

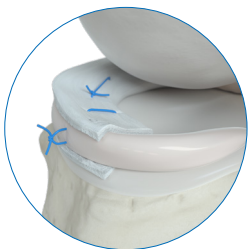
Bakowski et al. 2023. <https://doi.org/10.1007/s00264-023-05711-2>

## Meniscus Repair via Collagen Membrane Wrapping and Bone Marrow Injection Results in Long-Term, Stable Meniscus Preservation.

### Objectives

- To investigate the long-term success of arthroscopic matrix-based meniscus repair (AMMR®) using Chondro-Gide® combined with bone marrow aspirate injection in complex and severe meniscal tears.
- To examine the biomolecular mechanisms governing the healing process supported by the membrane.

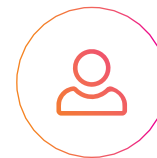
### Study Design



53 patients with complex tears reaching into the avascular zone of the meniscus underwent AMMR® treatment



Single center, case series



23 patients available for 2, 5, and 10 year follow-up



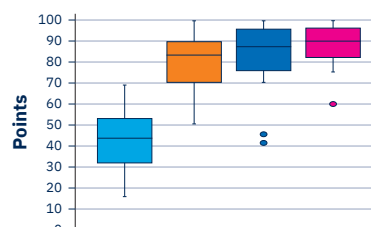
10-year follow-up (FU)

### Key Results

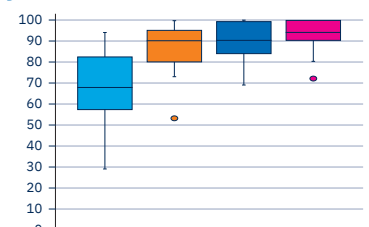
#### Clinical Outcomes

- IKDC and Lysholm subjective scores were significantly improved at 2, 5, and 10 years compared to pre-operative scores.
- Improvements were maintained throughout 10 years of follow-up.

#### IKDC 2000



#### Lysholm



■ pre-op ■ 2-year FU ■ 5-year FU ■ 10-year FU

#### Biomolecular Analysis

- *In vitro* tests showed **good survival** and **viability** of **bone marrow-derived cells** seeded on the Chondro-Gide® membranes used in AMMR®.
- **A positive modulation of tissue regeneration** was confirmed by the presence of anti-inflammatory cytokines on Chondro-Gide® membranes seeded with isolated human monocytes.

### Conclusions

- AMMR® combined with bone marrow injection results in **long-term, stable meniscus preservation** in patients with severely damaged meniscus and offers a **valuable alternative to meniscectomy**.
- The study highlights the role of Chondro-Gide® and suggests a **beneficial effect** of the membrane on the healing process of the meniscus.

Link to publication



leading regeneration

# Geistlich

Save the  
meniscus  
with  
AMMR®!

## Chondro-Gide® Literature Highlight

This literature highlight addresses important aspects of the evidence for the use of Chondro-Gide®.

# XPERIENCE THE EVIDENCE

100+ peer-reviewed  
publications

## Chondro-Gide®

- The clinically proven collagen membrane for over 20 years<sup>1</sup>
- Biocompatible and naturally resorbed<sup>2</sup>
- Easy to handle, supple and tear-resistant<sup>2</sup>
- Protects the biological factors from displacement<sup>3,4</sup>



More details about our  
distribution partners:



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- 1 Behrens P, et al., MMW Fortschr Med. 1999;141(45):49–51 (Clinical study)
- 2 Geistlich Pharma AG, data on file (Bench tests and pre-clinical studies)
- 3 D'Ambrosi R, et al., Foot Ankle Int. 2017;38(5):485–95 (Clinical study)
- 4 Pascarella A, et al., Knee Surg Sports Traumatol Arthrosc. 2010;18(4):509–13 (Clinical study)

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