

Clinical Summary

Repair of a Radial Tear of the Meniscus Augmented with a Biocomposite Scaffold

Authors: Audria Wood, M.P.H., Kaitlin Pyrz, B.S., Pearce Lane, M.D., Eugene Brabston, M.D., Thomas Evely, D.O., Aaron Casp, M.D., Amit Momaya, M.D.

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Aim:

To describe a reproducible surgical technique for repairing radial meniscus tears using an all-inside approach augmented with the BioBrace®, aiming to enhance biological healing and mechanical reinforcement.

Reasons for Augmentation

- Radial meniscus tears have a high failure rate (~38%) due to poor vascularity, complex tear morphology, and biomechanical challenges.
- **Biological augmentation (e.g., PRP, MSCs, scaffolds) aims to:**
 - » Improve cellular integration and vascularization
 - » Enhance extracellular matrix deposition
 - » Provide mechanical support during early healing

Surgical Techniques

- **Positioning & Access:** Patient supine, knee in figure-4 position. Standard anterolateral and anteromedial portals used
- **Tear Preparation:** Debridement with shaver, rasp, and spinal needle
- **BioBrace® Preparation:** A 10 × 4 mm piece is cut from a 23 × 30 mm scaffold, hydrated with saline, PRP, or BMAC
- **Suturing:**
 - » Sutures passed through BioBrace® and scaffold shuttled into the joint
 - » Sutures tied to secure the scaffold and reduce the tear
 - » Horizontal mattress suture placed across the tear
- **Reinforcement:** Additional all-inside meniscal repair device placed over the construct
- **Optional:** Marrow stimulation for further biologic enhancement
- **Post-op:** Touch-toe weightbearing for 6 weeks, PT initiated immediately, return to full activity by ~4 months

Surgical Pearls

- Match BioBrace® size to tear dimensions.
- Ensure scaffold lies flat on the meniscus.
- Hydrate scaffold properly before insertion.
- Avoid suture cut-out by leaving a margin of scaffold around suture entry points.

Key Takeaways

- BioBrace® augmentation offers a promising approach to enhance healing in radial meniscus repairs.
- Technique is adaptable, reproducible, and provides both mechanical and biological support.