

1 **Clinical Practice Guideline: Ankle Arthroplasty**

2
3 **Date of Implementation: October 15, 2015**

4
5 **Product: Specialty**

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7
8 **GUIDELINES**

9 American Specialty Health – Specialty (ASH) considers procedures consisting of CPT
10 Codes 27700, 27702, or 27703 to be medically necessary for either total ankle replacement
11 *or* revision or replacement of an implanted total ankle replacement upon meeting the
12 following criteria:

13
14 Total ankle replacement *or* revision or replacement of an implanted total ankle replacement
15 is considered medically necessary, using an FDA approved device, **when the implanted**
16 **device has failed, and the criteria outlined below are met (all 3 in Group A, at least 1**
17 **in Group B, and NONE of the exclusionary criteria in Group C are present).**

- 18
19 1. Group A (ALL 3 of the following criteria are met):
- 20 • Skeletally mature individual; and
 - 21 • Ankle pain that significantly limits daily activity; and
 - 22 • Completion and failure of at least 6 months of conservative treatment (e.g.,
23 anti-inflammatory medication, physical therapy, splints or orthotic devices
24 as indicated)
- 25 2. Group B (At least 1 of the following criteria is met):
- 26 • Arthritis in adjacent joints (i.e., subtalar or midfoot); or
 - 27 • Previous arthrodesis of the contralateral ankle; or
 - 28 • Inflammatory (e.g., rheumatoid) arthritis; or
 - 29 • Severe arthritis of the contralateral ankle
- 30 3. Group C Exclusion Criteria (NONE of the following is present):
- 31 • Active ankle joint infection
 - 32 • Charcot neuropathy
 - 33 • Compromised bone stock or soft tissue
 - 34 • Extensive avascular necrosis of the talar dome
 - 35 • Malalignment (such as varus or valgus deformity greater than 15 degrees)
36 not correctable by surgery
 - 37 • Peripheral vascular disease

1 Services consisting of removal of ankle implant, CPT code 27704, must be performed and
 2 billed in conjunction with companion code CPT code 27703, arthroplasty, ankle; revision,
 3 total ankle.

5 CPT CODES AND DESCRIPTIONS

CPT® Code	CPT® Code Description
27700	Arthroplasty, ankle
27702	Arthroplasty, ankle; with implant (total ankle)
27703	Arthroplasty, ankle; revision, total ankle
27704	Removal of ankle implant

7 BACKGROUND

8 CPT code 27700 describes ankle arthroplasty of the joint surfaces to correct joint problems
 9 caused by arthritis. If excessive damage is noted, and the physician replaces damaged parts
 10 of the ankle with a prosthesis, report CPT code 27702. For procedures consisting of
 11 revision or replacement of an implanted total ankle replacement, report CPT code 27703.
 12 Removal of ankle implant performed in conjunction with revision or replacement of an
 13 implanted total ankle replacement is reported with CPT code 27704.

14
 15 Conservative care is the first line of treatment for degenerative ankle disease. Conservative
 16 management of ankle pain includes anti-inflammatory medication, bracing, physical
 17 therapy, activity modification and pain medication. Surgery is considered in patients that
 18 experience ankle pain and decreased function from arthritis after trying conservative
 19 management.

20
 21 End stage arthritis of the ankle is a leading cause of chronic disability. Ankle arthrodesis
 22 has traditionally been considered the gold standard surgery for patients with painful end-
 23 stage ankle arthritis. While ankle arthrodesis can successfully relieve the pain within the
 24 joint, the resulting range of motion restriction can shift motion stresses to the adjacent foot
 25 joints, which in time also become arthritic. In recent years, total ankle replacement (TAR)
 26 (often requiring adjunctive procedures as part of the surgical plan to ensure proper device
 27 function) has been refined and now has become a viable option to ankle arthrodesis and
 28 has high patient acceptance. Studies have shown total ankle replacement surgery improves
 29 patient function, reduces pain, and promotes improved quality of life. Furthermore, in a
 30 survey of the world literature on ankle fusion versus ankle replacement surgery, the safety
 31 profile of the two procedures is comparable. Total ankle replacement surgery is currently
 32 a safe and effective treatment option for select patients with end stage ankle arthritis
 33 (ACFAS, 2020).

1 Preservation of adequate bone stock is one of the main principles of TAR surgical
2 technique. An extensive bone resection may dramatically limit the revision surgery in case
3 of failure of the TAR, especially on the talar side. Also, the bone resection for implantation
4 of prosthesis components should consider the anatomical inner structure of bone
5 microarchitecture for optimal load transfer. The optimal load transfer is very important
6 because it would circumvent pathologically increased pressure peaks, which may cause
7 loosening and subsidence of components. Furthermore, the natural articular geometry of
8 the ankle should be considered during the design of any ankle prostheses.

9
10 Modern implants try to retain the radius of the curvature of the talus, resulting in improved
11 and a more natural range of motion. Additional surgeries should be performed, if necessary,
12 to achieve the appropriate ligament and osseous balance of the hindfoot. Failure to correct
13 hindfoot alignment or under correction of hindfoot deformity can cause a significant
14 increase of translation forces and movements during gait. This may lead to prosthesis
15 failure, especially in patients with remaining valgus misalignment, because valgus
16 misalignment is tolerated more poorly than varus.

17
18 Based on current literature, survivorship of total ankle arthroplasty implants, measured as
19 the retention of metal components, ranges from 70% to 98% at 3-6 years and from 80% to
20 95% at 8-12 years. Thus, obligatory reoperation either without removal of the metal
21 implants (i.e., relief of osseous or soft-tissue impingement, improvement of alignment or
22 stability of the foot and ankle, or bone-grafting) or revision of a loose implant component
23 can be anticipated. A successful return to low-impact, recreational sporting activities is
24 often possible after total ankle arthroplasty (Easley et al., 2011).

25
26 Although arthrodesis is a reliable procedure, ankle replacement is often preferred by
27 patients. Daniels et al. (2014) carried out a prospective study to evaluate intermediate-term
28 outcomes of ankle replacement and arthrodesis in a large cohort ($N=388$ ankles), with
29 variability in ankle arthritis type, prosthesis type, surgeon, and surgical technique. Patients
30 were treated with total ankle replacement (involving Agility, STAR, Mobility, or
31 HINTEGRA prostheses) or ankle arthrodesis (patients treated with arthrodesis were
32 younger, more likely to be diabetic, less likely to have inflammatory arthritis, and more
33 likely to be smokers). The major complications rate was 7% for arthrodesis and 19% for
34 ankle replacement. The Ankle Osteoarthritis Scale (AOS) total, pain, and disability scores
35 and Short Form-36 (SF-36) physical component summary score improved between the
36 preoperative and final follow-up time points in both groups. However, differences in AOS
37 and SF-36 scores between the arthrodesis and ankle replacement groups at follow-up were
38 minimal after adjustment for baseline characteristics and surgeon. The authors concluded
39 that intermediate-term clinical outcomes of total ankle replacement and ankle arthrodesis
40 were comparable in a diverse cohort in which treatment was tailored to patient presentation;
41 however, rates of reoperation and major complications were higher after ankle
42 replacement.

1 Patients with rheumatoid arthritis often have degeneration of the ankle and ipsilateral
2 hindfoot joints, and therefore have a higher risk of wound breakdown and infection when
3 undergoing total ankle arthroplasty. Pedersen et al. (2014) compared intermediate-term
4 clinical outcomes (63.8-65.6 months) after total ankle arthroplasty in patients with
5 rheumatoid arthritis and patients with non-inflammatory arthritis ($N=100$). The mean AOS
6 pain scores were significantly different in the rheumatoid arthritis and non-inflammatory
7 arthritis groups preoperatively ($p < 0.01$) but were similar following total ankle arthroplasty
8 (mean and standard deviation, 18.5 +/- 17.8 for the rheumatoid arthritis group and 19.7 +/-
9 16.5 for the non-inflammatory arthritis group; $p = 0.93$). Both groups showed significant
10 improvement ($p < 0.05$) with regard to the AOS scores for pain and disability and SF-36
11 physical component summary scores following surgery. Postoperatively, AOS disability
12 and SF-36 physical component summary scores were better for patients with non-
13 inflammatory arthritis. The authors concluded that patients with rheumatoid arthritis
14 benefit from total ankle arthroplasty and have similar outcomes to patients with non-
15 inflammatory arthritis. The overall pain and disability were worse for patients with
16 rheumatoid arthritis than for those with non-inflammatory arthritis preoperatively, but this
17 did not negatively influence their final outcomes.

18
19 Not every patient with end-stage arthritis of the ankle is a viable candidate for ankle
20 replacement. A surgeon experienced in total ankle surgery can make this determination
21 through careful history and physical evaluation. According to the American Orthopaedic
22 Foot and Ankle Surgeons, TAR is not suited for patients with significant deformity or
23 necrotic bone in the talus. Prior or current infections of the ankle, significant lower
24 extremity neuropathy, inadequate or absent leg muscle function, poor vascular supply to
25 the leg, or inadequate soft tissues are contraindications for TAR. As with any total joint
26 replacement, patients who are candidates for this procedure should be made aware of
27 alternative treatments and expected outcomes.

28
29 Significant preoperative varus or valgus deformity ($>10^\circ$) has also been seen as a
30 contraindication for TAR. However, the preoperative hindfoot deformity should not be an
31 absolute contraindication if additional realignment procedures (supramalleolar and/or
32 calcaneal osteotomies, ligament reconstruction, subtalar fusion) that may correct the
33 deformity can be employed.

34 35 **PRACTITIONER SCOPE AND TRAINING**

36 Practitioners should practice only in the areas in which they are competent based on their
37 education, training and experience. Levels of education, experience, and proficiency may
38 vary among individual practitioners. It is ethically and legally incumbent on a practitioner
39 to determine where they have the knowledge and skills necessary to perform such services
40 and whether the services are within their scope of practice.

1 It is best practice for the practitioner to appropriately render services to a member only if
2 they are trained, equally skilled, and adequately competent to deliver a service compared
3 to others trained to perform the same procedure. If the service would be most competently
4 delivered by another health care practitioner who has more skill and training, it would be
5 best practice to refer the member to the more expert practitioner.

6
7 Best practice can be defined as a clinical, scientific, or professional technique, method, or
8 process that is typically evidence-based and consensus driven and is recognized by a
9 majority of professionals in a particular field as more effective at delivering a particular
10 outcome than any other practice (Joint Commission International Accreditation Standards
11 for Hospitals, 2020).

12
13 Depending on the practitioner’s scope of practice, training, and experience, a member’s
14 condition and/or symptoms during examination or the course of treatment may indicate the
15 need for referral to another practitioner or even emergency care. In such cases it is prudent
16 for the practitioner to refer the member for appropriate co-management (e.g., to their
17 primary care physician) or if immediate emergency care is warranted, to contact 911 as
18 appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* clinical practice
19 guideline for information.

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