

Foot Care Guide

February 2024



CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient. Refer to "Disclaimer Regarding Care Guides" for further clarification.

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GOALS

- Identify patients with foot conditions that can be managed by primary care and those that require a specialty referral and/or special footwear.
- Maintain foot health and improve quality of life.
- Encourage patient self-care of feet and nails when appropriate.

ALERTS

- Patients with Loss of Protective Sensation (LOPS) from diabetic or other neuropathy are at high risk for serious complications and specialty referral should be considered.
- Patients with Peripheral Artery Disease (PAD) or other vascular compromise are at high risk of non-healing infection and other pathology.

EVALUATION

- **History:** Identify the location of pain, timing of onset, patient's underlying medical conditions, any recent weight gain, or change in activity level.
- Assess risk for vascular or neurologic compromise that can lead to poor wound healing or other complications such as hypertension (HTN), osteomyelitis (OM), peripheral vascular disease (PVD), peripheral artery disease (PAD), end-stage renal disease (ESRD), or cerebrovascular disease. Note prior ulcers or amputations.
- Note the patient's foot care practices/shoe wear.

Physical Examination: Examine the feet without socks or shoes and while the patient is both sitting and standing (i.e., while weight-bearing). Observe:

- Swelling, color change, the height and shape of the arch.
- Abnormalities or asymmetries, such as abnormal callus patterns on the plantar surface, toenail deformity.
- Asymmetry in the forefoot width or arch height.
- Hammering of the toes, bunions or bunionettes, splaying of the toes, or abnormally short metatarsal segments.
- Neurovascular examination, pulses, sensation, monofilament test, ulcers/wounds, capillary refill.
- Gait as the patient enters the examination room to observe a limp or any other sign of injury.

Diagnostics (if indicated):

- CBC, CMP, HgA1C, plain radiography, Ankle Brachial Index (ABI).

TREATMENT

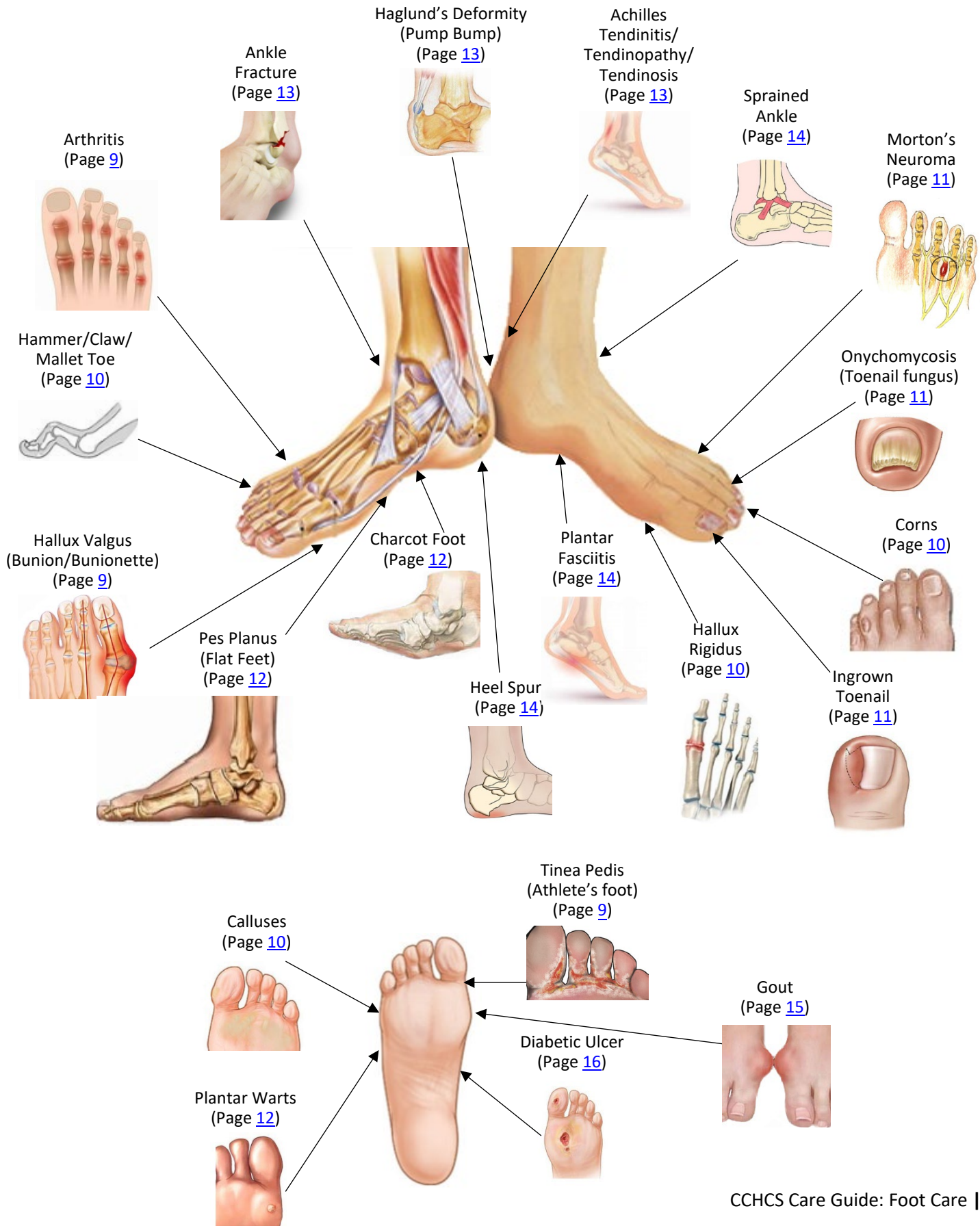
Foot/toe/nail conditions are common in primary care and can be a result of many factors including disordered biomechanics, obesity, and in some instances, shoe wear. Modifying activity and/or shoe wear (when available) is important.

- Assess if condition can be appropriately managed initially in the primary care setting which is often the case.
- Utilize modalities available for conservative management including stretching exercises, non-steroidal anti-inflammatory drugs (NSAIDs), physical therapy, activity, and lifestyle changes.
- Refer patients with foot wounds, ulcers, or infections (including diabetic ulcers) to CCHCS Wound Care Team.
- Refer patients to short-term physical therapy or podiatry if criteria is met.
- Educate all patients in self-care such as appropriate foot care and hygiene.
- For patients with normal neurovascular status, instruct in self-care related to proper toenail trimming.
- For patients with abnormal neurovascular status, develop institutional process for routine toenail and callus care.

MONITORING/FOOT/NAIL CARE

- Ensure both length and width of shoes are appropriate size.
- Toenail and callus trimming at regular intervals as indicated.
- Patients with abnormal neurovascular status should do daily self-foot exams.
- Diabetic patients should receive a barefoot exam regularly.

COMMON FOOT CONDITIONS¹



INITIAL EVALUATION

Patients may present with foot pain or systemic conditions that can be associated with neurovascular, joint, or skin problems. Disease, years of wear and tear, ill-fitting or poorly designed shoes, or improperly trimmed toenails may cause many common foot problems.

A careful inspection of the feet in a well-lit room should always be carried out after the patient has removed shoes and socks.

- Shoes should be inspected, and the question should be asked, “Are these shoes appropriate for these feet?”
- Examples of inappropriate shoes include those that are excessively worn or are too small for the person's feet (too narrow, too short, toe box too low), resulting in friction, blisters, or calluses.

General Assessment^{2, 3}

History

The history of the patient with foot pain focuses on identifying the location of pain, timing of onset, patient's underlying medical conditions, any recent weight gain, or change in activity level.

- Assess risk for vascular or neurologic compromise that can lead to poor wound healing or other complications such as hypertension, diabetes, peripheral vascular disease, peripheral artery disease, end stage renal disease, and cerebrovascular disease. Note prior ulcers or amputations.
- Ask about the patient's foot care practices/shoe wear.
- Ask about recent changes in activity level and/or weight.

Take a thorough history including:

- **Is the pain constant or intermittent?**
Constant pain suggests a more severe injury or a medical condition that mimics injury. Intermittent pain occurs in many injuries in which an inciting event triggers the condition.
- **How would you characterize the pain (e.g., dull, sharp, burning)?**
Acute injuries to joints or tendons often cause a sharp pain. Dull pain occurs in more chronic conditions. As an example, hallux rigidus causes a chronic dull ache in the first metatarsophalangeal (MTP) joint. Burning pain raises suspicion for nerve involvement.
- **Does the pain radiate?**
Radiating pain suggests that nerve irritation is the cause of symptoms in the foot. As an example, pain from Morton's Neuroma radiates from the metatarsal area where the nerve is injured to the inner aspect of adjacent toes.
- **Is there nighttime pain (i.e., pain when not bearing weight), or does pain occur only with weight bearing?**
Stress fractures and arthritic lesions often cause pain at night. Nocturnal pain may also arise from diabetic neuropathy. Conditions like plantar fasciitis and tendinopathy typically do not cause night pain and usually require weight bearing to elicit symptoms.
- **Did the pain develop following a specific injury or a change in sports or work activity (e.g., substantial increase in running distance)?**
The most common history for overuse injury is a change in sport or work activity that placed increased cumulative stress on the foot. The mechanism of specific acute injuries often indicates the likely diagnosis. As an example, Achilles tendinopathy causing chronic heel pain might stem from the cumulative stress of increased running mileage over a number of weeks, while heel pain from an acute tendon strain might have developed abruptly during a specific speed workout.
- **Did shoe/sole wear change before the pain started?**
As an example, the shoes of a runner with excess rear foot pronation and calcaneal valgus might show increased wear on the medial heel and virtually no wear on the lateral edge of the heel.
- **Have you had a significant gain in weight during the past year?**
Weight gain affects structures in the foot that provide support during standing or walking. Plantar fasciitis often occurs after a significant increase in weight.
- **Does anything relieve the pain?**
As an example, many patients with pain from a bunion (hallux valgus) or Morton's neuroma get relief simply by wearing a shoe with a wider toe box.

INITIAL EVALUATION, cont'd

General Assessment, cont'd

Inspection
- Physical
Exam

Physical Examination: This includes watching the patient's gait as they enter the examination room to see if there is a limp or any other sign of injury. Examine the feet without socks or shoes and while the patient is both sitting and standing (i.e., while weight-bearing). Look for:

- Swelling, color change, the height and shape of the arch
- Any abnormalities or asymmetries, such as abnormal callus patterns on the plantar surface, toenail deformity
- Asymmetry in the forefoot width or arch height (Note: The foot has three distinct arches. Two longitudinal arches [one on each side] run from front to back; one transverse arch runs across the midfoot from inside to outside.)
- Hammering of the toes, bunions or bunionettes, splaying of the toes, or abnormally short metatarsal segments
- Neurovascular examination, pulses, sensation, monofilament test, ulcers/wounds, capillary refill

Skin Assessment: The dermatological assessment should initially include a global and interdigital inspection for the presence of ulceration or areas of abnormal erythema.

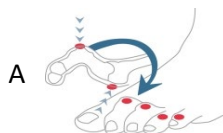
- The presence of callus (particularly with hemorrhage) should be recorded.
- Focal or global skin temperature differences between one foot and the other may be indicative of vascular disease.
- Check for:
 - Color
 - Skin thickness
 - Dryness
 - Fungal infection between toes
 - Calluses
 - Blistering
 - Infection
 - Cracking
 - Sweating
 - Ulceration

Nails: Examine the toenails for conditions such as ingrown toenails and toenail fungus.

Ankles: Examine all joints with the general pattern of “look, feel, move” as well as an assessment of gait.

Musculoskeletal Deformities: The musculoskeletal assessment should include evaluation for any gross deformity.

- Identify deformities of the toes (i.e., hammertoes, Picture A, or forefoot bunions, Picture B). When you see these deformities, note whether the shoe wear is appropriate, if it allows the patient to function without significant pain, and enables the patient to avoid callus or ulcer formation.
- An important and often overlooked or misdiagnosed condition is Charcot arthropathy (Picture C). This occurs in the neuropathic foot and most often affects the midfoot. This may present as a unilateral red, hot, swollen, flat foot with profound deformity. A patient with suspected Charcot arthropathy should be immediately referred to a specialist for further assessment and care.

Vascular
Exam

PAD is a component cause in approximately one-third of foot ulcers and is often a significant risk factor associated with recurrent wounds. Therefore, it is critical to perform a thorough physical examination of patients who are suspected to have vascular disease.

- Physical examination findings that can be suggestive of PAD include, but are not limited to, absence of dorsalis pedis and posterior tibial pulses, dependent rubor, and capillary filling time of > 3 seconds.
- Diabetic patients with signs or symptoms of vascular disease or absent pulses on screening foot examination should undergo testing of pedal pulses with a handheld Doppler, ABI pressure testing (See [CCHCS Chronic Wound Management Care Guide](#)), and be considered for a possible referral to a vascular specialist. ABI testing can be performed by nursing staff.

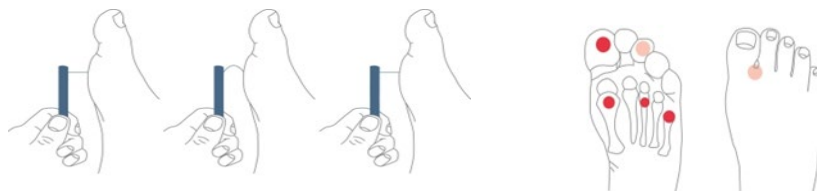
INITIAL EVALUATION, cont'd

General Assessment, cont'd

Neurologic/
Sensory
Exam

Identifying Loss of Protective Sensation (LOPS):

- Any of the five tests listed below are recommended to identify LOPS.
- Ideally, two of these should be regularly performed during the screening exam; the 10-g monofilament and one other test.
- One or more abnormal tests would suggest LOPS, while at least two normal tests (and no abnormal test) would rule out LOPS.
 - **10-g monofilament:** The device is placed perpendicular to the skin, with pressure applied until the monofilament buckles. It should be held in place for approximately one second and then released. The monofilament test should be performed at the highlighted sites while the patient's eyes are closed. Testing can be performed by nursing staff or the PCP.



- **128-Hz tuning forks:** The tuning fork is a test of vibratory sensation and should be tested over the tip of the great toe bilaterally. An abnormal response can be defined as when the patient loses vibratory sensation and the examiner still perceives it while holding the fork on the toe.
- **Pinprick sensation:** The inability to perceive pinprick sensation has been associated with an increased risk of ulceration. A disposable pin should be applied just proximal to the toenail on the dorsal surface of the hallux, with just enough pressure to deform the skin. Inability to perceive pinprick over either hallux would be regarded as an abnormal test result.
- **Ankle reflexes:** Ankle reflexes can be tested with the patient either kneeling or resting on a table. The Achilles tendon should be stretched until the ankle is in a neutral position before striking it with the tendon hammer. If a response is initially absent, the patient can be asked to hook fingers together and pull, with the ankle reflexes then retested with reinforcement. Total absence of ankle reflex either at rest or upon reinforcement is regarded as an abnormal result.
- **Ipswich Touch Test:** Lightly (and briefly) touch the tips of the first, third and fifth toes of both feet (6 toes) with the provider index finger for 1-2 seconds. The patient's eyes should be closed when toe is touched and is asked which toe is touched. The examiner should NOT push harder if patient does not feel initial touch (only touch once). Reduced foot sensation ≥ 2 insensate areas.

Shoe Wear Evaluation

Foot pain can be related to shoe wear. Identify any unusual wear patterns on soles of shoes or a constricted "toe box" in patients with toe deformities. It is expected that patients wear standard issue CDCR shoes/boots unless there is a clear medical necessity, and the condition meets InterQual (IQ) criteria (See page 17). Standard issue shoes/boots are to be sized by custody unless the patient has an underlying medical condition or deformity that may require therapeutic shoes. In these cases, anyone from the primary care team can size the patient.

The following are standard issue shoes in CDCR:



- **Slip-ons:** One pair of black slip-ons (canvas with soft box toe) made by PIA.
- **Work boots:** Working patients are issued one pair of standard work boots (soft lug sole, cushioned insert) by their prison employer, also made by PIA. Medical does not order or issue these boots.
- **Replacements:** Shoes/boots will be replaced with a new or used pair on an as-needed basis. The clothing room supervisor will review all requests and make a determination on whether to issue replacements. The life of shoe/boot laces may vary and will be replaced by custody as needed.

Other shoes that are available to order through inmate catalogs (by friends or family if funds are available):




- **Shower shoes:** Available from some canteen lists as well (dependent on institution)
- **Athletic/comfort shoes:** (See page 18 for examples)

SYMPTOM/CAUSE/TREATMENT OF COMMON CONDITIONS




The following pages list several common foot conditions and management. The conditions are organized into four categories:

- Forefoot (See pages 9-12)
- Midfoot (See page [12](#))
- Hindfoot (See pages [13-14](#))
- Diabetic and Cardiovascular Conditions (See pages [15-16](#))


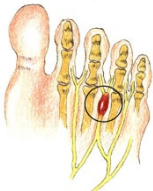

SYMPTOM/CAUSE/TREATMENT OF FOREFOOT CONDITIONS

Diagnosis	Symptoms/Cause	Treatment
Tinea Pedis (Athlete's foot) 	<ul style="list-style-type: none"> • Symptoms: Dry, red, scaly, flaky, itchy, and painful skin between the toes. Maculopapular lesions on an erythematous base; fissures, satellite lesions and excoriations may be present. • Causes: Superficial dermatophyte infection affecting the plantar and interdigital spaces caused by direct or indirect contact of the fungus tinea pedis. 	<p>Self-Care: Keep feet and socks clean and dry. Avoid walking barefoot and sharing socks or shoes.</p> <p>PCP:</p> <ul style="list-style-type: none"> • Prescribe antifungal cream (Lotrimin, Micatin, Tinactin) application to affected area twice daily for 4 weeks • Consider E-consult if prescription is ineffective • Refer to CCHCS Wound Management Team if there is an open wound
Arthritic Feet 	<ul style="list-style-type: none"> • Symptoms: Pain and swelling in joint(s), stiffness and reduced range of movement, and joint deformity. • Causes: Osteoarthritis (wear and tear), inflammation, injuries, bacterial and viral infections, bowel diseases, drugs, and congenital autoimmune diseases syndrome. 	<p>Most forms of arthritis cannot be cured but can be controlled.</p> <p>Self-Care:</p> <ul style="list-style-type: none"> • Exercise and weight loss <p>PCP:</p> <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area. • Short term physical therapy (4-6 weeks) of stretching
Hallux Valgus (Bunions/Bunionettes) 	<ul style="list-style-type: none"> • Symptoms: Bony deformities at the base of the big toe, which often cause it to point inwards. • Causes: Bone or tissue of the first toe and MTP joint moving out of place. Family history, arthritis, poorly fitting shoes, foot injuries, neuromuscular disorders, or congenital deformities may contribute to this condition. 	<p>Self-Care:</p> <ul style="list-style-type: none"> • Change shoe if improper fit—consider larger shoe size or width <p>PCP:</p> <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area • Consultation with specialist may be needed under the following conditions: symptoms persist in spite of multiple attempts at conservative therapy and symptoms significantly impair independent function


SYMPTOM/CAUSE/TREATMENT OF FOREFOOT CONDITIONS, cont'd

Diagnosis	Symptoms/Cause	Treatment
Corns and Calluses 	<ul style="list-style-type: none"> • Symptoms: Corns are small circles of thick skin on the tops and sides of toes or on the soles of the feet. • Causes: "Soft" corns often occur on the sides of toes that adjoin other toes, where friction or pressure is present. Although callus formation is a natural reaction of the body to pressure and friction stresses, it is important not to allow them to become too large or painful. • Symptoms: Calluses are larger areas of rough, thickened, yellowish skin, often found on the balls of the feet. • Causes: In calluses, skin thickens to protect the area from irritation due to excessive pressure or friction, often from poorly fitting shoes or certain activities like running. • Patients with diabetes should be aware that corns and calluses can set the stage for foot ulcers. 	Self-Care <ul style="list-style-type: none"> • Foot soaks or application of wet compresses • 5-10 minutes as needed to soften area • Avoid being barefoot; use socks • Change shoes if improper fit—consider larger shoe size or width PCP: <ul style="list-style-type: none"> • Reduction of corn or callus with surgical blade to assist with discomfort (See page 20)
Hallux Rigidus 	<p>Hallux rigidus is arthritis of the joint at the base of the big toe. It is the most common arthritic condition of the foot.</p> <ul style="list-style-type: none"> • Symptoms: Pain in the big toe joint while active, especially when pushing off to walk. Often, there is swelling around the big toe joint or difficulty moving and bending the toe. • A bump, like a bunion (hallux valgus) or bone spur, can develop on top of the big toe joint and be aggravated by rubbing against the inside of a shoe. • Cause: Not known; however, several risk factors have been identified. Risk factors include a long or elevated first foot bone (metatarsal) or other differences in foot anatomy, prior injury to the big toe, and family history. These can lead to excessive wear of the joint, which in turn leads to arthritis. 	Self-Care <ul style="list-style-type: none"> • Change shoes if improper fit—consider larger shoe size or width to limit pressure PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area • Physical therapy—for temporary short-term relief • Consultation with specialist may be needed under the following conditions: symptoms persist despite multiple attempts at conservative therapy and symptoms significantly impair independent function
Hammer/Claw/Mallet Toes 	<ul style="list-style-type: none"> • Symptoms: Pain at the top of the bent toe due to pressure from footwear, corns on the top of the joint, redness and swelling at the joint contracture, restricted or painful motion of the toe joint, pain in the ball of the foot at the base of affected toe. • Hammer: dorsiflexion of proximal phalanx at the MTP joint, flexion of PIP and DIP joint. • Claw: dorsiflexion of proximal phalanx at the MTP joint and plantar flexion of PIP and DIP joint. • Mallet: fixed flexion of the DIP joints. • Cause: heredity, trauma, arthritis, and wearing shoes that are too tight. • Hammertoes usually stem from muscle imbalance; this condition occurs when the toe is bent into a claw-like position and most frequently occurs to the second toe when a bunion slants the big toe toward and under it. 	Self-Care: <ul style="list-style-type: none"> • Change shoes if improper fit—consider larger shoe size or width PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area • Consultation with specialist may be needed under the following conditions: symptoms persist despite multiple attempts at conservative therapy and symptoms significantly impair independent function



SYMPTOM/CAUSE/TREATMENT OF FOREFOOT CONDITIONS, cont'd




Diagnosis	Symptoms/Cause	Treatment
Ingrown Toenails 	<ul style="list-style-type: none"> • Symptoms: Toenails with corners or sides that dig into the skin causing pain, redness, inflammation and sometimes infection. • Cause: The distal ends of the nail grow into the skin due to improperly trimmed nails, heredity, shoe pressure, crowding of toes, repeated trauma, fungus infection, and poor foot structure. 	Self-Care: <ul style="list-style-type: none"> • Foot soaks or application of wet compresses 2-3 times daily (See page 21) • Keep feet and socks dry • Trim toenails straight across with no rounded corners (See page PE-1 for proper trimming techniques) • Change shoes if improper fit—consider larger shoe size or width PCP: <ul style="list-style-type: none"> • In severe cases, when the toenail has become infected, treat with antibiotics that cover Gram-positive organisms; diabetic and immunocompromised patients may need broader-spectrum antibiotics • If a severe infection/inflammation is present, partial ingrown toenail removal can be done by primary care (See pages 21-23 for instructions on how to remove a toenail)
Morton's Neuroma 	<ul style="list-style-type: none"> • Symptoms: Enlarged benign growths of nerves, most commonly between the third and fourth toes due to thickening of the nerve fibers in the foot. May cause metatarsalgia-like pain, burning sensation, and numbness of toes. Aggravated by squeezing the metatarsal heads together (adduction). • Cause: Tissue rubbing against and irritating the nerves. Pressure from ill-fitting shoes or abnormal bone structure can also lead to this condition. 	Self-Care: <ul style="list-style-type: none"> • Rest • Change shoes if improper fit—consider larger shoe size or width PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area • Consultation with specialist may be needed under the following conditions: symptoms persist despite multiple attempts at conservative therapy and symptoms significantly impair independent function.
Onychomycosis (Toenail Fungus) 	<ul style="list-style-type: none"> • Symptoms: Thickened, distorted, white, black, yellow, or green nails sometimes surrounded by inflamed, painful skin. • Cause: Fungi, injury to the nail bed, pressure from shoes, diabetes, circulatory problems, immune-deficiency conditions, history of athlete's foot, and excessive perspiration. 	<p>Most cases of toenail fungus are cosmetic and do not require treatment.</p> Self-Care: <ul style="list-style-type: none"> • Keep feet and socks clean and dry PCP: <ul style="list-style-type: none"> • Nail removal and/or debridement for severe cases in diabetic patients may be considered; however, this condition can recur and nail removal and/or debridement may not result in complete resolution.



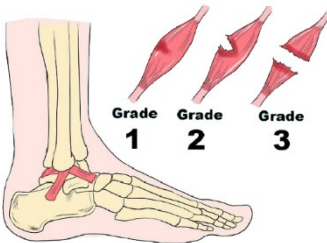
SYMPTOM/CAUSE/TREATMENT OF FOREFOOT CONDITIONS, cont'd



Diagnosis	• Symptoms/Cause	Treatment
Plantar Warts 	<ul style="list-style-type: none"> • Symptoms: Areas of flat, rough skin with well-defined boundaries that may appear in pairs or groups. They are often gray or brown (but the color may vary) with a center that appears as one or more pinpoints of black and are approximately 1-10mm diameter. • When plantar warts develop on the weight-bearing areas of the foot (the ball of the foot, or the heel, for example), they can be the source of sharp, burning pain. Pain occurs when weight is brought to bear directly on the wart, although pressure on the side of a wart can create equally intense pain. • Causes: Warts are caused by human papillomavirus (HPV) infection and can appear anywhere on the skin. Plantar warts appear on the sole of the foot. Most warts are harmless and are often mistaken for corns or calluses. • Warts can be very resistant to treatment and tend to reoccur. 	<p>Most foot warts are harmless.</p> <p>Self-Care:</p> <ul style="list-style-type: none"> • Avoid direct contact with warts as they can spread from touching or scratching the affected area • Avoid walking barefoot • Keep feet and socks clean and dry <p>PCP:</p> <ul style="list-style-type: none"> • Reduction of wart with surgical blade after soaking to assist with discomfort—can be done by primary care

SYMPTOM/CAUSE/TREATMENT OF MIDFOOT CONDITIONS



Diagnosis	• Symptoms/Cause	Treatment
Charcot Foot 	<ul style="list-style-type: none"> • Symptoms: Swelling in the foot and ankle, joint dislocation, foot instability, redness around foot and ankle, warm to touch. • Cause: It is commonly seen in diabetic patients. Nerve damage decreases sensation to temperature, pain, and trauma. When there is an injury, the patient may not seek treatment due to lack of pain. Walking on the untreated foot may cause further damage and may trigger Charcot foot. • Other common causes of neuropathy are infection, alcohol or drug abuse, spinal cord disease or injury, and Parkinson's Disease. 	<p>Self-Care:</p> <ul style="list-style-type: none"> • Activity modification to avoid repetitive trauma to the feet <p>PCP:</p> <ul style="list-style-type: none"> • Immobilization via cast, boot, brace, and/or crutches in the early stages of Charcot is necessary for foot healing. • A patient with suspected Charcot arthropathy should be immediately referred to a specialist for further assessment and care.
Pes Planus (Flat Feet)⁵ 	<ul style="list-style-type: none"> • Symptoms: Most people have no symptoms. Some may experience pain with extreme activities. • Causes: Hereditary (arches fail to develop), arthritis, injury, wear and tear of aging, and obesity. 	<p>Self-Care:</p> <ul style="list-style-type: none"> • Activity modification—temporarily stop painful activities • Weight loss • Change shoes if improper fit—consider larger shoe size <p>PCP:</p> <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area

SYMPTOM/CAUSE/TREATMENT OF HINDFOOT CONDITIONS		
Diagnosis	• Symptoms/Cause	Treatment
Achilles Tendinitis/Tendinopathy/Tendinosis 	<ul style="list-style-type: none"> • Symptoms: When the Achilles tendon degenerates and becomes inflamed, the condition is called Achilles tendinosis. The tendon can swell and may cause stiffness, pain, and/or tightness in the tendon behind the ankle. • Midsubstance Achilles tendinosis is when Achilles tendinosis occurs in the middle of the tendon. • Insertional Achilles tendinosis is when Achilles tendinosis occurs at the point where the tendon connects to the heel bone. • Most of the time there is no trauma or injury, but rather a slow progression of pain. • Patients may have difficulty climbing stairs or running. Patients may also have pain after sitting for long periods or after sleeping. • Many patients will notice a bump either in the tendon (midsubstance Achilles tendinosis) or right behind the heel bone (insertional Achilles tendinosis). Some may also get irritation from shoes rubbing against the bump and feel better when wearing backless shoes. • Patients also commonly have less pain while wearing a shoe with a slight heel versus shoes that are flat. • Cause: Achilles and calf tightness is a common cause of Achilles tendinosis. In addition, insertional Achilles tendinosis is often associated with a heel bone spur. This spur may rub against the Achilles tendon and lead to breakdown and small tears. This is also known as Haglund's Syndrome. Pain and swelling occur as the cumulative effects of chronic wear and tear on the tendon. 	Self-Care: <ul style="list-style-type: none"> • Apply cool compresses to the area 3 times daily for 3-5 days • In acute cases, rest, and limit exercise for 3-5 days to allow tendon to heal PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area in the early stage of the condition • For chronic conditions, consider short term physical therapy (2-6 weeks) to assist with stretching and improve mobility within the calf muscle • Consultation with specialist may be needed under the following conditions: symptoms persist despite multiple attempts at conservative therapy <u>and</u> symptoms significantly impair independent function
Ankle Fractures⁶ 	<p>Fractures in the ankle can range from less serious avulsion injuries (small pieces of bone that have been pulled off) to severe shattering-type breaks of the tibia, fibula, or both.</p> <ul style="list-style-type: none"> • Symptoms: Pain, swelling, blisters, bruising, inability to walk, and protruding bone through skin are indications of a fracture. • Cause: A fracture is a partial or complete break in a bone most commonly caused by trauma, falls, or repeated stress injuries. 	Self-Care: <ul style="list-style-type: none"> • Rest PCP: <ul style="list-style-type: none"> • Immobilization • NSAIDs assist with reducing inflammation and pain in the affected area • Specialty consultation may be needed for further management which can be operative or non-operative depending on type of fracture
Haglund's Deformity (Pump Bump) 	<ul style="list-style-type: none"> • Symptoms: Bony enlargement of the back of the heel bone. Often occurs in women who wear pumps. • Cause: Shape of foot, high arches, a tight Achilles tendon, or a tendency to walk on the outside of feet. Also wearing shoes with a firm, rigid back may also contribute to the development of Haglund's Deformity. 	Self-Care: <ul style="list-style-type: none"> • Cool compresses 2-3 times daily for discomfort • Achilles tendon stretches (See PE-4) • Change shoes if improper fit—consider larger shoe size PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area • Immobilization—in severe cases

SYMPTOM/CAUSE/TREATMENT OF HINDFOOT CONDITIONS, cont'd		
Diagnosis	• Symptoms/Cause	Treatment
Heel Spurs (Calcaneal) 	<ul style="list-style-type: none"> • Symptoms: Growths of bone on the underside, forepart of the heel bone. • Cause: Calcium deposits built up on the underside of the heel bone, strains on foot muscles and ligaments, stretching of the plantar fascia, and repeated tearing of the membrane that covers the heel bone. Found in 70% of patients with plantar fasciitis. 	Self-Care: <ul style="list-style-type: none"> • Exercise and weight loss • Change shoes if improper fit—consider larger shoe size PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area
Plantar Fasciitis 	<ul style="list-style-type: none"> • Symptoms: Stabbing pain in the bottom of the foot near the heel, usually worse with the first few steps after awakening although it can also be triggered by long periods of standing or rising from sitting. The pain is usually worse after exercise, not during it. • Causes: When the plantar fascia is strained over time beyond normal extension, the soft tissue fibers of the fascia tear or stretch at points along its length leading to inflammation, pain, and possibly the growth of a bone spur where the plantar fascia attaches to the heel bone. 	Self-Care: <ul style="list-style-type: none"> • Stretching exercises (See PE-4) • Rest • Change shoes if improper fit—consider larger shoe size or width PCP: <ul style="list-style-type: none"> • NSAIDs assist with reducing inflammation and pain in the affected area
Sprained/Strained Ankle⁷	<p><u>Sprains affect your joints.</u></p> <ul style="list-style-type: none"> • Symptoms: May include feeling a tear or pop in a joint followed by pain, swelling, and bruising, stiffness, or instability of the joint, or warmth and redness of the skin near the affected joint. • Cause: A sprained ankle is an injury or tear of one or more ligaments on the outer side of the ankle typically caused by rolling the ankle either inward (inversion sprain) or outward (eversion sprain). If a sprain is not treated properly, it could develop long-term problems. <p><u>Strains affect your muscles.</u></p> <ul style="list-style-type: none"> • Symptoms: May include sharp pain at the site of an injury, muscle spasm, swelling, or cramping. • Causes: A sprain occurs when the ankle is forced to move out of its normal position, which can cause one or more of the ankle's ligaments to stretch, partially tear or tear completely. 	Self-Care: <ul style="list-style-type: none"> • Apply cool compresses to the area 2-3 times daily for the first 1-2 days • Rest for the first 1-2 days. Walking too early may cause further injury in acute cases PCP: <ul style="list-style-type: none"> • Early mobilization beginning day 3 after the acute injury and focused range of motion exercises reduce pain and recovery time after an ankle sprain • Resolution of ankle sprains/strains should occur within 2-6 weeks. If symptoms do not resolve within the expected time frame, Specialty consultation may be needed for further evaluation and management.



SYMPTOM/CAUSE/TREATMENT OF DIABETIC AND CARDIOVASCULAR CONDITIONS		
Diagnosis	• Symptoms/Cause	Treatment
Gout 	<ul style="list-style-type: none"> • Symptoms: Severe pain, swelling and stiffness in one or more joints, accompanied by red, shiny skin. The first MTP is the most common site of gout attacks. Joint appears erythematous, swollen, warm to the touch, and extremely tender. • Causes: Build-up of uric acid in the blood—a normal by-product of the diet—in the joints. 	Self-Care: <ul style="list-style-type: none"> • During an acute attack—drink plenty of fluids • Dietary modification—avoid potential triggers for gout flare (e.g., alcohol binges, high-protein/purine foods, and fatty meals) • Weight loss PCP: <ul style="list-style-type: none"> • Immobilize and elevate the foot • NSAIDs, Capsaicin cream, or other prescribed medications to reduce inflammation, pain, and other symptoms in the affected area • The symptoms of gout and the inflammatory process usually resolve in three to ten days with treatment. If gout symptoms continue despite the initial treatment, or if repeated attacks occur, patient may need daily medications
Peripheral Neuropathy 	<ul style="list-style-type: none"> • Symptoms: Burning, numbness, tingling, shooting or stabbing pain in the toes. • Cause: Diabetes, certain medications, heredity, advanced age, arthritis, alcoholism, neurological disorders, and injury. 	Self-Care: <ul style="list-style-type: none"> • Dietary modification— optimization of blood glucose control • Exercise PCP: <ul style="list-style-type: none"> • May qualify for therapeutic shoes (See page 17) • NSAIDs assist with pain in the affected area • Consultation with specialist may be needed if symptoms persist despite multiple attempts at conservative therapy and symptoms significantly impair independent function <p>Note: Extensive diagnostic testing is probably not necessary in a patient with mild symptoms who has a known underlying cause of neuropathy (e.g., diabetes mellitus, alcohol abuse, or chemotherapy). However, a diagnostic evaluation is warranted in patients with no clear etiology or in whom symptoms are severe or rapidly progressive. In addition, a full diagnostic evaluation should be pursued in patients with atypical features, including asymmetry, non-length dependence, motor predominance, acute onset, or prominent autonomic involvement.⁸</p>

SYMPTOM/CAUSE/TREATMENT OF DIABETIC AND CARDIOVASCULAR CONDITIONS, cont'd



Diagnosis	Symptoms/Cause	Treatment
Peripheral Artery Disease (PAD) 	<ul style="list-style-type: none"> • Symptoms: Fatigue, tiredness, pain in legs/thighs/buttocks, foot or toe pain at rest, and skin wounds or ulcers on the feet or heels that are slow to heal (do not heal in 8-12 weeks). • Cause: Blockage or narrowing of the arteries in the legs with fatty deposit (plaque) buildup. Risk factors include smoking and/or tobacco use, high cholesterol, high blood pressure, physical inactivity, obesity, and diabetes. 	Self-Care: <ul style="list-style-type: none"> • Control blood pressure • Dietary modification—optimization of glucose control and lower cholesterol • Exercise • Smoking cessation PCP: <ul style="list-style-type: none"> • May qualify for therapeutic shoes (See below) • Ankle-brachial index (ABI) test • Medication to prevent clotting
Diabetic Foot Ulcer 	<ul style="list-style-type: none"> • Symptoms: Open sore or wound commonly located on the bottom of the foot. May be accompanied by redness, swelling, and odor. • Cause: A combination of factors such as lack of feeling in the foot, foot deformities, obesity, smoking and/or tobacco use, irritation, trauma, and duration of diabetes. High or fluctuating blood sugar levels and poor circulation delay skin repair after minor injury contributing to the development of ulcers. 	Self-Care: <ul style="list-style-type: none"> • Dietary modification—optimization of glucose control PCP: <ul style="list-style-type: none"> • May qualify for therapeutic shoes (See page below) • In severe cases when infection present, treat with broad spectrum antibiotics • CCHCS Wound Management consultation • Consultation with specialist if symptoms persist despite multiple attempts at conservative therapy and symptoms significantly impair independent function

THERAPEUTIC SHOE WEAR/SUPPLIES

Some long-term and complicated problems such as severe flat foot, high arches, shin splints, and Achilles tendon injury may require specialized assessment. The following are podiatric items that may be prescribed as necessary. Please note the requirements for ordering these supplies and remember to use IQ criteria to determine which patients may require further specialty referral.


THERAPEUTIC SHOE WEAR/SUPPLIES, cont'd		
Therapeutic Shoes	<p>Patients do not need a podiatry or orthotic evaluation to have therapeutic shoes. Primary care may order therapeutic shoes as medically necessary under the following conditions:</p> <ol style="list-style-type: none"> 1. A shoe that is an integral part of a leg brace, and its expense is included as part of the cost of the brace 2. A therapeutic shoe is furnished to selected diabetic patients. The diabetic patient must have one or more of the following conditions affecting one or both feet: <ol style="list-style-type: none"> a. History of partial or complete foot amputation. If therapeutic shoes provide adequate stability and support, an orthotist referral is not medically necessary. b. History of previous foot ulceration or preulcerative callus c. Foot deformity and peripheral neuropathy with evidence of callus formation d. Diminished blood supply to the foot 3. Therapeutic shoes for certain peripheral vascular and neuropathic conditions. <ol style="list-style-type: none"> a. History of previous ulceration b. Diabetes c. Buerger's disease (thromboangiitis obliterans) d. Chronic thrombophlebitis e. Peripheral neuropathies involving the feet <ul style="list-style-type: none"> • For patients not meeting medical criteria, patients can order shoes from the approved list of inmate vendors if funds are available. • If therapeutic shoes are necessary, shoes should be predominantly white with Velcro straps—no shoes with tie laces. 	
Custom Foot Orthoses	<p>Indications for Orthotics:</p> <ol style="list-style-type: none"> 1. Standard shoes not suitable for condition/requiring custom-made orthosis 2. Medical record documentation supports medical necessity of orthosis 3. Stability and support necessary for: (choose one) <ol style="list-style-type: none"> a. Deformity of foot b. Chronic weakness of lower extremity c. Chronic ankle instability d. Limb length discrepancy of ≥ 1.5 inches <p>Custom orthoses are medically necessary when there is failure, contraindication, or intolerance to prefabricated foot orthosis for ANY of the following conditions:</p> <ol style="list-style-type: none"> 1. The foot orthosis is an integral part of a leg brace and is necessary for the proper functioning of the brace 2. The foot orthosis is used to compensate for a missing portion of the foot (e.g., amputation of the toe(s) or part of the foot) and is necessary for the alleviation or correction of illness, injury, or congenital defect 3. Neurologic or neuromuscular condition (e.g., cerebral palsy, hemiplegia, spina bifida) producing spasticity, malalignment, or pathological positioning of the foot where there is reasonable expectation of improvement. 	

THERAPEUTIC SHOE WEAR/SUPPLIES, cont'd

Knee- Ankle- Foot Orthoses Ankle-Foot Orthoses	<p>For ambulatory patients:</p> <ol style="list-style-type: none"> 1. Ankle-foot orthoses (AFO) - medically necessary for ambulatory patients with weakness or deformity of the foot and ankle, which require stabilization for medical reasons, and have the potential to benefit functionally. 2. Knee-ankle-foot orthoses (KAFO) - medically necessary for ambulatory patients for whom an ankle-foot orthosis is clinically indicated and for whom additional knee stability is required. 3. Molded-to-patient model AFO's and KAFO's* - Custom-made AFOs and KAFOs that are "molded-to-patient-model" are considered medically necessary for ambulatory patients when the basic medical necessity criteria are met and one of the following criteria is met: <ol style="list-style-type: none"> f. The condition necessitating the orthosis is expected to be permanent or of longstanding duration (more than 6 months); or g. There is a need to control the knee, ankle, or foot in more than one plane; or h. The patient could not be fit with a pre-fabricated (off-the-shelf) AFO; or i. The patient has a documented neurological, circulatory, or orthopedic status that requires custom fabricating over a model to prevent tissue injury; or j. The patient has a healing fracture that lacks normal anatomical integrity or anthropometric proportions. <p>*Therapeutic shoes are not necessarily indicated for AFOs and KAFOs - AFOs and KAFOs may require a wider /larger size shoe (refer patient to custody for assignment of larger/wider shoe)</p>	 
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In addition to the standard issue shoe wear described on page 8, the tables below give examples (not recommendations) of therapeutic shoes that are available by prescription or through the inmate catalogs (if funds are available). Most shoes are available in wide sizes and selection may change along with approved vendors.

Therapeutic Shoes Available by Formulary

Shoe	Details	
Propet Life Walker Strap	<ul style="list-style-type: none"> • Diabetic approved • Available in special widths 	

If patient does not meet the requirements for medically necessary shoes, below are examples of shoes available through inmate catalogs:

Available by Patient Catalog

Shoe	Details	
New Balance Velcro Walker	<ul style="list-style-type: none"> • Available in special widths 	
Propet Stability Walker	<ul style="list-style-type: none"> • Wide forefoot • Rigid heel • Arch supporting insoles • Cushioning ridges • Padded collar and tongue • Diabetic approved • Available in special widths 	

Properly Fitting Shoes

Tips to help reduce the risk of foot problems when obtaining shoes:

- Don't force feet into a pair of shoes in order to conform to the shape of the shoe. The shoe needs to conform to the shape of the foot. (i.e., If there is an area of the foot that is wide or the patient has wide feet in general, they may need a shoe that is of wide width or has a larger toe box).
- Fit new shoes to the largest foot. Approximately 60% of people have one foot that is larger than the other.
- If the shoes feel too tight, get a larger size. There is no such thing as a "break-in period."
- Shoes should be fitted carefully to the heel as well as toes (shoes should grip the heel).
- Sizes vary among shoe brands and styles. Judge a shoe by how it fits on the foot, not by the marked size.
- There should be a half-inch of space from the end of the longest toe to the end of the shoe.
- Try on new shoes at the end of the day if possible. Feet normally swell and become larger after standing or sitting during the day, which makes for a better fit.
- Try on both shoes. The patient should walk around in the shoes to make sure they fit well and feel comfortable.
- When the shoe is on, the patient should be able to freely wiggle all of their toes.

ROUTINE FOOT/NAIL CARE

Educate patients that routine foot and nail care are the most important tools in prevention and early detection of many foot conditions.

For Patients with Normal Feet (i.e., no neurovascular compromise)

- Patients with diabetes and no documented neurovascular compromises should be able to provide their own routine nail care.
- For severe corns and calluses, see page [20](#).
- All general population inmates are allowed to have 2-inch nail clippers which can be purchased from the Canteen or through the approved list of inmate vendor catalogs with the exception of General Population (GP) and Enhanced Outpatient Program (EOP) Restricted Housing Unit (RHU) patients.
- Patients in GP and EOP RHU may have a designated area that they can check out and use nail clippers.
- Emery boards are available to female and transgender patients. (See table below for more information on the amount of allowable property)

	Amount of Allowable Property			
	Male Institutions		Female Institutions	
	Gen Pop	GP/EOP RHU	Gen Pop	GP/EOP RHU
Emery Boards (Non-metal)	6 (T)	0	6	0
2-inch Nail Clippers*	1	0	1	0
*PBSP Level 2 & 4 do not allow nail clippers T= Transgender				

For proper foot/nail care, patients should be instructed on the following:

- Wash their feet every day and be sure to wash between their toes.
- Thoroughly dry their feet, especially between the toes.
- Wear clean socks and change at least daily which reduces the chances of athlete's foot or blisters.
- Give shoes time to dry out if the patient is active or perspires heavily.
- Ensure the use of proper fitting shoes.
- Seek medical attention for discolored toenails, deformities, and wounds that do not heal timely.
- Trim toenails regularly (at least every 2 weeks).
- Trim nails straight across and not too short. (See PE-1)

Routine Foot/Nail Care, cont'd

For Patients with Diabetes and Neurovascular Compromise or Other High-Risk Patients (PAD, etc.)

- Patients with any documented neurovascular compromise should be assessed by health care staff to determine if they are safely able to conduct their own toenail care; in some circumstances, these patients may require toenail care at the institutional procedure clinic. While these patients require extra care for nail/hygiene maintenance, most do not require podiatric intervention.
 - Patients must have a barefoot exam at least yearly. If abnormalities are present, more frequent evaluation of the diabetic foot is recommended depending on risk category. (See [CCHCS Diabetes Care Guide](#) for more information)
 - Institutions should develop a process to provide routine nail care to these high-risk patients.
 - Nursing does not provide this service.
 - In many institutions, procedure clinics or occasionally TTA, will provide this service on a referral basis.
1. Self-care: Follow usual Custodial procedures to use regular toenail clippers. Emery boards may be checked in and out through the clinic.
 2. Self-Care using Medical-Grade Toenail Clipper:
 - a. Storage of clippers to be determined by institution—e.g., barber area? TTA? Procedure Clinic? Wound Clinic?
 - b. Sterilization of clippers to be determined by institution
 3. CCHCS Health Care Provider/Trained Medical Assistant intervention:
 - a. Require Medical-Grade Toenail Clipper: Thickened nails that cannot be trimmed with regular toenail clipper
 - b. Appropriate for Dremel—sand down thickened nails
 - c. Conditions that require assistance due to physical limitation that include but are not limited to:
 - Poor hand grip strength
 - Morbid Obesity
 - Unable to reach toes preventing patient from self-nail care
 - Poor vision
 - Significant Tremor
 4. Referral to Podiatry—If meets IQ Criteria

Medical Leadership can determine which medical staff will be responsible for these procedures and how to schedule (e.g., procedure clinics, foot clinics, PCP line, MA line, etc.)

Corns and Calluses

Sharp debridement is the fastest way to eliminate the pressure caused by a callus and can be done in the clinic by simply removing hyperkeratotic tissue from the top of the skin.

- The thickened skin of a corn or callus can be pared down using a scalpel blade #11 or #15.
- The pain is usually reduced as the corn or callus is pared down and the pressure on the underlying tissues eased.
- Sometimes repeated or regular trimming sessions are needed.
- Once a corn or callus has been pared down, it may not return with appropriate footwear.
- In order to avoid exposure of the most sensitive skin, always leave a small portion of the callus when debriding.
- A moisturizing cream used regularly on a trimmed corn or callus will keep the skin softened and easier to rub down.



Routine Foot/Nail Care, cont'd

Hard to Cut Nails

Some patients present with thickened dystrophic nails which can be extremely hard to cut even with 4" nail clippers that are available at the clinic. In these cases, some institutions are using a Dremel (portable battery-operated device). The Dremel acts as a toenail sander with disposable single use discs which can be used on the thickened dystrophic toenails. Both the length and in some cases the width can be trimmed back if causing undue pressure or interfering with shoe wear.

When to use a Dremel:

- When the patient has thickened toenails that are 5mm beyond the toe pad and cannot be trimmed with regular 2-inch toenail clippers, **and**
- Patient has a medical or physical condition which makes them unable to safely use a Medical-Grade toenail clipper.

How to use a Dremel:

1. Prior to arrival at clinic, have patient soak feet with water or wet compresses then dry feet completely.
2. Identify which toenails will need debridement—do not debride toenails if there is an infection present or if the toenail does not extend greater than 5mm beyond the toe pad.
3. Wear appropriate personal protective equipment (PPE) as dust and particles may blow within the procedure field.
4. Ensure a new sanding disc is in proper position.
5. Turn on Dremel.
6. Hold patient's foot in steady position.
7. Apply gentle pressure to toenail with Dremel and move Dremel back and forth in a sweeping motion from the proximal to distal portion of nail.
8. Continue step #7 until toenail has been trimmed to desired length (less than 5mm beyond toe pad)
9. To avoid accidental injury, if Dremel becomes too warm, stop procedure, and wait until Dremel cools.
10. Once the toenail debridement is completed, discard single use sanding disk in the appropriate waste receptacle.



Ingrown Nail Care/Removal

An ingrown toenail occurs when the edge of a nail grows into the skin of the foot. This common condition typically affects the great toenail. Refer to Podiatry if patient is diabetic or has significant vascular compromise. Other patients may try self-care which includes:

Ingrown toenail

Cotton



- Soaking the foot in warm water for 15-20 minutes several times a day for 3-5 days (if unable to soak use wet washcloth to wrap the toe and keep moist for 15-20 minutes).
- Dry feet well after each soak.
- Use a cotton ball, waxed dental floss or other clean material under the ingrown nail to gently lift it above the skin edge (This will help the nail grow above the skin edge).
- Wear shoes that leave the toes plenty of room.
- In some cases, topical antibiotic cream can be used.
- If not improving after 3-5 days, or if worsening, seek medical care.

When self-care is ineffective, minor surgery may be needed to remove part (or all) of the nail that is poking into the skin. Types of surgery:

- Partial nail removal (pictured at right)
- Full nail removal
 - With or without nail matrix
 - Destruction with phenol



Ingrown Nail Care/Removal, cont'd**Risks vs. Benefits of Procedure**

- If not treated, ingrown toenails can become infected. Infections are especially concerning for people with diabetes, poor circulation, or other medical problems.
- Caution in patients with poor circulation (diabetes, peripheral vascular disease).

Risks of Procedure	Benefits of Procedure	Risks of Not Doing Procedure
<ul style="list-style-type: none"> • Infection • Bleeding • Swelling • Re-growth of nail (Expected if phenol is not used) • Pain during and after procedure 	<ul style="list-style-type: none"> • Resolution of chronic toe pain • Resolution of infection • Correction of problem 	<ul style="list-style-type: none"> • Ingrown toe will remain painful or infected

Supplies**Procedure Supplies:**

- 10 cc syringe filled with 3-6 ml 1% Lidocaine (xylocaine) without epinephrine
- 25-27 gauge needle
- 3-4 4x4 gauze pads
- Alcohol wipes
- Povidone iodine solution
- Non-sterile/Sterile gloves
- Fenestrated paper drape for sterile field
- Iris scissors
- Bandage scissors
- 2 Straight hemostats
- Sterile rubber band (optional)
- Nail splitter
- Silver nitrate sticks or Monsel's solution

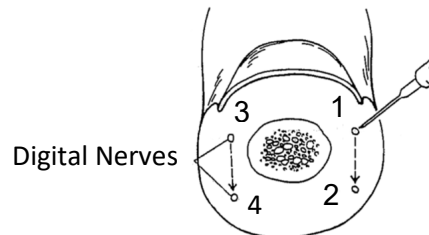
Post-procedure dressing supplies:

- Unfolded 4x4 gauze or Kerlix roll to wrap toe
- Antibiotic ointment
- Roll of 1-inch tape

Ingrown Nail Care/Removal, cont'd

Procedure Instructions

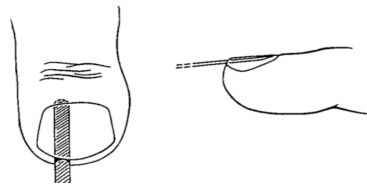
1. Prior to surgery, patient must sign Consent Form CDC 7342.
2. With patient supine, the toe is prepped using Povidone-iodine.
3. Perform a standard digital block using 1% lidocaine without epinephrine in 6-10 ml syringe with 25-27 gauge needle, 2-3 ml of lidocaine on each side of toe. Wait 5-10 min for anesthesia effect.



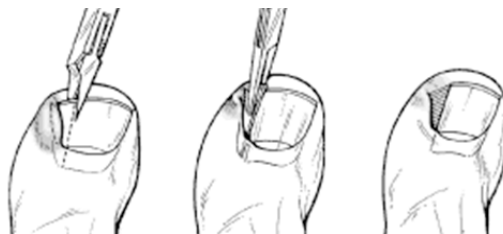
4. (Optional) Place a tourniquet at base of toe; if used, confirm recirculation at completion.



5. Drape toe, slide (nail elevator/ closed tip of iris scissors/ hemostat) under the cuticle to separate the nail plate from the overlying proximal nail fold in the (medial/lateral/full nailbed).



6. For partial removal: Cut the nail (nail splitter/ bandage scissors) from the distal (free) end of the nail straight back (proximally) beneath the proximal nail fold just beneath the cuticle. The (lateral/medial) piece of nail is removed with hemostat.



7. For total removal: The entire nail is freed and removed using a hemostat.
8. If indicated, apply Phenol; hemostasis achieved (using Silver Nitrate/pressure).
9. Apply antibiotic ointment and place gauze dressing.

Ingrown Nail Care/Removal, cont'd**Ingrown Toenail Removal Post-Procedure Instructions**

1. Consider lay-in x 3 days.
2. Prescribe Ibuprofen or acetaminophen for postoperative pain.
3. Place order for dressing change by primary care team within 48-72 hours.
4. Provide handouts:
 - Foot/Nail Care
 - Ingrown Toenail Care and Prevention

To ensure proper care after surgery, instruct the patient to:

- Keep a bandage over the toe until changed by the primary care team in 48-72 hours.
- Take Tylenol or Ibuprofen as needed for pain.
- Rest and elevate the foot for 2-3 days to help with pain.
- After first bandage change, can usually wash the toe in warm water and apply antibiotic once or twice a day until completely healed.
- Avoid running or strenuous activity for the first 2 weeks.
- Notify medical if there is any increasing pain, swelling, redness, or drainage.

After initial dressing change, patient may be provided with supplies for daily dressing changes.

Institutional Supply List

Below is a list of items each clinic should have readily available for routine foot care.

Vascular Exam Supplies:

- Handheld Doppler

Neurologic/Sensory Exam Supplies:

- 10-g monofilaments
- Disposable pin
- 128-Hz tuning forks
- Tendon hammer

Shoe Size Measuring:

- Brannock Device

Foot/Nail Care Supplies:

- Medical grade nail clippers
- Dremel
- Emery boards
- #11 or #15 scalpel blade

Ingrown Nail Removal Supplies:

- | | | |
|---|---|---|
| • 10 cc syringe filled with 3-6 ml 1% Lidocaine (xylocaine) without epinephrine | • Fenestrated paper drape for sterile field | • Nail splitter |
| • 25-27 gauge needle | • Iris scissors | • Silver nitrate sticks or Monsel's solution |
| • 3-4 4x4 gauze pads | • Bandage scissors | • Unfolded 4x4 gauze or Kerlix roll to wrap toe |
| • Alcohol wipes | • 2 Straight hemostats | • Antibiotic ointment |
| • Povidone iodine solution | • Sterile rubber band (optional) | • Roll of 1-inch tape |
| • Non-sterile/Sterile gloves | | |

Guidelines for Referral to Podiatry Services⁹

Foot pain is common among adults and a frequent reason for primary care visits. Several studies document a significant burden of disability and impaired quality of life among middle aged and older adults with foot pain. In a meta-analysis of 31 studies including 75,505 participants, 24 percent experienced frequent foot pain.

- Forefoot pain was most common, and women were affected more frequently than men.
- Problems with toes and toenails affect between 60 and 75 percent of older individuals.
- Common problems include bunions (hallux valgus), hammertoes, and bunionettes, and a majority of adults have corns or calluses located on their toes or plantar foot surface.
- In affected individuals, two-thirds reported moderate disability secondary to this pain.

The differential diagnosis for foot pain is broad and exposure to foot-related problems is often limited during medical training. Some providers may not be comfortable in the assessment and management of the patient with foot complaints. That said, most foot pain seen in the Primary Care clinic can be easily evaluated by the PCP. A majority of foot pain is related to poor biomechanics and improperly sized shoe wear. Obesity and certain activities or jobs can worsen foot pain.

In CCHCS many podiatric conditions can be managed solely by the Primary Care team, and diagnosis and management of several other conditions can be initiated by the Primary Care team with referral to a Podiatrist only if initial/conservative treatment fails. Consider referral to CCHCS Wound Management Team if indicated below.

The list below describes those conditions that can be managed (at least initially) by Primary Care Team and those conditions for which a direct Podiatry referral is appropriate.

Conditions which can be managed by primary care team	<ul style="list-style-type: none"> • Acute pain in foot/ankle less than 30 days • Athlete's Foot • Blisters • Fractured toes (distal phalanx – simple) • Ingrown toenails (non-diabetics) 	<ul style="list-style-type: none"> • Moles on feet • Non-diabetic toenails • Skin rashes • Warts
Conditions that are appropriate for a trial of conservative management by primary care team <i>*Conditions that may require referral to specialist if failed conservative measures such as NSAID/pain therapy, special shoes, and orthotics (if criteria met by IQ), and physical therapy</i>	<ul style="list-style-type: none"> • Arthritis • Bunions* • Fungal toenails • Hammer toes* • Plantar fasciitis • Diabetic/Arterial/Venous Ulcer (Consult CCHCS Wound Management Team) • Foot/Ankle surgical wounds (Consult CCHCS Wound Management Team) 	<ul style="list-style-type: none"> • Achilles tendonitis • Tailor's bunionette* • Hammer/claw/mallet toe* • Morton's interdigital neuroma* • Nail Avulsion • Ankle sprain
Medical conditions which may be appropriate for direct podiatry Referral	<ul style="list-style-type: none"> • Ankle dislocation • Diabetic foot care • Diabetic Ulcer (failed CCHCS Wound Management Team) • Charcot foot 	<ul style="list-style-type: none"> • Ankle joint instability • Tendon/ligament tear of the foot/ankle

NOTE: Patients with diabetic sensory neuropathy and LOPS may benefit from referral to podiatry for what might ordinarily be considered routine primary care podiatry (cutting or removing corns and calluses).

- Institutions should have a process for routine foot care for patients with high-risk conditions such as DM and PAD who do not yet manifest significant neuropathy.
- The PCP, Procedure Clinic, or TTA may be utilized.

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Patient Education/Self-Management

Foot/Nail Care

Foot Care

Many serious foot conditions can be avoided through routine foot care and early detection. Follow the steps below to keep your feet in good condition.

- Check your feet daily. Be on the lookout for: cuts; red spots, warm spots, or hot spots; calluses or corns; ingrown toenails; change in color; or any other abnormalities.
- Wash feet gently in lukewarm water daily (never in hot water).
- Be gentle when washing. Dry by blotting or patting carefully between the toes.
- To keep dry skin from itching or cracking, moisturize your feet daily but not between your toes.
- Never shave corns or calluses yourself.
- Wear clean, dry socks. Change them daily.
- Consider using an antiperspirant on the soles of your feet if you have excessive sweating.
- Never walk barefoot.
- Do not smoke. Smoking restricts blood flow in your feet.
- Ensure shoes are not too loose/tight, and properly support your feet (see Proper Fitting Shoes handout). For standard issue shoes, refer to custody if you require a different size.



For diabetics:

- Keep your blood sugar levels under control. Shake out your shoes and feel the inside before wearing. Remember, your feet may not be able to feel a pebble or other foreign object, so always inspect your shoes before putting them on.
- Make sure you have your feet examined by a doctor at least annually.

Notify primary care of any abnormal conditions.

Toenail Care

Toenails should be properly cared for to avoid ingrown toenails and to look for fungal diseases (onychomycosis).

- Patients without diabetes should be able to do their own nail trimming using clippers ordered from canteen or inmate approved vendor catalogs.
- Patients with diabetes may need to see their primary care team for routine nail care.
- Trim nails at least every two weeks.
- Trim nails before showering (dry nails are less likely to bend or tear).
- Do not trim nails too short.
- Trim nails straight across.

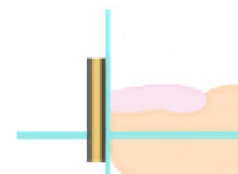
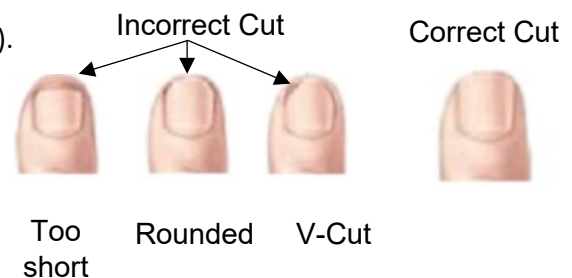
For patients with toenail fungus:

- Soak feet 20-30 minutes in warm water before clipping.

Nail filing:

Female and transgender patients may be able to order an emery board (nail file) through canteen or inmate approved vendor catalogs. For all other patients, emery boards may be checked out at a place set by your institution.

- Always keep the emery board at a 90-degree angle and file straight across.
- File the free edge of the nail in one direction. Do not file back and forth. Filing under the free edge can lead to ingrown toenails and filing back and forth can lead to dryness which causes cracking and splitting.



Patient Education/Self-Management

Proper Fitting Shoes

The following are shoe characteristics that typically make a shoe comfortable to wear:

1. A Well-Fitted Shoe

Shoes not only need to be the correct length to fit our foot, but they also must be the correct width. Shoe manufacturers and shoe styles often vary the width significantly. Make sure that you wear shoes that not only fit the length of your foot, but also the width. Also, make sure the shoes have a comfortable fit at the heel and the toes.

2. Stiff Sole

A stiff sole minimizes excessive loading through the forefoot or midfoot. The opposite of this would be a highly flexible sole (ex. a slipper) which tends to concentrate the pressure in certain areas of the foot.



3. Wide Toebox

In general, the front of the shoe should have enough space to accommodate the front of the foot without squishing it.

Patient Education/Self-Management

Ingrown Toenail Care and Prevention

What is an ingrown toenail?

This is when the sides or corners of the toenail curl down and dig into the skin of the toe, causing swelling, pain, and redness of side of the toe. If not treated, ingrown toenails can become infected. Infections are especially concerning for people with diabetes, poor circulation, or other medical problems.



What causes an ingrown toenail?

- Ill-fitting shoes, medical conditions (ex: fungal infections, arthritis), and toe injuries can cause ingrown nails.

What is the treatment for a painful ingrown toenail?

- Soaking your foot in warm water for 15-20 minutes and placing a small piece of dry cotton, such as part of a cotton ball, under the corner of the nail.
- Occasionally your doctor may suggest an antibiotic pill or ointment if there are signs of infection.
- Minor surgery is sometimes needed to remove the part (or all) of the nail that is poking into the skin.

If minor surgery is needed your doctor will:

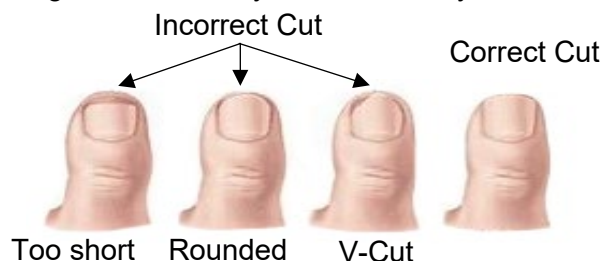
- Numb your toe by injecting it with an anesthetic.
- Cut your toenail along the edge that is growing into the skin and pull out the piece of nail.
- In some cases, your doctor may apply a liquid solution to the nail bed which will keep the toenail from growing back.

After ingrown toenail removal:

- Primary care will complete the first bandage change 48-72 hours after the procedure.
- Your doctor may order dressing changes at the clinic or provide supplies for you to change your own bandage.
- You may shower the day after the surgery—gently dry the area and apply antibiotic ointment (if directed to) after showering. Avoid soaking the toe for the next 2 weeks. Try to keep the toe clean and dry.
- Your bandage will help to pad and protect the wound, while absorbing drainage from the wound. You can replace the bandage if blood or fluid soaks the bandage. Keep the wound bandaged for at least 1 week after the surgery.
- If you experience discomfort, you can take ibuprofen or acetaminophen, which is prescribed by your doctor.
- You should wear loose-fitting shoes and avoid strenuous activity for 2 weeks after the surgery.
- Infection may develop in the toe during the first few weeks after the surgery. **Request to be evaluated if you develop increasing pain, swelling, redness, or drainage from the toe.**

Can ingrown toenails be prevented?

- Yes, avoid tight-fitting shoes and trim your nails correctly.
- You should cut your nails generally straight across (not curved) and do not cut too short. (See picture below and Foot/Nail Care handout)
- If you should develop another ingrown nail, see your doctor early because early treatment may prevent the need for surgery.

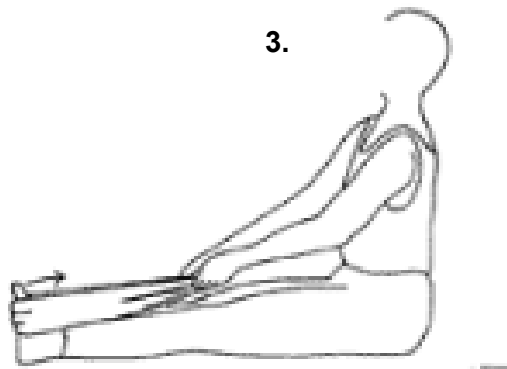
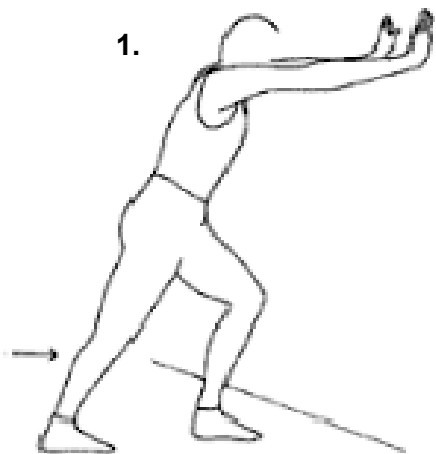


Patient Education/Self-Management

Achilles Tendon Stretches





If you're physically active and put a lot of pressure on your feet and legs, you need to take care of your Achilles tendon. Although it can withstand a lot of running and jumping, this tendon can tear or rupture if it's overused and you don't warm up or stretch properly. You can also end up with tendonitis -- a swelling and inflammation of the tendon. Here are some common exercises you can do to stretch your Achilles tendon:

- 1. Calf Stretch (Figure 1):** Place your hands on a wall with one leg straight and the heel to the ground. Place the other leg, with the knee bent, in front of the straight leg and push your hips toward the wall. Stretch your calf to the point where you feel a strong pull but no pain. Do not let your heels come off the ground. Hold the position for 10 seconds, then relax. Repeat 20 times on each foot in a slow controlled manner. (Webmd)
- 2. Standing Soleus Stretch (Figure 2):** Stand facing a wall with your feet staggered. Keeping your back knee bent, bend your front knee, and lean in toward the wall until you feel a stretch along the calf of your back leg. Hold for 20-30 seconds, and then relax. Repeat three times and switch legs. (Livestrong)
- 3. Towel Stretch (Figure 3):** Sit with your legs extended and your knees straight. Loop a towel around the leg to be stretched. Position the towel that it goes around your foot just under the toes. Hold each end of the towel in each hand, with your hands positioned above your knees. Pull back the towel so that your foot stretches toward you. Hold the position for at least 15-30 seconds, repeating 2-4 times per leg. (Footscientific)



Patient Education/Self-Management Plantar Fasciitis Exercises

Below are exercises that can help with pain:

	
<p>Sit with your legs straight and loop a towel around your foot. Then pull the top part of your foot towards you. Hold it like that for 10 to 30 seconds. Repeat this 5 times each session and do 2 sessions a day. You can also push the ball of your foot against the towel. This exercises and strengthens the muscles in your foot.</p>	<p>With your leg resting against something and your foot in the air, point and flex your foot. Then make circles with your foot by rotating your ankle.</p>
	
<p>Curl your toes around the edge of a book. Then straighten them. Do this over and over again for 2 minutes, twice a day.</p>	<p>Curl your toes around a towel. Then grip and release the towel over and over again for 1 to 2 minutes, twice a day.</p>

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Educación para el Paciente/Control Personal del Caso

Cuidado de los Pies y las Uña

Cuidado de los pies

Muchas de las afecciones graves de los pies pueden evitarse mediante el cuidado de rutina y la detección precoz. Siga los siguientes pasos para mantener sus pies en buenas condiciones.

- Revise sus pies a diario. Preste atención a cortes, puntos rojos, zonas tibias o calientes, callos o callosidades, uñas encarnadas, cambio de color o cualquier otra anomalía.
- Lave suavemente sus pies en agua tibia a diario (nunca en agua caliente).
- Sea cuidadoso al lavarse. Seque absorbiendo o dando toques con cuidado entre los dedos de los pies.
- Para evitar grietas y comezón en la piel seca, hidrate sus pies a diario, pero no lo haga entre los dedos.
- Nunca se corte o raspe los callos o callosidades usted mismo.
- Use calcetines limpios y secos. Cámbieselos a diario.
- Si presenta sudoración excesiva, considere la posibilidad de usar un antitranspirante en las plantas de los pies.
- Nunca camine descalzo.
- No fume. Fumar restringe el flujo sanguíneo hacia los pies.
- Asegúrese de que su calzado no sea demasiado suelto o apretado y que soporte correctamente los pies (consulte el folleto Calzado Adecuado). Consulte con un guardia si requiere una talla diferente de zapatos estándar.



En el caso de diabéticos:

- Sacuda sus zapatos y sienta el interior con sus manos antes de usarlos. Recuerde, es posible que sus pies no puedan sentir una pequeña piedra u otro objeto extraño, así que siempre inspeccione sus zapatos antes de ponérselos.
- Asegúrese de que un médico le examine los pies al menos una vez al año.

Notifique a la atención primaria cualquier condición anormal.

Cuidado de las uñas de los pies

Las uñas de los pies deben cuidarse adecuadamente para evitar las uñas encarnadas y detectar enfermedades relacionadas con hongos (onicomicosis).

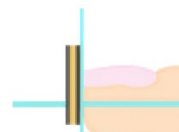
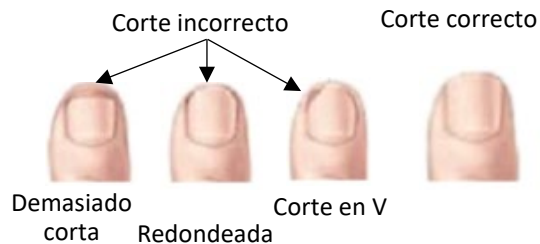
- Los pacientes no diabéticos pueden cortar sus uñas usando un cortaúñas solicitado a través de los catálogos de venta aprobados de un recluso o en la cantina.
- Los pacientes diabéticos pueden necesitar acudir a su equipo de atención primaria para el cuidado rutinario de las uñas.
- Córtese las uñas por lo menos cada dos semanas.
- Córtelas antes de ducharse (las uñas secas son menos propensas a doblarse o romperse).
- No las corte demasiado y hágalo en línea recta.

Para pacientes con hongos en las uñas de los pies:

- Remoje los pies de 20 a 30 minutos en agua tibia antes de cortarlas.

Limado de las uñas:

- Las mujeres y los pacientes transgénero pueden pedir una lima de uñas a través de los catálogos de venta aprobados de un recluso o en la cantina. Los demás pedir prestado limas de uñas en el lugar designado por su institución.
- Sostenga la lima de uñas en un ángulo de 90 grados en todo momento y lime en línea recta.
- Lime el borde libre de la uña en una sola dirección. No lo haga de un lado a otro. Limar por debajo del borde libre puede causar uñas encarnadas y el limado de un lado a otro puede causar resequedad, lo que conlleva agrietamiento y fisuras.



Educación para el Paciente/Control Personal del Caso

Calzado Adecuado

A continuación, se enumeran las características que debe tener un zapato cómodo:

1. Un zapato bien ajustado

Los zapatos no sólo deben tener la longitud correcta para ajustarse a nuestro pie, sino también el ancho. El ancho varía significativamente según el fabricante y el estilo del calzado. Asegúrese de usar zapatos que no sólo se ajusten a la longitud de su pie, sino también al ancho. Además, asegúrese de que tengan un ajuste cómodo en el talón y en los dedos.

2. Suela rígida

Una suela rígida minimiza la carga excesiva en el antepié o la parte media del pie. Lo contrario sería una suela muy flexible (por ejemplo, una pantufla) que tiende a concentrar la presión en ciertas áreas del pie.



3. Puntera ancha

En general, la parte delantera del zapato debe tener suficiente espacio para acomodar la parte delantera del pie sin apretarla.

Educación para el Paciente/Control Personal del Caso

Cuidado y Prevención de Uñas Encarnadas en los Pies

¿Qué es una uña encarnada?

Es cuando los lados o las esquinas de la uña del pie se curvan y se clavan en la piel del dedo, causando hinchazón, dolor y enrojecimiento. Si no se tratan, pueden infectarse. Las infecciones son especialmente preocupantes para las personas con diabetes, mala circulación u otros problemas médicos.

¿Qué causa una uña encarnada?

- El calzado demasiado ajustado, las afecciones médicas (por ej., infecciones micóticas, artritis) y las lesiones de los dedos de los pies pueden causar uñas encarnadas.



¿Cuál es el tratamiento para una uña encarnada dolorosa?

- Remojar el pie en agua tibia durante 15 a 20 minutos y colocar un pequeño trozo de algodón seco bajo la esquina de la uña.
- Si hay signos de infección, el médico puede sugerirle tomar un antibiótico o aplicar ungüento con antibiótico.
- En ocasiones se necesita una cirugía menor para extirpar parte de (o toda) la uña que se está clavando en la piel.

Si necesitara una cirugía menor, su médico:

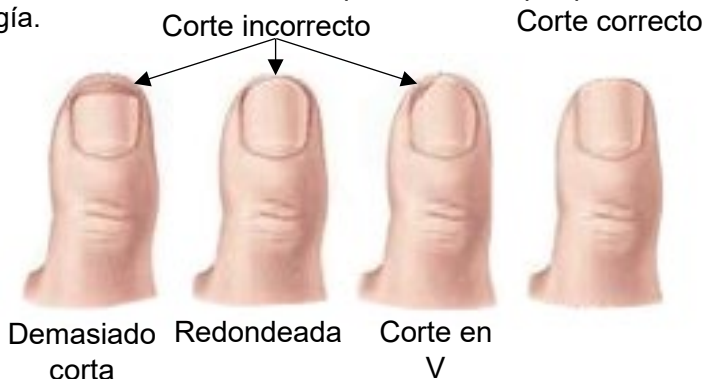
- Le inyectará un anestésico para adormecer el dedo.
- Cortará la uña a lo largo del borde que está creciendo dentro de la piel y sacará el trozo de uña.
- En algunos casos, aplicará una solución líquida en el lecho ungueal que evitará que la uña vuelva a crecer.

Después de retirar la uña encarnada:

- Atención primaria hará el primer cambio de vendaje en un plazo de 48 a 72 horas después del procedimiento.
- Su médico puede ordenar cambios de venda en la clínica o proporcionarle suministros para que usted mismo cambie su vendaje.
- Puede ducharse el día después de la cirugía: seque el área con cuidado y aplique ungüento antibiótico (si se le indica) después de ducharse. Evite sumergir el dedo en agua durante las siguientes 2 semanas. Trate de mantenerlo limpio y seco.
- El vendaje le ayudará a acolchar y proteger la herida a la vez que absorbe las secreciones. Si se empapa de sangre o líquido, puede reemplazarlo. Mantenga la herida vendada durante al menos una semana después de la cirugía.
- Si experimenta molestias, puede tomar ibuprofeno o acetaminofén, que serán recetados por su médico.
- Debe usar zapatos holgados y evitar actividades extenuantes durante las 2 semanas siguientes a la cirugía.
- Es posible que se desarrolle una infección en el dedo del pie durante las primeras semanas después de la cirugía. **Solicite una valoración si aumenta el dolor, hinchazón, enrojecimiento o secreción en el dedo del pie.**

¿Pueden prevenirse las uñas encarnadas?

- Sí, evite los zapatos apretados y córtese las uñas correctamente.
- En general, debe cortarse las uñas rectas (no curvadas) y no demasiado cortas. (Vea la foto de abajo y el folleto Cuidado de los Pies y las Uñas)
- Si desarrolla otra uña encarnada, consulte con su médico oportunamente porque el tratamiento temprano puede prevenir la necesidad de cirugía.

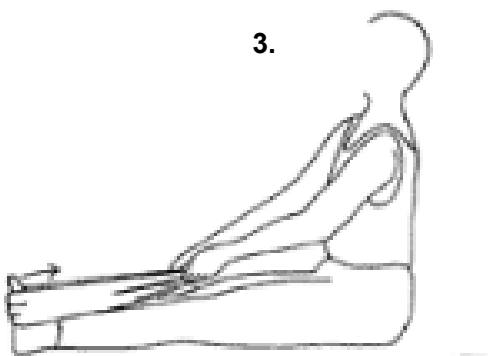
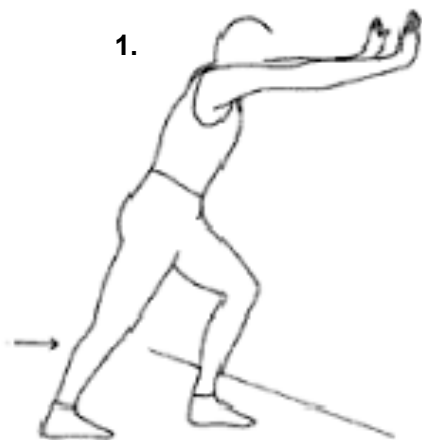


Educación para el Paciente/Control Personal del Caso

Estiramiento del Tendón de Aquiles

Si realiza actividad física y ejerce mucha presión sobre sus pies y piernas, necesita cuidar su tendón de Aquiles. Aunque puede resistir correr y saltar mucho, este tendón puede desgarrarse o romperse si se usa en exceso y no se calienta o estira adecuadamente. También puede terminar con tendinitis, una hinchazón e inflamación del tendón. A continuación, se incluyen algunos ejercicios comunes que puede realizar para estirar el tendón de Aquiles:

- 1. Estiramiento de la pantorrilla (Figura 1):** Coloque sus manos en una pared con una pierna estirada manteniendo el talón en el suelo. Coloque la otra pierna, con la rodilla doblada, delante de la pierna estirada y empuje las caderas hacia la pared. Estire la pantorrilla hasta el punto en que sienta una fuerte tensión, pero sin dolor. No levante sus talones del suelo. Mantenga la posición durante 10 segundos y luego relájese. Repita 20 veces en cada pie de manera lenta y controlada. (Webmd)
- 2. Estiramiento del sóleo en posición de pie (Figura 2):** Párese frente a una pared con un pie delante del otro. Manteniendo la rodilla de atrás doblada, doble la rodilla delantera e inclínese hacia la pared hasta que sienta un estiramiento a lo largo de la pantorrilla de la pierna trasera. Sostenga 20-30 segundos y luego relaje. Repita tres veces y cambie de pierna. (Livestrong)
- 3. Estiramiento con toalla (Figura 3):** Siéntese con las piernas extendidas y las rodillas estiradas. Coloque una toalla alrededor de la pierna que va a estirar. Ponga la toalla alrededor de su pie justo debajo de los dedos. Sostenga cada extremo de la toalla con cada mano, con las manos por encima de las rodillas. Tire de la toalla hacia atrás para que el pie se estire hacia usted. Mantenga la posición de 15 a 30 segundos, repitiendo de 2 a 4 veces por pierna. (Footscientific)



EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

EJERCICIOS PARA LA FASCITIS PLANTAR

A continuación se presentan algunos ejercicios que pueden aliviar el dolor:



Siéntese con las piernas rectas y coloque una toalla alrededor del pie. Luego tire de la parte superior del pie hacia usted. Sosténgalo así de 10 a 30 segundos. Repita esto 5 veces por sesión y haga 2 sesiones al día. También puede empujar la bola del pie contra la toalla. Esto ejercita y fortalece los músculos del pie.



Con la pierna apoyada en algo y el pie en el aire, estire el pie y flexiónelo. Luego haga círculos con el pie, girando el tobillo.



Enrosque los dedos de los pies en el borde de un libro. Luego, enderécelos. Haga esto una y otra vez durante 2 minutos, dos veces al día.



Enrosque los dedos de los pies alrededor de una toalla. Luego agarre y suelte la toalla una y otra vez durante 1 a 2 minutos, dos veces al día.