



MENISCUS CLINICAL SNAPSHOT: KEY FINDINGS FROM RECENT LITERATURE

Biomechanical Analysis of Posterior Segmental Medial Meniscal Transplantation in a Human Cadaveric Model.

Cinque ME, Buchalter WH, Hollenbeck JFM, Haskel JD, Kruckeberg BM, Provencher MT, Godin JA.

- The purpose of this study was to compare the biomechanical effects of segmental medial meniscus transplantation to both the native meniscus and full meniscus allograft transplantation (MAT).
- Segmental medial meniscus deficiency resulted in increased meniscal extrusion and elevated mean joint pressure.
- Both segmental and full transplantation restored extrusion to near-normal levels.
- Full meniscus allograft transplantation demonstrated superior reduction in peak pressure at flexion angles greater than 60°, while both segmental and full transplantation restored peak pressure to intact levels at 30° of flexion.

JRF TAKEAWAYS:

MAT effectively restored both contact pressure and meniscal extrusion to near-native levels. Segmental meniscus transplantation presents a less invasive alternative that may be suitable in certain cases. Further studies are required to further elicit ideal candidates for segmental meniscus transplantation.

<http://bit.ly/4mhKuwx>

Low Rates of 30-Day Postoperative Complications After Meniscal Allograft Transplantation: A Retrospective Study Using the National Surgical Quality Improvement Program Database.

Whitaker S, O'Neill C, Satalich J, Protzuk O, Edge C, Hurley E, Amendola A, Vap A.

- The purpose of this study was to evaluate short-term complication rates following MAT.
- Of 396 transplants, 11 adverse events were reported within the first 30 days.
- This corresponds to a short-term complication rate of 2.8%.

JRF TAKEAWAYS:

MAT is an effective treatment option for patients experiencing meniscal deficiency symptoms. With a low 30-day complication rate of 2.8%, comparable to other orthopedic procedures, MAT offers a safe and reliable therapeutic option for these patients.

<http://bit.ly/459YTV1>

Two-Year Patient-Reported Outcomes Are Predictive of Mid- and Long-term Outcomes After Meniscal Allograft Transplantation.

Bi AS, Mufti Y, Sachs J, Franzia C, Lemme NJ, Cole BJ.

- The goal of this study was to determine if short-term patient-reported outcomes (PROs) following MAT correlate with mid- to long-term patient reported outcomes (PROs) at a minimum of 5 years follow-up.
- The mean follow-up was 10.4 years, showing significant correlations between short- and mid-term, as well as short- and long-term improvements in all outcomes except for Lysholm scores in the long-term group.
- Subsequent reoperation was required in 33.3% of patients, with 9.2% converting to arthroplasty.

JRF TAKEAWAYS:

Significant correlations were seen between short-term PROs and mid- to long-term PROs following MAT. With a low reoperation rate and only 9.2% of patients converting to arthroplasty at 10-year follow-up, MAT is an effective treatment option for surgeons. JRF offers both fresh and frozen size-matched meniscal allografts.

<http://bit.ly/4odPnJ7>

Osteochondral Allograft Transplantation With Concomitant Meniscal Allograft Transplantation Improves Clinical Outcomes and Yields High Patient Satisfaction: A Systematic Review.

Carpenter ML, Cotter EJ, Villarreal-Espinosa JB, Alfonsi S, Gómez-Verdejo F, Gerhold C, Dave U, Yanke AB, Cole BJ, Chahla J.

- This systematic review aimed to evaluate PROs, reoperation rates, and graft failure when MAT and OCA were performed concomitantly.
- A total of 6 studies including 188 patients were analyzed.
- Patients experienced improvements in PROs, with graft failure rates ranging from 13% to 22.9% over a mean follow-up of 4.7 years.

JRF TAKEAWAYS:

MAT performed concomitantly with OCA transplantation results in failure rates similar to those reported in isolated procedures. Addressing meniscal deficiency is crucial for the success and longevity of an OCA transplant.

<http://bit.ly/478X9hj>

No Differences in 2-Year Reoperation Rates for Meniscus Allograft Transplant With Concomitant Cartilage Restoration or Osteotomy: A National Database Study.

Park AL, Feeley BT, Zhang AL, Ma CB, Lansdown DA

- The goal of this study was to use a national insurance claims database to determine reoperation rates following MAT, both with and without concomitant procedures.
- Reoperation rates were 1.33% at 90 days, 14.4% at 2 years, and 27.6% overall.
- Meniscus transplantation combined with ACI showed an increased reoperation rate at 90 days.

JRF TAKEAWAYS:

Performing MAT with concomitant procedures is a safe option for patients. Approximately 1 in 4 patients undergoing MAT also have a concomitant cartilage restoration procedure, and when OCAs are performed simultaneously, there is no increase in reoperation rates.

<https://bit.ly/4ITRrol>

Which modality is most accurate in sizing meniscal allografts for transplant - A systematic review.

Yates T, Woo TD.

- This review sought to determine the optimal imaging strategy and sizing method for meniscal allografts.
- MRI demonstrated increased accuracy compared to radiographs. However, when radiographs are properly acquired, the modified Pollard and Yoon methods can achieve acceptable accuracy.

JRF TAKEAWAYS:

Sizing of meniscal allografts is paramount for successful MAT. JRF utilizes the Yoon method for lateral meniscus sizing and the Pollard method for medial meniscus sizing to ensure surgeons and patients receive accurately matched grafts.

<https://bit.ly/3GPpoqV>