



Ankle Arthrodesis – Single Service

Clinical Guidelines for Medical Necessity Review

Version: 2
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Important Notices

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Guideline Information:

Specialty Area: Diseases & Disorders of the Musculoskeletal System (M00-M99)
Guideline Name: Ankle Arthrodesis (Single Service)

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Type: Adult (18+ yo) | Pediatric (0-17yo)

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Medical Necessity Criteria

Service: Ankle Arthrodesis

General Guidelines

- **Units, Frequency, & Duration:** Ankle arthrodesis is indicated when ankle arthroscopy is not appropriate, and the patient has failed at least six months of conservative therapy.
- **Criteria for Subsequent Requests:** Additional surgery may be authorized when medically necessary and initial surgery was unsuccessful.
- **Recommended Clinical Approach:** Ankle arthrodesis is most often performed for end-stage arthritis to relieve pain and improve function. The procedure involves the bonding of the tibiotalar joint and is performed arthroscopically or with an open approach. Compared to ankle arthrodesis, ankle arthroplasty is preferred for pain relief and functional improvement.¹⁻²
- **Exclusions:** None.

Medical Necessity Criteria

Indications

→ **Ankle arthrodesis** is considered appropriate if **ALL** of the following are **TRUE**:

- ◆ No nicotine product use for 6 weeks with a negative lab test; **AND**
- ◆ The patient has at least **ONE** of the following:
 - Musculoskeletal congenital or acquired dysfunction³⁻⁴; **OR**
 - Increased arthritis pain due to at least **ONE** of the following:
 - Infection-related to septic (infectious) or reactive arthritis; **OR**
 - Trauma⁵⁻⁶; **OR**
 - Chronic instability; **OR**
 - Avascular necrosis of the talus (AVN)⁷⁻⁸; **OR**
 - Inflammatory arthropathy; **OR**
 - Primary osteoarthritis; **OR**
 - Neuropathic arthropathy; **OR**
 - Tumor resection; **OR**

- Unsuccessful open reduction and internal fixation (ORIF)⁹⁻¹¹; **OR**
- Recovery after an unsuccessful total ankle arthroplasty (TAA)¹²; **OR**
- The patient demonstrates functional impairment that ankle arthroscopy is not appropriate¹³; **AND**
- ◆ Failure of conservative management for greater than 6 months, including **ALL** of the following:
 - Oral steroids, anti-inflammatory medications, or analgesics; **AND**
 - Physical therapy; **AND**
 - Orthotic devices; **AND**
 - **ANY** of the following:
 - Corticosteroid injection if medically appropriate; **OR**
 - Corticosteroid injection is contraindicated.

Non-Indications

→ **Ankle arthrodesis** is not considered appropriate if **ANY** of the following is **TRUE**¹⁴:

- ◆ Active viral, bacterial, parasitic, or fungal infection; **OR**
- ◆ Development of subtalar arthritis after calcaneus fracture; **OR**
- ◆ Asymptomatic or has minimal symptoms of arthritis.

Level of Care Criteria

Inpatient or Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Codes	Code Description
27870	Arthrodesis, ankle, open
27871	Arthrodesis, tibiofibular joint, proximal or distal
28705	Arthrodesis; pantalar
29899	Arthroscopy, ankle (tibiotalar and fibulotalar joints), surgical; with ankle arthrodesis

Medical Evidence

Dutra et al. (2020) performed a systematic review to analyze the subtalar arthrodesis technique with respect to the improvement of American Orthopedic Foot and Ankle Society (AOFAS) scores, union rate, and complications. A total of 180 feet were included with an average postoperative follow-up of 18 months; before and after AOFAS scores ranged from 44±6 and 79±4. The review demonstrates a notable improvement in AOFAS scores postoperatively. Patients range in age from 37.8 to 50.9 (mean age 45.2) however, there is no association between age and other variables. While there is no agreement regarding a preferred technique for subtalar arthrodesis, studies show excellent results utilizing arthroscopy.¹⁴

Daniels et al. (2014) conducted a prospective study on the surgical treatment for end-stage ankle arthritis. Patients from the Canadian Orthopaedic Foot and Ankle Society (COFAS) Prospective Ankle Reconstruction Database were included. A total of 388 ankles were analyzed and separated into two groups; 281 in the ankle replacement group and 107 in the arthrodesis group. The follow up rate was 83% (232 ankles). Preoperatively, mean Ankle Osteoarthritis Scale (AOS) scores were 53.4 points - scores were 33.6 points at follow-up (arthrodesis group) and 51.9 to 26.4 points (ankle replacement group).⁷

National and Professional Organizations

The **American College of Foot and Ankle Surgeons (ACFAS)** published a position statement titled *Total Ankle Replacement Surgery*. Ankle fusion has been the long-standing treatment for end-stage ankle arthritis. The restriction of the range of motion can put additional stress on adjacent joints thus, the joints may also become arthritic. Ankle replacement techniques are more refined and offer an additional treatment option. While both procedures have comparable safety profiles, the ACFAS recommends ankle replacement over ankle fusion due to better patient function, pain relief, and quality of life.¹

The **American Orthopaedic Foot and Ankle Society (AOFAS)** published a position statement titled *The Use of Total Ankle Replacement for the Treatment of Arthritic Conditions of the Ankle*. While pain reduction is achieved with both ankle replacement and ankle arthrodesis, complication rates are higher following ankle replacement, including the need for a

secondary surgical procedure. Compared to ankle arthrodesis, ankle arthroplasty shows “marked improvement in quality of life, pain, and function”. Patients undergoing ankle arthroplasty report higher satisfaction with range of motion and gait when compared to ankle arthrodesis.²

References

1. American College of Foot and Ankle Surgeons (ACFAS). Position statement: Total ankle replacement surgery. Approved February 2020. Accessed July 1, 2024. <https://www.acfas.org/policy-advocacy/policy-position-statements>.
2. American Orthopaedic Foot and Ankle Society (AOFAS). Position statement: The use of total ankle replacement for the treatment of arthritic conditions of the ankle. Approved July 29, 2022. Accessed July 1, 2024. <https://www.aofas.org/research-policy/position-statements-clinical-guidelines>.
3. Dabov GD. Ankle arthrodesis. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:348-355.e2.
4. Murphy GA. Total ankle arthroplasty. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:526-562.e1.
5. Bai LB, Lee KB, Song EK, et al. Total ankle arthroplasty outcome comparison for post-traumatic and primary osteoarthritis. *Foot Ankle Int*. 2010;31(12):1048-1056. doi: 10.3113/FAI.2010.1048. PMID: 21189204.
6. Hendrickx RP, Stufkens SA, de Bruijn EE, et al. Medium- to long-term outcome of ankle arthrodesis. *Foot Ankle Int*. 2011;32(10):940-947. doi: 10.3113/FAI.2011.0940. PMID: 22224322.
7. Daniels TR, Younger AS, Penner M, et al. Intermediate-term results of total ankle replacement and ankle arthrodesis: A COFAS multicenter study. *J Bone Joint Surg Am*. 2014;96(2):135-142. doi: 10.2106/JBJS.L.01597. PMID: 24430413.
8. Glazebrook MA, Arsenault K, Dunbar M. Evidence-based classification of complications in total ankle arthroplasty. *Foot Ankle Int*. 2009;30(10):945-949. doi: 10.3113/FAI.2009.0945. PMID: 19796587.
9. Baker JF, Perera A, Lui DF, Stephens MM. The effect of body mass index on outcomes after total ankle replacement. *Ir Med J*. 2009;102(6):188-190. PMID: 19722359.
10. Meehan R, McFarlin S, Bugbee W, et al. Fresh ankle osteochondral allograft transplantation for tibiotalar joint arthritis. *Foot Ankle Int*. 2005;26(10):793-802. doi: 10.1177/107110070502601002. PMID: 16221450.
11. Zwipp H, Rammelt S, Endres T, Heineck J. High union rates and function scores at midterm followup with ankle arthrodesis using a four screw technique. *Clin Orthop Relat Res*. 2010;468(4):958-968. doi: 10.1007/s11999-009-1074-5. PMID: 19763726. PMCID: PMC2835613.
12. Berkowitz MJ, Clare MP, Walling AK, Sanders R. Salvage of failed total ankle arthroplasty with fusion using structural allograft and internal

fixation. *Foot Ankle Int.* 2011;32(5):S493–S502. doi: 10.3113/FAI.2011.0493. PMID: 21733457.

13. Bettin CC. Ankle arthrodesis. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:563–598.e3.
14. Dutra JMG, Barcelos VA, Prata SDS, et al. Arthroscopic subtalar arthrodesis – results and complications: A systematic review. *J Foot Ankle.* 2020;14(2):205–10. doi: <https://doi.org/10.30795/jfootankle.2020.v14.1173>.

Clinical Guideline Revision History/Information

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Review History

Version 2	7/16/2024	Updated language regarding conservative treatment and nicotine use.