Clinical Policy: Treatment of Osteochondral Defects

Common Name: Treatment of Osteochondral Defects

Device Capture: Product Line

I. Criteria for Inclusion:
   A. Autologous chondrocyte transplantation (ACT or ACI) to treat cartilaginous defects of the knee is considered medically necessary when all of the following criteria are met:
      1. Prior surgical therapy to correct the defect has been unsuccessful
      2. Presence of a singular grade III or IV focal unipolar lesion measuring greater than or equal to 1.5 cm² in area on the weight bearing surface of the femoral condyles or trochlea, confirmed by MRI or prior arthroscopic report
      3. The defect does not involve the subchondral bone, unless the transplantation is being used to treat osteochondritis dissecans associated with a bony defect 10 mm or less in depth which has failed previous conservative therapy (lesion greater than 10 mm in depth must also undergo corrective bone grafting)
      4. Patient is not allergic to the antibiotic Gentamicin
      5. Patient does not have any known sensitivities to bovine cultures
      6. Patient is greater than 15 years of age and skeletally mature, with documented closure of the growth plates
      7. Patient is less than 55 years of age and not considered an appropriate candidate for knee replacement
      8. Persistent symptoms of disabling localized knee pain for at least 6 months, which have failed to respond to conservative treatment
      9. Degenerative changes in the surrounding articular cartilage are minimal or absent (Outerbridge grade II or less)
      10. Normal joint space is present
      11. Knee is stable with functionally intact menisci and ligaments and alignment is normal; other procedures (i.e. meniscal allograft, repair of tendons/ligaments, or correction of varus/valgus deformities) may be done at the same time as transplantation
      12. Patient is willing to comply with post-operative weight-bearing restrictions and rehabilitation
   
   B. Osteochondral autografting (OATs) is considered medically necessary for symptomatic full thickness cartilage defects of the knee when all of the following criteria are met:
      1. Patient is greater than 15 years of age and skeletally mature, with documented closure of the growth plates
      2. Patient is less than 55 years of age and not considered an appropriate candidate for knee replacement
      3. Pain or disability for at least 6 months that limits ability to ambulate and has been unresponsive to conservative therapy
      4. Presence of a singular grade III or IV focal unipolar lesion measuring between 1 and 2.5 cm² in area on the weight bearing surface of the femoral condyles or trochlea, confirmed by MRI or prior arthroscopic report
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5. Degenerative changes in the surrounding articular cartilage are minimal or absent (Outerbridge grade II or less)
6. Hyaline cartilage surrounding the border of the defect appears normal
7. Knee is stable with functionally intact menisci and ligaments and alignment is normal; other procedures (i.e. meniscal allograft, repair of tendons/ligaments, or correction of varus/valgus deformities) may be done at the same time as transplantation
8. Normal joint space is present
9. Patient is willing to comply with post-operative weight-bearing restrictions and rehabilitation

C. Osteochondral Allograft is considered medically necessary for symptomatic full thickness cartilage defects of the knee when all of the following criteria are met:
1. Patient is greater than 15 years of age and skeletally mature, with documented closure of the growth plates
2. Patient is less than 55 years of age and not considered an appropriate candidate for knee replacement
3. Pain or disability for at least 6 months that limits ability to ambulate and has been unresponsive to conservative therapy
4. Presence of a singular grade III or IV focal unipolar lesion measuring greater than or equal to 2 cm² in area on the weight bearing surface of the femoral condyles or trochlea, confirmed by MRI or prior arthroscopic report
5. Degenerative changes in the surrounding articular cartilage are minimal or absent (Outerbridge grade II or less)
6. Hyaline cartilage surrounding the border of the defect appears normal
7. Knee is stable with functionally intact menisci and ligaments and alignment is normal; other procedures (i.e. meniscal allograft, repair of tendons/ligaments, or correction of varus/valgus deformities) may be done at the same time as transplantation
8. Normal joint space is present
9. Patient is willing to comply with post-operative weight-bearing restrictions and rehabilitation

D. Osteochondral autograft (OATs) or autologous chondrocyte implantation (ACI) is considered medically necessary to treat osteochondral defects of the dome of the talus when all of the following are met:
1. Skeletal maturity, with documented closure of growth plates, and not considered a candidate for ankle or subtalar fusion or ankle replacement
2. Failed prior surgical treatment (such as microfracture, chondroplasty, retrograde drilling for intact cartilage cap, fragment excision with or without curettage)
3. Pain and disabling symptoms have persisted for at least 6 months and have failed to improve with conservative treatment, including all of the following (unless contraindicated):
   a. Non-weightbearing
   b. Immobilization
   c. Corticosteroid injection
   d. Physical therapy or clearly documented professionally directed home exercise program
4. Presence of a singular grade III or IV full-thickness defect measuring greater than or equal to 2 cm² in area, confirmed by MRI or prior arthroscopic report
5. No inflammation or arthritis is present, with a normal joint space
6. Ankle is functionally intact with normal or correctible alignment
7. Patient is willing to comply with post-operative weight-bearing restrictions and rehabilitation

E. Osteochondral allograft for treatment of osteochondral defect of the talus is considered medically necessary when the above criteria are met and there is documentation that the allograft is preferred due to a very large lesion (too large for OATs or ACI)
II. Criteria for Exclusion:
   A. Autologous chondrocyte implantation, osteochondral autograft, or osteochondral allograft of the knee or talus are considered not medically necessary if any of the following are present;
      1. Active infection (local or systemic)
      2. History of malignancy in the affected limb
      3. BMI over 35
      4. Presence of inflammation or osteoarthritis in the joint
      5. Localized skin problems at surgery site
      6. (Talar grafts) Uncontrolled diabetes or poor circulation
   B. Due to lack of sufficient evidence to establish safety and/or efficacy over other treatments, osteochondral grafting using any of the following is considered investigational for any indication:
      1. Hybrid autologous chondrocyte implantation/OATS technique
      2. Non-autologous mosaicplasty utilizing resorbable synthetic bone filler materials, including but not limited to plugs and granules, to repair osteochondral defects of the ankle or knee
      3. Minced articular cartilage to repair osteochondral defects of the ankle or knee.
   C. Autologous chondrocyte implantation, osteochondral autografting, and osteochondral allografting are considered investigational for any location other than the knee (only weight-bearing surface of the medial or lateral femoral condyle or the trochlea) or the talus.
   D. Due to lack of sufficient evidence to establish safety and/or efficacy over other treatments, the use of DeNovo ET engineered tissue graft, DeNovo NT, TruFit Plug osteochondral allograft, or particulated juvenile cartilage allograft are considered investigational for any indication.
   E. Due to lack of sufficient evidence to establish safety and/or efficacy over other treatments, the use of micronized cartilage matrix (MCM), including BioCartilage, is considered investigational for any indication.

III. Surgical Considerations
   A. Pre-Operative Considerations:
      1. Preoperative care planning needs may include:
         1. Routine preoperative evaluation
         2. Diagnostic test scheduling, including:
            i. MRI or CT scan
            ii. Laboratory testing (CBC, erythrocyte sedimentation rate, C-reactive protein) for suspected joint infection
            iii. Aspiration of joint effusion for analysis (eg, gram stain, culture, crystal analysis)
         3. Preoperative discharge planning as appropriate
   B. Intra-Operative Considerations:
      1. Antibacterial wipes
      2. Antibacterial nasal swab
   C. Post-Operative & Inpatient Considerations:
      1. Hospital evaluation and care needs may include:
         1. Treatment and procedure scheduling and completion, including:
            i. Knee imaging (eg, x-ray, MRI)
            ii. Arthrocentesis
            iii. IV antibiotics
            iv. DVT prophylaxis
            v. Physical therapy
         2. Monitoring patient's status for deterioration and comorbid conditions
   D. Discharge Planning & Considerations:
      1. Discharge planning includes:
         1. Assessment of needs and planning for care, including:
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i. Develop treatment plan (involving multiple providers as needed).
ii. Evaluate and address preadmission functioning as needed.
iii. Evaluate and address patient or caregiver preferences as indicated.
iv. Identify skilled services needed at next level of care, with specific attention to:
   - Neurovascular status assessment
   - Rehabilitation therapy or equipment coordination
   - Wound or dressing management
v. Evaluate and address psychosocial status issues as indicated

2. Early identification of anticipated discharge destination; options include:
   i. Home, considerations include:
      - Access to follow-up care
      - Home safety assessment
      - Self-care ability, if appropriate
      - Caregiver need, ability, and availability
   ii. Post-acute skilled care or custodial care, as indicated

3. Transition of care plan complete, which may include:
   i. Patient and caregiver education complete
   ii. Medication reconciliation completion includes:
      - Compare patient's discharge list of medications (prescribed and over-the-counter) against physician's admission or transfer orders.
      - Assess each medication for correlation to disease state or medical condition.
      - Report medication discrepancies to prescribing physician, attending physician, and primary care provider, and ensure accurate medication order is identified.
      - Provide reconciled medication list to all treating providers.
      - Confirm that patient, family, or caregiver can acquire medication.
      - Educate patient, family, and caregiver.
         - Provide complete medication list to patient, family, or caregiver.
         - Confirm that patient, family, or caregiver understands importance of presenting personal medication list to all providers at each care transition, including all physician appointments.
         - Confirm that patient, family, or caregiver understands reason, dosage, and timing of medication (eg, use "teach-back" techniques).
   iii. Plan communicated to patient, caregiver, and all members of care team, including:
      - Inpatient care and service providers
      - Primary care provider
      - All post-discharge care and service providers
   iv. Post-discharge appointment plans made as needed, which may include:
      - Primary care provider
      - Orthopedic surgeon
      - Rehabilitation therapy services
   v. Post-discharge testing and procedure plans made
   vi. Referrals made for assistance or support, which may include:
      - Financial, for follow-up care, medication, and transportation
      - Smoking cessation counseling or treatment
   vii. Medical equipment and supplies coordinated (ie, delivered or delivery confirmed) which may include:
      - Ambulation devices (eg, cane, crutches, walker)
      - Wound care supplies

IV. Coding
Services may be Medically Necessary when criteria are met and below coding is used
### A. CPT

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<tr>
<th>Code</th>
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<tr>
<td>27412</td>
<td>Autologous chondrocyte implantation, knee</td>
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<td>27415</td>
<td>Osteochondral allograft, knee, open [when specified as osteochondral allograft]</td>
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<tr>
<td>27416</td>
<td>Osteochondral autograft(s), knee, open (eg, mosaicplasty) includes harvesting of autograft[s]</td>
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<tr>
<td>28446</td>
<td>Open osteochondral autograft, talus (includes obtaining graft[s])</td>
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<td>29866</td>
<td>Arthroscopy, knee, surgical; osteochondral autograft(s) (eg, mosaicplasty) (includes harvesting of the autograft)</td>
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<td>29867</td>
<td>Arthroscopy, knee, surgical; osteochondral allograft (eg, mosaicplasty)</td>
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<tr>
<td>29892</td>
<td>Arthroscopically aided repair of large osteochondritis dissecans lesion, talar dome fracture, or tibial plafond fracture, with or without internal fixation (includes arthroscopy)</td>
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### B. HCPCS

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<tr>
<td>J7330</td>
<td>Autologous cultured chondrocytes, implant</td>
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<tr>
<td>S2112</td>
<td>Arthroscopy, knee, surgical for harvesting of cartilage (chondrocyte cells)</td>
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### C. ICD-10 Procedure

*No ICD-10 Procedure codes*

### D. ICD-10 Diagnosis

*All associated ICD-10 diagnosis codes*
References

Regulatory Data

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<tr>
<th>Policy Number/Name:</th>
<th>PA.CP.MP.OR.1014 Treatment of Osteochondral Defects</th>
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<td>Utilization Management</td>
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<tr>
<td>Applicable lines of business:</td>
<td>All</td>
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<td>Board approval, if appropriate:</td>
<td>N/A</td>
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URAC Standards:

State Requirements:

CMS/Federal Requirements:

Corresponding policies:

Reviews, Revisions, and Approvals

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<td>6/29/2020</td>
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New Policy created.
Policy administered by Turning Point Healthcare Solutions

Important Reminder
This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved. “Health Plan” means a health plan that has adopted this clinical policy and that is operated or administered, in whole or in part, by PA Health & Wellness, or any of such health plan’s affiliates, as applicable.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering
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benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable Health Plan-level administrative policies and procedures.

This clinical policy is effective as of the date determined by the Health Plan. The date of posting may not be the effective date of this clinical policy. This clinical policy may be subject to applicable legal and regulatory requirements relating to provider notification. If there is a discrepancy between the effective date of this clinical policy and any applicable legal or regulatory requirement, the requirements of law and regulation shall govern. The Health Plan retains the right to change, amend or withdraw this clinical policy, and additional clinical policies may be developed and adopted as needed, at any time.

This clinical policy does not constitute medical advice, medical treatment or medical care. It is not intended to dictate to providers how to practice medicine. Providers are expected to exercise professional medical judgment in providing the most appropriate care, and are solely responsible for the medical advice and treatment of members. This clinical policy is not intended to recommend treatment for members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom the Health Plan has no control or right of control. Providers are not agents or employees of the Health Plan.

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Note: For Medicaid members, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria set forth in this clinical policy. Refer to the CMS website at http://www.cms.gov for additional information.

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