Autologous Chondrocyte Implantation

Origination: 06/17/08	**Revised:** 10/02/17	**Annual Review:** 11/02/17

Purpose:

To provide autologous chondrocyte implantation guidelines for the Medical Department staff to reference when making benefit determinations.

Additional Information

- Autologous chondrocyte implantation/transplantation (CPT code 27412) utilizes an individual's own cells in an effort to repair damage to articular cartilage in order to improve joint function and reduce pain. The procedure involves the collection and culture of articular cartilage cells (chondrocytes) that are then implanted into the cartilage defect with the intent that the cultured cells will contribute to the regeneration and repair of the articular surface.

Coverage Guidelines

Considered medically necessary for the treatment of symptomatic cartilaginous defects of the femoral condyle of the knee when the Member meets all of the following criteria:

1. Age between 15 - 55 years; *and*

2. BMI less than or equal to 35; *and*

3. Symptoms for more than one (1) year with current disabling pain and/or knee locking; *and*

4. Focal articular cartilage defect down to, but not through, the subchondral bone (Grade III – IV), on a load bearing surface of the femoral condyle (medial, lateral, trochlear; not in the patella); *and*

5. Size of defect measures less than 7 mm in depth, less than 6.0 cm in length, and area ranging from 1-12 square cm as evidenced by MRI or arthroscopy; *and*

6. Stable knee with intact meniscus and normal joint space on X-ray; *and*

7. No active inflammatory or other arthritis; no tibial chondromalacia; no osteoarthritis; and no corresponding tibial or patellar lesions, clinically and by X-ray; *and*

8. Failure of conservative therapy (minimum of 2 months of physical therapy) as well as established surgical interventions (i.e., microfraction, drilling, abrasion).

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Exclusion Criterion

- All other uses are considered experimental and investigational.

References:

1. Jobanputra P, Parry D, Fry-Smith A, et al. Effectiveness of autologous chondrocyte transplantation for hyaline cartilage defects in knees: A rapid and systematic review. Health Technol Assess. 2001;5(11):1-57.

2. National Institute for Clinical Excellence (NICE). Guidance on the use of autologous cartilage transplantation for full thickness cartilage defects in knee joints. Technology Appraisal Guidance No. 16. London, UK: NICE; 2000.

3. American College of Rheumatology Subcommittee on Osteoarthritis Guidelines. Recommendations for the medical management of osteoarthritis of the hip and knee: 2000 update. Arthritis Rheum. 2000;43(9):1905-1915.

4. Washington State Department of Labor and Industries, Office of the Medical Director. Autologous chondrocyte implantation (ACI): 2002 update. Technology Assessment. Olympia, WA: Washington State Department of Labor and Industries; updated June 26, 2002. Accessed August 7, 2003.

5. BlueCross BlueShield Association (BCBSA), Technology Evaluation Center (TEC). Autologous chondrocyte transplantation of the knee. TEC Assessment Program. Chicago IL: BCBSA; June 2003; 18(2).

6. Clar C, Cummins E, McIntyre L, et al. Clinical and cost-effectiveness of autologous chondrocyte implantation for cartilage defects in knee joints: Systematic review and economic evaluation. Health Technol Assess. 2005(9):47:1-101.

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Disclaimer Information:

Coverage Issues Guidelines and Medical Technology Assessment Recommendations are developed to determine coverage for AvMed's benefits, and are published to provide a better understanding of the basis upon which coverage decisions are made. AvMed makes coverage decisions using these guidelines, along with the Member's benefit document. The use of this guideline is neither a guarantee of payment nor a final prediction of how specific claim(s) will be adjudicated.

Coverage Issues Guidelines and Medical Technology Assessment Recommendations are developed for selected therapeutic or diagnostic services found to be safe, but proven effective in a limited, defined population of patients or clinical circumstances. They include concise clinical coverage criteria based on current literature review, consultation with practicing physicians in the AvMed service area who are medical experts in the particular field, FDA and other government agency policies, and standards adopted by national accreditation organizations.

Treating providers are solely responsible for the medical advice and treatment of Members. This guideline may be updated and therefore is subject to change.