Surgery of the Ankle (for North Carolina Only)

Policy Number: CSNCT0554.09
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Application

This Medical Policy only applies to the state of North Carolina.

Coverage Rationale

Surgery of the ankle is proven and medically necessary in certain circumstances. For medical necessity clinical coverage criteria, refer to the InterQual® CP: Procedures:

- Arthrodesis, Ankle (Talotibial Joint)
- Arthroscopy, Surgical, Ankle
- Arthrotomy, Ankle
- Total Joint Replacement (TJR), Ankle

Click here to view the InterQual® criteria.

Osteochondral allograft or autograft transplantation is unproven and not medically necessary for treating cartilage defects of the ankle due to insufficient evidence of efficacy.

Medical Records Documentation Used for Reviews

Benefit coverage for health services is determined by the federal, state, or contractual requirements, and applicable laws that may require coverage for a specific service. Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the services requested.

The patient's medical record must contain documentation that fully supports the medical necessity for the requested services. This documentation includes, but is not limited to, relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures. Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available upon request.

Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this policy does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by federal, state, or contractual requirements and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CPT Code	Description
Arthrotomy, Ankle	
27685	Lengthening or shortening of tendon, leg or ankle; single tendon (separate procedure)
*28446	Open osteochondral autograft, talus (includes obtaining graft[s])
Total Joint Replacement (TJR), Ankle	
27702	Arthroplasty, ankle; with implant (total ankle)
Arthroscopy, Surgical, Ankle	
29891	Arthroscopy, ankle, surgical; excision of osteochondral defect of talus and/or tibia, including drilling of the defect
29892	Arthroscopically aided repair of large osteochondritis dissecans lesion, talar dome fracture, or tibial plafond fracture, with or without internal fixation (includes arthroscopy)
29894	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; with removal of loose body or foreign body
29895	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; synovectomy, partial
29897	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; debridement, limited
29898	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; debridement, extensive
29899	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; with ankle arthrodesis
Arthrodesis, Ankle (Talotibial Joint)	
29899	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; with ankle arthrodesis

Codes labeled with an asterisk (*) are not on the State of North Carolina Medicaid Fee Schedule and therefore may not be covered by the State of North Carolina Medicaid Program.

Description of Services

Osteoarthritis is also known as degenerative arthritis and common for many people after they reach middle age, however, it may occur in younger people as well. In osteoarthritis, the cartilage in the joint gradually wears away. As the cartilage wears away, it becomes frayed and rough, and the protective space between the bones decreases. This can result in bone rubbing on bone and produce painful osteophytes (bone spurs).

Posttraumatic arthritis can develop after an injury to the foot or ankle and dislocations and fractures are the most common injuries that lead to post-traumatic arthritis. Like osteoarthritis, posttraumatic arthritis causes the cartilage between the joints to wear away and can develop many years after the initial injury.

Clinical Evidence

Osteochondral Allograft or Autograft Transplant (OAT)

There is insufficient quality evidence regarding the safety and efficacy of osteochondral allograft or autograft transplant. Future studies including RCTs with comparison groups are needed along with long-term results.

Correia Cardoso et al. (2024) conducted a systematic review evaluating the operative treatment of nonprimary osteochondral lesions of the talus. The review included 50 studies involving 806 ankles from 794 participants. The majority of the studies were retrospective in design and only 14% included a comparison group. Using the Oxford Centre for Evidence-Based Medicine, 86% of the studies were classified as level 4 evidence. All studies exhibited a high risk of bias in at least one domain with 64% demonstrating a high risk across ≥ 4 domains. Cartilage substitution was the most

common treatment including 30% osteochondral autograft (OAT) and 11% osteochondral allograft (OCA). Cartilage regeneration, comprising 37%, included 9% autologous chondrocyte implantation (ACI), 8% matrix-assisted autologous chondrocyte transplantation (MACT), 2% bone marrow-derived cell transplantation (BMDCT), and 17% autologous matrix-induced chondrogenesis (AMIC). Rescue procedures/HemiCAP and cartilage repair/BMS accounted for 14% and 9%, respectively. The American Orthopaedic Foot and Ankle Society (AOFAS) Score was reported in 54% of the studies and the mean improvement ranged from 13 to 57.8 with OAT showing the most and least pronounced mean change. The pre-to-postoperative meta-analysis revealed significant improvements across all treatments ($p < 0.05$), except for OCA, which showed no significant improvement. The highest success rates were seen with ACI and OAT, whereas HemiCAP had the lowest. The visual analog scale (VAS)/numeric rating scale (NRS) for pain score was reported in 48% of studies and showed mean improvements ranging from 1.5 to 8 with OAT displaying the most pronounced mean change and HemiCAP the lowest. The pre-to-postoperative meta-analysis revealed significant improvements across most treatments ($p < 0.05$), with ACI demonstrating a large effect size, while OCA and HemiCAP showed no significant improvements. The highest success rates were seen with ACI and OAT while HemiCAP had the lowest. The postoperative subjective satisfaction was reported in 46% of the studies with a high rate of success across all operative treatments with AMIC and HemiCAP having the lowest rates. HemiCAP had the highest incidence of postoperative complications and clinical failures were more frequent with AMIC (27%), OAT (22%), OCA (19%), and HemiCAP (28%). While ACI and OAT showed improvements and higher success rates compared with HemiCAP and OCA, the authors note that despite the promising potential, the high risk of bias across the included studies warrants a cautious interpretation of these results. Limitations of the study include high risk of selection and detection bias, retrospective nature and the predominance of case series, variability in study designs and outcomes measures, lack of comparison groups, use of non-validated outcome measures, and insufficient reporting of demographic variations and lesion characteristics.

Migliorini et al. (2022) conducted a systematic review to evaluate the efficacy of surgical management techniques for osteochondral defects (OCD). Surgical management techniques included OAT, mosaicplasty, MACT and AMIC. There were 13 articles included in the review with a total of 521 procedures with a median length follow-up of 47.8 months (31.7 - 66.8 months). The authors noted there was no difference between the treatment groups at baseline in terms of mean age, body mass index, patient sex, defect size, and VAS and AOFAS scores. AMIC demonstrated the lowest rates of failure (LOR, 0.94) and revision (LOR, 0.94) while OAT evidenced the highest rates of failure (LOR, 3.48) and revision (LOR, 4.60). Limitations included overall poor quality of many studies with high selection bias due to large number (10 of the 13 included studies) of retrospective comparative studies. Additionally, there were variances in the surgical approach, nature of the membrane, fixation methods, and the location of the lesion.

Lambers et al. (2017) conducted a systematic review to identify the most effective surgical treatment for talar OCD after failed primary surgery. There were 21 studies included in the review with a total of 299 patients with 301 talar OCDs. Of those studies, 8 were retrospective case series, 12 were prospective case series, and 1 was a randomized controlled trial. Treatment strategies were divided into four groups: bone marrow stimulating (BMS), (debridement and/or drilling), osteochondral transplantation (autograft transfer, allograft transfer and mosaicplasty), cartilage implantation (MACI and ACI) and chondrogenesis-inducing techniques (AMIC). BMS success percentages were 75% (debridement alone) and 69% (debridement and microfracture) with confidence intervals of 47-91% and 42-87%. Osteochondral transplantation was the most common procedure, however, a calculated success rate for all osteochondral transplantation techniques combined was not possible since study designs varied for all studies. The authors were able to use a simplified pooling method which resulted in a mean success rate of 90% (CI 82-95%) for the osteochondral autograft transfer procedure, 65% (CI 46.2-80.6%) for mosaicplasty and 55% (CI 39.7-69.9%) for osteochondral allograft transfer procedure. There was no significant difference between MACI and ACI and the calculated success rate was 72% (CI 56-85%) and 59% (CI 39-77%). The success rates for AMIC were 67% (CI 30-90.3%) and 57% (CI 32.6-78.6%). Limitations of this study include low methodological quality of studies included and nearly half of the extracted data that were acquired through the direct approach of the authors limited the ability to collect all of the variables desired including complications, lesion size, and classification systems used. The authors noted that due to the low level of evidence and the limited number of patients, a methodologically proper meta-analysis could not be completed, and it would be inappropriate to draw firm conclusions from the collected results. Further prospective investigations in a randomized comparative clinical setting are needed.

In a 2013 (updated 2015) health technology assessment, Hayes evaluated the osteochondral allograft transplantation for articular disorders of the ankle. There were seven small uncontrolled clinical studies that evaluated the safety and efficacy of osteochondral allografting for the treatment of osteochondral lesions of the talus or severe tibiotalar arthritis. Most of the studies were small, only one had a prospective design, and there were no randomized controlled trials identified. Four studies included patients with OLT and two studies included patients with ankle arthritis. Mean age range was 30-44 years and follow-up times ranged from a mean of approximately two years to five years. Most studies showed a significant improvement in the mean scores on standardized instruments for pain and function following allografting with an overall improvement rate in 52% - 89% of patients, however, a considerable number of the allografts failed, requiring repeat allografting, arthrodesis, or arthroplasty (range 11% - 48%). The authors note that the available evidence is insufficient to

draw definitive conclusions regarding the safety, efficacy, and durability of osteochondral allograft transplantation for articular ankle disorders. The overall quality of the evidence is low with the existing studies having small numbers of patients and being uncontrolled with the majority being retrospective, which is prone to bias. Other limitations included differences in allograft preparation, surgical protocols, inconsistent reporting of radiological outcomes, variability in outcomes measures and follow-up times. Additional studies are needed that are controlled and that compare the long-term effectiveness and safety with other methods of restoring the articular cartilage.

In a 2012 (updated 2014) health technology assessment, Hayes evaluated the OAT or mosaicplasty for lesions of the talus. There were 10 available studies which included one randomized comparative trial, one nonrandomized prospective comparative study, six prospective studies, and two retrospective studies. The authors determined that there was insufficient evidence to support conclusions regarding the efficacy of the OAT or mosaicplasty procedure in patients with osteochondral lesions of the talus (OLT), as well as the relative effectiveness compared with standard procedures. There was an overall low quality of evidence due to poor study design, small patient population, variability in the measures used to assess outcomes, varying follow-up times, and substantial differences in surgical protocols and techniques. Additional well-designed trials with long-term follow-up are needed to evaluate the effectiveness of surgical options for OLT.

Clinical Practice Guidelines

American Orthopaedic Foot and Ankle Society (AOFAS)

In a position statement (2022), the AOFAS supports the use of osteochondral autograft and allograft transplantation for the treatment of OLTs that have failed nonsurgical management, especially for large diameter lesions, cystic lesions, and lesions that have failed previous surgical treatment. The society considers osteochondral transplantation to be a treatment option with demonstrated improved outcomes maintained over long term follow up.

U.S. Food and Drug Administration (FDA)

This section is to be used for informational purposes only. FDA approval alone is not a basis for coverage.

Surgeries of the ankle are procedures and, therefore, not regulated by the FDA. However, devices and instruments used during the surgery may require FDA approval. Refer to the following website for additional information: http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfPMN/pmn.cfm. (Accessed July 29, 2025)

References

American Orthopaedic Foot and Ankle Society (AOFAS). Position statement. The use of osteochondral transplantation for the treatment of osteochondral lesions of the talus. July 2022. https://www.aofas.org/docs/default-source/research-and-policy/position-statements/osteochondral-lesions-position-statement.pdf?sfvrsn=95e8c93b_4. Accessed March 27, 2024.

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Policy History/Revision Information

Date	Summary of Changes

03/01/2026	**Coverage Rationale**
	• Revised language pertaining to medical necessity clinical coverage criteria; removed reference to the InterQual® Client Defined CP: Procedures:
	  ○ Arthroplasty, Ankle (Without Implant) (Custom) – UHG
	  ○ Arthroplasty, Removal or Revision, Ankle (Custom) – UHG

Date	Summary of Changes

	Medical Records Documentation Used for Reviews
	• Added language to indicate:
	  ○ Benefit coverage for health services is determined by the federal, state, or contractual requirements, and applicable laws that may require coverage for a specific service
	  ○ Medical records documentation may be required to assess whether the member meets the clinical criteria for coverage but does not guarantee coverage of the service requested
	  ○ The patient's medical record must contain documentation that fully supports the medical necessity for the requested services
	  ○ This documentation includes but is not limited to relevant medical history, physical examination, and results of pertinent diagnostic tests or procedures
	  ○ Documentation supporting the medical necessity should be legible, maintained in the patient's medical record, and must be made available upon request
	Applicable Codes
	• Remove CPT codes 27700, 27703, 27704, and 28899
	Supporting Information
	• Updated *Clinical Evidence* and *References* sections to reflect the most current information
	• Archived previous policy version CSNCT0554.08

Instructions for Use

This Medical Policy provides assistance in interpreting UnitedHealthcare standard benefit plans. When deciding coverage, the federal, state or contractual requirements for benefit plan coverage must be referenced as the terms of the federal, state or contractual requirements for benefit plan coverage may differ from the standard benefit plan. In the event of a conflict, the federal, state or contractual requirements for benefit plan coverage govern. Before using this policy, check the federal, state or contractual requirements for benefit plan coverage. UnitedHealthcare reserves the right to modify its Policies and Guidelines as necessary. This Medical Policy is provided for informational purposes. It does not constitute medical advice.

UnitedHealthcare may also use tools developed by third parties, such as the InterQual® criteria, to assist us in administering health benefits. The UnitedHealthcare Medical Policies are intended to be used in connection with the independent professional medical judgment of a qualified health care provider and do not constitute the practice of medicine or medical advice.