

Medical Policy

Autologous Chondrocyte Implantation in the Knee

Policy Number: 07

	Commercial and Qualified Health Plans	Mass Health
Authorization required	X	X
Notification within 24 hours of service or next business day		

Overview

The purpose of this document is to describe the guidelines Mass General Brigham Health Plan utilizes to determine the medical appropriateness for autologous chondrocyte implantation (ACI) for repairing cartilage defects of the knee. Mass General Brigham Health Plan will consider FDA-approved matrix-induced chondrocyte implantation (MACI) under the conditions listed in the coverage guidelines below. The treating specialist must request prior authorization for this procedure.

Coverage Guidelines

Mass General Brigham Health Plan covers autologous chondrocyte implantation under the following conditions when symptoms of knee pain interfere with activities of daily living and have persisted for at least six months and when all of the following are met:

- Member is age 15–55 years of age; (If an adolescent member is evaluated, the member should be 15 years of age or older on the date of service and skeletally mature with documented closure of growth plates).
- Single or multiple full-thickness cartilage defects each measuring greater than or equal to 2.0 cm²
- Cartilage defect involves the weight bearing areas of the femoral condyle (medial, lateral, or trochlear) or the patella based on documentation from prior arthroscopic procedures
- Femoral condyle defects are the result of acute or repetitive trauma
- Prior conservative treatment including physical therapy, nonsteroidal medications, and steroid injections have failed to offer relief
- Member must be willing to comply with a vigorous rehabilitation program post ACI procedure.

Instability of the knee may adversely affect the success of the procedure and should be corrected. The anterior and posterior cruciate ligaments should be free of laxity as well as stable and intact. It is recommended that cruciate deficiencies be corrected. Abnormal weight-distribution within the joint may adversely affect the success of the procedure and should be corrected. The tibial/femoral joint should be properly aligned.

Exclusions

Mass General Brigham Health Plan does not provide coverage for:

1. Joints other than the knee
2. Active infection of the knee
3. Presence of osteoarthritis

Definitions

Autologous chondrocyte implantation: a two-step procedure in which new cartilage cells are grown and then implanted in the cartilage defect. Healthy cartilage tissue is first removed from a non-weight bearing area of the bone and sent to a laboratory. The cells are cultured and increase in number over a 3- to 5-week period and are then transplanted back via a second procedure.

Full thickness chondral defects are those that extend through to the subchondral bone.

Matrix-induced Autologous Chondrocyte Implantation (MACI): MACI is autologous cultured chondrocytes on porcine collagen membrane. It is an autologous cellularized scaffold product that is indicated for the repair of single or multiple symptomatic, full-thickness cartilage defects of the adult knee, with or without bone involvement.

Codes

Authorized CPT/HCPCS Codes	Code Description
27412	Autologous chondrocyte implantation, knee
27415	Osteochondral allograft, knee, open
27416	Osteochondral autograft(s), knee, open (e.g., mosaicplasty) (includes harvesting of autograft[s])
29866	Arthroscopy, knee, surgical; osteochondral autograft(s) (e.g., mosaicplasty) (includes harvesting of the autograft[s])
29867	Arthroscopy, knee, surgical; osteochondral allograft (e.g., mosaicplasty)
J7330	Autologous cultured chondrocytes, implant

Effective

August 2022: Annual update. References updated.

August 2021: Annual update. Revised language under Coverage Guidelines to state “Single or multiple full-thickness cartilage each measuring greater than or equal to 2.0 cm²”. References updated.

August 2020: Annual update. References updated.

July 2019: Annual update. Revised language under Overview section to reflect policy only allows for MACI. Removed Carticel. Revised Coverage guidelines. Allow for up to age 55. Removed requirement that member have inadequate response to prior surgical treatment. Under Exclusion section; removed defects of the patella. Updated Code and References.

June 2018: Annual update.

December 2017: Effective date. Codes added.

References

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