



## **Cohere Medicare Advantage Policy – Ankle Arthrodesis**

*Clinical Guidelines for Medical Necessity Review*

**Version:** 2  
**Effective Date:** June 10, 2024

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## Guideline Information:

**Specialty Area:** Disorders of the Musculoskeletal System

**Guideline Name:** Cohere Medicare Advantage Policy - Ankle Arthrodesis

**Date of last literature review:** 6/10/2024

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

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# Medical Necessity Criteria

## **Service: Ankle Arthrodesis**

### **Benefit Category**

Not applicable.

### **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.<sup>1-2</sup>

### **Evaluation of Clinical Benefits and Potential Harms**

Cohere Health uses the criteria below to ensure consistency in reviewing the conditions to be met for coverage of ankle arthrodesis procedures. This process helps to prevent both incorrect denials and inappropriate approvals of medically necessary services. Specifically, limiting incorrect approvals reduces the risks associated with unnecessary procedures, such as complications from surgery, adverse reactions, and infection.

The potential clinical harms of using these criteria may include:

- Inadequate management of severe ankle conditions due to inappropriate denials. Ankle arthritis is debilitating and can lead to decreased mobility. It can place abnormal forces on the joints around the ankle, causing progression of subtalar and mid-foot arthritis. The ankle joint can become deformed, leading to increased fall risk.
- Risks with inappropriate surgical procedures include infection, bleeding requiring a transfusion, injury to neurovascular structures, anesthetic risk, and the need for repeat or additional procedures due to implant failure, malunion, nonunion, and ongoing pain. Herrera-Perez et al report that subtalar and talonavicular osteoarthritis commonly develop after an ankle arthrodesis, although the clinical relevance is uncertain.<sup>16</sup>
- Increased healthcare costs and complications from the inappropriate use of emergency services and additional treatments.

The clinical benefits of using these criteria include:

- Improved patient outcomes by ensuring timely and appropriate access to ankle arthrodesis. Ankle arthritis is a debilitating condition that can impact a patient's quality of life. Surgical treatment, including ankle arthrodesis can improve this. Hendrickx et al reviewed the medium to long-term outcomes of ankle arthrodesis at their institution.<sup>7</sup> Of the initial 121 ankle arthrodesis performed, 61 were available for follow-up. In this group 91% achieved fusion. 91% of patients were satisfied with their results with good functional outcomes. Ankle arthrodesis is an option for long-term treatment of ankle osteoarthritis.
- Reduction in complications and adverse effects from unnecessary procedures. Nogod et al reviewed 102 ankle arthrodesis performed and noted a complication rate of 11.4% with 75% of patients satisfied with their outcome.<sup>17</sup> The most frequent complications were wound healing, infection, and non union requiring additional procedures. Diabetic and elderly patients had a higher rate of complications. Careful patient selection is important.
- Enhanced overall patient satisfaction and healthcare experience.

This policy includes provisions for expedited reviews and flexibility in urgent cases to mitigate risks of delayed access. Evidence-based criteria are employed to prevent inappropriate denials, ensuring that patients receive medically necessary care. The criteria aim to balance the need for effective treatment with the minimization of potential harms, providing numerous clinical benefits in helping avoid unnecessary complications from inappropriate care.

In addition, the use of these criteria is likely to decrease inappropriate denials by creating a consistent set of review criteria, thereby supporting optimal patient outcomes and efficient healthcare utilization.

## Medical Necessity Criteria

### Indications

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

- ◆ The patient has **ANY** of the following:
  - Musculoskeletal congenital or acquired dysfunction<sup>4-5</sup>; **OR**
  - Increased osteoarthritis pain due to at least **ANY** of the following:
    - Infection-related to septic (infectious) or reactive arthritis; **OR**
    - Trauma<sup>6-7</sup>; **OR**
    - Chronic instability; **OR**
    - Avascular necrosis of the talus (AVN)<sup>8-9</sup>; **OR**
    - Inflammatory arthropathy; **OR**
    - Primary osteoarthritis; **OR**
  - Neuropathic arthropathy; **OR**
  - Lower extremity tumor resection; **OR**
  - Failed ankle open reduction and internal fixation (ORIF)<sup>10-12</sup>; **OR**
  - Failed total ankle arthroplasty (TAA)<sup>13</sup>; **AND**
- ◆ Failure of conservative management (e.g., rest, analgesics, physical therapy, oral or injectable corticosteroids) must be documented for a period of greater than 3 months. Documentation should include detailed evidence of the measures taken, rather than solely a physician's statement.

### Non-Indications

→ **Ankle arthrodesis** is not considered appropriate if **ANY** of the following is **TRUE**<sup>15</sup>:

- ◆ The patient has an active infection at the surgical site.

### Level of Care Criteria

Inpatient or Outpatient.

### Procedure Codes (HCPCS/CPT)

HCPCS/CPT Codes	Code Description
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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 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 of 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.<sup>15</sup>

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).<sup>8</sup>

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 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.<sup>1</sup>

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.<sup>2</sup>

## References

1. American College of Foot and Ankle Surgeons (ACFAS). Position statement: Total ankle replacement surgery. Approved February 2020. Accessed June 20, 2023. <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 June 20, 2023. <https://www.aofas.org/research-policy/position-statements-clinical-guidelines>.
3. Rozinthe A, Ode Q, Subtil F, Fessy MH, Besse JL. Impact of smoking cessation on healing after foot and ankle surgery. *Orthop Traumatol Surg Res.* 2022 Nov;108(7):103338. doi: 10.1016/j.otsr.2022.103338. Epub 2022 May 25. PMID: 35643365.
4. Dabov GD. Ankle arthrodesis. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:348-355.e2.
5. Murphy GA. Total ankle arthroplasty. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:526-562.e1.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.

13. 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.
14. Bettin CC. Ankle arthrodesis. In: Azar FM, Beaty JH, editors. *Campbell's Operative Orthopaedics*. 14th ed. Philadelphia, PA: Elsevier; 2021:563-598.e3.
15. 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>.
16. Herrera-Pérez M, Valderrabano V, Godoy-Santos AL, de César Netto C, González-Martín D, Tejero S. Ankle osteoarthritis: comprehensive review and treatment algorithm proposal. *EFORT Open Rev.* 2022 Jul 5;7(7):448-459. doi: 10.1530/EOR-21-0117. PMID: 35900210; PMCID: PMC9297055.
17. Nogod S, Khairy AMM Jr, Nubi OG, Fatooh MS, Mohammed Ali Abd-Elmaged H. Ankle Arthrodesis: Indications, Outcomes, and Patient Satisfaction. *Cureus.* 2023 Apr 5;15(4):e37177. doi: 10.7759/cureus.37177. PMID: 37034142; PMCID: PMC10076242.

# Clinical Guideline Revision History/Information

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