

Arthroscopic MACI of the knee

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Matrix induced autologous chondrocyte implantation (MACI) is a well accepted cartilage treatment option for focal and multifocal chondral defects in the knee. Though there has been development of arthroscopic techniques for MACI in the past, it has not gained widespread use due to technical difficulty and concern about chondral viability despite equivalent results to open MACI procedures. Indications for arthroscopic MACI are for chondral defects of the distal femur between 2-4cm². Arthroscopy is still the gold standard in appropriately sizing the defect to determine best cartilage treatment. Addressing all concomitant pathology is important with any cartilage procedure including osteotomies, ligament reconstruction, or meniscus transplantation if needed. Time between index biopsy procedure for MACI to definitive implantation of the MACI graft can impact the size of the defect and secondary lesions. An updated arthroscopic MACI procedure has been developed with improved access cannula, effective defect preparation tools, and novel delivery device for MACI to minimize trauma to the cellular scaffold. Outcomes of arthroscopic MACI are equivalent to the open procedure and may have some advantages in combination with accelerated rehabilitation.