Autologous Chondrocyte Implantation (Carticel) for Non-Medicare

MPM 3.2

**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 these criteria.

**Description**

Autologous Cultured Chondrocyte - implantation is used to repair symptomatic cartilage defects of the femoral condyle (medial, lateral or trochlea) and/or patella in the knee. Since cartilage has limited ability to repair itself, the patient's own normal cartilage cells are harvested from the knee joint. The cultured chondrocytes are then implanted into the cartilage defect in the joint.

Autologous chondrocyte implantation (ACI) (also known as autologous chondrocyte transplantation) is a strategy that aims to stimulate hyaline cartilage regeneration and fill defects with new hyaline tissue. Outcomes are better in patients who have isolated trochlear defects than in those who have patellar defects.

Other known names are 2nd and 3rd Generation Implantation or Matrix-Induced autologous Chondrocyte Implantation (MACI).

**Coverage Determination**

Prior Authorization is required. Log on to Pres Online to submit a request: [https://ds.phs.org/preslogin/index.jsp](https://ds.phs.org/preslogin/index.jsp)

Coverage includes Commercial and Centennial.

PHP covers treatment of symptomatic isolated full-thickness (grade III or IV) cartilaginous defects of the distal femoral articular surface (i.e., lateral condyle, medial condyle, or trochlea) and/or patella due to acute or repetitive trauma when **ALL** of the following criteria have been met:

- Adolescent patients must have documented closure of growth plate (15 years or older) and/or adults ≤55 years old
- A full-thickness distal femoral articular surface (i.e., medial condyle, lateral condyle or trochlea) and/or patellar chondral defect measures < 7 millimeters (mm) in depth, < 6.0 centimeters (cm) in length, and area ranging from 1.6 to 10cm² has been identified during an MRI or CT arthrogram, or during an arthroscopy and classified by the Modified Outerbridge Scale as Grade III or Grade IV
- BMI ≤35 kg/m²
- Willing to cooperate to follow the post-operative weight bearing restrictions and activity restrictions, along with the willing to complete post-operative rehabilitation.
- Refractory to therapy: Documentation of failed conservative therapy

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. [MPMPPC051001]
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such as Physical Therapy for at least 2 months.

- Inadequate response to prior surgical repair: Surgical interventions (i.e., microfracture, drilling, abrasion, or osteochondral autograft). Note: diagnostic arthroscopy, lavage and/or debridement are not qualifying criterion.
- Focal articular cartilage defect down to, but not through, the subchondral bone on a load-bearing surface of the femoral condyle (medial, lateral, trochlear patella)
- Knee must be free of osteoarthritis; or generalized tibial chondromalacia. No active inflammatory or other arthritis, both clinically and by radiology (X-ray)
- Activities of daily living limitation: Presence of knee locking and/or disabling pain.
- Procedure is not for degenerative arthritis (osteoarthritis) treatment.
- Structure of Knee: knee must be stable and aligned with intact meniscus and normal joint space on X-ray (a corrective procedure in combination with, or prior to, chondrocyte implantation may be necessary to ensure stability alignment and normal weight distribution within the joint).

Exclusion

- Cartilage defects in joints other than the knee is not covered
- Partial-thickness defects
- Joint instability of the knee
- ACT as initial or first line of surgical therapy.
- Patients who have had a prior total meniscectomy.
- Patients with a cartilaginous defect associated with osteoarthritis or inflammatory diseases or where an osteoarthritic or inflammatory process significantly and adversely affects the quality of the perilesional cartilage.
- Patients with known history of anaphylaxis to gentamicin or sensitivities to materials of bovine origin.
- Patients with osteochondritis dissecans lesions.

Coding Information

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

<table>
<thead>
<tr>
<th>CPT and HCPCS Codes</th>
<th>Covered procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>27412</td>
<td>Autologous chondrocyte implantation, knee</td>
</tr>
<tr>
<td>29870</td>
<td>Knee arthroscopy, diagnostic, with/without synovial biopsy (separate procedure). (For obtaining chondrocytes)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>HCPCS Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J7330</td>
<td>Autologous cultured chondrocytes, implant</td>
</tr>
<tr>
<td>S2112</td>
<td>Arthroscopy, knee, surgical harvesting of cartilage (chondrocyte cells)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ICD-10 CM</th>
<th>Description: Not an all-inclusive list of non-covered diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>M00.00 – M02.9</td>
<td>Infectious arthropathies</td>
</tr>
<tr>
<td>M05.00 – M19.93</td>
<td>Inflammatory polyarthropathies and osteoarthritis</td>
</tr>
<tr>
<td>M23.000 - M23.92</td>
<td>Internal derangement of knee</td>
</tr>
<tr>
<td>M23.241 - M23.249</td>
<td>Derangement of anterior horn of lateral meniscus due to old tear or injury</td>
</tr>
<tr>
<td>M23.251 - M23.259</td>
<td>Derangement of posterior horn of lateral meniscus due to old tear or injury</td>
</tr>
<tr>
<td>M23.261 - M23.269</td>
<td>Derangement of other lateral meniscus due to old tear or injury</td>
</tr>
<tr>
<td>M24.00 – M24.9</td>
<td>Other specific joint derangements</td>
</tr>
<tr>
<td>M25.161 - M25.169</td>
<td>Fistula, knee</td>
</tr>
<tr>
<td>M25.261 - M25.269</td>
<td>Flail joint, knee</td>
</tr>
<tr>
<td>M25.361 - M25.369</td>
<td>Other instability, knee</td>
</tr>
<tr>
<td>M25.561 - M25.569</td>
<td>Pain in knee</td>
</tr>
<tr>
<td>M25.861 - M25.869</td>
<td>Other specified joint disorders, knee</td>
</tr>
<tr>
<td>M89.155 - M89.158</td>
<td>Physeal arrest, distal femur</td>
</tr>
<tr>
<td>M89.160 - M89.163</td>
<td>Physeal arrest, proximal tibia</td>
</tr>
<tr>
<td>M93.20 – M93.29</td>
<td>Osteochondritis dissecans</td>
</tr>
</tbody>
</table>

References

1. MCG Health Ambulatory Care 24th Edition, Autologous Chondrocyte Implantation, Knee, ACG: A-0415 (AC), (Current role remains uncertain) last update: 06/24/2020. [Cited 07/10/2020]


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. [MPMPPC051001]
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[07/10/2020]

5. AAOS, Diagnosis and Treatment of Osteochondritis Dissecans, May 2011. [Cited 10/11/2019]
7. Aetna, Autologous Chondrocyte Implantation, policy#:0247, Last review 05/07/2019, next review 02-27-2020. [Cited 05/22/2020]
8. Cigna Medical Coverage Policies #CMM 312, Musculoskeletal Knee Surgery: Arthroscopic and Open Procedures. [Cited 05-22-2020]

Approval Signatures

Clinical Quality & Utilization Mgmt. Committee: Howard Epstein MD
Senior Medical Director: Norman White MD
Medical Director: David Yu MD

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Publication History

Effective Date: January 2005
Review Date: March 2006, May/June 2007, June 2008
Revision Date: March 2006, June 2007, June 2008
Retitled and Renumbered: March 2006
06-25-08: Transitioned to Medical Policy, Annual review and revision
09-23-09: Annual review and revision 09-22-10:
Annual review
11-22-11: Annual Review
11-28-12: Annual Review01-29-14: Presbyterian Policy Retired
01-29-14: Presbyterian now uses MCG Criteria A-0415
07-22-20: Annual review. Reviewed by PHP Medical Policy committee on 06/03/20. Agreed to remove MCG #A-0216 since it remains uncertain and to create policy in line with other payers and to expand coverage to Non-Medicare (Commercial and Centennial). Area of defect to include the patella. CPT 29870 is added to policy and will require PA.

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Title of policy changed from Autologous Chondrocyte Implantation (Carticel).

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. This 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: [Click here for Medical Policies](#)