Medical Policy
Autologous Chondrocyte Implantation for Focal Articular Cartilage Lesions

Table of Contents
- Policy: Commercial
- Policy: Medicare
- Authorization Information
- Coding Information
- Description
- Policy History
- Information Pertaining to All Policies
- References

Policy Number: 374
BCBSA Reference Number: 7.01.48

Related Policies
- Autografts and Allografts in the Treatment of Focal Articular Cartilage Lesions, #111
- Meniscal Allograft Transplantation and Collagen Meniscus Implants, #110
- Orthopedic applications of Stem-Cell Therapy, #254

Policy
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO BlueSM and Medicare PPO BlueSM Members

Autologous chondrocyte implantation for the treatment of disabling full-thickness articular cartilage defects (multiple defects or single defect) of the knee caused by acute or repetitive trauma, in patients who have had an inadequate response to a prior surgical procedure may be MEDICALLY NECESSARY when all of the following criteria are met:
- Adolescent patients should be skeletally mature with documented closure of growth plates (e.g., 15 years or older). Adult patients should be too young to be considered an appropriate candidate for total knee arthroplasty or other reconstructive knee surgery (e.g., younger than 55 years), AND
- Focal, full-thickness (grade III or IV) unipolar lesions on the weight-bearing surface of the femoral condyles or trochlea at least 1.5 cm2 in size, AND
- Documented minimal to absent degenerative changes in the surrounding articular cartilage (Outerbridge Grade II or less), and normal-appearing hyaline cartilage surrounding the border of the defect, AND
- Normal knee biomechanics, or alignment and stability achieved concurrently with autologous chondrocyte implantation.

Autologous chondrocyte implantation for all other joints, including patellar and talar, and any indications other than those listed above is INVESTIGATIONAL.

Matrix-induced autologous chondrocyte implantation is INVESTIGATIONAL.
Prior Authorization Information
Commercial Members: Managed Care (HMO and POS)
Authorization is required for autologous chondrocyte implantation of the knee.

Commercial Members: PPO, and Indemnity
Authorization is required for autologous chondrocyte implantation of the knee.

Medicare Members: HMO BlueSM
Authorization is required for autologous chondrocyte implantation of the knee.

Medicare Members: PPO BlueSM
Authorization is required for autologous chondrocyte implantation of the knee.

CPT Codes / HCPCS Codes / ICD-9 Codes
The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member. A draft of future ICD-10 Coding related to this document, as it might look today, is included below for your reference.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

CPT Codes

<table>
<thead>
<tr>
<th>CPT codes:</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>27412</td>
<td>Autologous chondrocyte implantation, knee</td>
</tr>
</tbody>
</table>

HCPCS Codes

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

ICD-9 Diagnosis Codes

<table>
<thead>
<tr>
<th>ICD-9-CM diagnosis codes:</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>717.89</td>
<td>Other internal derangement of knee</td>
</tr>
<tr>
<td>717.9</td>
<td>Unspecified internal derangement of knee</td>
</tr>
</tbody>
</table>

ICD-10 Diagnosis Codes

<table>
<thead>
<tr>
<th>ICD-10-CM Diagnosis codes:</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M23.8x1</td>
<td>Other internal derangements of right knee</td>
</tr>
<tr>
<td>M23.8x2</td>
<td>Other internal derangements of left knee</td>
</tr>
<tr>
<td>M23.8x9</td>
<td>Other internal derangements of unspecified knee</td>
</tr>
<tr>
<td>M23.90</td>
<td>Unspecified internal derangement of unspecified knee</td>
</tr>
<tr>
<td>M23.91</td>
<td>Unspecified internal derangement of right knee</td>
</tr>
<tr>
<td>M23.92</td>
<td>Unspecified internal derangement of left knee</td>
</tr>
</tbody>
</table>
Description
Damaged articular cartilage typically fails to heal on its own and can be associated with pain, loss of function, disability, and may lead to debilitating osteoarthritis over time that adversely affects the quality of life. Osteochondral grafts and autologous chondrocyte implantation (ACI) attempt to regenerate hyaline-like cartilage and thereby restore durable function.

With ACI, a region of healthy articular cartilage is identified and biopsied through arthroscopy and the isolated chondrocytes are implanted into the damaged articular cartilage.

Examples of tests that culture chondrocytes for the treatment of focal articular cartilage lesions include Carticel™, the DeNovo NT Graft (Natural Tissue Graft), and the DeNovo® ET Live Chondral Engineered Tissue Graft (Neocartilage) from ISTO Technologies. All tests that culture chondrocytes are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except when used for the medically necessary indications that are consistent with the policy statement.

Summary
Although evidence from long-term studies is limited, evidence indicates that autologous chondrocyte implantation (ACI) can improve symptoms in some patients with lesions of the articular cartilage of the knee who have failed prior surgical treatment. These patients, who are too young for total knee replacement, have limited options. Therefore, based on the clinical input, highly suggestive evidence from randomized controlled trials and prospective observational studies, it is concluded that ACI may be considered an option for the FDA-approved indication of disabling full-thickness chondral lesions of the femoral condyles or trochlea caused by acute or repetitive trauma, in patients who have had an inadequate response to a prior procedure. Additional studies are needed to evaluate whether marrow stimulation at the time of biopsy affects implant success. Recent evidence indicates that ACI combined with meniscal allograft results in outcomes similar to either procedure performed alone; therefore, combined procedures may be considered medically necessary. Evidence is currently insufficient to evaluate the efficacy of ACI in comparison with other surgical repair procedures as a primary treatment of large lesions or to evaluate the efficacy of ACI for the patella or for joints other than the knee.

Results from second generation ACI procedures (MACI) from Europe appear promising. These products use a variety of biodegradable scaffolds and have the potential to improve consistent hyaline cartilage formation and reduce complications associated with injection under a periosteal patch. To date, there are a smaller number of RCTs with short-term follow-up comparing MACI to ACI, and no MACI products are approved in the U.S.; therefore, these are considered investigational.

Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/2014</td>
<td>New references added from BCBSA National medical policy.</td>
</tr>
<tr>
<td>7/2014</td>
<td>Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.</td>
</tr>
<tr>
<td>12/2013</td>
<td>BCBSA National medical policy review.</td>
</tr>
<tr>
<td></td>
<td>Medical policy ICD 10 remediation: No changes to policy statements.</td>
</tr>
<tr>
<td></td>
<td>Changes to policy statements.</td>
</tr>
<tr>
<td>7/1/2010</td>
<td>BCBSA National medical policy review.</td>
</tr>
<tr>
<td></td>
<td>Changes to policy statements.</td>
</tr>
<tr>
<td>1/2010</td>
<td>BCBSA National medical policy review.</td>
</tr>
</tbody>
</table>
Changes to policy statements.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
</table>

Information Pertaining to All Blue Cross Blue Shield Medical Policies
Click on any of the following terms to access the relevant information:
Medical Policy Terms of Use
Managed Care Guidelines
Indemnity/PPO Guidelines
Clinical Exception Process
Medical Technology Assessment Guidelines

References


