

Autologous Chondrocyte Implantation (Carticel)

MPM 3.2

Disclaimer	Refer to the member's specific benefit plan and <i>Schedule of Benefits</i> 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 chondrocyte implantation is used to repair symptomatic cartilage defects of the femoral condyle (medial, lateral or trochlea) 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, and Carticel® (cultured chondrocytes) is used to multiply the patient's cells. The cultured chondrocytes are then implanted into the cartilage defect in the joint.
Coverage Determination	<p>Prior Authorization is required. Log on to Pres Online to submit a request: https://ds.phs.org/preslogin/index.jsp</p> <ol style="list-style-type: none">One of the following primary criteria must be met:<ol style="list-style-type: none">Locking knee or disabling pain, swelling or grinding related to a full thickness (Grade III or IV) femoral condyle (medial, lateral or trochlea) or patellar injury, caused by acute or repetitive trauma. The defects involve only the cartilage, and not the bone.^{1,2,3,5} All requests for autologous chondrocyte implantation for patellar injury must be reviewed by the Medical Director; orOsteochondritis dissecans of femoral condyle related to grade IV osteochondral defect.^{4,6} <p style="text-align: center;">AND</p> <ol style="list-style-type: none">Each of the following applies:<ol style="list-style-type: none">Symptoms of at least six months duration, despite conservative or surgical treatmentStable, normally aligned knee with intact meniscus, documented by X-rayFemoral condyle (medial, lateral or trochlea) or patellar defect size of 1 to 15 cm²BMI (body mass index) less than or equal to 35Ability to comply with post-operative weight bearing restrictions and recommended rehabilitation. (<i>Rehabilitation benefits vary significantly. Refer to the member's specific benefit plan to determine coverage.</i>)

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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3. In addition to the above, the following guidelines also apply:
 - A. Only surgeons trained in the Genzyme Tissue Repair Surgeon's Training Program perform the procedure.
 - B. It is not recommended for use in children under the age of 15 or adults over the age of 55.

Exclusions

1. Any active inflammatory disease (inflammatory osteoarthritis, rheumatoid arthritis, reactive arthritis, gout, atypical arthritis or osteoarthritis, or any other inflammatory arthritis diagnosis).
2. Known history of allergy to Gentamicin or sensitivity to bovine origin materials.
3. Abnormal distribution of weight within the knee joint not previously corrected or unstable knee.
4. Previous cancer anywhere within the limb, involving bone, cartilage or other tissue.
5. An infection at any of the operative sites.
6. Kissing injuries or lesions.
7. Tibial lesions; effectiveness of autologous chondrocyte implantation has not been established.

Medical Terms**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

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

CPT Codes	Description
27412	Autologous chondrocyte implantation, knee

HCPCS Codes	Description
J7330	Autologous cultured chondrocytes, implant
S2112	Arthroscopy, knee, surgical harvesting of cartilage (chondrocyte cells)

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ICD-9-CM Diagnosis Codes	Description
717.0 – 717.9	Internal derangement of knee
732.7	Osteochondritis dissecans of knee
733.90	Cartilage defect in trochlea

- References:**
1. Food and Drug Administration (FDA). Center for Biologics Evaluation and Research (CBER). Product Approval Information, Carticel, Updated 07-13-09. Accessed 08-13-10 on the Internet. Accessed 11-4-2011.no change. <http://www.fda.gov/BiologicsBloodVaccines/CellularGeneTherapyProducts/ApprovedProducts/ucm134025.htm> .
 2. Hayes Directory. Copyright © Winifred S. Hayes 2008. Autologous Chondrocyte Implantation. October 28, 2008. Update Search 10-09-09.Update Search 10-31-2011.Accessed 11-4-11 No change.
 3. Gobbi A, Kon E, Berruto M, Filardo G, Delcogliano M, Boldrine L, Bathan L, Marcacci M. Patellofemoral full-thickness chondral defects treated with second-generation autologous chondrocyte implantation: results at 5 years' follow-up. Am J Sports Med. 2009 June;37(6):1083-92.
 4. Krishnan SP, Skinner JA, Carrington RWJ, Flanagan AM, Briggs TWR, Bentley G. Collagen-covered autologous chondrocyte implantation for Osteochondritis dissecans of the knee: two- to seven-year results. J Bone Joint Surg (Br) 2006;88-B:203-5.
 5. Minkowitz RB and Bosco JA. Patellofemoral Arthritis. Bulletin of the NYU Hospital for Joint Diseases 2009;67(1):30-8.
 6. Peterson L, Minas T, Brittberg M, Lindahl A. Treatment of Osteochondritis Dissecans of the Knee with Autologous Chondrocyte Transplantation: Results at Two to Ten Years. J Bone Joint Surg Am. 2003;85-A Suppl 2:17-24.

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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 criteria described in these guidelines, additional information supporting medical necessity is welcome and medical directors may use them in reviewing the case. Please note that all Presbyterian criteria are available online on the Internet at:

<http://www.phs.org/phs/healthplans/providers/healthservices/Medical/index.htm>

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