Medical Coverage Policy | Autografts and Allografts in the Treatment of Focal Articular Cartilage Lesions

EFFECTIVE DATE: 10|01|2022
POLICY LAST REVIEWED: 05|20|2026

OVERVIEW

Osteochondral grafts are used to repair full-thickness chondral defects involving a joint. In the case of osteochondral autografts, 1 or more small osteochondral plugs are harvested from non-weight-bearing sites, usually from the knee, and press fit into a prepared site in the lesion. Osteochondral allografts are typically used for larger lesions. Autologous or allogeneic minced cartilage, decellularized osteochondral allograft plugs, and reduced osteochondral allograft discs are also being evaluated as a treatment of articular cartilage lesions.

MEDICAL CRITERIA

Not applicable

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

Medicare Advantage Plans and Commercial Products

Allografting

Fresh osteochondral allografting is covered as a technique to repair full-thickness chondral defects of the knee, large (area >1.5 cm2) or cystic (volume >3.0 cm3) osteochondral lesions of the talus or osteochondral lesions of the talus when autografting would be inadequate due to lesion size, depth or location.

Osteochondral allografting for all other joints are not covered for Medicare Advantage Plans and not medically necessary for Commercial Products as the evidence is insufficient to determine the effects of the technology on health outcomes.

Autografting

Osteochondral autografting, using one or more cores of osteochondral tissue, is covered for full thickness cartilage defects of the knee or osteochondral lesions of the talus.

Osteochondral autografting for all other joints are not covered for Medicare Advantage Plans and not medically necessary Commercial Products as the evidence is insufficient to determine the effects of the technology on health outcomes.

Other Treatments

The following treatments of focal articular cartilage lesions are considered not covered for Medicare Advantage Plans and not medically necessary for Commercial Products as the evidence is insufficient to determine the effects of the technology on health outcomes:

- Autologous minced or particulated cartilage
- Allogeneic minced or particulated cartilage
- Decellularized osteochondral allograft plugs
- Reduced osteochondral allograft discs (eg, ProChondrix, Cartiform)

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable surgery benefits/coverage.

BACKGROUND

For individuals who have full-thickness articular cartilage lesions of the knee who receive an osteochondral autograft, the evidence includes randomized controlled trials (RCTs), systematic reviews of RCTs, and longer-term observational studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Several systematic reviews have evaluated osteochondral autografting for cartilage repair in the short- and mid-term. Compared with abrasion techniques (eg, microfracture, drilling), there is evidence that osteochondral autografting decreases failure rates and improves outcomes in patients with medium-size lesions (eg, 2-6 cm2) when measured at longer follow-up. This is believed to be due to the higher durability of hyaline cartilage compared with fibrocartilage from abrasion techniques. There appears to be a relatively narrow range of lesion size for which osteochondral autografting is most effective. The best results have also been observed with lesions on the femoral condyles, although treatment of lesions on the trochlea and patella may also improve outcomes. Correction of malalignment is important for the success of the procedure. The evidence suggests that osteochondral autografts may be considered an option for moderate-sized, symptomatic, full thickness, chondral lesions of the femoral condyle, trochlea, or patella. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have full-thickness articular cartilage lesions of the knee when autografting would be inadequate due to lesion size, location, or depth who receive a fresh osteochondral allograft, the evidence includes case series and systematic reviews of case series. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment related morbidity. Due to the lack of alternatives, this procedure may be considered a salvage operation in younger patients for full-thickness chondral defects of the knee caused by acute or repetitive trauma when other cartilage repair techniques (eg, microfracture, osteochondral autografting, autologous chondrocyte implantation) would be inadequate due to lesion size, location, or depth. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have full-thickness articular cartilage lesions of the knee, ankle, elbow, or shoulder who receive autologous or allogeneic minced or particulated articular cartilage, the evidence includes a small RCT and small case series. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. The evidence on autologous minced cartilage includes a small RCT. The evidence on allogeneic juvenile minced cartilage includes a few small case series. The case series have suggested an improvement in outcomes compared with preoperative measures, but there is also evidence of subchondral edema, nonhomogeneous surface, graft hypertrophy, and delamination. For articular cartilage lesions of the knee, further evidence, preferably from RCTs, is needed to evaluate the effect on health outcomes compared with other procedures. There are fewer options for articular cartilage lesions of the ankle. However, further study in a larger number of patients is needed to assess the short- and long-term effectiveness of this technology. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have full-thickness articular cartilage lesions of the knee, ankle, elbow, or shoulder who receive decellularized osteochondral allograft plugs, the evidence includes small case series. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. The case series reported delamination of the implants and high failure rates. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have full-thickness articular cartilage lesions of the knee, ankle, elbow, or shoulder who receive reduced osteochondral allograft discs, the evidence includes very small case series. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

CODING

Medicare Advantage Plans and Commercial Products

The following surgery code(s) are considered medically necessary when filed with any of the ICD-10 Diagnosis* codes listed below:

27415 Osteochondral allograft, knee, open

27416 Osteochondral autograft(s), knee, open (eg, mosaicplasty) (includes harvesting of autograft[s])
28446 Open osteochondral autograft, talus (includes obtaining graft[s])
29866 Arthroscopy, knee, surgical; osteochondral autograft(s) (eg, mosaicplasty) includes harvesting of the autograft[s])
29867 Arthroscopy, knee, surgical; osteochondral allograft (eg, mosaicplasty)

***ICD-10 Diagnosis codes:**
M12.561-M12.569
M17.0-M17.9
M23.8x1-M23.92
M25.861-M25.869
M85.671-M85.679
M89.8x6
M93.261-M93.269
M93.271-M93.279
M94.261-M94.269
M94.8x6
M94.9
S89.80xA-S89.82xS
S89.90xA-S89.92xS

RELATED POLICIES
Not applicable

PUBLISHED
Provider Update, July 2026
Provider Update, July 2025
Provider Update, December 2024
Provider Update, July 2023
Provider Update, August 2022

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