

Foot and Ankle Review

Volume 2, Issue 1

A publication of Martin Foot and Ankle | www.martinfootandankle.com

Understanding and Management of Charcot Foot Disease

See page 4

The Ugly Truth about Plantar Warts

See page 7



Martin Foot and Ankle

CGA Law Firm is your trusted advisor for keeping your health and employment law needs in step.



Anne E. Zerbe, Esq.



Jack M. Hartman, Esq.



One firm, all the law you need.SM

(717) 848-4900 • www.cgalaw.com

135 N. George Street • York, PA 17401

MVS is proud to support Martin Foot and Ankle



Dr. Jose Parra



Dr. Mark Gazall

MVS accepts major insurances and has locations in Maryland & Pennsylvania.

The Premier Specialists
in Artery & Vein Health

- Diagnostic testing of veins & arteries with a physician referral
- Physician consultations with a trained vascular surgeon
- AAA, carotid & arterial screenings
- Minimally invasive vein & artery procedures
- Same day appointments & convenient access
- Friendly & reliable patient care

Hanover Office

250 Fame Avenue Ste 204

Hanover PA 17331

Phone: 717.316.0900

Fax: 717.630.9096

York Office

2350 Freedom Way Ste 253

York PA 17402

Phone: 717.428.8100

Fax: 717.741.1939

www.mvsdoctors.com

1.844.MVS.OFFICE (687.6334)

Did you know that leg pain is one of the many symptoms of a clogged artery?

Did you know that symptoms of vein and artery disease are sometimes the same?

If you want answers about your vein and artery health, come see Dr. Gazall or Dr. Parra at MVS. We look forward to caring for you!

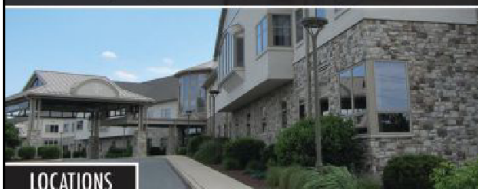


Allow our highly professional team of seasoned real estate professionals to assist you with all of your professional, medical, and office needs.



SALE ■ LEASING ■ RELOCATIONS ■ EXPANSIONS

Our firm can also assist with any Property and Facilities Management



LOCATIONS

York: 3528 Concord Rd., York, PA 17402

Lancaster: 2173 Embassy Dr., Lancaster, PA 17603

Williamsport: 25 W Third St, Suite 800, Williamsport, PA 17701

Exton: 600 Eagleview Blvd., Suite 300, Exton, PA 19341

717-843-5555

www.bennettwilliams.com



Waters Retail Group
welcomes Martin
Foot and Ankle to
the Shoppes at Kissel
Village, Lititz, PA.



SERVING PODIATRISTS
FOR OVER
30 YEARS



Martin Foot and Ankle

Foot and Ankle Review

A publication of Martin Foot and Ankle
Volume 2, Issue 1

Martin Foot and Ankle is a premier podiatry practice in the central Pennsylvania area, with offices in Hanover, York, Lancaster and Lititz. Martin Foot and Ankle physicians are all highly experienced, with licenses and certifications to treat a wide variety of foot and ankle conditions using the most up-to-date and advanced medical technologies available.

717-757-3537 | 800-456-0076
www.martinfootandankle.com

Martin Foot and Ankle Campus

2300 Pleasant Valley Road
York, PA 17402
Fax: 717-781-8665

Hanover Office and Physical Therapy Office

1010 Eichelberger Street
Stonegate Square, Suite 4
Hanover, PA 17331
Fax: 717-632-4893

Shiloh/West York Office

2069 Carlisle Road
York, PA 17408
Fax: 717-767-6316

Lancaster Office and Physical Therapy Office The Right Shoe

2112 Harrisburg Pike, Suite 321
Lancaster, PA 17601
Fax: 717-509-1467

Lititz Office and Physical Therapy Office The Right Shoe

1042 Lititz Pike
Lititz, PA 17543
Fax: 717-718-9701

Martin Foot and Ankle Physicians

Rick F. Martin, DPM, FACFAS
Jeffrey A. Dunkerley, DPM,
FACFAS, FAENS
Michael B. Younes, DPM,
FACFAS, ATC
Bronwyn Wilke, DPM, FACFAS
Keith F. Tyson, DPM, FACFAS
Sonam T. Ruit, DPM, FACFAS
Maria Ann Kasper, DPM, FACFAS
Kyle R. Yorgason, DPM, AACFAS
Bradley Boyer, DPM, AACFAS
Jennifer Mulhern, DPM, AACFAS

Foot and Ankle Review is published by
Innovative Publishing. Direct all inquiries
to Aran Jackson at 502.423.7272 or
aran@innovativepublishing.com.

www.innovativepublishing.com

Foot and Ankle Care for You



Welcome to Martin Foot and Ankle's second installment of *Foot and Ankle Review*. I sincerely hope the information provided leads to a greater understanding of what we, as a regional healthcare provider, can do for you and your family.

The Martin Foot and Ankle family has grown in many ways during the past year. This spring, we opened a new location with a separate physical therapy office in Lititz, Pennsylvania. Due to increasing demand in Lancaster County, we added an additional physician, Dr. Jennifer Mulhern, a fellowship-trained foot and ankle surgeon with extensive post-residency training in the entire gamut of foot and ankle deformity diagnosis and surgical reconstruction. The Right Shoe has expanded its retail footprint in this location as well, providing physician-approved footwear for our community's complex needs.

The Physical Therapy Department added a very successful wellness program to address the ongoing needs of our patients after they have completed their rehabilitation goals. This program has been well received and continues to rapidly grow. The department added an AlterG, which functions as an antigravity treadmill to aid in faster recovery of our patients following surgery or injury. This indispensable tool also helps the highly functioning athlete train in ways not possible before and is an excellent tool aiding in the recovery of a patient who has had a lower extremity amputation.

As the region's leading provider of foot and ankle care in south central Pennsylvania, we maintain active surgical privileges at all local and regional hospitals and surgical centers. All physicians are trained in the latest foot and ankle reconstruction techniques. Whether you require a nerve release procedure to address chronic pain or a foot and ankle reconstructive procedure for diabetic Charcot foot, our surgeons can tailor each procedure to individual requirements.

Your entire experience with our practice is very important to us. As an added innovation in patient satisfaction, new and current patients may complete real-time visit evaluations so we can better improve our delivery of care to you. Every location is entirely digital, and your healthcare information is seamlessly available to any of our doctors at our five locations, including digital X-ray imaging performed onsite as well as offsite testing.

Martin Foot and Ankle has been the region's premier provider of foot and ankle care for nearly 40 years. We hope you continue allowing us the privilege of serving you, our patient. Please do not hesitate to call us with any questions or concerns, and enjoy this newest edition of *Foot and Ankle Review*.

Sincerely,

Jeffrey A. Dunkerley, DPM, FACFAS, FAENS
President and Managing Partner
Martin Foot and Ankle

Contents

Understanding and Management of Charcot Foot Disease	4
Introducing the Wellness Program and the AlterG Treadmill	5
Achilles Tendon Injuries: We're Not Talking Rupture Here!	6
The Ugly Truth About Plantar Warts	7
The Days of Your Grandparents' Orthopedic Shoes Are Over!	8

Understanding and Management of Charcot Foot Disease

by Sonam Ruit, DPM, FACFAS

Charcot foot is also referred to as Charcot neuropathic osteoarthropathy with its primary effect on bones, joints and soft tissues of the foot and ankle. It is associated with nerve damage or neuropathy, inability to feel pain, leading to progressive deterioration of the joints in the foot and ankle. This leads to collapse or fracture of the joints and severe deformity of the foot and ankle. As Charcot progresses over time, it leads to abnormal bony prominence on the bottom of the feet, thick calluses and finally ulceration at those sites. The hallmark deformity associated with this condition is midfoot collapse, described as a “rocker-bottom foot.”

Etiology & Pathogenesis

The exact pathogenesis related to Charcot’s etiology still remains, but the most recent 2011 APMA and ADA task force stated, “A neurally mediated vascular reflex leading to increased peripheral blood flow and active bone resorption has been proposed as an etiological factor in the development of bone and joint destruction in neuropathic patients. However, the relationship between increased blood flow to bone and active bone resorption has not been conclusively defined.”

Of the many causes of Charcot foot, diabetic neuropathy has become the most common etiology. According to the American Diabetes Association, 60 to 70 percent of people with diabetes develops peripheral nerve damage that can lead to Charcot foot. Other causes of Charcot include distal neuropathies by toxins (ethanol, drug related) and infection (leprosy), as well as diseases of the spinal cord and nerve roots (tabes dorsalis, trauma, syringomyelia) and a number of other conditions (Parkinson’s disease, HIV, sarcoidosis, rheumatoid disease, psoriasis). Although the neuroarthropathy is typically more proximal in those with disease of the spinal cord, the presentation may be otherwise indistinguishable.

Most patients often relate the onset of this condition as starting with trauma that is often minor in nature, while some Charcot cases report causes of local inflammation, including previous ulceration, infection or recent foot surgery.

Symptoms or Signs of Charcot

Acute or early signs of Charcot foot can present with redness and swelling, mild deformity, instability of joints or strong pulse, but in most cases no pain or insensitivity in the foot. There is most often a temperature differential of several degrees between the two feet. Some people with Charcot foot develop a deep aching-type pain, but it is never as severe as what would be expected given the extent of the injury. This is quite frequently mistaken as cellulitis, DVT, phlebitis, lymphedema and gout. Due to its multiple symptoms, Charcot is also sometimes referred to as a syndrome.

Chronic or later signs of Charcot foot are dislocation of the joints, significant instability of joints, severe deformity and abnormal bony prominence, and complete collapse of the midfoot or rocker-bottom foot in more advanced stages. Charcot affects most commonly the midfoot or tarsometatarsal joints, but also affects the mid-tarsal, ankle and even the smaller toe joints.

Diagnosis

As described above, diagnostic clinical findings include a combination of neurological, vascular, musculoskeletal and radiographic abnormalities. Charcot foot has always been associated with presence of neuropathy. Therefore, peripheral sensory neuropathy associated with reduced sensation of pain is the essential predisposing condition permitting the development of the arthropathy. Aside from basic blood work to rule out infection, the key diagnostic tools for Charcot are:

1. X-rays
2. MRI (if X-rays are negative or suspicious for infection)
3. Bone scan or PET scan (if MRI is contraindicated)



X-rays are obviously very crucial and the initial form of diagnostic tool. This helps to detect the exact location of the fractures and dislocations and helps determine the various angular deformities. However, in the acute phases of Charcot when the fractures or deformities are very subtle, an MRI is indicated. MRI has the unique capability of differentiating tissues with high detail and has a high sensitivity as well as specificity for osteomyelitis. However, in cases where an MRI is contraindicated, three-phase bone scan or WBC-labelled bone scan (if there is suspicion of infection) may be necessary. Lately, positron emission tomography (PET) scanning has been recognized as having potential for diagnosis of infection and differentiating the Charcot foot from osteomyelitis. However, this still remains investigational.

Medical Treatment

Early detection is the key to successful management of this disease. With any suspicion of CFD, non-weight bearing restrictions are immediately implemented or, at the very least, elderly and fall risk patients wear a well protected weight-bearing cast with assistive device. Pharmacological treatment options with use of the drug bisphosphonates have shown some promise and can be used as an adjunct treatment. This treatment is still not widely utilized, but there is growing consensus among physicians who manage this condition about its impact on slowing the osteoclastic activity. Following adequate stabilization of the initial stages of Charcot, then these patients can transition into prescription shoes, boots or braces. These patients will require lifetime periodic surveillance to monitor for signs of recurrent or new episodes of Charcot, as well as other diabetic foot complications.

Surgical Treatment

Finally, surgery is essential in refractory cases that fail offloading and immobilization or in cases of recalcitrant ulceration. These usually include Charcot foot with severe and unstable deformities, which impacts gait and balance. However, in some cases, with multiple fractures/dislocation, surgery becomes the primary method of treatment. The foremost goal of surgery is stabilization and improved architecture of the foot. Surgical procedures and techniques vary based on the location of the disease and on surgeon preference and experience with Charcot foot disease. Depending on the severity, surgical procedures include ostectomy of the plantar prominence and lengthening of Achilles or gastrocnemius to help reduce forefoot pressure and help with realignment of midfoot, hind foot and ankle. Finally for more severe cases, an open reduction internal fixation (ORIF) or arthrodesis of affected joints may be necessary. Average healing time can range from one to two years. In severe cases, amputation is a viable option.

Charcot foot is a complex complication of diabetes and neuropathy. The classic rocker-bottom foot deformity is a late stage of the syndrome and can be avoided by early recognition and management. Understanding of Charcot foot and getting appropriate early medical care are absolutely critical in preventing severe disability or ultimately loss of limb. Therefore, for those patients who do not have Charcot foot but have diabetes and neuropathy, the risk of developing this condition still increases.

Introducing the Wellness Program and the AlterG Treadmill at Martin Foot and Ankle

The Wellness Program at Martin Foot and Ankle will provide a positive environment for patients interested in improving their fitness level.

Directed by Wellness Coordinator Chris Doemland, program participants will be able to improve their health, strength, flexibility and endurance. Free of the intimidation associated with many public gyms, the team at Martin Foot and Ankle will help you reach your goals. During the initial visit, patients meet with a licensed therapist to assess goals and devise a personalized workout plan. With supervision, explanation, demonstration and encouragement, members will work out in a safe and welcoming environment.

The program is an affordable option for individualized fitness programs. The Wellness Program is a great way to help people of *all* fitness levels and abilities. Our focus is on using equipment that can also be utilized at home, thus building their ability to challenge themselves even once they leave the gym. Patients will be surprised at just how much their fitness can improve by using simple tools.

The newest addition to Martin Foot and Ankle's Physical Therapy Department and the Wellness Program is the state-of-the-art AlterG Anti-Gravity Treadmill. The AlterG Anti-Gravity Treadmill utilizes NASA technology in its ability to un-weight a person up to 80 percent of his or her body weight. The reduction of weight and the ability to progress to full-weight capacity makes this treadmill an incredible tool for all walks of life. The AlterG allows for injury recovery, strengthening and conditioning in a fall-safe environment. Appropriate for older members, weight-loss programs, and injury prevention during sport specific conditioning and fitness improvement programs, the AlterG is used at the highest levels of performance in the NHL, NBA, NFL and NCAA. And now the AlterG is accessible to the public through Martin Foot and Ankle!

Contact us at 717-757-3537 ext. 7140 with any questions or to schedule an appointment. We're not just another place to work out. At Martin Foot and Ankle's Wellness Program, we have friendly, trained staff members who care about the client and will cater to their needs as a person. We can help them achieve their goals!

Achilles Tendon Injuries

We're Not Talking Rupture Here!

by Jennifer Mulhern, DPM AACFAS

Discomfort in the back of the heel and tightness of the ankle when walking can occur for a variety of reasons, but one of the more common presentations is related to Achilles tendon issues.

Traumatic rupture aside, the underlying cause of Achilles tendonitis (inflammation within or about the tendon) is due to repetitive stress on the tendon resulting in weakening. The repetitive stress can simply be from an increase in athletic or exercise activities, or it can be attributed to tightness of the muscles that make up the Achilles tendon.

When the muscles are tight, normal motion at the ankle joint is restricted during walking. In an effort for your body to continue with your normal activities, accommodations are made at the knee, hip and foot joints while the Achilles tendon remains under significant stress. This causes the tendon itself to weaken and develop areas of partial tearing and inflammation.

Two types of Achilles tendonitis are commonly seen:

1. Achilles non-insertional tendonitis: inflammation of the tendon and tendon sheath in the mid-substance of the tendon, typically just a bit above the insertion point on the back of the heel bone (calcaneus)
2. Achilles insertional tendonitis: inflammation of the tendon at the insertion point on the back of the heel bone

Pulling from the tight Achilles tendon complex on the back of the heel bone can result in extra bony growth (a spur) at this location. The tighter the Achilles tendon complex and the longer it remains tight, the larger the spur can become. If it becomes too large, in addition to inflammation of the tendon, the spur can cause tearing as it punctures the Achilles during normal stance and gait activities.

As the tendon attempts to repair itself, no matter the cause of the inflammation, scar tissue develops within the tendon

and can often cause visible or palpable thickening that becomes painful. When patients seek treatment, they report pain to the back of the heel and stiffness with first steps out of bed in the morning. Many often report swelling, difficulty ascending or descending stairs, and an inability to perform their normal activities due to pain.

Treatment is based upon the patient's symptoms and the underlying cause of the pain, but since most patients present with acute inflammation of the tendon, anti-inflammatory medications are one of the first treatment recommendations. Occasionally, a period of immobilization in a walking boot is recommended. Along with controlling the inflammation, which will improve the patient's discomfort, the underlying cause needs to be treated in order to obtain long-term resolution for patients. This can include initiation of a home stretching regimen, use of splinting at night to improve flexibility of the Achilles tendon complex and/or a course of physical therapy. Most patients

respond successfully to these conservative treatment regimens.

If the flexibility of the Achilles tendon complex increases, the inflammation resolves, the ankle range of motion is normalized, and compensatory changes reverse. If attempts at increasing the flexibility are unsuccessful, if a large bony spur is present, or if there is significant thickening and pain within the tendon, surgery is often discussed. The surgical procedures are based on evaluation of the patient and presenting symptoms but can often include repair of the tendon itself, removal of the heel spur and lengthening of the Achilles tendon complex to improve flexibility.

Following the procedure, a period of non-weight bearing is required to allow the tendon to heal appropriately. As dictated by your surgeon, physical therapy will be initiated following the procedure to assure gains appreciated with the surgery are maintained, and patients can return to a normal activity level.





The Ugly Truth About Plantar Warts

by Bradley Boyer, DPM, AACFAS

Plantar warts, scientifically known as verruca plantaris, are common growths seen on the bottom of the foot. These growths actually come from a strain of virus that most of us have heard of — HPV (human papilloma virus). This virus is highly contagious and thrives in warm, damp environments, such as our shoes, showers and public swimming areas.

If someone has a small break in the skin and encounters this virus in the environment, the warts will infect and are likely to spread. They can appear as a single wart or as a cluster of warts, reminiscent of a mosaic pattern, and have an incidence of multiplying. Plantar warts can be annoying to those infected with them because they generally are painful and unsightly, as well as stubborn to treat.

The skin on the bottom of your feet is much thicker than most other skin on your body, and the wart-causing virus lives in the uppermost part of the human skin, hiding from your immune system. Often times, your body does not even know the wart is there. Over time, these lesions will become thickened, resembling a callus, and be painful when walking, especially if they are on a weight-bearing surface of your foot, such as the heel or the ball of the foot. They will also have the classic speckled black dots, which are the warts' blood supply.

They are benign in nature, meaning they are noncancerous. However, this does not

mean they are harmless. Patients frequently complain of limited activity due to pain and the unsightly appearance of the warts, leading to a feeling of embarrassment.

During sandal season, many patients are eager to begin treatment for their warts. Treatment by your doctor consists of two things: determining for sure that the lesion is a wart, and then choosing the right treatment course for the type of wart and its location. Treatments include topical and/or oral medications, cryotherapy/freezing and acid treatments greater than OTC strength. In rare cases, surgical excision is required.

If you have concerns that you or a member of your household has plantar warts, it is best to be evaluated by a healthcare professional to make sure your suspicion is correct and the proper treatment is chosen for each individual case. The experts at Martin Foot and Ankle can help. With offices in York, Lancaster, Lititz and Hanover areas, finding treatment for plantar warts is easy and convenient.

The Vein Center of Pennsylvania

at Wyntre Brooke Surgical
Associates P.C.

- Treatment for varicose and spider veins
- Laser system for EVLT
- A full-service acute DVT/PE program



The
VeinCenter
of Pennsylvania

(717) 741-9444

15 Wyntre Brooke Drive • York, PA 17403
(717) 741-4572 FAX

www.theveincenterofpa.com

To advertise in future issues of



please contact Innovative Publishing
at 844.423.7272 or
advertise@innovativepublishing.com.


Innovative
PUBLISHING

www.innovativepublishing.com



Martin Foot and Ankle
2300 Pleasant Valley Road
York, PA 17402

The *Right* Shoe

The Days of Your Grandparents' Orthopedic Shoes Are Over!

At *The Right Shoe*, we believe you should not have to compromise style and performance for comfort and support. It seems when most people think about orthopedic shoes, many have a (false) preconceived notion of how an orthopedic shoe should look. First-time visitors to our store are often surprised at what an orthopedic shoe can look like and respond with comments about how cute, fun and attractive the shoes are, as well as notice the variety of styles we offer. Although our focus is (and always will be) on proper foot health and function, we pride ourselves in providing a broad selection of style options for nearly any occasion.

The best features common to *all* of the brands and styles we offer is they are carefully chosen for comfort and support, promote proper foot health, *and* are recommended by the podiatrists and physical therapists of Martin Foot and Ankle.

In addition to training on our entire shoe line, our store staff receives ongoing foot training from the podiatrists and physical therapists of Martin Foot and Ankle. This ensures an understanding of how a foot functions, how different feet need different support from their shoes, and how to accommodate many common (and sometimes uncommon) foot problems. Additionally, this

training balances both needs *and* lifestyle so people can care for their feet while also wearing shoes they *want* to wear.

When it comes to sizing shoes, many people don't realize that fitting a shoe goes so far beyond the number on the box. There are many things to consider when choosing the best fit. Although there is a standard for measuring **foot** size, there will be size variances from brand to brand as well as even from style to style within the *same* brand. Your foot shape, width and type are as important as length when choosing the shoe providing the best fit. Inserts, orthotics, braces, etc. are other considerations when sizing shoes, as these extras will affect the fit of the shoe.

From a fashionable pair of **heels** for a night out to **steel-toe boots** for the most demanding environment to everything in between (even flip-flops!), we strive to maintain a selection to meet almost every need, activity or occasion.

If you want to experience how it feels to wear **The Right Shoe**, visit one of our stores. We will work with you **one-on-one** through our six-step process and help guide you to a shoe that will provide the perfect balance of fit, comfort, function and support, selecting a shoe that fits your lifestyle in a style you will *want* to wear.

When it comes to **The Right Shoe**, ask yourself:

Are *You* Wearing *It*?

