

The Healthcare Medicine Institute presents

Acupuncture For Achilles Tendinopathy

a continuing education course



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Achilles Tendinopathy

Achilles tendinopathy is a painful and often progressive musculoskeletal disorder affecting the Achilles tendon, the largest and strongest tendon in the human body. It connects the triceps surae muscle group—comprising the gastrocnemius, soleus, and plantaris muscles—to the calcaneus bone. This anatomical configuration enables the calf muscles to exert downward force on the heel, facilitating essential movements such as walking, running, and jumping. Achilles tendinopathy is commonly caused by overuse and can impact both athletes and sedentary individuals.

Enjoy the HealthCMi video on acupuncture for Achilles tendinopathy to learn about acupuncture points and treatments.

Video Link:

[Acupuncture For Achilles Video >](#)

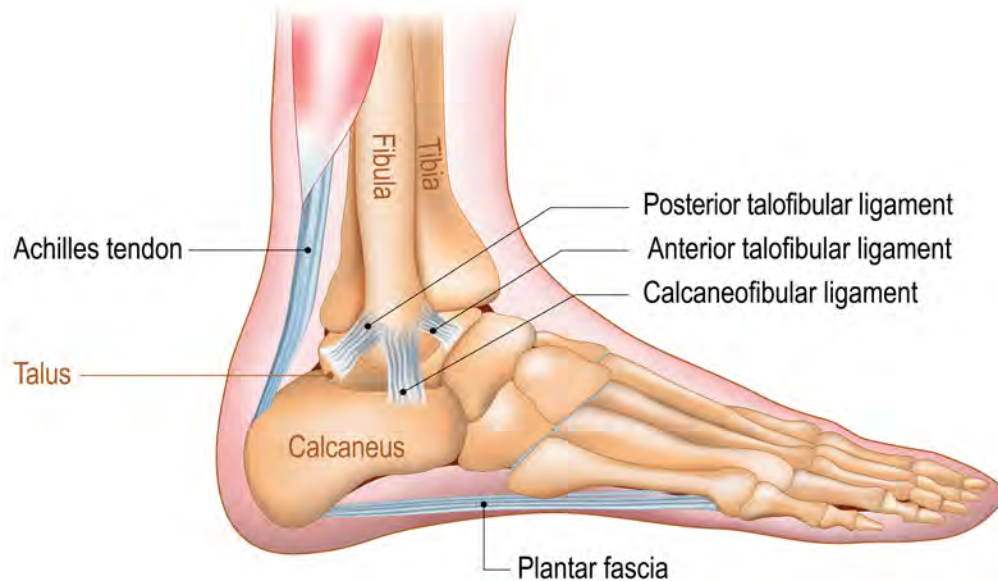
Anatomy and Pathophysiology

The Achilles tendon spans from the aponeuroses of the calf muscles to its insertion at the posterior aspect of the calcaneus. A particularly vulnerable hypovascular zone exists approximately 2–6 cm proximal to the calcaneal insertion. This region is frequently affected in non-insertional Achilles tendinopathy.

Achilles tendinopathy encompasses both **tendinitis**, referring to acute inflammation, and **tendinosis**, denoting chronic degenerative changes. Insertional tendinopathy involves the tendon's bony insertion and is characterized by distal third pain and stiffness, often worsening in the morning. Non-insertional tendinopathy affects the mid to proximal third of the tendon and may present with palpable nodules and tendon

thickening.

THE ANKLE JOINT



Paratenonitis

A subset of Achilles pathology, **paratenonitis**, involves inflammation of the outer tendon layers, including tenosynovitis and tenovaginitis. The inflammatory process can result in edema, exudate formation, and eventual adhesion development via a fibrinous network, restricting tendon mobility.

Tenosynovitis and tenovaginitis are both inflammatory conditions that affect the sheath surrounding a tendon, and they are particularly relevant in the context of Achilles tendinopathy when the outer layers of the Achilles tendon are involved.

Tenosynovitis refers to inflammation of the synovial sheath that

encloses a tendon. This condition can lead to swelling, pain, and impaired tendon movement due to fluid accumulation and inflammation within the sheath. It often occurs with overuse or repetitive strain.

Tenovaginitis is a closely related term and often used interchangeably, though it more specifically emphasizes inflammation of the vaginal (sheath-like) covering of the tendon. It similarly results in pain, swelling, and restriction in tendon gliding.

In Achilles tendinopathy, both conditions fall under the broader term paratenonitis, where inflammation affects the paratenon, the loose connective tissue surrounding the tendon. If untreated, this inflammation may lead to:

- Edema and exudate formation
- Fibrinous deposits, leading to crepitus (a crackling sensation)
- Adhesion formation, which restricts the tendon's mobility and increases the risk of chronic dysfunction

These inflammatory responses contribute significantly to pain, stiffness, and functional limitations in affected individuals.

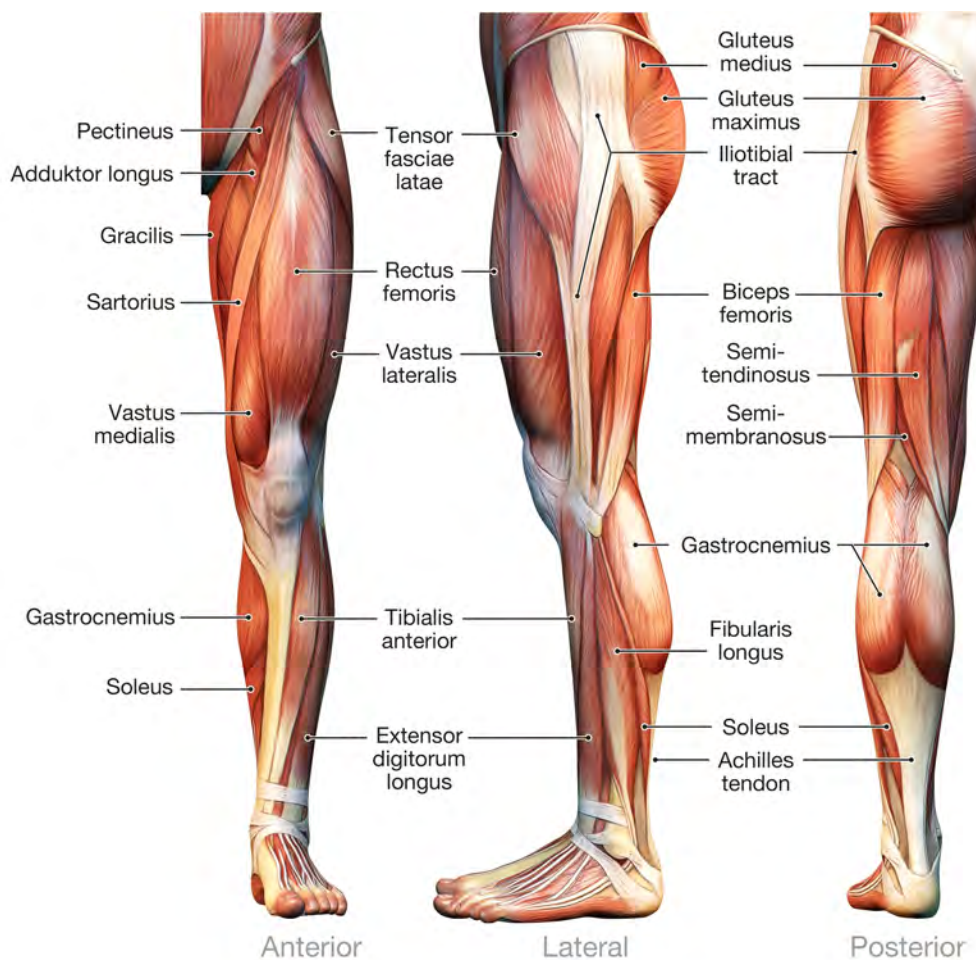
Neovascularization

Chronic inflammation is associated with neovascularization, increasing rupture risk and complicating treatment:

Chronic inflammation in Achilles tendinopathy stimulates neovascularization, the formation of new blood vessels within the tendon tissue. While this may initially appear as a healing response, it is maladaptive in this context. The newly formed vessels are often accompanied by nerve ingrowth, which contributes to increased pain sensitivity. Moreover, these vascular changes are linked to weakened tendon structure, thereby increasing the risk of tendon rupture. The abnormal tissue remodeling and altered tendon matrix associated with

neovascularization also complicate both conservative and surgical treatment, making recovery more difficult and prolonging the healing timeline.

Muscles and Tendons of the Leg



Clinical Presentation

Patients may report:

- Pain at the posterior heel or along the tendon
- Difficulty or inability to walk, particularly on uneven terrain or inclines
- Swelling and warmth localized to the tendon
- Morning stiffness
- Tenderness and thickening on palpation
- Decreased functional capacity

The severity is commonly graded as:

- **Mild:** Pain during or shortly after activity
- **Moderate:** Swelling and possibly a palpable nodule
- **Severe:** Pain during all weight-bearing activities; tendon rupture may occur, described by patients as a “hard whack” on the heel

Causes and Risk Factors

The condition may result from various internal and external factors, including:

- **Overuse:** Repetitive microtrauma from activities such as running and jumping
- **Arthritis:** Including ankylosing spondylitis and psoriatic arthritis, which can affect both tendons
- **Foot deformities:** Flat feet (pes planus) or hyperpronation impose excessive mechanical stress on the tendon
- **Obesity:** Increases mechanical loading and worsens tendon strain
- **Inappropriate footwear:** Poor arch support or regular use of high

heels

- **Fluoroquinolone antibiotics:** In some cases, linked to tendinopathy or rupture shortly after use

Diagnosis

Diagnosis is based on:

- **Medical history:** Including exercise habits and footwear choices
- **Physical examination:** Often performed with the patient standing and prone to evaluate for swelling, focal or diffuse tenderness, and rigidity
- **Ultrasound:** Reveals increased tendon thickness, hyperemia, hypoechoic areas, and disrupted fibrillar alignment. It is especially useful in dynamic assessments.
 - *Insertional tendinopathy:* Hypoechoic zone and loss of fibrillar appearance at the distal third
 - *Non-insertional tendinopathy:* Diffuse or focal thickening in the mid to proximal tendon
- **MRI:** Provides multiplanar static and dynamic views.
- **CT scan:** Used to exclude calcaneal trabecular abnormalities; involves radiation exposure
- **Blood tests:** Occasionally used to assess systemic inflammatory causes
- **VISA-A (Victoria Institute of Sports Assessment–Achilles):** A functional questionnaire for grading pain and tracking treatment efficacy

Conventional & Conservative Treatment

Most cases are initially managed non-surgically:

- **Rest:** Avoiding aggravating activities (e.g., running, jumping)
- **NSAIDs:** Typically administered over 7–10 days for pain control, as advised by a physician
- **Ice application:** 20 minutes per hour while painful
- **Chinese Medicine:** Acupuncture, Herbal Medicine, Tui-Na Massage, Qi Gong, Tai Ji
- **Manual physical therapy:** May target local mechanical dysfunction and inflammation
- **Footwear modification:** Enhancing support can alleviate strain
- **Eccentric loading exercises:** Shown to reduce pain by up to 40%; preferred over concentric exercises
- **Orthotics:** Custom shoe inserts may help in cases of foot arch collapse or hyperpronation, although no specific splint or orthosis has been shown to be superior in studies. Taping is also used.
- **ESWT (Extracorporeal Shockwave Therapy):** ESWT delivers acoustic pressure waves to the affected tendon tissue

Surgical Management

Surgical intervention is considered in 10–30% of cases after six months of failed conservative treatment or in the case of complete rupture. Options include:

- **Open debridement:** Removal of degenerated tendon segments

- **Minimally invasive techniques:** Show similar results to open procedures with potentially fewer complications
- **Radiofrequency ablation:** Not superior to standard open debridement
- **Calcaneal resection (Haglund deformity) and bursa removal:** While theoretically beneficial, recent literature questions the relevance of bony morphology (e.g., Fowler-Philip and Bohler angles) in symptom causation
- **Tendon detachment and reattachment:**
 - May involve medial or lateral approaches; the lateral takedown is associated with fewer complications
- **Tendon transfer:**
 - *Flexor hallucis longus (FHL):* Most reliable option for augmenting or replacing tendon structure
 - Alternatives include peroneus brevis, tibialis anterior, and flexor digitorum longus tendons when FHL is unavailable
- **Strayer gastrocnemius recession:** Reduces pain but compromises plantarflexion strength; not advised for athletes

Post-Surgical Recovery

Rehabilitation is initiated soon after surgery and involves structured stretching and strengthening. While most patients return to normal daily activity within 10 weeks, return to competitive sport may take three to six months depending on individual healing capacity and adherence to rehab protocols.

Prevention

Strategies to reduce the incidence of Achilles tendinopathy include:

- **Consistent warm-up and cooldown routines incorporating stretching**
- **Avoiding sudden changes in training intensity**
- **Maintaining a level of fitness appropriate for sport-specific demands**
- **Using quality footwear with proper arch support**
- **Avoiding regular high heel use, which shortens the Achilles and impairs flexibility**
- **Maintaining a healthy body weight**
- **Prompt rest when early symptoms of tendon strain are present**

Summary

Achilles tendinopathy is a complex condition with multifactorial causes, and its management requires a thorough understanding of both anatomical considerations and treatment modalities. While conservative management is successful in most cases, persistent or severe tendinopathy may require surgical correction. Adherence to preventive strategies and individualized care plans are essential to optimize outcomes and reduce recurrence.

Acupuncture For Achilles Tendinopathy Relief Found

HealthCMi



In a randomized controlled trial conducted at Nellis and Eglin Air Force Bases, researchers found that electroacupuncture (EA), when used adjunctively with eccentric exercise, significantly improved short-term pain outcomes in patients with insertional Achilles tendinopathy. The study concluded that while both groups experienced functional improvement, the EA group demonstrated superior pain reduction immediately following exercise sessions, indicating a beneficial role for EA in managing acute pain in this condition [1]. Nellis Air Force Base is located in southern Nevada, just northeast of Las Vegas. Eglin Air Force Base is situated in the Florida Panhandle, near the city of Fort Walton Beach along the Gulf Coast.

The trial enrolled 59 participants, of whom 52 completed the study, resulting in 69 affected Achilles tendons due to some subjects presenting with bilateral inflammation. All participants were Department of Defense beneficiaries over 18 years of age, clinically diagnosed with insertional Achilles tendinopathy—defined as pain within 2 cm of the calcaneus insertion and persistent symptoms for more than 8 weeks. Eligibility required a VISA-A (Victorian Institute of Sports Assessment–Achilles) score of less than 60. Participants were randomized into two groups: one receiving eccentric exercise therapy alone, and the other receiving the same exercise program with adjunctive EA over the initial four clinical visits [1].

Acupuncture Procedures

Electroacupuncture was administered at the first four clinical visits of the treatment group. The acupuncture points used included BL60 and BL61, and KD3 and KD4. Stainless steel filiform needles (SEIRIN, 0.25 mm × 40 mm) were inserted until a firm catch of the tendon was palpated by the provider, indicating penetration of the paratenon or surrounding connective tissue. The paratenon is a vascular connective tissue layer surrounding a tendon that facilitates movement and provides essential blood supply for tendon healing and function. The needling technique was tendon-directed.

The EA protocol applied a continuous current using an ES-130 electroacupuncture unit. Two electrode circuits were employed: one connected from KD3 (negative lead) to KD4 (positive lead), and the other from BL61 (negative) to BL60 (positive). Stimulation was delivered at a frequency of 30 Hz for 15 minutes per session, at the maximum amplitude tolerated by the patient [1].

Exercise Protocol

All participants, regardless of group, followed a home-based eccentric-exercise regimen based on protocols outlined by Arnold and Moody, and

further supported by prior literature from Childress and Beutler. Eccentric exercise involves lengthening a muscle under load and is commonly used in rehabilitation protocols to strengthen tendons and reduce pain in tendinopathies. Each patient performed two specific exercises, 15 repetitions each, three times daily over a 12-week period. At each visit (weeks 0, 2, 4, 6, and 12), patients completed one supervised set of exercises and reported pain levels pre- and post-exercise using a Numeric Pain Rating Scale (NPRS), ranging from 0 (no pain) to 10 (worst pain) [1].

Clinical Outcomes

While both groups achieved functional gains over 12 weeks, the improvements in VISA-A scores did not differ significantly between them. The treatment group demonstrated a mean improvement of 21 points ($P < 0.01$), and the control group improved by 22 points ($P = 0.02$). However, the number of patients reaching full recovery—defined as a VISA-A score ≥ 90 —was higher in the EA group (6 participants) than in the control group (2 participants) [1].

Where EA proved clearly beneficial was in short-term pain relief. The treatment group experienced a statistically significant reduction in pain immediately after exercise, with a mean decrease of 1.0 points on the NPRS (95% CI: 0.7 to 1.3; $P < 0.01$). Conversely, the control group exhibited a slight increase in pain post-exercise (mean change = -0.3; 95% CI: -0.5 to 0.02; $P = 0.065$). The between-group difference in pre- to post-exercise pain scores was also statistically significant ($P < 0.01$), indicating that EA provided effective acute analgesia during rehabilitative activities [1].

Acupuncture Needle Safety and Adverse Effects

No major adverse events occurred in either group, affirming the safety of EA in a clinical setting when performed by trained acupuncture providers [1].

Interpretation and Implications for Practice

While functional recovery over 12 weeks was similar between groups, EA significantly mitigated short-term exercise-induced pain. The findings suggest a potential role for EA in enhancing patient adherence and tolerance to rehabilitation by reducing discomfort during therapy.

Acupuncturists seeking to reproduce the protocol should note the specific parameters: bilateral needling at BL60–BL61 and KD3–KD4, 0.25 mm × 40 mm filiform needles, tendon-directed insertion, and continuous electrical stimulation at 30 Hz for 15 minutes at maximum tolerated amperage. Treatments were delivered over four sessions during the early stages of a 12-week eccentric rehabilitation course [1].

Acupuncture used as an adjunct to standard eccentric exercise therapy, improves short-term pain outcomes in patients with insertional Achilles tendinopathy. The integration of EA can facilitate better patient tolerance during exercise sessions—especially in the acute phase of rehabilitation. Future trials may explore extended EA protocols and their effect on long-term outcomes and recurrence prevention.

Achilles Tendon Acupuncture

HealthCMi staff acupuncturists note that the above research found limited functional recovery benefits although excellent pain relief using electroacupuncture. This may be, in part, due to the parameters of the acupuncture point selection. Improved outcomes may be attainable using more specifically targeted points with a direct therapeutic focus on the Achilles tendon. The following three acupuncture points are beneficial for the Achilles tendon:

- **N-LE-3 (Genping, Level with the Heel)**
- **M-LE-10 (Quanshengzu, Spring at the Foot)]**
- **M-LE-9 (Nuxi, Woman's Knee)**

Genping is located on a line connecting the medial and lateral malleoli, at the posterior aspect of the body on the achilles tendon. A local point for the treatment of the achilles tendon, this acupoint is often needled to a depth of 0.5–0.8 cun. This point is traditionally indicated for foot disorders due to infantile paralysis.

Quanshengzu is located at the back of the heel, at the middle of the superior margin of the calcaneus bone, at the achilles tendon. Needle insertion is typically 0.2–0.3 cun. Indications include esophageal spasms, diseases of the brain, and lower back pain.

Nuxi is located at the back of the heel, at the center of the calcaneus bone. Needle insertion is typically 0.2 cun. Indications include gingivitis and mental illness. Additional acupuncture points include KD3 (Taixi), SP6 (Sanyinjiao), GB39 (Xuanzhong), and other local points.

Ankle Disorders

Chronic ankle instability, recurrent sprains and strains, and post-surgical recovery are commonly addressed in acupuncture clinics. For persistent or recurring conditions, local acupuncture points are selected to enhance joint stability and improve functional strength. Frequently used acupoints include:

- **KD3 (Taixi)**
- **BL60 (Kunlun)**
- **GB40 (Qixu)**
- **ST42 (Chongyang)**

Over time, some patients begin to internalize their condition, believing their ankle dysfunction is permanent. However, many of these individuals can achieve full recovery or substantial functional improvement with appropriate care. Both manual acupuncture and electroacupuncture are employed to stimulate local microcirculation, reduce inflammation, and promote tissue

repair, often accelerating recovery and supporting long-term joint health.

Source

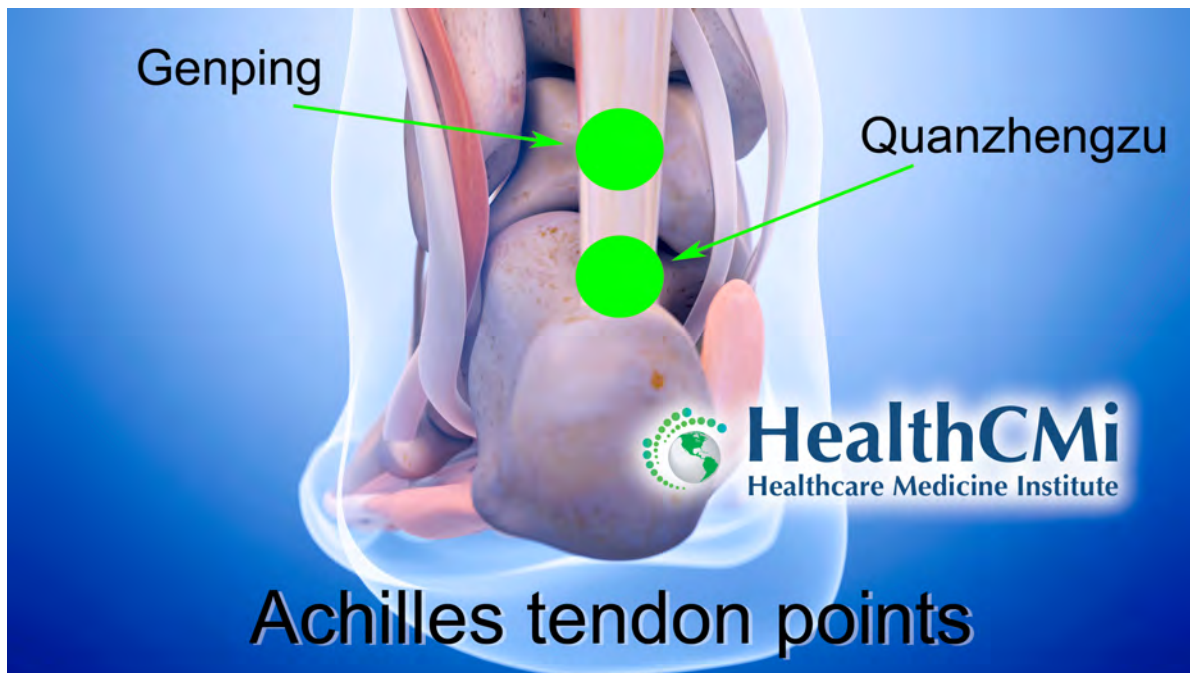
1. Matthew Hawks, Erik Clauson, Pamela Hughes, Rebecca Lauters, and Paul Crawford, "Treatment of Insertional Achilles Tendinopathy Using Adjunct Electroacupuncture Therapy: A Randomized Controlled Trial," *Medical Acupuncture* 35, no. 2 (2023): 76–81. Testing at Florida and Nevada facilities.

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Primary Acupuncture Points



- **N-LE-3** (Genping, Level with the Heel)
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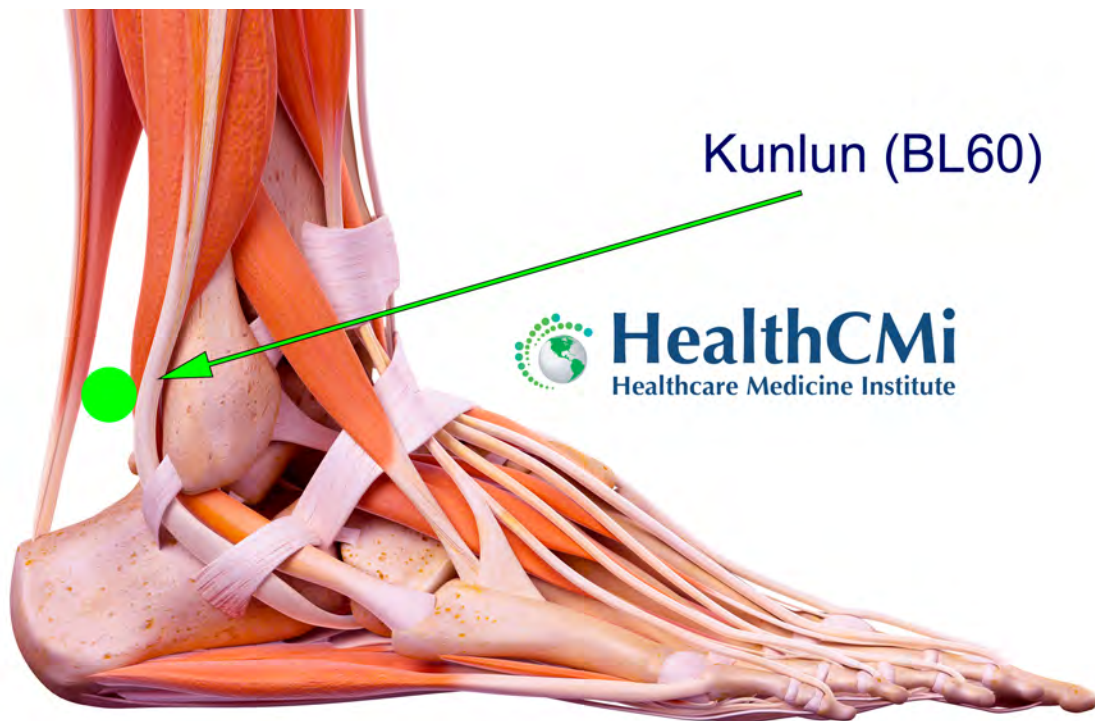
Nuxi is located at the back of the heel, at the center of the calcaneus bone. Needle insertion is typically 0.2 cun. Indications include gingivitis and mental illness. Additional ankle/Achilles related acupuncture points include KD3 (Taixi), SP6 (Sanyinjiao), GB39 (Xuanzhong), and other local points.

Additional Local Acupuncture Points

BL60

Kulun, 昆仑 Kulun Mountains

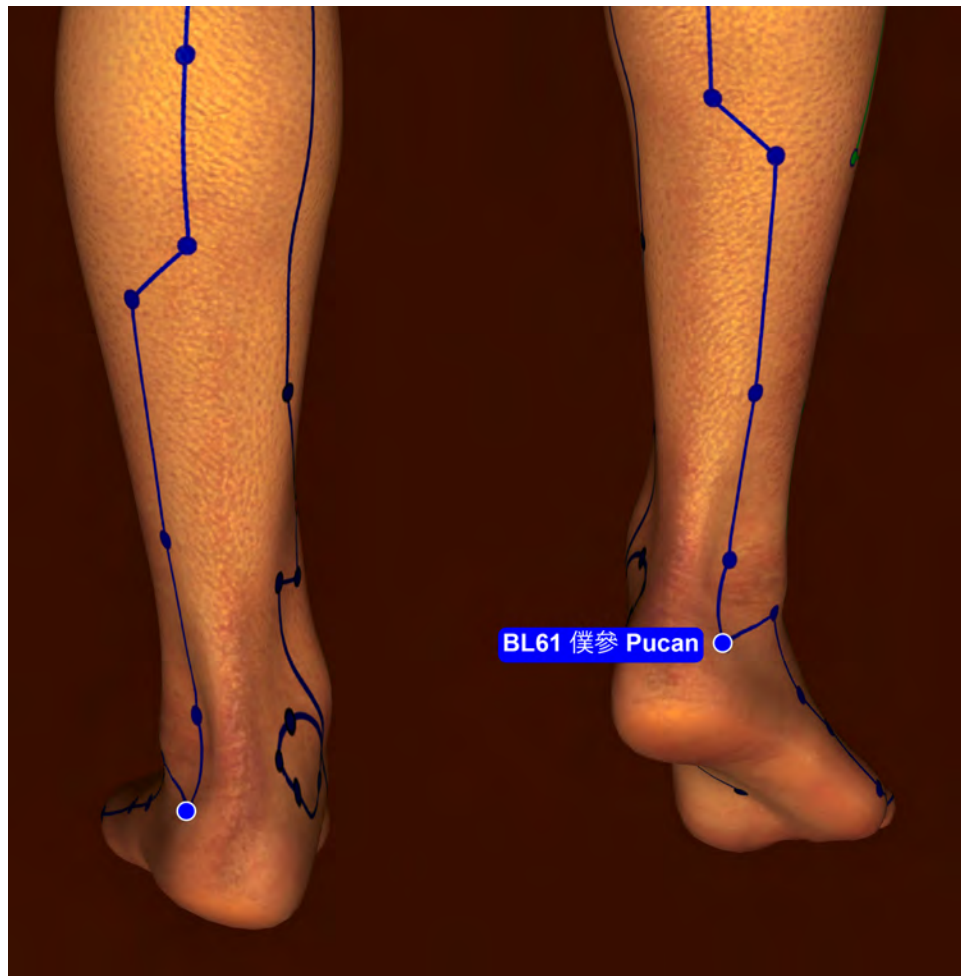
BL60 is located in the depression between the external malleolus and tendocalcaneus. It is a jing river and fire point. BL60 disperses wind, clears the channels, relaxes sinews and muscles, and benefits the lower back. Common indications include headache, low back pain, stiff neck, ankle and heel disorders, difficult labor and delivery. As a result, this point is contraindicated during pregnancy unless specifically to promote labor.



BL61

Pucan, Servant's Respect 僕參

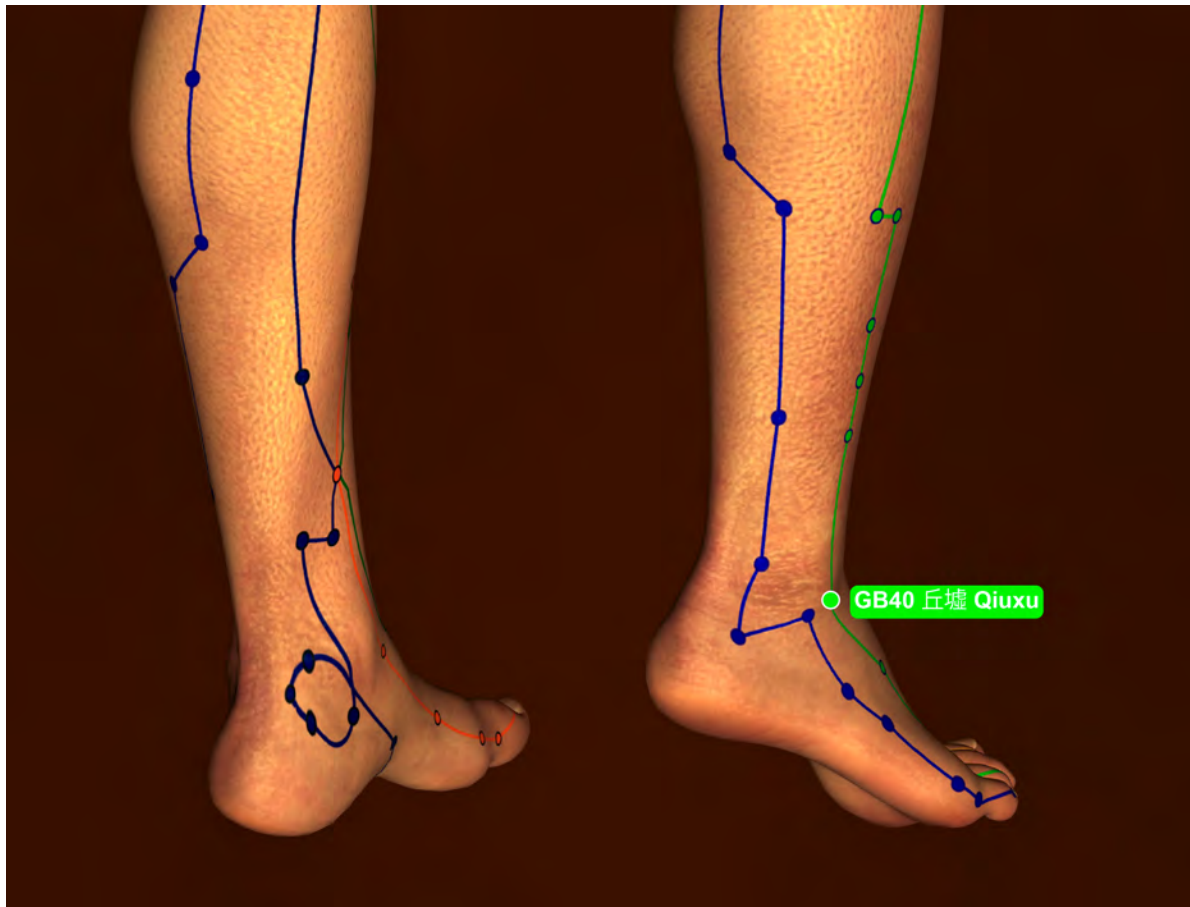
BL61 is posterior and inferior to the external malleolus, directly below BL60, in the depression of calcaneum, at the junction of the red & white skin, located 1.5 cun below BL60. BL61 relaxes the sinews, activates the channels and alleviates pain. Common indications for use include low back pain, heel pain, paralysis of the lower extremities, headaches, knee swelling, and painful or turbid urination.



GB40

Qiuxu, Mound of Ruins 丘墟

GB40 is anterior and inferior to the external malleolus, in depression on the lateral side of the tendon of the m. extensor digitorum longus. It is in the hollow just below and slightly anterior to the lateral malleolus of the ankle. It is a yuan-source point and spreads liver qi, benefits the gallbladder, and clears the channels. Common indications include leg disorders, ankle pain, hypochondrium pain, and axillary swelling.

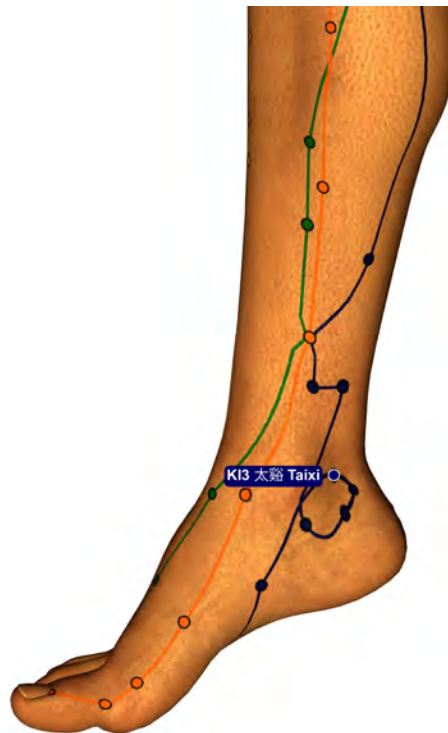


KD3

Taixi, Supreme Stream 太谿

KD3 is located between the medial malleolus and the tendocalcaneus. KD3 is in the depression between the medial malleolus and the Achilles tendon, level with the prominence of the medial malleolus.

KD3 is a shu-stream, earth, and source point. It benefits the kidneys, cools the heat, and strengthens the lower back and knees. Common indications include irregular menstruation, ankle disorders, spermatorrhea, enuresis, toothache, sore throat, tinnitus, deafness, emphysema, asthma, sore throat, and thirst. For the treatment of kidney qi deficient lower back pain, manual acupuncture may be applied to elicit deqi radiating to the lower back or electroacupuncture may be applied bilaterally. This point is indicated for the treatment of knee disorders related to kidney qi, yin, and yang deficiency or kidney and liver disharmonies, wherein water fails to nourish wood.



KD4

Dazhong, Great Bell 大鐘

KD4 is posterior & inferior to the medial malleolus, in the depression medial to the attachment of the tendocalcaneus. KD4 is approximately 0.5 cun posterior to the midpoint of the line drawn between KD3 and KD5, on the anterior border of the Achilles tendon.

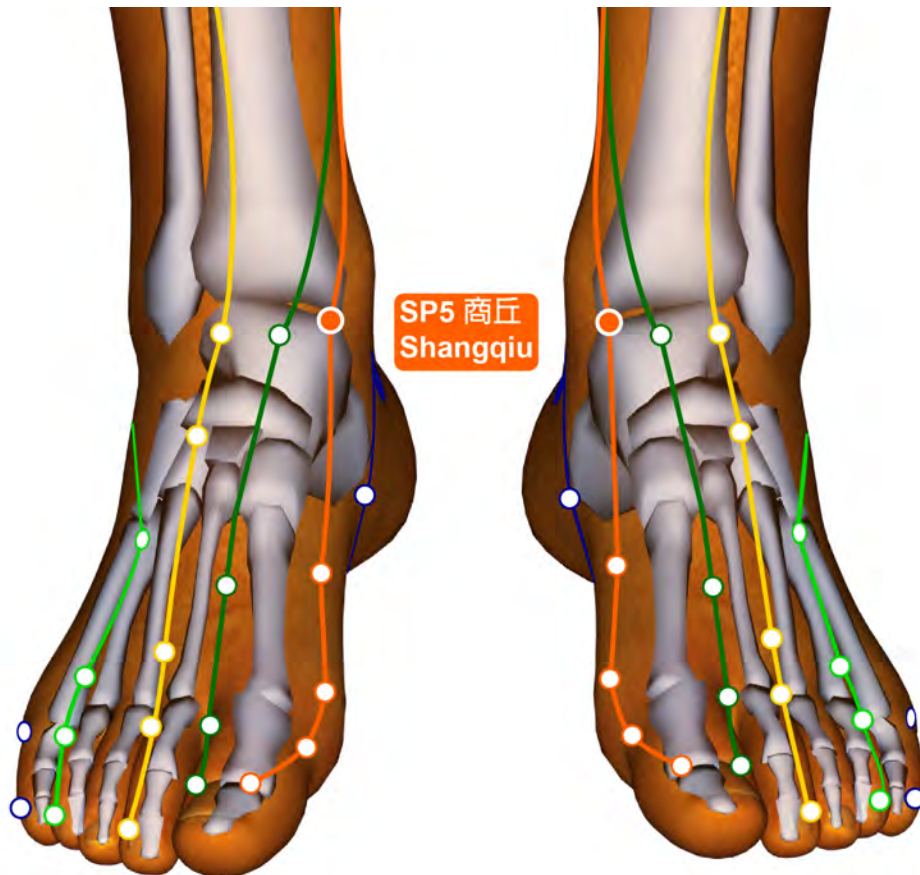
KD4 is a luo-connecting point of the kidney channel and connects to BL64. KD4 benefits the kidneys, benefits the lungs, strengthens will and dispels fear. Common indications include neurasthenia, dementia, asthma, dysuria, blood in the sputum, throat pain, and heel pain or swelling.



SP5

Shangqiu, Shang Mound 商丘

SP5 is in the depression distal and inferior to the medial malleolus, midway between the tuberosity of the navicular bone and the tip of the medial malleolus. SP5 is a jing-river, metal, and son point. SP5 strengthens the spleen & stomach, benefits the sinews and bone, calms the spirit, and transforms damp. Common indications include abdominal distention (especially due to spleen deficiency), constipation, diarrhea, hemorrhoids, ankle pain, and foot pain.



ST42

Chongyang, Rushing Yang 沖陽

ST42 is distal to ST41, at the highest point of the dorsum of the foot, in the depression between the 2nd & 3rd metatarsal bones and the cuneiform bone. ST42 is a source point and exit point. Caution: avoid the dorsalis pedis artery that is beneath this point. This point clears stomach heat, harmonizes the stomach, calms the spirit, and activates the channels to stop pain. Common indications include foot pain (especially of the dorsal aspect), toothache (especially pain of the upper teeth), and facial paralysis.

