

1 **Clinical Practice Guideline: Lower Extremity Tenolysis/Tenotomy**

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3 **Date of Implementation: June 16, 2015**

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5 **Product: Specialty**

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8 **GUIDELINES**

9 A. American Specialty Health – Specialty (ASH) considers services consisting of CPT
10 Codes 27680 and 27681 to be medically necessary for treatment of tendon deformities
11 of the ankle **upon meeting ALL of the following criteria:**

- 12 1. Diagnosis of short Achilles tendon (acquired), ankle (ICD-10 codes M67.00 -
13 M67.02), and/or contractures, ankle and foot (ICD-10 code M24.571 - M24.576)
14 2. Failure of **AT LEAST 2 of the following** non- operative treatments:
15 ▪ Bracing
16 ▪ Orthoses
17 ▪ Physical therapy
18 ▪ Injections

19 B. ASH considers services consisting of CPT Code 28010, 28011, 28220, 28222, 28225,
20 28226, 28230, 28232, 28234 to be medically necessary for treatment of tendon
21 deformities of the foot/ankle/toe **upon meeting ALL of the following criteria:**

- 22 1. Diagnosis of **1 or more** of the following: short Achilles tendon (acquired), ankle
23 (ICD-10 codes M67.00 - M67.02), contractures, ankle and foot (ICD-10 code
24 M24.571 - M24.576), or other hammer toe (acquired), other deformities of toe
25 (acquired) and contractures, ankle and foot (ICD-10 codes M20.40 - M20.42,
26 M20.5X1 - M20.5X9, M24.571 - M24.576)
27 2. Contracture of foot flexor or extensor tendon(s)
28 3. Failure of **1 or more of the following** non- operative treatments with residual pain
29 that limits function:
30 ▪ Bracing
31 ▪ Orthoses
32 ▪ Physical therapy

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34 **CPT CODES AND DESCRIPTIONS**

CPT® Code	CPT® Code Description
27680	Tenolysis, flexor or extensor tendon, leg and/or ankle; single, each tendon
27681	Tenolysis, flexor or extensor tendon, leg and/or ankle; multiple tendons (through separate incision[s])

CPT® Code	CPT® Code Description
28010	Tenotomy, percutaneous, toe; single tendon
28011	Tenotomy, percutaneous, toe; multiple tendons
28220	Tenolysis, flexor, foot; single tendon
28222	Tenolysis, flexor, foot; multiple tendons
28225	Tenolysis, extensor, foot; single tendon
28226	Tenolysis, extensor, foot; multiple tendons
28230	Tenotomy, open, tendon flexor; foot, single or multiple tendon(s) (separate procedure)
28232	Tenotomy, open, tendon flexor; toe, single tendon (separate procedure)
28234	Tenotomy, open, extensor, foot or toe, each tendon

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BACKGROUND

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A contracture deformity occurs as a result of stiffness or constriction in the muscles, joints, tendons, or ligaments, resulting in restriction of normal movement. Subsequent digital deformities commonly take the form of hammer toes, claw toes, or mallet toes. The biomechanical etiology of these deformities is usually an imbalance between the flexor and extensor tendons of the toes. Abnormal foot mechanics (i.e., an increase in pronation) can contribute to these tendon imbalances. Furthermore, hindfoot trauma may result in stiffness or constriction that can involve the ankle and toes. The cause of stiffness can potentially be a combination of articular, osseous, tendon or other soft tissue causes. In the articular causes of hindfoot stiffness, calcaneal fractures can have an intraarticular extension to the anterior and posterior subtalar joints, and the calcaneocuboid joint and talar fractures can extend to the ankle, anterior and posterior subtalar joints and the talonavicular joint. In addition, posttraumatic arthrosis of the involved joints can also result in stiffness problems. Some implants, especially plating of the calcaneum, can also have the potential to cause impingement and limitation of hindfoot motion (Lui, 2018).

Nonsurgical treatment is the initial treatment choice for the symptomatic digital deformity. Nonsurgical treatment consists largely of footwear modification: using wider shoes with a larger toe box region may help alleviate symptoms and prevent progression of the deformities. Pressure areas may be relieved by toe sleeves and padding over the dorsum of the proximal interphalangeal joint and under the metatarsal heads. Metatarsal off-loading

1 insoles may also be used. Capsulitis may respond to a steroid injection and reducible
2 metatarsophalangeal joint subluxation associated with plantar plate tears may be managed
3 with taping (Malhotra et al., 2017).

4
5 If standard non-operative options fail to improve functional limitation and relieve pain,
6 surgical correction is the definitive treatment. If the deformity is reducible, soft tissue
7 procedures (i.e., tenotomy, tendon lengthening, or tendon transfer) may be all that is
8 necessary. Rigid deformities usually require a combination of soft tissue plus osseous
9 procedures (i.e., joint arthroplasty or arthrodesis). The choice of procedure should be
10 determined on a case-by-case basis.

11 12 **Tenotomy**

13 Tenotomy is the surgical division of a tendon for relief of a deformity caused by congenital
14 or acquired shortening of a muscle. Traditionally, open tenotomies were performed alone,
15 in significant tendon contractures without osseous involvement, or in combination with
16 osseous surgery when osseous changes were also present.

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18 Surgeons searching for less invasive procedures to address tendon pathology began
19 utilizing percutaneous tenotomies for a multitude of various foot and ankle deformities.
20 Percutaneous tenotomy technique has been beneficial for the foot and ankle surgeon in its
21 use for the digits. This procedure may be used alone in the treatment of flexible digital
22 contractures. Variable combinations of procedures on the soft tissues and bones are used
23 depending on the nature of the lesions; whether the deformity can be reduced completely,
24 partially, or not at all; and the symptoms.

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26 Digital deformities may be treated by tenotomy or tendon lengthening at the level of the
27 MPJ, PIPJ, or DIPJ may be sufficient when the deformity is manually reducible or flexible;
28 however, this may require combining with other soft tissue procedures, especially at the
29 level of the MPJ. When the deformity is fixed, both osseous and soft tissue procedures
30 often are performed in combination (Malhotra et al. 2017).

31 32 **Tenolysis**

33 If the tendon sheath is too tight, it can prevent the normal gliding function of the tendon.
34 Incision of the sheath restores function by allowing the tendon to move more freely.
35 Tenolysis is a surgical procedure that removes adhesions that impair normal tendon
36 movement within the sheath. Tenolysis may be performed if after a prolonged period of
37 immobilization, passive flexion noticeably exceeds active flexion or if the patient exhibits
38 a fixed contracture at a proximal interphalangeal joint.

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40 Although tenolysis of the foot and ankle is reported in clinical practice, there are limited
41 case studies/series that evaluate tenolysis for short Achilles tendon and contractures of the
42 ankle and foot. Olden & Vallotton (2020) described an endoscopic approach involving

1 arthroscopic correction of blockage of the flexor hallucis longus, located at the retrotalar
2 pulley. The procedure restored the ability for dorsiflexion of the first toe in ankle
3 dorsiflexion (positive stretch test result), correcting a modified gait pattern affecting the
4 biomechanics of the foot and leg. The authors reported favorable changes concerning foot
5 dynamics by restoration not only of the normal tendon glide but also of the normal mobility
6 of the subtalar joint.

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8 Barchi et al. (2022) carried out a retrospective case series study on dancers who had
9 undergone flexor hallucis longus (FHL) tenolysis/tenosynovectomy after having failed
10 conservative management. This study evaluated a sample of 58 dancers and 63 ankles who
11 underwent flexor hallucis longus tenolysis/tenosynovectomy via an open posteromedial
12 approach by a single surgeon between 1993 and 2017. Collected variables included:
13 preoperative and postoperative pain levels, time to return to dance, and subjective
14 satisfaction with the procedure. Age, primary dance form, and level of dance were
15 determined. Mean preoperative pain level decreased significantly postoperatively. Mean
16 time to return to dance was 7.1 weeks. There was a 98% (62/63) return to dance at some
17 level while 97% (61/63) of patients returned to dance symptom-free. There were no
18 neurovascular or other major complications. Minor complications included stiffness at
19 follow-up (6.3%, 4/63), superficial wound infection (3.1%, 2/63), and hypertrophic scar
20 (4.8%, 3/63). Over 97% (61/63) of dancers considered the procedure a success and 98%
21 (62/63) of dancers would repeat the procedure. The patients reported satisfactory pain relief
22 and return to dance with a low complication rate.

23 24 **PRACTITIONER SCOPE AND TRAINING**

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

30
31 It is best practice for the practitioner to appropriately render services to a member only if
32 they are trained, equally skilled, and adequately competent to deliver a service compared
33 to others trained to perform the same procedure. If the service would be most competently
34 delivered by another health care practitioner who has more skill and training, it would be
35 best practice to refer the member to the more expert practitioner.

36
37 Best practice can be defined as a clinical, scientific, or professional technique, method, or
38 process that is typically evidence-based and consensus driven and is recognized by a
39 majority of professionals in a particular field as more effective at delivering a particular
40 outcome than any other practice (Joint Commission International Accreditation Standards
41 for Hospitals, 2020).

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

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