

Meniscal Allograft Transplantation

MPM 13.3

Disclaimer Refer to the member's specific benefit plan and *Schedule of Benefits* to determine coverage. This may not be a benefit on all plans or the plan may have broader or more limited benefits than those listed in this Medical Policy.

Description Meniscal allograft transplantation is a surgical procedure to preserve or restore meniscal functions. It is for patients who have irreparable tears of the meniscus or who have undergone previous meniscectomy, and involves grafting a donor meniscus into the knee of the patient. Removal of the meniscus without replacement can lead to joint instability, loss of knee function, and early degenerative osteoarthritis.¹

Coverage Determination **Benefit Certification is required. Log on to Pres Online to submit a request:** <https://ds.phs.org/preslogin/index.jsp>

Meniscal allograft transplantation is covered when **ALL** of the following criteria are met:

1. The patient is skeletally mature, less than 55 years of age and not an appropriate candidate for total knee arthroplasty;² **AND**
2. The patient is missing more than half of a meniscus as a result of surgery or injury, or has a meniscal tear that cannot be repaired. Documentation must include previous operative reports, MRI or diagnostic arthroscopy;^{1,2} **AND**
3. The patient has significant knee pain causing functional limitations and impairment, and is unresponsive to at least 6 months of medical management. Examples of nonsurgical therapies include nonsteroidal anti-inflammatory agents, analgesics, intra-articular injections, exercise, physical therapy, assistive device or bracing;^{1,2} **AND**
4. The affected knee has normal alignment and stability, or alignment and stability will be achieved concurrently with meniscal transplant;¹ **AND**
5. The patient's BMI is 30 or less.² **AND**
6. Meniscal transplant may also be considered for selected patients also undergoing an autologous chondrocyte implantation.^{3,4} All such cases must be reviewed by a medical director.

Contraindications Meniscal allograft transplant is contraindicated in patients with the following:

- Significant articular degeneration of the knee (Outerbridge grade 3 or 4) or bony architectural changes, including osteophytes. (See "Medical Terms" on page 2 for Outerbridge classification system.)
- Previous infection of the knee.¹
- Knee arthritis.²

Not every Presbyterian health plan contains the same benefits. Please refer to the member's specific benefit plan and *Schedule of Benefits* to determine coverage.

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Background

Partial or complete removal of a meniscus following traumatic injury to the knee is associated with increased joint pressures, mechanical changes and, ultimately, degeneration of the articular cartilage. Although repair of an injured meniscus is attempted whenever possible, in some cases the tear is irreparable and some or all of the meniscus must be removed. Meniscal allograft transplantation was introduced as a way to prevent or reverse the joint deterioration that occurs when the meniscus has been destroyed or removed; this joint deterioration often leads to early degenerative osteoarthritis. Many meniscal allograft candidates need to undergo additional procedures, such as anterior cruciate ligament repair, performed in conjunction with the allografting to correct knee instability.

Articular and meniscal cartilage are relatively acellular, and the cellular and major antigenic components of cartilage are protected by the extracellular matrix. These factors may protect transplanted cartilage against an immune response, a theory supported by the fact that there is little evidence that hosts mount a systemic immune response or reject allograft cartilage.¹

Medical Terms

Allograft: Transplant of tissue from another person. Donor menisci (plural of meniscus) are obtained through tissue banks associated with the American Association of Tissue Banks.

Meniscus: The meniscus is a crescent-shaped fibrocartilaginous structure of the knee that performs several important functions, including load bearing, shock absorption, joint stability, joint lubrication, joint congruity, stress reduction, extreme extension and flexion limitation and joint nutrition.

Outerbridge classification system: Through arthroscopic viewing, the osteochondral defect is typically graded I through IV:

Grade I: Softening or swelling of cartilage

Grade II: Fragmentation or fissuring in an area <0.5 inches in diameter

Grade III: Fragmentation or fissuring in an area >0.5 inches in diameter

Grade IV: Erosion of cartilage down to the bone

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Coding

The coding listed in this Medical Policy is for reference only.
Covered and non-covered procedures are within this list.

CPT Codes	Description
29868	Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral
29888	Arthroscopically aided anterior cruciate ligament repair/augmentation or reconstruction

ICD-9© Diagnosis Codes	Description
715.90	Osteoarthritis, unspecified whether generalized or localized, unspecified site
717.0 – 717.49	Tear/Derangement Meniscus
717.7	Chondromalacia patellae
717.83	Old disruption of anterior cruciate ligament
730.10	Chronic osteomyelitis, site unspecified
730.16	Chronic osteomyelitis, lower leg
732.7	Osteochondritis dissecans
836.0 – 836.2	Tear cartilage or meniscus – knee
844.2	Sprain and strain of cruciate ligament

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- References:**
1. Hayes Directory. Copyright © Winifred S. Hayes, Inc. 2004. Meniscal Allograft. April 5, 2004. Update Search 7-22-09.
 2. American Academy of Orthopaedic Surgeons. Meniscal Transplant Surgery. Last updated February 2009. Accessed on the Internet 09-01-09 at: <http://orthoinfo.aaos.org/topic.cfm?topic=A00381>
 3. Farr J, Rawal A, Marberry KM. Concomitant meniscal allograft transplantation and autologous chondrocyte implantation: minimum 2-year-follow-up. Am J Sports Med, 2007 Sep;35(9):1459-66.
 4. Rue JP, Yanke AB, Busam ML, McNickle AG, Cole BJ. Prospective evaluation of concurrent meniscus transplantation and articular cartilage repair: minimum 2-year follow-up. Am J Sports Med, 2008 Sep;36(9):1770-8.

Reviewed by: Samuel K. Tabet, MD, New Mexico Orthopedic Associates, Albuquerque, NM. July 2008.

Approval Signatures: **Clinical Quality Committee:** _____ **Mark Whitaker, M.D.**

Medical Director: _____ **Albert Rizzoli, M.D.**

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07-23-08: Original effective date
09-23-09: Annual review
10-27-10: Annual Review

This Medical Policy is intended to represent clinical guidelines describing medical appropriateness and is developed to assist Presbyterian Health Plan and Presbyterian Insurance Company, Inc. (Presbyterian) Health Services staff and Presbyterian medical directors in determination of coverage. The Medical Policy is not a treatment guide and should not be used as such.

For those instances where a member does not meet the criteria described in these guidelines, additional information supporting medical necessity is welcome and may be utilized by the medical director in reviewing the case. Please note that all Presbyterian Medical Policies are available online at our website at: <http://www.phs.org/phs/healthplans/providers/healthservices/Medical/index.htm>

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