) transplantations are often performed concomitantly. This study aimed to evaluate the effect of concomitant MAT on outcomes and failure rates after OCA.
- Patients who received an OCA with and without MAT performed by a single surgeon were evaluated.
- The study included 100 patients with a mean follow-up of 5 years. The authors found that patients undergoing OCA with a concomitant MAT have favorable clinical outcomes 5 years after surgery.

Takeaway

These results imply that—despite the added surgical time and complexity of concomitant MAT—outcomes are favorable with appropriate surgical indications, with an 86% OCA graft survival rate at 5 years.

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[Lateral meniscus allograft transplantation: the bone plug technique.](#) *Arthrosc Tech.* 2017;6(4):e1215-e1220. doi:10.1016/j.eats.2017.04.016

- Lateral meniscus tears are the most common associated injury to occur with ACL tear; meniscectomy is the most common treatment. Lateral meniscal allograft transplant (LMAT) has been proposed as a way to restore the lateral meniscus–deficient knee to its native form.
- The authors describe patient selection, graft-site preparation, and tibial fixation options for a successful LMAT procedure.
- LMAT has been shown to reduce contact pressures back to near-normal values. Clinical outcomes following LMAT have demonstrated satisfactory functional outcomes with acceptable long-term survival.

Takeaway

LMAT is a viable surgical option for the lateral meniscus–deficient knee that has been shown to be safe and effective.

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[Meniscal allograft survivorship and outcomes 20 years after implantation.](#) *Arthroscopy.* 2020;36(8):2268-2274. doi:10.1016/j.arthro.2020.04.029

- Evaluated graft survivorship and outcomes 20 years after implantation. Meniscal allografts have demonstrated continued benefits over time, specifically improving patient symptoms and function. However, graft durability has been a concern.
- This study included 56 patients who had received a MAT and had a 20-year follow-up.
- Survey results showed meniscal allografts provided subjective improvement at 20 years after surgery. While not as durable as the native meniscus, overall graft survivorship was 56.2% after implantation.

Takeaway

Meniscal allografts can decrease pain, improve function, and allow patients to resume an active lifestyle.