

# Medical Policy

## Osteochondral Autografts (Mosaicplasty, OATS)

**Policy Number:** 1065

Policy History			
Approve Date:	10/20/2016	Effective Date:	10/20/2016
Reviewed/Revised Dates:	05/19/2019, 04/28/2020		

Preauthorization	
All Plans	Benefit plans vary in coverage and some plans may not provide coverage for certain service(s) listed in this policy. Decisions for authorization are subject to all terms and conditions of the applicable benefit plan, including specific exclusions and limitations as well as applicable state and/or federal laws. Please review the benefit plan descriptions for details.

### Policy

#### Indications of Coverage

- I. WEA Trust considers osteochondral autografts (OATS or mosaicplasty) medically necessary for symptomatic focal full-thickness articular cartilage defects of the knee when all of the following criteria are met:
  - A. The member is skeletally mature with documentation of closure of growth plates (e.g. member must be 15 years or older) AND
  - B. The member is not considered a candidate for total knee replacement (i.e. member must be under the age of 55) AND
  - C. The member has disabling symptoms limiting ambulation that have not been relieved by the appropriate non-surgical therapies (such as but not limited to physical therapy, NSAIDS) AND
  - D. The member has a full thickness (grade III or IV) unipolar lesions on the weight bearing surface of the femoral condyles or trochlea AND
  - E. The member has 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
  - F. The member has normal alignment or correctable varus or valgus deformities
  
- II. WEA Trust considers all of the following procedures experimental and investigational as peer reviewed literature does not establish efficacy.
  - A. Hybrid autologous chondrocyte implantation performed with osteochondral autograft transfer system (Hybrid ACI/OATS) technique for the treatment of osteochondral defects
  - B. Osteochondral autograft transplantation to repair chondral defects of the elbow, patella, shoulder or joints other than the knee.
  
- III. WEA Trust considers non-autologous mosaicplasty using resorbable synthetic bone filler materials (including but not limited to plugs and granules) to repair osteochondral defects of the ankle or knee experimental and investigational as peer reviewed literature has not established efficacy.

- IV. WEA Trust considers the use of minced articular cartilage (whether synthetic, allograft or autograft) to repair osteochondral defects of the ankle or knee experimental and investigational as peer reviewed literature has not established efficacy.
- V. WEA Trust considers the use of synthetic resorbable polymers (e.g. PolyGraft BGS, TruFit [cylindrical plug], TrueGraft [granules]) to repair osteochondral articular cartilage defects experimental and investigational as peer reviewed literature has not established efficacy.

## Background

Articular cartilage damaged through acute or chronic trauma or osteochondritis dissecans has limited ability to regenerate, resulting in persistent joint line pain, recurrent synovitis and altered joint mechanics most commonly in weight-bearing joints. Loose bodies may develop, which may then cause joint destruction, restricted mobility and/or locking. Long standing severe damage to the articular cartilage can lead to debilitating osteoarthritis, which ultimately may require a total knee arthroplasty. Current therapeutic options include lavage and debridement, which may offer pain relief for up to several years, but offer no prospect of long-term cure. Similarly, marrow-stimulation techniques such as drilling or microfracture of the subchondral bone of cartilage lesions and abrasion arthroplasty may fail to provide long-term solutions because these procedures usually promote the development of fibrocartilage, which may be less durable than the hyaline cartilage that normally covers articular surfaces.

Osteochondral autografts have been examined as an alternative to allografts for the treatment of osteochondral defects. Two related procedures have been investigated: (i) mosaicplasty, and (ii) the osteochondral autograft transfer system (OATS). Mosaicplasty is a reconstructive bone grafting procedure for the treatment of articular defects of the knee. In general, treatment of articular defect of the knee by mosaicplasty entails transplantation of small cylindrical osteochondral grafts (4 to 10 mm in diameter, 15 to 20 mm deep) from the less weight-bearing periphery of the femoral condyles at the level of the patello-femoral joint, and transplanting them in a mosaic-like fashion into a prepared defect site on the weight-bearing surfaces of the same knee. Its goal is to produce a smooth gliding articular surface of hyaline or hyaline-like cartilage in weight-bearing surfaces of the knee. Mosaicplasty is carried out either by an open approach or arthroscopically if the defect/lesion is small and not more than four to six grafts are needed. Both open and arthroscopic mosaicplasty require a relatively short rehabilitation period -- normal daily activity can be allowed after five to eight weeks.

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### Mosaicplasty

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