



**MEDICAL POLICY
No. 91443-R13**

**AUTOLOGOUS CHONDROCYTE IMPLANT/MENISCAL
ALLOGRAFT/OSTEOCHONDRAL REPLACEMENT**

Effective Date: September 1, 2024

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5/21, 8/21, 8/22, 8/23, 11/23, 5/24

Date Of Origin: August 22, 2001

Status: Current

Summary of Changes

- Clarification:
 - I.A - Procedures are medically necessary according to TurningPoint criteria.

I. POLICY/CRITERIA

A. The following are medically necessary according to TurningPoint criteria:

1. Autologous cellular implant derived from adipose tissue, autologous adipose derived regenerative cell therapy, or autologous microfragmented adipose injection (e.g., Lipogems) for any musculoskeletal indication.
2. Autologous chondrocyte implantation for osteochondral defects .
3. Hybrid autologous chondrocyte implantation with osteochondral autograft transfer system (OATS).
4. Meniscal allografts.
5. Osteochondral autograft transplantation.
6. Osteochondral allograft transplantation for osteochondral defects.
7. Tissue-engineered or collagen meniscal implants (e.g., Menaflex).

B. Procedures for the treatment of osteoarthritis of the knee, see Medical Policy No. 91571 – *Osteoarthritis of the Knee*

II. MEDICAL NECESSITY REVIEW

Prior authorization for certain drug, services, and procedures may or may not be required. In cases where prior authorization is required, providers will submit a request demonstrating that a drug, service, or procedure is medically necessary. For more information, please refer to the [Priority Health Provider Manual](#).

III. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- ❖ HMO/EPO: *This policy applies to insured HMO/EPO plans.*
- ❖ POS: *This policy applies to insured POS plans.*

- ❖ **PPO:** *This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.*
- ❖ **ASO:** *For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.*
- ❖ **INDIVIDUAL:** *For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.*
- ❖ **MEDICARE:** *Coverage is determined by the Centers for Medicare and Medicaid Services (CMS) and/or the Evidence of Coverage (EOC); if a coverage determination has not been adopted by CMS, this policy applies.*
- ❖ **MEDICAID/HEALTHY MICHIGAN PLAN:** *For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. If there is a discrepancy or lack of guidance in the Michigan Medicaid Provider Manual, the Priority Health contract with Michigan Medicaid will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.*

IV. DESCRIPTION

Autologous chondrocyte implantation (ACI) or transplantation is a form of tissue engineering that creates a graft from a patient's own cartilage cells to repair defects in articular cartilage. ACI involves surgical removal of a small piece of articular cartilage, harvesting of chondrocytes from the cartilage, growth of these cells in a specialized laboratory, and implanting the cultured cells over the cartilage lesion, with the goal of restoring resilient, durable cartilage at the site of injury. These reimplanted chondrocytes have the potential to generate new hyaline or hyaline-like tissue, which is an advantage over marrow stimulation techniques. This new tissue is then implanted into the defect, with the goal of improving the quality of cartilage repair. ACI is a reasonably safe procedure with a relatively low incidence of complications. (Knutsen et al., 2004; Knutsen et al., 2007; Knutsen et al., 2016, Saris et al., 2008, Saris et al., 2009, Vanlauwe et al., 2012; Van Assche et al., 2010; Lim et al., 2012).

Mesenchymal stem cells (MSCs) are self-renewing and multipotent cells capable of differentiating into multiple cell types. They were originally isolated from the bone marrow stroma but have recently been identified in other tissues. Bone marrow aspirate is the most accessible source and the most common place to isolate MSCs for treatment of musculoskeletal disease. Bone marrow aspirate concentrate (BMAC) can be extracted and derived from different bones in the body. For orthopedic indications, bone marrow is generally extracted from the iliac crest, though other sites may be utilized. BMAC is under investigation as an alternative to autologous bone grafting from the iliac crest, Centrifugation of bone

marrow aspirate to concentrate MSCs is being utilized to increase the concentration of osteoprogenitor cells. Some research has suggested that stem cell concentration may relate to overall effectiveness, hence the use of centrifugation to create BMAC. In addition to bone marrow, MSC can also be harvested from adipose tissue. Autologous cellular implant derived from adipose tissue, also known as autologous adipose derived regenerative cell therapy, or autologous microfragmented adipose injection (e.g., Lipogems) has been purposed for the treatment of degenerative joint disease or osteoarthritis. The system involves a minimally invasive procedure to harvest fat-derived stem cells then concentrate or microfragment, and finally transfer the tissue back to the patient after knee arthroscopy. Very-low-quality evidence (Hudetz et al., 2017; Hudetz et al., 2019; Boric et al., 2019;) suggests MFAT is associated with improvements in some patient-oriented outcomes for the treatment of refractory osteoarthritis of the knee (KOA); however, more evidence comparing it with other KOA treatments is needed.

V. CODING INFORMATION

CPT/HCPCS Codes:

Autologous chondrocyte implantation:

CPT/HCPCS Codes:

27412 Autologous chondrocyte implantation, knee
J7330 Autologous cultured chondrocytes, implant
28446 Open osteochondral autograft, talus (includes obtaining graft[s])

Meniscal allografts for the knee:

CPT/HCPCS Codes:

29868- Arthroscopy, knee, surgical; meniscal transplantation (includes arthrotomy for meniscal insertion), medial or lateral
G0428 Collagen meniscus implant procedure for filling meniscal defects (e.g., CMI, collagen scaffold, Menaflex)

NOT COVERED:

0814T Percutaneous injection of calcium-based biodegradable osteoconductive material, proximal femur, including imaging guidance, unilateral

VI. REFERENCES:

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- Hayes, Inc. Meniscal Allograft Transplantation, December 2011 and annual updates.
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