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A Tale of Two Pathologies: Sequella of Treatments for CTEV (Part 2)
By Dean Mason, MA, OST, C. Ped., CO
While not all cases of CTEV have one hundred percent success rates in the repair and management of malformed feet and ankles, it is rare that you see anyone under the age of fifty walking around in public with abnormal gait caused by CTEV.

2013 PAC Symposium: Turning Research into Clinical Pearls
By Rob Sobel, C. Ped.
Attending a symposium either in the U.S., Canada, or abroad (like the IVO conference coming up in 2015-Paris, France), will make a pedorthist feel more a member of the world pedorthic community; an experience everyone should have in their career.

By John Woodstock, Exhibit & Sponsorship Sales Manager, Meetings Management Group & Margaret Hren, Current Pedorthics Staff Writer
In part one of this series, we discussed the detailed planning, logistics, food and beverage costs and budgeting involved when a professional association like PFA selects a city for their annual symposium and exhibition. It is safe to say we have only scratched the surface.

Sports and Pedorthics: A Practice from Another Side
By Art Smuckler, C. Ped., OST
Balance and control combined with reactive energy create a better more productive athlete. A practitioner’s job is to protect the athlete from injury due to excessive pressures and over usage that are demanded from today’s athlete.

When Pathology Meets Overuse: Treating Sports Injuries and Assisting Other Allied Health Professionals
By Von M. Homer, BSc Kin, BOCPD & Jamie Plfug, School of Podiatric Medicine, Barry University
The study of sports medicine concerns the treatment of injuries, illness, or disability resulting from athletic activity. Multidisciplinary teams of health specialists are common in the field of sports medicine. A pedorthist can provide a twofold service focusing on performance and recovery, which could prove to be a valuable asset to any sports medicine team.

The Athletic Trainer and the Pedorthist: The Benefits of Creating a Strong and Professional Relationship
By Adam Brown, ATC, MS, LAT
The professions of both athletic training and podiatry involve extensive higher education and clinical experiences. Both professions can benefit from one another on many levels. The principles and professional background that athletic trainers possess can help a pedorthist understand the athlete on a more proficient level.

Leaving Medicare Behind: One Pedorthist’s Story of Finding a Different Path
By Kevin Jaeger, C. Ped.
There are many different options for a successful career in pedorthics. Some pedorthists believe that there is a bright future with the Medicare part of the business, and may choose to continue to focus on growing that part of their business. Although there are challenges to that market, there is also a significant need and demand for the services pedorthists provide.
The Future is in Good Hands

Recently, I just returned from Washington, DC. I wish I could say I was there on vacation with my family visiting our nation’s capital. However, I was actually in McLean, VA, a suburb just west of Washington, at the PFA’s home office. I was there to gather with the volunteer leaders of the PFA which included your Board of Directors and management staff, for a strategic planning session regarding the future of the organization and the proliferation of pedorthics. As I look back, I’ve come to realize that I have been involved with the organization, in some capacity, for over seven years, and I must say that I have never been prouder and more energized with your PFA then right now.

It is inspiring to know we have a group of volunteers who are invested in our future and are willing and able to lead and serve our organization. Built from an eclectic group of people made up of practitioners, clinicians, retailers and reimbursement activists, it was amazing to feel the energy generated from ideas and discussions regarding the future direction of PFA. At the conclusion of the meeting, I felt dejected that it had to end. Having formed such a personal and professional bond with this group and with our staff, I encourage you and invite you to do the same when you have a moment.

Your volunteer leaders are just that, volunteers. There is no compensation for these positions … they all have real jobs and practices. So you might wonder then who really facilitates the PFA and its needs and direction?

You might think it is your Board of Directors, but it’s not. Sure, the majority of the directives and impetus comes from your volunteer leaders through a varied assortment of meetings, committees, lessons from the past, and both business and practitioner experiences. However, the yeomen’s effort is directed by our staff at the Association Management Group (AMG), lead by our Executive Director, Brian Lagana. The PFA staff at AMG moves forward with directives from the Board of Directors and manages the everyday business operations of running our organization.

It’s this cooperative effort of you the members, the volunteer leaders and the management staff that produces the total entity, which is Pedorthic Footcare Association.

Let’s face it, Current Pedorthic magazine, which you are currently reading at this moment, doesn’t edit or produce itself. Articles have to be developed, wrangled and edited; advertising placement needs to be sold; art work created and printing and mailing production produced. This on its own is a group effort lead by AMG’s
To stay vital and relevant as an organization, myself and our current volunteers need to look to you to help us keep our organization going and growing as we look to a very bright future and extend the offer to all our members a professional platform to challenge and promote our profession – especially if you have considered volunteering.

Margaret Hren along with input from our marketing and publications committee made up of your volunteer leaders.

Being involved with the PFA has been and continues to be a challenge. To stay vital and relevant as an organization, myself and our current volunteers need to look to you to help us keep our organization going and growing as we look to a very bright future and extend the offer to all our members a professional platform to challenge and promote our profession – especially if you have considered volunteering.

My involvement serving as a volunteer has given me a sense of controllable destiny with my future as a professional, and I know that without the backing and direction from a professional organization like the PFA, I could have not done it alone, or as successful. Like most business owners, when things go wrong, it’s hard not to try to blame someone else for the problem, when in reality it’s me not looking at the bigger picture of my business.

If there is one thing I’ve learned though volunteering, over my many years with PFA, especially after completing this most recent planning meeting, is that all it takes is a group of volunteers from all walks of life to help you renew your sense of passion for your life’s work. I hope that the sacrifice by these volunteers will leave a mark benefiting the future of people just like you and me. We all want our life’s passion to mean something. Not every chosen field of endeavor carries this unique paradigm. As a member of PFA, we are lucky to have this.

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With many of PFA's members' clients/patients asking to pay for services with credit and debit cards, payment processing is something everyone should consider for their practice/business. The key to payment processors is finding one that fits your business, and PFA has worked to that end by partnering with Chase Paymentech to provide you with one of the best merchant credit card solution currently available. With that in mind, here are some points to consider when the time comes for you to consider your credit card processing needs:

Flexibility to match your needs:
With the variety of payment options out there, you should find a processor who enables you to accept payments in a way that fits your needs. Equipment, such as printers and other devices are available from most processors for purchase, rent or lease. If your practice/business already accepts payments through a point-of-sale terminal that you bought, it's possible that it can be programmed to work with another processor's system as well. Regardless of the equipment, you will want to ensure that the processor you choose is compliant with up to date security features to protect you and your clients/patients.

Compare options to find the best choice for your business:
Make sure that your payment processor is direct and upfront about rates, fees and pricing right from the start. One way to insure this is to ask for a cost analysis when considering a new processor. The processor should then review your existing statement and determine what your fees would be based on enrolling in comparable services. The cost comparison will show the difference between what your practice/business is paying now and the new proposed processor rate, allowing you see any potential savings.

Contract terms that work for you:
Before you sign up for service, be sure to also ask about month-to-month options versus multi-year agreements that may have early termination fees.

Contact a leader in payment processing:
To learn more about how the right payment processing program can help your business grow, give Holly Shaw, PFA's Chase Paymentech Account Executive, a call at (214) 849-3718, or e-mail Holly.Shaw@ChasePaymentech.com.

Merchant credit card processing services is just one of the many business-related services that PFA provides, and continually works to build upon, for its membership. For information on other PFA member benefits, visit our website at www.pedorthics.org.

...payment processing is something everyone should consider for their practice/business. The key to payment processors is finding one that fits your business, and PFA has worked to that end by partnering with Chase Paymentech to provide you with one of the best merchant credit card solution currently available.
In This Issue of Current Pedorthics

Featured Contributors

Adam Brown, ATC, MS, LAT
Adam has an undergraduate degree in exercise science and a graduate degree in athletic training, and is a BOC certified Athletic Trainer working for the University of Pittsburg Medical Center and Point Park University, a NAIA Division II School. As a trainer he works with both of the university’s men’s and women’s dance programs, the cross country team, basketball and baseball teams, and the women’s volleyball team.

Von Homer, BScKin, BOCPD
Von has been in the pedorthic industry for over six years, beginning his career as an athletic trainer working with professional athletes and familiarizing himself with the sport performance industry. He has consulted with a long list of companies including Under Armour Performance Footwear, Reebok, Sole Tech Ltd., Foot Care Express and is currently Clinical Faculty and Diabetic Amputation Prevention Research Coordinator at the Barry University School of Podiatric Medicine. Von is also currently serving as a PFA Volunteer on the Publications Committee and the Membership and Marketing Committee.

Margaret Hren, Editor & Staff Contributor, Current Pedorthics
Margaret Hren has worked extensively in the nonprofit and for-profit industry marketing and developing branding, membership and fundraising programs for numerous organizations and associations in the U.S. and abroad. With her expertise in marketing, editing and writing, she had published on various topics both in traditional publishing sources and online, as well as conducted onsite workshops on how to market your business and other business and personal topics of interest.

Kevin Jaeger, C. Ped.
Practicing pedorthics since 2006, Kevin currently owns and operates Pedorthic Footcare of Oklahoma, LLC in Oklahoma City, Oklahoma. He is a current PFA Volunteer serving on the Publications Committee and the Membership and Marketing Committee.

Dean Mason, ‘MA, OST, C. Ped., CO
Dean owns North Shore Pedorthics, LLC in Lorain Ohio, and is a member of PFA’s Board of Directors as Treasurer, co-chair of PFA’s Government Affairs Committee and a member of the Publications Committee.
Jamie Pflug, Grants Administrator, School of Podiatric Medicine, Barry University
Jamie manages the state-funded research program, “Diabetic Amputation Prevention Project.” A 2011 graduate of Barry University she has previously worked in the South Florida Public School System and is also a freelance writer and a professional musician.

Robert Sobel, C. Ped.
Rob started his pedorthic career as a technician at an orthotics and prosthetics facility. With more than 25 years of patient care experience, Sobel is now the owner of his own pedorthic practice in New Platz, NY, and is a member of PFA’s Board of Directors as Vice President, chair of the Publications Committee and member of the Marketing & Membership Committee.

Art Smuckler, C. Ped., OST
Art has been working in the pedorthics field since the late 1960s, and has used his vast knowledge in biomechanics, dynamic foot function, anatomy, foot orthotics and footwear to help develop many processes used today in both the manufacturing of custom foot orthotics and off the shelf footwear. Currently, he maintains a private pedorthic practice in Colonie, NY, in addition to owning the manufacturing company Sport Specific Orthotic Lab.

John Woodstock, Sponsorship and Exhibit Sales Manager, Meetings Management Group
John has been in the event and exhibit sales management industry for over 19 years. He has extensive experience in developing and managing exhibit sales, sponsorships, business development, event marketing, and event promotion at the regional, national, and international levels. John has also conducted event sales training for corporate exhibitors including middle market and major corporations, and has been a speaker at IAEE and TSEA on exhibit sales and sponsorships.
Expanding Your Knowledge: Current Pedorthics Magazine Announces Its Newest Editorial Feature - “Off the Shelf”

As part of PFA’s mission, we want to offer a variety of educational opportunities to help credentialed providers enhance and develop their knowledge and practice with lower extremity pedorthic modalities. Beginning with this current issue of Current Pedorthics magazine, PFA is pleased to announce the kick-off of our newest editorial feature – Off the Shelf. This new department will focus on books and other publications to help expand your knowledge in pedorthics and the latest in cutting edge health and practice information.

Off the Shelf will offer book reviews on new and current books available in the PFA Online Bookstore, as well as electronic media you can bookmark for future reference. All books will be reviewed by PFA member volunteers and will be offered with additional member discounts for a limited time in our bookstore during the magazine issue the book is featured in.

For many people who write articles or present lectures at local, regional, national, or international venues, you will want to add these books to your bookshelves. The titles we will be reviewing are a great resource to expand your understanding, thereby allowing you to educate others, be they patients, or fellow healthcare practitioners.

If you have a suggestion for a book you would like reviewed in Off the Shelf, or would like to become a reviewer, contact Margaret Hren at editorial@pedorthics.org. As a practitioner, your professional reference library is important. Now is the time to take advantage of those titles you’ve heard about or have wanted and check out Off the Shelf, premiering in this issue on page 13 today!

PFA Membership Has Its BENEFITS … Are YOU Using Them?

Belonging to a professional association like PFA, gives you the distinct advantage over other professionals who aren’t members of an association. As a perk of membership to PFA, we continue to add membership benefits created to assist and offer reasonable and affordable programs and products to help keep your business overhead costs down, along with offering reasonable out of pocket costs for your employees. Many PFA members have taken advantage of our most popular business programs such as the FedKinkos discount and shipping program with Partnership, and the discount credit card processing with Chase Bank Cards Paymentechn. But beyond these two programs, are you taking advantage of the other member programs available to help you personally and with your practice?

If you haven’t yet, now is the time to go online to our website www.pedorthics.org and sign up for one or all of these programs you might have over looked or not aware of. PFA has developed business partnerships with two leaders in the insurance and business affinity program industry, specializing in associations and their needs. These partnerships have paid off, allowing us to offer our members a plethora of programs and benefits to keeping their practice costs down, along with the ability to sign-up for affordable liability and health coverage.

Looking for a commercial insurance package? Then make sure you check out our program with Aon Insurance Affinity Services. This program offers our members the ability to customize their insurance needs beyond a standard commercial package policy. Members have the capacity to sign up for additional policies that cover property, business interruption, general liability, commercial automotive coverage, workers’ compensation, umbrella liability and personal liability.

Are you looking for affordable health insurance? Our program with Association Health Programs (AHA), offers reasonably priced and discounted health insurance rates for individual, family and group health plans. In addition you can sign-up for other supplemental health insurance plans covering critical illness, dental and vision, nutritional supplements, health care assistance, estate planning, alternative health services like chiropractors, massage therapists and acupuncturists and more. Along with life and long term care insurance plans, AHA also offers discount travel insurance, discount car rentals, pre-paid legal protection and Identity Theft Shield and a business equipment leasing and financing program.
In *Contemporary Pedorthics*, Decker and Albert offer a concise and straight forward text to the anatomy, biomechanics, and common diseases affecting the foot. This book, written and organized to be used as a daily reference guide, provides comprehensive educational information on pedorthic modalities from shoes to functional foot orthoses through illustrations, a glossary, and references to learn and assist in providing footcare.

As a practicing pedorthist, this is one of my favorite reference books, and I had the pleasure of meeting Dr. Albert one-on-one at the PFA symposium a couple of years ago. During our discussion, Dr. Albert offered the reasoning as to what his co-author, Wayne Decker and himself were trying to recommend to the pedorthic community by writing this reference book. The goal was to offer a quick reference that was user friendly, brief, and at the same time far-reaching; and what an amazing job these co-authors accomplished.

Besides basic anatomy, foot ailments, biomechanical disorders, and other maladies affecting the foot, just about all the treatment modalities are in this book. It reminds me of a paper version of Google for the pedorthist. Along with an easy to read layout, *Contemporary Pedorthics* is indexed nicely, requiring only a few seconds to find the page(s) holding the information being sought.

Users of this book will find when arriving at any page(s), the page(s) reveals enough information offering a basic understanding of a subject without feeling like you stumbled upon the pedorthic version of *War and Peace*. The only downside is if you are looking for reams of information on a subject, this is not the book to pull of your book shelf. If you are looking for a book to give you quick answers in a user friendly package this is sure to be the book you go to most often.

If you already own this book let it inspire you to review things you may have forgotten and delve deeper into subjects long forgotten. If it is not part of your professional library, I highly recommend you go online to the PFA Bookstore and purchase a copy. Trust me, you will wonder how you went so long without it.

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A Tale of Two Pathologies:
A New Case Study on Congenital Talipes Equinovarus (CTEV)

BY DEAN MASON, MA, OST, C. PED., CO
CTEV is a worldwide problem. There is no nation or culture on earth that it has not been touched by this defect. Fortunately, children born with CTEV in North America are extremely fortunate as treatment for the condition is begun soon after birth. This is not so in the rest of the world, including much of Europe.

While not all cases of CTEV have one hundred percent success rates in the repair and management of malformed feet and ankles, it is rare that you see anyone under the age of fifty walking around in public with abnormal gait caused by CTEV. There are varying degrees of successful outcomes in managing this condition. The vast majority of less than perfect outcomes are hardly noticeable in society. Prior to the current mode of treatment, the fate of Albert, mentioned in part one of this series, was more the rule. Today, with advanced modes of management, the outcomes are much better, though complicated cases such as Tommy’s remain in very small numbers.

Skateboards have been around as a mode of pre-motor vehicle transportation for children and teens for roughly sixty years. Once the transit mode for beatniks and boardwalk beachcombers, it is used as a substitute for a wheelchair in many European countries. Just down the avenue from the historic Pantheon in Rome is the Basilica of Santa Maria Sopra Minerva. It is the church at the headquarters of the Dominican religious order and is built upon the site of the ancient Roman Temple to the goddess Minerva.

As you approach the entry door, a teenage girl opens it for you. She is sitting on a skateboard and is seeking donations to supplement her income. Bending down to make the donation, you notice something strange – misshapen feet and ankles. She has CTEV. She cannot walk. Her condition went untreated at birth.

Walking through the streets of the Eternal City, there are several skateboarding teens, all with CTEV. This is something that would never be seen in the United States. Even with nationalized healthcare for everyone in Italy, there are far too many that don’t get treatment for whatever reason.

CTEV occurs in anywhere from 1 to 2.29 cases per 1000 live births. The number is higher is less developed countries. Males outnumber females 2 to 1. In unilateral cases, the right foot is more affected. The incidence rates rise with family history. Siblings have a 1 in 35 chance with twins having a 1 in 3 chance. The etiology remains largely unknown, though there are several theories:
A TALE OF TWO PATHOLOGIES: A NEW CASE STUDY ON CONGENITAL TALIPES EQUINOVARUS (CTEV) (PART 2)

1. Mechanical factors in utero. Hippocrates believed that external uterine pressure caused the foot to be held in equinovarus during gestation. Parker (1824) and Browne (1839) held that a lack of amniotic fluid prevents fetal movement, making the fetus subject to external pressure.

2. Neuromuscular defect. The literature has approximately fifty percent on either side of the possibility.

3. Primary Germ Plasm Effect. During early stages of development at the base cell level, a marker is turned on to allow CTEV to occur. In a dissection of feet with CTEV, the talar neck is always short, anteriorly rotated medially and plantarly.

4. Arrested fetal development. Intrauterine and environmental causes (e.g. rubella or use of thalidomide during pregnancy).

5. Heredity.

The pathoanatomy shows gross changes in shape and position of the navicular, cuboid and calcaneus. Tendons, tendon sheaths, ligaments and fascia have adaptive changes that become fibrotic or contracted. The talocalcanealcuboid articulation is subluxated.

Pathogenesis: During embryonic development, the foot passes through three phases:

1. Initial position - foot is in straight line with the leg.
2. Embryonic phase - foot is in marked equinovarus adductus position.
3. Fetal phase - foot changes to a slight equinovarus adductus position (this phase is reached by 11 weeks gestational age).

Any interference with stages 1 to 3 can result in clubfoot. The severity of the clubfoot is dependent on the evolutionary stage at which the interference occurred. Many theories exist with these being the most plausible.

1. The theory of arrest of fetal development in the fibular phase is based on the phases of embryologic development. However deviation of the talus (as found on dissections) is thought to be the primary cause of clubfoot, because it is thought to result from a primary germ plasm defect.

2. Some investigators have found innervation changes in the muscles of clubfoot patients and suspect that these changes are the primary cause of this malformation.

3. Other investigators have found excessive amounts of fibrous tissue and thought that retracting fibrosis may be the primary cause of the clubfoot malformations.

4. Some authors have examined the contracted medial side and have suggested that the contracture of myofibroblast-like cells may have been enhanced by histamine release from the mast cells, which are also found in increased concentrations.

5. Anomalous tendinous insertions of the Achilles tendon, tibialis anterior, and/or the peroneal tendons have also been blamed as the primary cause.

Dimeglio (1991) described his classification system as having four categories based on joint motion and ability to reduce deformities.

1. Soft foot, aka postural, treatment with conservative methods and physical therapy.
2. Soft > Stiff. More than 50 percent reducible, initially responding to casting.
3. Surgery indicated if total correction not achieved in 7-8 months.
5. Stiff foot. Poorly reducible with severe equinus position of the calcaneus. Often bilateral and correction with surgery indicated.

Overall, 50 to 90 percent success rates are reported with conservative measures.

A 1983 study came to a similar conclusion offering three classifications: mild, moderate and severe with a 1985 study that described the condition as severe, resistant, mild and postural. This same study found that a calcaneus high in the heel pad of fat at 6 weeks was an early indicator for surgery.

Another indicator of the severity is the measurement of calf muscle mass and the presence of an accessory tendon. In conservatively managed cases, there was little difference with the normal side in unilateral cases, where in surgical groups, it was highly significant. By the age of four, unilateral feet were essentially the same. The operative group showed distinct differences in the range of motion in joint anatomy.

Results show a distinction between resistant and resolving CTEV. In the conservatively treated group, those without abnormal calf muscle measurements had normal anatomy and ankle range of motion. In the surgical group, the reduction of calf muscle mass at six weeks presents as an intrinsic structural problem. Even though the surgery generally corrected the deformity, the range of motion at the ankle was reduced and joint anatomy was reduced.

It was the opinion of this study team that resolving deformities, those generally corrected with conservative treatment alone, should be excluded from the definition of CTEV and left to those with intrinsic structural problems. The thought process is that resolving cases show favorable biases in skewing the success numbers as these cases resolve with conservative treatment alone.

The inability of researchers to establish a common standard as to what CTEV is makes for confusion in describing treatment modalities and success rates.

In a Swedish study published in 1992, 75 children's feet were studied over a period of 6-11 years. 47 were treated conservatively beginning at 2 weeks of age. Three were treated with surgical intervention at 2·5 months. Physical therapy and bracing were
used for three years. 27 feet had multiple surgical procedures over the years. This study was concerned with cosmesis, functional, radiographic and surgical outcomes.

The protocol is rather aggressive, consisting of daily manipulation by physical therapy that is followed up by the parents later in the day resulting in two sessions daily. An AFO with a medial flange extending up and over the hallux. The flange extends superiorly to the medial malleolus, ending at the calcaneus.

The device is held in place in a straight lasted shoe similar to one used in a Denis-Browne splint. A surgical evaluation was performed in the 2-5 months of age range. Post op (soft tissue releases) was followed by placement in a cast for five weeks.

Once out of the cast, a dynamic splint was used. Physical therapy was performed twice daily for six months, then bi-weekly for one year, then at a 4-6 week interval. An anti-varus shoe was used when the child was walking. Active therapy ceased at three years of age.

Follow-up appointments were twice yearly until the child reached the age of seven. At the mean age of eight (actual ages 6-11) the cosmetic, functional and radiographic evaluations began.

Cosmetic result was considered successful with a plantargrade foot and absence of forefoot adduction. Acceptable results was a plantargrade foot with mild residual deformity. Poor result was significant residual deformities or overcorrection. Results: Good (62) Acceptable (12) and poor (1).

Functional assessment scale is based on activity level with no limitations, absence of pain and neutral heel position, 10 degrees or more ankle dorsiflexion, satisfactory subtalar joint motion and normal gait. Results: Excellent (51) Good (21) and Fair (3). None had functional failures.

Radiograph (X-Ray) studies measured various angles in the alignment of the bones and articulations.

Surgical: 67 of 75 feet studied received surgical intervention. Procedures include soft tissue releases, tendon transfers and osteotomy. No complications were reported.

Conclusions: Within the medical universe, there is no standard description of CTEV. This is one of those “you know it when you see it” pathologies. The real issue is causality.

There certainly are statistics that show genetics plays a role, as CTEV can run in families. It is doubtful that a single cause will be described any time soon. One critical difference in the literature is the use of the term CTEV.

It is clear that the vast majority of the cases are resolved with the standard conservative treatment: manipulation, serial casting, splinting. This type of presentation is described as “postural”. Some authors seek to reserve the term CTEV for the resistant type that require moderate to significant surgical intervention and follow-up care, including pedorthic modalities.

Scientifically, both postural and complicated versions qualify as the foot presents as talipes equinovarus, and is obviously congenial. Perhaps some resolution may come to the definition issue. How about Type1 and Type 2? Once the medical and research community reach a conclusion about the description, the research on the cause(s) can move forward in earnest.

The next installment in the series will focus on the 'Role of Genetics and Ancillary Conditions to CTEV.'

References:

2013 PAC Symposium:
Turning Research into Clinical Pearls

BY ROB SOBEL, C. PED.
I know it is difficult enough for some of our membership to even get to our symposium every year, so to mention that they should attend another pedorthic symposium may fall on deaf ears. Truthfully, I may not have gone this year had Jonathon Strauss the Executive Director for the Pedorthic Association of Canada (PAC) not insisted I attend while at our PFA symposium in Little Rock, AR. He could not have been more right. The information both in sessions and out were invaluable to me both as a pedorthist and as PFA Vice President.

Attending a symposium either in the U.S., Canada, or abroad (like the IVO conference coming up in 2015-Paris, France), will make a pedorthist feel more a member of the world pedorthic community; an experience everyone should have in their career. There are many things we do well here in the U.S. as pedorthists and other things we have not done so well in our profession. It would be hard for me to condense all the information I took in during this two day conference. Perhaps in the future this information will lend itself well in offering more informative and educational articles here in Current Pedorthics and PFA Online. In the mean time, here then are some of the highlights; some friendly and enjoyable, and some more controversial.

Allow me to start with the attendance. Although there were only 275 attendees, this may not be impressive by the U.S. standards, until you realize this is half of ALL the pedorthists in Canada; the number is staggering. It is saddens me that in the U.S. with well over two thousand pedorthists, only about half of those are PFA members, and often we do not approach even half of those members at a PFA symposium.

The PFA board is working diligently on bringing together every pedorthist in the U.S. to be a PFA member, as it should be. In Canada, there is no question, if you are a pedorthist, then you must belong to PAC. The number of Canadian pedorthists is growing, and PAC membership supports their pedorthic education, national organization, and pedorthic research. Our Canadian cousins have taken the professional application and practice model of pedorthics and done some improving on the U.S.’s original model we developed. Even though the Canadian model has surpassed ours in some ways, it is not too late for U.S. practitioners to improve our existing model to accomplish just as much professionally. In comparison, I am proud of our ability at PFA to provide innovative and great presenters at our symposium, just as great of a job as the Canadians do.

The content in the majority of the sessions was heavy on research. There were speakers ranging from Reed Ferber, PhD, CAT(C) and Kevin Kirby, DPM, leaders in the fields of research and biomechanics, to new pedorthic graduates C. Ped.(C)s need a bachelors in Canada to practice), and a whole host of graduate and post doctoral researchers, speaking on their research. There was even a session on 3D printing and how that could pertain to us in the future (which is not too far away). The overall content of the sessions were not as varied as ours, but here in the U.S. the type of pedorthist varies much more.

For instance, in the U.S. we have a much larger retail specific contingent than in Canada. It seems there are pedorthists here in the U.S. will find their way into other health areas, where in Canada they seem to be predominantly clinically based. It was amazing to me though, to see the relationship between the C. Ped. (C)’s, their educational facilities, and their researchers. They all rely on each other, and take care of each other, and through those relationships they flourish.

Fellow American and PFA Past President Dennis Janisse, C. Ped., was presenting at the conference, and I spoke with both him and PFA Past President Michael Forgrave, C. Ped. (C). IVO President Karl Heinz-Schott was a most excellent dinner companion, and I also met and made an acquaintance with Robert Verwaard, Board of Directors member of NVOS-Orthobanda (the international equivalent to PFA), and his fellow countryman Olaf at the social event Friday night. At the President’s lunch the following day I sat next to and met the Incoming President of PAC, Lisa Irish, C. Ped. (C) where she gave an inspirational speech to her membership, and had the torch passed to her (literally, no really, they pass a torch) by outgoing President Ryan Robinson, C. Ped. Tech (C), C. Ped. (C).

There are too many to list, but the Canadians, C. Ped.(C)s, vendors and whoever were in attendance, are a friendly bunch. This was evident by New Balance hosting a Fun Run that was a 5K run through the old city at 7:00 a.m. Saturday morning; everyone was smiling and chatting. At the end of the conference we enjoyed socializing over dinner and drinks. You definitely need to try the “Canadiano” if you run with this crowd.

I wish I could mention and list all these individuals, (unfortunately space prohibits me from including everyone), but because by attending these conferences, symposiums and trade shows, you will establish a number of important relationships with other industry professionals. These contacts you make, whether they are the solo practitioner, or on the PFA board, are invaluable in so many ways. Pedorthics goes well beyond the borders of the U.S., and we can learn so much from each other. We never know when the people we meet will become lifelong friends, or help someone we know gain employment in the field we love so much.

It is also apparent to me that our Canadian cousins have taken pedorthics and improved on the model we started. There is no shame in that if we learn from it. Bruce Lee, the famous martial artist once said “absorb what is useful”. We should look to those improvements, made on our pedorthic model and let them inspire us.

Let us take those words by Bruce Lee and dedicate ourselves to making our profession an incredible and enduring one for ourselves and future generations of pedorthists.
Symposium 101

What Does It Take To Put-On The Greatest Show Around?

BY JOHN WOODSTOCK, EXHIBIT & SPONSORSHIP SALES MANAGER, MEETINGS MANAGEMENT GROUP & MARGARET HRN, CURRENT PEDORTHICS STAFF WRITER

Professional associations like PFA follow a similar philosophy in planning such a mammoth benefit for their members. Besides opportunities to network and connect with services and other marketing ideas as a tool to help members grow their practices, a concerted effort is executed to find and develop workshops and lectures topics that will increase a member’s abilities and knowledge in research, business, treatment, pathology and other topics in ongoing patient care.

In this third part of our series, we will take a look at the specifics it takes into organizing and developing the trade show portion of a conference.

Planning the Show: Enter the Show Organizer

On the face of it, the task of organizing a trade show can seem overwhelming. The show organizer will work with the conference site and meeting manager to negotiate contracts and arrange for housing and travel as needed for vendors. In addition, the show organizer will help develop exhibit programming and a myriad of logistics, schedules, marketing, and food services, needed in the exhibit hall for exhibit participants.

A show organizer must also arrange for exhibition services, market to potential exhibitors and arrange the ‘millions’ of details necessary for each participant showing at the exhibition. Ultimately, the goal on the exposition side is to bring buyers and sellers together, whereas on the programming side of a conference, it is to provide education and networking.

With a trade show, you need to remember that the key objective is to connect buyers and sellers. The first and most important task is to identify those audiences. Once these individuals have been identified, then the show organizer will help develop a marketing plan and forum for exhibitors participating that will offer and maximize their experience in promoting products, discussing solutions, and developing relationships with customers and prospects.

Another key in organizing an exhibit in the trade show industry is to know your market. This is where extensive
market research is required and a good show organizer starts by creating a database of both buyers and sellers. The essence of a show is to bring these two parties together as cost effectively and efficiently as possible, maximizing the attendee’s and exhibitor’s time. The needs of the exhibitor are very important and it is essential to provide ROI (return on investment) so the time and money they are spending to reach their targeted market will help them acquire new customers.

Organizers need to make sure they select a competitive exhibit rate, develop show hours designed to meet the needs of both the exhibitors and the attendees, create an environment for effective communication, and assist exhibitors in campaign event marketing that will offer them the full benefit and value from a trade show. Attracting the right attendees is critical.

The volume of bodies in the door and on the exhibition floor does not necessarily translate into a great show. Exhibitors need to reach the buyers and decision makers for a given industry. Attendees need to be industry insiders and the show organizer has to prepare content that meets an insider’s needs.

The show organizer indirectly becomes the “broker” of connecting buyers and sellers. The key details that they need to make sure are covered include:

**Venue:** This is the first and most important requirement for a successful trade show. Site selection must work in such a way that it allows the organizer to draw the maximum number of key industry buyers.

**Marketing:** For a show of any size, it requires extensive strategy and development of marketing materials to attract both attendee and exhibitors. The marketing message must effectively communicate to all parties what participation in the exhibition can accomplished for them. In most cases, this information can be distributed throughout the year through various marketing channels leading up to the event, helping to get everyone involved excited and focused on the event.

**Logistics and Preparation:** It is essential that the development of a service manual for exhibitors is created to assist with helping them access key information on any essential services they may need before and during the exhibit. This can and should include assistance with preparing for the venue, arranging a floor plan and layout of the venue showing beyond easy access points and how to make their presentation attractive to participants and visitors, alike.

Other points that are covered in the service manual will include:

- Transport facilities to and from the venue, including arrival and departure routes to the airport and hotels;
- Special conference outings they can attend;
- Internal and external communications including telephones, faxes and Internet services at the venue;
- Where customer services locations are located along with, helpdesks or other service points spread around the venue, along with a list of personnel to guide visitors or help them navigate the venue in any way;
- Along with ample security in and around the venue, a breakdown of places where participants and/or visitors are lodging, and other miscellaneous and ancillary services such as first-aid, lighting, emergency procedures, etc.

**Trade Show Construction:** For transforming a hall or convention center into a usable and attractive trade show, the items required such as carpeting, lighting, audio/visual equipment, and an assortment of furnishings and fixtures are needed. There are a myriad of contractors on whom the event planner and show organizer can rely for trade show construction needs. Some will provide the labor for the installation and dismantling of lighting, equipment, and carpeting, while other contractors are used to supply computers, point of sale processing solutions and venue lighting.

**Execution:** In the end, it all comes down to delivering the final plans and objectives to your exhibitors, as well as being able to handle issues as they arise to ensure a positive experience for both attendees and exhibitors.

**Bonus Materials for the Exhibitors: Planning Trade Show Participation**

As an organizer works with exhibitors, one of the main challenges leading up to a conference or event is they must keep track of preparatory details. Unless they have a natural organizational talent, the creation of a trade show checklist will be essential and very helpful. There are simply too many important details to remember.
Such things as the delivery of exhibition booth graphics, staff training, airline ticket and hotel reservations, customer appointments, competitor analysis, and packing are just a slice of the entire process that must be completed before the event. Below are the main areas on the checklist that need to be focused on when planning and exhibit in a trade show:

**Goals and Objectives:** This checklist is more than just a “to do” list. The document exhibitors create with the help of a show organizer should also include the exhibitor’s review of their budget, and both the goals and objectives for the show they are participating in. Whether they are trying to reinforce their company’s brand, increase awareness of a new line of products, or collect qualified leads for business contacts in the future, an effective checklist is a must. All the preparation that should be done for the event should be consistent with the overall trade show strategy the show organizer has promised. It is also important and critical that an exhibitor’s pre-show marketing efforts and post show follow-up to participants are not missed. Their message to attendees must give them a reason to come visit their booth to do business.

**Staff Preparation:** Exhibitors need to prepare any staff participating in the exhibit. This should include creating scripts for speaking, role-playing and answering any questions a potential customer might have while they are promoting their business and product. The trade show checklist should establish certain expectations regarding their collection of sales or leads, and how the follow up will occur with these potential business leads.

**Booth Setup:** The show organizer also needs to work early with exhibitors as they begin planning the design of their exhibit. This should begin twelve to fourteen weeks before the event, and all the details that can affect the design or space of this booth should be in the exhibitor handbook a show organizer creates. The exhibitor needs to know space limitations, deadlines, and any other requirements.

Also, questions such as “Does my booth meet strategy and goals?” “What environment am I trying to create?” … Does my booth design support our brand and image, allowing effectively communicate to what I am trying to get across to potential customers?” should be addressed.

**Packing for the Show:** Having a solid show checklist can help exhibitors in packing up for the event. The list provided will help exhibitors make sure all the items they will need at their booth is packed. Items such as sample products, business cards, any laptops, graphics, and marketing materials should be considered. Additional miscellaneous items such as prepared PowerPoint presentations, special offers, flyers, office supplies and possible give-a ways should be included in their packing for the booth.

**Preparing a Trade Show Checklist:** Many novice exhibitors often underestimate the amount of planning required to prepare effectively for a trade show. Experienced exhibitors realize the value of starting early and should begin creating their trade show checklist by reviewing their budget, goals, and objectives for the show. This is also an important reminder that the show organizer can note as they go over a check list. Every action item will be placed on a time line with an end date of when it should be accomplished. To save time, exhibitors will also be directed to assign staff members to divide the tasks up, to make sure the checklist is consistent with the overall trade show strategy.

As we have shown you so far, there are many details and considerations necessary when it comes to planning a conference the magnitude of that PFA Symposium and Exhibition each year. Considering our analogy of our iceberg, we have come a long way from the very tip, offering you a behind the scenes look of the minuet the execution of a successful conference. Safe to say we are now below the water lever, which only leave just one more very important piece in the professional conference puzzle. Stay tuned for our fourth and final part of this series where we will discuss how PFA develops and schedules educational programming for their conference.

All the preparation that should be done for the event should be consistent with the overall trade show strategy the show organizer has promised. It is also important and critical that an exhibitor’s pre-show marketing efforts and post show follow-up to participants are not missed. Their message to attendees must give them a reason to come visit their booth to do business.
FOCUS ON RESEARCH
Peripheral Arterial Disease in People With Diabetes

AMERICAN DIABETES ASSOCIATION
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On the 7–8 of May 2003, a Consensus Development Conference was held to review the current knowledge regarding PAD in diabetes. After a series of lectures by experts in the field of endocrinology, cardiology, vascular surgery, orthopedic surgery, podiatry, and nursing, a vascular medicine panel was asked to answer the following questions:

1. What is the epidemiology and impact of PAD in people with diabetes?
2. Is the biology of PAD different in people with diabetes?
3. How is PAD in diabetes best diagnosed and evaluated?
4. What are the appropriate treatments for PAD in people with diabetes?

1) WHAT IS THE EPIDEMIOLOGY AND IMPACT OF PERIPHERAL ARTERIAL DISEASE IN PEOPLE WITH DIABETES?

PAD is a manifestation of atherosclerosis characterized by atherosclerotic occlusive disease of the lower extremities and is a marker for atherothrombotic disease in other vascular beds. PAD affects ~ 12 million people in the U.S.; it is uncertain how many of those have diabetes. Data from the Framingham Heart Study revealed that 20% of symptomatic patients with PAD had diabetes, but this probably greatly underestimates the prevalence, given that many more people with PAD are asymptomatic rather than symptomatic. As well, it has been reported that of those with PAD, over one-half are asymptomatic or have atypical symptoms, about one-third have claudication, and the remainder have more severe forms of the disease.

The most common symptom of PAD is intermittent claudication, defined as pain, cramping, or aching in the calves, thighs, or buttocks that appears reproducibly with walking exercise and is relieved by rest. More extreme presentations of PAD include rest pain, tissue loss, or gangrene; these limb-threatening manifestations of PAD are collectively termed critical limb ischemia (CLI).

PAD is also a major risk factor for lower-extremity amputation, especially in patients with diabetes. Moreover, even for the asymptomatic patient, PAD is a marker for systemic vascular disease involving coronary, cerebral, and renal vessels, leading to an elevated risk of events, such as myocardial infarction (MI), stroke, and death.

Diabetes and smoking are the strongest risk factors for PAD. Other well-known risk factors are advanced age, hypertension, and hyperlipidemia.

Potential risk factors for PAD include elevated levels of C-reactive protein (CRP), fibrinogen, homocysteine, apolipoprotein B, lipoprotein(a), and plasma viscosity. An inverse relationship has been suggested between PAD and alcohol consumption.

In people with diabetes, the risk of PAD is increased by age, duration of diabetes, and presence of peripheral neuropathy. African Americans and Hispanics with diabetes have a higher prevalence of PAD than non-Hispanic whites, even after adjustment for other known risk factors and the excess prevalence of diabetes. It is important to note that diabetes is most strongly associated with femoral-popliteal and tibial (below the knee) PAD, whereas other risk factors (e.g., smoking and hypertension) are associated with more proximal disease in the aorto-ilio-femoral vessels.

The true prevalence of PAD in people with diabetes has been difficult to determine, as most patients are asymptomatic, many do not report their symptoms, screening modalities have not been uniformly agreed upon, and pain perception may be blunted by the presence of peripheral neuropathy. For these reasons, a patient with diabetes and PAD may be more likely to present with an ischemic ulcer or gangrene than a patient without diabetes. While amputation has been used by some as a measure for PAD prevalence, medical care and local indications for amputation versus revascularization of the patient with critical limb ischemia widely vary. The nationwide age-adjusted amputation rate in diabetes is ~ 8/1,000 patient years with a prevalence of ~ 3%. However, regional patterns differ—there is nearly a ninefold variation of major amputations in people with diabetes across the U.S. Therefore, the incidence and prevalence of amputation may be an imprecise measure of PAD.

The reported prevalence of PAD is also affected by the methods by which the diagnosis is sought. Two commonly used tests are...
the absence of peripheral pulses and the presence of claudication. Both, however, suffer from insensitivity. A more accurate estimation of the prevalence of PAD in diabetes should rely upon a validated and reproducible test. Such a test is the ankle-brachial index (ABI), which involves measuring the systolic blood pressures in the ankles (dorsalis pedis and posterior tibial arteries) and arms (brachial artery) using a hand-held Doppler and then calculating a ratio. Simple to perform, it is a noninvasive, quantitative measurement of the patency of the lower extremity arterial system. Compared with an assessment of pulses or a medical history, the ABI has been found to be more accurate. It has been validated against angiographically confirmed disease and found to be 95% sensitive and almost 100% specific.4 There are some limitations, however, in using the ABI. Calcified, poorly compressible vessels in the elderly and some patients with diabetes may artificially elevate values. The ABI may also be falsely negative in symptomatic patients studied longitudinally, but it is known from prospective clinical trials of risk interventions that the cardiovascular event rates in patients with PAD and diabetes are higher than those of their nondiabetic counterparts.

### Diagnosis of PAD

Diagnosing PAD is of clinical importance for two reasons. The first is to identify a patient who has a high risk of subsequent MI or stroke regardless of whether symptoms of PAD are present. The second is to elicit and treat symptoms of PAD, which may be associated with functional disability and limb loss. PAD is often more subtle in its presentation in patients with diabetes than in those without diabetes. In contrast to the focal and proximal atherosclerotic lesions of PAD found typically in other high-risk patients, in diabetic patients the lesions are more likely to be more diffuse and distal. Importantly, PAD in individuals with diabetes is usually accompanied by peripheral neuropathy with impaired sensory feedback. Thus, a classic history of claudication may be less common. However, a patient may elicit more subtle symptoms, such as leg fatigue and slow walking velocity, and simply attribute it to getting older. It has been reported that patients with PAD and diabetes experience worse lower-extremity function than those with PAD alone.9 Also, diabetic patients who have been identified with PAD are more prone to the sudden ischemia of arterial thrombosis10 or may have a pivotal event leading to neuroischemic ulceration or infection that rapidly results in an acute presentation with critical limb ischemia and risk of amputation. By identifying a patient with subclinical disease and instituting preventative measures, it may be possible to avoid acute, limb-threatening ischemia.

PAD in diabetes also adversely affects quality of life, contributing to long-term disability and functional impairment that is often severe. Patients with claudication have a slower walking speed (generally < 2 mph) and a limited walking distance. This may result in a “cycle of disability” with progressive deconditioning and loss of function. Finally, there are significant economic costs of health care, reduced productivity, and personal expenses associated with a chronic manifestation of atherosclerotic disease such as PAD.

### Impact of PAD

The impact of PAD can be assessed by its progression, the presence of symptoms, and the excess cardiovascular events associated with systemic atherosclerosis. Approximately 27% of patients with PAD demonstrate progression of symptoms over a 5-year period, with limb loss occurring in ~ 4%. While the majority of patients remain stable in their lower-limb symptomatology, there is a striking excess cardiovascular event rate over the same 5-year time period, with 20% sustaining nonfatal events (MI and stroke) and a 30% mortality rate. For those with CLI, the outcomes are worse: 30% will have amputations and 20% will die within 6 months.5 The natural history of PAD in patients with diabetes has not specifically been studied longitudinally, but it is known from prospective clinical trials of risk interventions that the cardiovascular event rates in patients with PAD and diabetes are higher than those of their nondiabetic counterparts.

2) IS THE BIOLOGY OF PAD DIFFERENT IN PEOPLE WITH DIABETES?

Diabetes affects nearly every vascular bed; however, the pervasive influence of diabetes on the atherothrombotic milieu of the peripheral vasculature is unique. The abnormal metabolic state accompanying diabetes results in changes in the state of arterial structure and function. The onset of these changes may even predate the clinical diagnosis of diabetes. Relatively little is known about the biology of PAD in individuals with diabetes in particular. However, it is felt that the atherogenic changes observed with other manifestations of atherosclerotic disease, such as coronary and carotid artery disease, are generally applicable to patients with both PAD and diabetes.

The proatherogenic changes associated with diabetes include
increases in vascular inflammation and derangements in the cellular components of the vasculature, as well as alterations in blood cells and hemostatic factors. These changes are associated with an increased risk for accelerated atherogenesis as well as poor outcomes. Given the large size of the peripheral vascular bed, the potential impact of these abnormalities is great.

**Diabetes, inflammation, and risk for PAD**

Inflammation has been established as both a risk marker and perhaps a risk factor for atherothrombotic disease states, including PAD. Elevated levels of CRP are strongly associated with the development of PAD. In addition, levels of CRP are abnormally elevated in patients with impaired glucose regulation syndromes, including impaired glucose tolerance and diabetes.

In addition to being a marker of disease presence, elevation of CRP may also be a culprit in the causation or exacerbation of PAD. CRP has been found to bind to endothelial cell receptors promoting apoptosis and has been shown to colocalize with oxidized LDL in atherosclerotic plaques. CRP also stimulates endothelial production of procoagulant tissue factor, leukocyte adhesion molecules, and chemotactic substances and inhibits endothelial cell nitric oxide (NO) synthase (eNOS), resulting in abnormalities in the regulation of vascular tone. Finally, CRP may increase the local production of compounds impairing fibrinolysis, such as plasminogen activator inhibitor (PAI)-1.

**Diabetes and endothelial cell dysfunction**

The endothelial cell lining of the arterial vasculature is a biologically active organ. It modulates the relationship between the cellular elements of the blood and the vascular wall, mediating the normal balance between thrombosis and fibrinolysis, and plays an integral role in leukocyte/cell wall interactions. Abnormalities of endothelial function can render the arterial system susceptible to atherosclerosis and its associated adverse outcomes.

Most patients with diabetes, including those with PAD, demonstrate abnormalities of endothelial function and vascular regulation. The mediators of endothelial cell dysfunction in diabetes are numerous, but an important final common pathway is derangement of NO bioavailability. NO is a potent stimulus for vasodilatation and limits inflammation via its modulation of leukocyte-vascular wall interaction. Furthermore, NO inhibits vascular smooth muscle cell (VSMC) migration and proliferation and limits platelet activation. Therefore, the loss of normal NO homeostasis can result in the risk of a cascade of events in the vasculature leading to atherosclerosis and its consequent complications.

Several mechanisms contribute to the loss of NO homeostasis, including hyperglycemia, insulin resistance, and free fatty acid (FFA) production. Hyperglycemia blocks the function of endothelial eNOS and boosts the production of reactive oxygen species, which impairs the vasodilator homeostasis fostered by endothelium. This oxidative stress is amplified because, in
Diabetes and the VSMC
The presence of diabetes is also associated with significant abnormalities in VSMC function. Diabetes stimulates pro-atherogenic activity in VSMC via mechanisms similar to that in endothelial cells, including reductions in PI-3 kinase, as well as local increases in oxidative stress and upregulation of PKC, RAGE, and NF-kB. The sum total of these changes might be expected to promote the formation of atherosclerotic lesions. These effects also may increase VSMC apoptosis and tissue factor production, while reducing de novo synthesis of plaque stabilizing compounds, such as collagen. Thus, the above events accelerate atherosclerosis and are also associated with plaque destabilization and precipitation of clinical events.

Diabetes and the platelet
Platelets play an integral role in the connection between vascular function and thrombosis. Abnormalities in platelet biology may not only promote the progression of atherosclerosis, but also influence the consequence of plaque disruption and atherothrombosis. As in the endothelial cell, platelet uptake of glucose is unchecked in the setting of hyperglycemia and results in increased oxidative stress. Consequently, platelet aggregation is enhanced in patients with diabetes. Platelets in diabetic patients also have increased expression of glycoprotein Ib and IIb/IIIa receptors, which are important in thrombosis via their role in adhesion and aggregation.

Diabetes, coagulation, and rheology
Diabetes leads to a hypercoagulable state. It is associated with the increased production of tissue factor by endothelial cells and VSMCs, as well as increased plasma concentrations of factor VII. Hyperglycemia is also associated with a decreased concentration of antithrombin and protein C, impaired fibrinolytic function, and excess production of PAI-1.

Finally, abnormalities in rheology are seen in diabetic patients as an elevation in blood viscosity and fibrinogen. Elevated viscosity and fibrinogen are both correlative with abnormalities in ABI among patients with PAD, and elevated fibrinogen (or its degradation products) has been associated with the development, presence, and complications of PAD.

In summary, diabetes increases the risk for atherogenesis via deleterious effects on the vessel wall, as well as effects on blood cells and rheology. The vascular abnormalities leading to atherosclerosis in patients with diabetes may be evident before the diagnosis of diabetes, and they increase with duration of diabetes and worsening blood glucose control. Further studies of the diabetes-specific mechanisms responsible for the development of atherosclerosis, as well as the specific pathways responsible for PAD in this population, are needed.

3) HOW IS PAD IN DIABETES BEST DIAGNOSED AND EVALUATED?
Clinical evaluation: history and physical

The initial assessment of PAD in patients with diabetes should begin with a thorough medical history and physical examination to help identify those patients with PAD risk factors, symptoms of claudication, rest pain, and/or functional impairment. Alternative causes of leg pain on exercise are many, including spinal stenosis, and should be excluded. PAD patients present along a spectrum of severity ranging from no symptoms, intermittent claudication, rest pain, and finally to nonhealing wounds and gangrene.

A thorough walking history will elicit classic claudication symptoms and variations thereof. As these symptoms are often not reported, patients should be asked specifically about them. Two important components of the physical examination are visual inspection of the foot and palpation of peripheral pulses. Dependent rubor, pallor on elevation, absence of hair growth, dystrophic toenails, and cool, dry, fissured skin are signs of vascular insufficiency and should be noted. The interdigital spaces should be inspected for fissures, ulcerations, and infections.

Palpation of peripheral pulses should be a routine component of the physical exam and should include assessment of the femoral, popliteal, and pedal vessels. It should be noted that pulse assessment is a learned skill and has a high degree of interobserver variability, with high false-positive and false-negative rates. The dorsalis pedis pulse is reported to be absent in 8.1% of healthy individuals, and the posterior tibial pulse is absent in 2.0%. Nevertheless, the absence of both pedal pulses, when assessed by a person experienced in this technique, strongly suggests the presence of vascular disease.

Noninvasive evaluation for PAD: ABI
In contrast to the variability of pulse assessment and the often nonspecific nature of information obtained via history and other components of the physical exam, the ABI is a reproducible and reasonably accurate, noninvasive measurement for the detection of PAD and the determination of disease severity. The ABI is defined, as noted previously, as the ratio of the systolic blood pressure in the ankle divided by the systolic blood pressure at the
arm. The tools required to perform the ABI measurement include a hand-held 5- to 10-MHz Doppler probe and a blood pressure cuff.

The ABI is measured by placing the patient in a supine position for 5 min. Systolic blood pressure is measured in both arms, and the higher value is used as the denominator of the ABI. Systolic blood pressure is then measured in the dorsalis pedis and posterior tibial arteries by placing the cuff just above the ankle. The higher value is the numerator of the ABI in each limb.

The diagnostic criteria for PAD based on the ABI are interpreted as follows:

- Normal if 0.91–1.30
- Mild obstruction if 0.70–0.90
- Moderate obstruction if 0.40–0.69
- Severe obstruction if < 0.40
- Poorly compressible if > 1.30

An ABI value > 1.3 suggests poorly compressible arteries at the ankle level due to the presence of medial arterial calcification. This renders the diagnosis of PAD by ABI alone less reliable.

Due to the high estimated prevalence of PAD in patients with diabetes, a screening ABI should be performed in patients > 50 years of age who have diabetes. If normal, the test should be repeated every 5 years. A screening ABI should be considered in diabetic patients < 50 years of age who have other PAD risk factors (e.g., smoking, hypertension, hyperlipidemia, or duration of diabetes > 10 years). A diagnostic ABI should be performed in any patient with symptoms of PAD. It should be noted that in the evaluation of the individual patient there may be errors and that the reliability of any diagnostic test is dependent on the prior probability of disease (Bayes’ Theorem.)

Vascular lab evaluation: segmental pressures and pulse volume recordings

In the patient with a confirmed diagnosis of PAD in whom assessment of the location and severity is desired, the next step would be a vascular laboratory evaluation for segmental pressures and pulse volume recordings (PVRs). These tests should also be considered for patients with poorly compressible vessels or those with a normal ABI where there is high suspicion of PAD. Segmental pressures and PVRs are determined at the toe, ankle, calf, low thigh, and high thigh. Segmental pressures help with lesion localization, while PVRs provide segmental waveform analysis, a qualitative assessment of blood flow.

**Treadmill functional testing**

For patients with atypical symptoms, or a normal ABI with typical symptoms of claudication, functional testing with a graded treadmill may help with diagnosis. Patients with claudication will typically exhibit a > 20-mmHg drop in ankle pressure after exercise. Treadmill testing may also be used as an evaluation of treatment efficacy and as an assessment of physical function.

**Additional evaluation**

In patients with possible CLI, further noninvasive studies may help with clinical decision making regarding revascularization. A toe pressure < 40 mmHg or a toe waveform < 4 mm may predict impaired wound healing and is often used in the evaluation of ischemic ulcers. Systolic toe pressure is also useful in the evaluation of the patient with medial arterial calcification, where the ABI is less accurate. Another method of predicting healing is the measurement of the transcutaneous partial pressure of oxygen (TcPO2). A value < 30 mmHg is associated with poor healing of wounds or amputations.

**Anatomic studies: duplex sonography, magnetic resonance angiogram, and contrast angiography**

For those patients in whom revascularization is considered and anatomical localization of stenoses or occlusions is important, an evaluation with a duplex ultrasound or a magnetic resonance angiogram (MRA) may be valuable. Duplex ultrasound can directly visualize vessels and is also useful in the surveillance of postprocedure patients for graft or stent patency. MRA is noninvasive with minimal risk of renal insult. It may give images that are comparable with conventional X-ray angiography, especially in occult pedal vessels, and may be used for anatomical diagnosis.

While MRA is a safe and promising new technology, the gold standard for vascular imaging is X-ray angiography, and it is indicated primarily for the anatomical evaluation of the patient in whom a revascularization procedure is intended. Because it is an invasive test with a small risk of contrast-induced nephrotoxicity, “exploratory” angiography should not be performed for diagnosing PAD. For patients with suspected pedal ischemia, the angiography should include an aortogram with selective unilateral runoff and a magnified lateral view of the foot. It should be noted that the decision to perform an angiogram is made on a clinical basis and the need for revascularization, sometimes independent of any prior noninvasive tests.

**4) WHAT ARE THE APPROPRIATE MEDICAL TREATMENTS FOR PAD IN PEOPLE WITH DIABETES?**

**Treatment of systemic atherosclerosis associated with PAD**

Most cardiovascular risk factors for individuals with PAD are similar to those for people with diabetes alone. Although there is little prospective data showing that treating these risk factors will improve cardiovascular outcomes in people with both PAD and diabetes specifically, consensus strongly supports such interventions, given that both PAD and diabetes are associated with significantly increased risks of cardiovascular events.

**Cigarette smoking.** Cigarette smoking is the single most important...
modifiable risk factor for the development and exacerbation of PAD. In patients with PAD, tobacco use is associated with increased progression of atherosclerosis as well as increased risk of amputation. Thus, tobacco cessation counseling and avoidance of all tobacco products is absolutely essential.

**Glycemic control.** Hyperglycemia may be a cardiovascular risk factor in individuals with PAD; however, evidence for the benefit of tight glycemic control in ameliorating PAD is lacking. In the U.K. Prospective Diabetes Study (UKPDS), intensive glycemic control reduced diabetes-related end points and diabetes-related deaths. However, it was not associated with a significant reduction in the risk of amputation due to PAD. In fact, the major reduction in adverse end points was due to improved microvascular rather than macrovascular end points. An additional caveat is that, although it is likely that many patients with PAD were included in the UKPDS study, the prevalence of PAD was not defined; therefore, conclusions from this study may not directly relate to patients with diabetes and PAD. Nevertheless, good glycemic control (A1C < 7.0%) should be a goal of therapy in all patients with PAD and diabetes. Nevertheless, consensus still strongly supports aggressive blood pressure control (< 130/80 mmHg) in patients with PAD and diabetes in order to prevent microvascular complications.

**Hypertension.** Hypertension is associated with the development of atherosclerosis as well as with a two- to threefold increased risk of claudication. In the UKPDS, diabetic end points and risks of strokes were significantly reduced and risk of MI was nonsignificantly reduced by tight blood pressure control. Risk for amputation due to PAD was not reduced. In general, the effects of treating hypertension on atherosclerotic disease or on cardiovascular events have not been directly evaluated in patients with both PAD and diabetes. Nevertheless, consensus still strongly supports aggressive blood pressure control (< 130/80 mmHg) in patients with PAD and diabetes in order to reduce cardiovascular risk.

Results of the Heart Outcomes Prevention Evaluation (HOPE) study showed that ramipril, an ACE inhibitor, significantly reduced the rate of cardiovascular death MI, and stroke in a broad range of high-risk patients without hypertension. Of the 9,297 patients in this study, 4,051 had PAD. Patients with PAD had a similar reduction in the cardiovascular endpoints when compared with those without PAD, thus demonstrating that ramipril was effective in lowering the risk of fatal and nonfatal ischemic events among all patients. Nonetheless, the potential benefit of ACE inhibitors has not been studied in prospective, randomized trials in patients with PAD. Such trials are needed before making definite treatment recommendations regarding the use of an ACE inhibitor as a unique pharmacologic agent in the treatment of PAD.

**Dyslipidemia.** Although treating dyslipidemia decreases cardiovascular morbidity and mortality in general, no studies have directly studied the treatment of lipid disorders in patients with PAD. In a meta-analysis of randomized trials in patients with PAD and dyslipidemia who were treated by a variety of therapies, Leng et al. reported a nonsignificant reduction in mortality and no change in nonfatal cardiovascular events. However, the severity of claudication was reduced by lipid-lowering treatment. Similarly, in a subgroup analysis of the Scandinavian Simvastatin Survival Study (4S), the reduction in cholesterol level by simvastatin was associated with a 38% reduction in the risk of new or worsening symptoms of intermittent claudication. In the Heart Protection Study, adults with coronary disease, other occlusive arterial disease, or diabetes were randomly allocated to receive simvastatin or placebo. A significant reduction in coronary death rate was observed in people with PAD, but the reduction was no greater than the effect of the drug on other subgroups. Thus, although there are no data showing direct benefits of treating dyslipidemia in individuals with both PAD and diabetes, dyslipidemia in diabetic patients should be treated according to published guidelines, which recommend a target LDL cholesterol level < 100 mg/dl. Following this guideline, it is our belief that lipid-lowering treatment may not only decrease cardiovascular deaths, but may also slow the progression of PAD in diabetes.

**Antiplatelet therapy.** The Antiplatelet Trialists’ Collaboration reviewed 145 randomized studies in an effort to evaluate the efficacy of prolonged treatment with antiplatelet agents (in most cases, aspirin).

This meta-analysis combined data from > 100,000 patients, including ~ 70,000 high-risk patients with evidence of cardiovascular disease. A 27% reduction in odds ratio (OR) in the composite primary endpoint (MI, stroke, and vascular death) was found for high-risk patients compared with control subjects. However, when a subset of > 3,000 patients with claudication was analyzed, effects of antiplatelet therapy were not significant. Thus, the use of aspirin to prevent cardiovascular events and death in patients with PAD is considered equivocal; however, aspirin therapy for people with diabetes is recommended.

The Clopidogrel Versus Aspirin in Patients At Risk of Ischemic Events (CAPRIE) Study evaluated aspirin versus clopidogrel in > 19,000 patients with recent stroke MI, or stable PAD. The study results showed that 75 mg of clopidogrel per day was associated with a relative risk reduction of 8.7% compared with the benefits of 325 mg of aspirin per day for a composite end point (MI, ischemic stroke, and vascular death). More striking, in a subgroup analysis of > 6,000 patients with PAD, clopidogrel was associated with a risk reduction of 24% compared with aspirin. Clopidogrel was shown to be as well tolerated as aspirin. Based on these results, clopidogrel was approved by the Federal Drug Administration (FDA) for the reduction of ischemic events in all patients with PAD. In the CAPRIE study, about one-third of the patients in the PAD group had diabetes. In those patients, clopidogrel was also superior to aspirin therapy.

In summary, patients with diabetes should be on an antiplatelet agent (e.g., aspirin or clopidogrel) according to current guidelines. Those with diabetes and PAD may benefit more by taking clopidogrel.

**Treatment of symptomatic PAD**

Medical therapy for intermittent claudication currently suggests...
exercise rehabilitation as the cornerstone therapy, as well as the potential use of pharmacologic agents.

**Exercise rehabilitation.** Since 1966, many randomized controlled trials have demonstrated the benefit of supervised exercise training in individuals with PAD.32,33 These programs call for at least 3 months of intermittent treadmill walking three times per week. Exercise therapy has minimal associated morbidity and is likely to improve the cardiovascular risk factor profile. Of note, however, in nearly all studies, unsupervised exercise regimens have shown lack of efficacy in improving functional capacity.

**Pharmacologic therapies.** Pentoxifylline, a hemorheologic agent, was approved by the FDA in 1984 for treating claudication. The results of postapproval trials, however, suggest that it does not increase walking distance to a clinically meaningful extent.

Cilostazol, an oral phosphodiesterase type III inhibitor, was the second drug to gain FDA approval for treating intermittent claudication. Significant benefit has been demonstrated in increasing maximal walking time in six of eight randomized controlled trials, in addition to improving functional status and health-related quality of life.34 The use of this drug is contraindicated if any degree of heart failure is present due to concerns about arrhythmias. In a single trial, pentoxifylline was inferior when compared with treatment with cilostazol.35 Based on the above, cilostazol is the drug of choice if pharmacologic therapy is necessary for the management of PAD in patients with diabetes.

**Preventative foot care.** All patients with diabetes and PAD should receive preventative foot care with regular supervision to minimize the risks of developing foot complications and limb loss.18

**Treatment of the ischemic foot.** CLI manifested by rest pain, ulceration, or gangrene in the foot of a person with diabetes portends limb loss and requires urgent treatment. The frequent presence of neuropathy strongly influences the clinical presentation. The presence of neuropathy blunts pain perception, allowing a later presentation with more severe lesions than in the nondiabetic patient. In a vicious cycle, the presence of PAD increases nerve ischemia, resulting in worsened neuropathy. In addition, such arterial lesions may progress undetected for long intervals due to the distal distribution, making the severity of the underlying PAD often underestimated. Accordingly, diabetic patients with PAD are more likely to present with advanced disease compared with nondiabetic patients.36

The “neuropathic” foot—with PAD and neuropathy—is more prone to traumatic ulceration, infection, and gangrene. Each complication requires specific management as well as treatment of the underlying ischemia.

In contrast to the plantar location of neuropathic ulcers, ischemic ulcers are commonly seen around the edges of the foot, including the apices of the toes and the back of the heel. They are generally associated with a pivotal event: trauma or wearing unsuitable shoes. Important aspects of conservative management include debridement, offloading the ulcer, appropriate dressings, and adjunctive wound healing techniques.37

Prompt and timely referral of the patient to appropriate foot care and vascular specialists is critical.

**Debridement.** Debridement should remove all debris and necrotic material to render infection less likely. The preferred method is frequent sharp debridement with a scalpel, normally undertaken at the hospital bedside or in the outpatient setting. Indications for surgical debridement include the presence of necrotic tissue, localized fluctuance, and drainage of pus or crepitus with gas in the soft tissues on X ray.

**Footwear.** With the neuroischemic foot, the chief aim is to protect the foot from pressure and shear. Ulcers may be prevented from healing if the patient wears tight shoes or slip-on styles. It is most important that the shoe does no harm. A shoe that is sufficiently long, broad and deep, and fastens with a lace or strap high on the foot may be all that is needed to protect the margins of the foot and allow healing of the ulcers. It may be necessary, however, to provide special footwear, such as sandals or braces.

**Dressings.** Nonadherent dressings should cover diabetic foot ulcers at all times. No single ideal dressing exists, and there is no evidence that any one dressing is better for the diabetic foot than any other. However, the following properties are desirable: ease of removal from the foot and ability to accommodate pressures of walking without disintegrating. Occlusive dressings may lower the risk of infection.

**Treatment of infection**

Although ulcers often become infected, the signs and symptoms of foot infection are diminished in diabetic patients. The early warning signs of infection may be subtle because of an impaired neuroinflammatory response. Furthermore, it may be difficult to differentiate between the erythema of cellulitis and the rubor of ischemia. The redness of ischemia, which is most marked on dependency, will disappear upon elevation of the limb, whereas that of cellulitis will remain irrespective of foot position. Infections in the diabetic foot are often polymicrobial; broad spectrum antibiotics are initially indicated. Severe infections require intravenous antibiotic therapy and urgent assessment of the need for surgical drainage and debridement.

Both wet and dry gangrene can occur in the neuroischemic foot. Wet gangrene is caused by a septic arteritis, secondary to soft-tissue infection or ulceration. Gas in the soft tissues is a serious finding requiring an immediate trip to the operating room for open drainage of all infected spaces and intravenous broad-spectrum antibiotics. It is important to emphasize that medical treatment of infection with antibiotics alone is insufficient to resolve the majority of diabetic foot infections.

Incision and drainage is the basic tenet of treatment for nearly all infections of the diabetic foot. Sometimes amputation of a toe,
toes, or ray(s) may be necessary to establish drainage. Salvage of the diabetic foot is usually possible but may require aggressive debridement and revascularization. Postoperatively there may be considerable tissue deficit or exposure of bone or tendon. In such circumstances the foot should be revascularized as indicated and soft tissue deficits may be repaired by reconstructive surgery at a latter stage. A vacuum-assisted wound closure device provides topical subatmospheric pressure that is most helpful in staged procedures.

Dry gangrene is secondary to a severe reduction in arterial perfusion and occurs in chronic critical ischemia. Revascularization should be initially carried out followed by surgical debridement. If revascularization is not possible, surgical debridement or amputation should be considered if the necrotic toe or any other area of necrosis is painful or if the circulation is not severely impaired. Otherwise the necrosis should be allowed to autoamputate as a surgical procedure may result in further necrosis and a higher level of amputation.

Indications for revascularization

The indications for limb revascularization are disabling claudication or CLI (rest pain or tissue loss) refractive to conservative therapy. Disabling claudication is a relative, not absolute, indication and requires significant patient consultation. One must weigh existing symptoms against the risk of the procedure and its expected effect and durability. Although most ischemic limbs can be revascularized, some cannot. Lack of a target vessel, unavailability of autogenous vein, or irreversible gangrene beyond the midfoot may preclude revascularization. In such patients a choice must be made between prolonged medical therapy and primary amputation.

Two general techniques of revascularization exist: open surgical procedures and endovascular interventions. The two approaches are not mutually exclusive and may be combined, such as iliac angioplasty combined with infrainguinal saphenous vein bypass. The risks, expected benefit, and durability of each must be considered. In either approach, meticulous technique, flexibility and resourcefulness of judgement, and contingency plans are important. Appropriate patient preparation, intra-procedure monitoring, and postprocedure care will minimize complications.

Endovascular intervention is more appropriate in patients with focal disease, especially stenosis of larger more proximal vessels, and when the procedure is performed for claudication. Open procedures have been successfully carried out for all lesions and tend to have greater durability. However, open procedures are associated with a small but consistent morbidity and mortality. The choice between the two modalities in an individual patient is a complex decision and requires team consultation.

Aortoiliac disease is traditionally and effectively treated with prosthetic aortofemoral bypass but is increasingly amenable to endovascular angioplasty and stenting. Although percutaneous angioplasty and stenting have achieved their best results in the aortoiliac vessels, open revascularization probably offers results that are more durable when diffuse aortoiliac disease or occlusion is present.

Stenoses of the superficial femoral artery may be treated with an endovascular approach, but restenosis is common. More durable results appear obtainable with open bypass to the popliteal artery, particularly using saphenous vein. Whether newer endovascular techniques, such as stents to prevent restenosis, will affect the longer-term outcome of endovascular management of superficial femoral artery occlusions remains speculative.

Bypass to the tibial or pedal vessels with autogenous vein has a long track record in limb salvage and remains the most predictable method of improving blood flow to the threatened limb. The procedure is safe, durable, and effective. Below the knee bypass accounts for 75% of infrainguinal procedures in patients with diabetes, with the anterior tibial/dorsalis pedis artery the most common target vessel. Indeed, surgical bypass with greater saphenous vein has become the procedure of choice for patients with diabetes and tibial disease.

Advances in endovascular therapy, particularly smaller instrumentation and standardization of thrombolytic therapy for periprocedural thromboses, have allowed more aggressive use of tibial angioplasty. Despite this increased use, however, the efficacy of tibial angioplasty remains uncertain. Nonetheless, it may provide a means to “buy time” to allow a patient to heal and recover from a limb-threatening situation.

The morbidity and mortality of vascular surgical procedures in patients with diabetes has improved significantly with a protocol of preoperative risk assessment and perioperative risk management, especially with the use of blockers. The outcomes are now comparable with those of nondiabetic vascular patients. The choice of preoperative coronary artery bypass grafts (CABGs) is not encouraged, as the risk of two procedures (CABG and leg bypass) exceeds the risk of leg bypass alone. The decision for CABG should be based on the same indications as for the nonoperative patient.

Regular postoperative follow-up is mandatory because most late revascularization failures involve progression of intimal hyperplasia at areas of anastomosis, vein injury, valve sites, or angioplasty. History, clinical exam, and the ABI are simple and effective methods of detecting major restenosis but may miss silent lesions that may progress to sudden thromboses if uncorrected. These lesions are best detected by duplex ultrasonography. In addition, ~ 50% of patients with CLI in one limb will develop threatened limb loss in the contralateral limb, underscoring the need for ongoing risk factor reduction and close monitoring of lower-limb circulation.

Major amputation in the neuroischemic foot is necessary and indicated only when there is overwhelming infection that threatens the patient’s life, when rest pain cannot be controlled, or when
extensive necrosis secondary to a major arterial occlusion has destroyed the foot. Using these criteria, the number of major limb amputations should be limited.

Most amputations can be prevented and limbs salvaged through a multiarmed treatment of antibiotics, debridement, revascularization, and staged wound closure. On the other hand, amputation may offer an expedient return to a useful quality of life, especially if a prolonged course of treatment is anticipated with little likelihood of healing. Diabetic patients should have full and active rehabilitation following amputation. Decisions should be made on an individual basis with rehabilitative and quality-of-life issues considered highly.

CONCLUSIONS

In summary, PAD is a common cardiovascular complication in patients with diabetes. In contrast to PAD in nondiabetic individuals, it is more prevalent and, because of the distal territory of vessel involvement and its association with peripheral neuropathy, it is more commonly asymptomatic.

Patients with PAD and diabetes thus may present later with more severe disease and have a greater risk of amputation. Moreover, the presence of PAD is a marker of excess cardiovascular risk.

It is important to diagnose PAD in patients with diabetes to elicit symptoms, prevent disability and limb loss, and identify a patient at high risk of MI, stroke, and death. The diagnosis is made with a determination of the ABI. It is recommended that patients with diabetes who are > 50 years of age have an ABI performed. An ABI is also useful in patients with other PAD risk factors and in those with symptoms.

Treatment of the patient with diabetes and PAD should be twofold: 1) primary and secondary risk modification, and 2) treatment of PAD symptoms (claudication and critical limb ischemia) and limiting progression of disease.

It is the hope of this panel that by arriving at a consensus of the fundamentals of assessment and management of this devastating complication of diabetes, we may effect more uniformity of care and achieve better outcomes for our patients with diabetes. We also strongly encourage clinicians to function cooperatively and effectively as teams of specialists in the management of this complex patient population, with the common goal of reducing vascular events—MI, stroke, and amputation—that too often result in disability, social decline, and death.

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Diabetes became associated with pedorthists when Congress passed the diabetic shoe bill or TSD in 1993 which helped put pedorthics on the medical radar. I was deeply involved at the time with the New York State contingent which was one of three states that had tested the TSD program before being voted into law nationally. It was an exciting time to be an involved participant!

Our practice was never overly weighted towards the diabetic patient; instead my practice had always been a mainstream family practice, helping those patients recover from Achilles Tendon, Lis Franc injuries, Plantar Fasciitis, flat feet, ankle instability and metatarsal pain, as well as diabetes. My personal specialty was always creating a custom foot orthotic specific to the problems at hand that not only relieved or corrected the problem but made the patients foot stronger than before.
Sports specific orthotics came about through a well-known documented program called “Falls Prevention.” Ironically, this program featured elderly people (not athletes) on how orthotics were being developed while working in a nursing home facility. The treatment program was specially created to combat falls at the nursing home setting which were thought to be astronomical at the time. The home’s PT, myself and others were asked to develop a program to combat and reduce the number of falls.

My job specifically was to gain greater balance and steadiness while patients were ambulatory and that’s exactly what we did! Using full contact custom molded foot orthotics that were balanced for the individual needs with wider sole footwear. The results were a dramatic reduction in the number of falls; down 92% in the ambulatory patients. The nursing home executives from the facility were so pleased with the overall results they had a TV news team come interview everyone, including me.

How does this get us to sports? Just think about it. Balance and control combined with reactive energy create a better more productive athlete.

Working with athletes whether they are: runners, basketball players, soccer players, football players, etc; in high school, college or professional athletes, they all want one thing – results. If they have shin splints, heel pain, knee pain or ankle pain; mid foot problems, hip, pelvic or lower back discomfort, everyone just wants relief! Even the ‘not so fast’ athlete wants to be better than they were before; faster, quicker, the ability to turn faster, jump higher, and stop quicker give them a feeling of invincibility.

Knowing the right combination of materials to get the best reactive force and taking into account not only the condition and sport, but what it takes to solve and relieve their condition, allows the practitioner to get the most out of the patients’ ability. Never ever use the same device for everyday use and sports application. It simply does not make sense.

You do not walk the way you run. Biomechanically you do not land the same way and your demands are totally different. Sport orthotics must have competitive properties such as spring and medial/lateral control at the far reaching ends of the device not just the arches or heel but right through the tips of their toes at push off.

It is interesting, that this philosophy has taken us a long, long way. Well over 700 professional athletes from around the world use our orthotics in heated competition as well as our everyday devices. A practitioner’s job is to protect the athlete from injury due to excessive pressures and over usage that are demanded from today’s athlete. A great way of protecting them is by reducing stress on the foot, leg and lower extremity through the use of a properly designed everyday device.

You might not think that a professional athlete may be wearing everyday orthotics in his fancy shoes but we are very proud of the fact that so many are. They want that next contract and to extend their careers and you can help. We see more and more athletes participating in their sport playing longer than expected while ‘everyday’ people continue to extend their participation later into life playing basketball. (Just in the game of basketball, there are over 60 non-professional leagues for both men and women to participate in … and that is only one sport).

What does all this have to do with you and your pedorthic practices? Just about everything. Every student athlete from grade school to college; from all the health conscious adults to the professional or non-professional runners, tennis players, golfers, baseball, soccer, football players and basketball players, each sport deserves its own unique orthotic in order to gain the highest level of responsive care for the competitive ability that your patient deserves. The same applies to weekend warriors who play baseball one day to tennis player who is running occasionally; we can use a cross sports device that has no specific delineation.

For student athletes, it may sound very expensive having to purchase two sets of orthotics. But in our practice, we find many parents want their children to stay healthy and to be able to perform at the top of their ability. Who knows, maybe their child is skilled enough to get an athletic scholarship to defray college expenses. If this sounds like pie in the sky let me assure you, since we implemented this program over twenty years ago, the number of students getting either partial or full scholarships for sports is staggering!

This is a great feeling for all of our employees, from the manufacturing staff, to the office staff and of course our pedorthists share in the excitement of the athletes’ success. I can’t tell you how...
wonderful it is to receive newspaper clippings from kids who have done amazingly well winning everything from local school meets to national challenges, or phone calls from parents thanking us for helping to make a big difference in their child’s lives. You need to stop treating athletes as just another patient with a single orthotic designed to be a catch all device.

Athletes must have a pair for their sport and a pair for everyday and the devices should be very different because the biomechanical demands on the patient; the device for walking and that used for sport are very different. You will never make the ankle or knee problems pain free during sports alone, if you do not address seriously the problem with everyday use.

I had an experience several years ago with a high school athlete who had medial heel role and mid arch collapse. The parents wanted us to only make the sports device for the patient and were insistent on not having an additional everyday device, even though I had explained the reasons to make both types of devices. Against my better judgment I relented.

Three months later I found out the patient was still suffering with knee pain while doing cross country running and they complained vehemently to the doctor who redirected the patient back to my office with a stern note to treat and correct. I restated the importance of the daily orthotics and finally provided the patient with the necessary daily orthotics as well as giving instructions not to participate in sports until the knees were not swollen approximately Ten days. I am happy to say that those parents today are one of our biggest advocates, recommending us to other parents and athletes throughout the community.

So make sure you consider sports a business within your practice. The potential is limitless and the rewards are gratifying. In the end, you will not only have a happy and healthy patient, but one that will stay with you for a life time.

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When Pathology Meets Overuse: Treating Sports Injuries and Assisting Other Allied Health Professionals

BY VON M. HOMER, BSC KIN, BOCPD AND JAMIE PFLUG, SCHOOL OF PODIATRIC MEDICINE, BARRY UNIVERSITY
A college freshman, I played strong safety for the Shenandoah University Hornets football team. During my first season, I sustained a serious leg injury on the field; my right cleat became lodged in the turf as I was being tackled, and my knee was severely dislocated. The impact tore every ligament in my knee, rupturing a major vein and an artery in the process.

The doctors initially considered amputation to be the best option, as the blood flow to my lower leg had been seriously diminished for a long period of time. My leg was left to heal on a trial basis, with the possibility of amputation looming if my condition did not improve. Three years and six surgeries later, I returned to the gridiron with my limb intact and a different perspective of the rehabilitation process. After seeing what it took to get me back on the field, I developed an interest in sports medicine and rehabilitation.

Now as a pedorthist, I am able to merge my interests in biomechanics of the lower extremity, sports medicine and rehabilitation science. Due to specialization in the improvement of human movement, gait, and foot function through footwear, a pedorthist can become an integral part of a medical team. There is a niche for pedorthics in nearly every specialized branch of medicine, as problems of the lower extremities can cause compensatory issues throughout the body, affecting areas other than just the legs and feet. This is especially true of athletes, who often suffer from compensatory ailments and repetitive stress injuries due to constant activity.

The study of sports medicine concerns the treatment of injuries, illness, or disability resulting from athletic activity. Multidisciplinary teams of health specialists are common in the field of sports medicine. It takes a diverse team of specialists to keep an athlete’s performance at an optimum level, as each part of the body relies on another to keep functioning. A pedorthist can provide a twofold service focusing on performance and recovery, which could prove to be a valuable asset to any sports medicine team. Custom inserts and specialized footwear can improve the performance of an athlete, while braces and offloading devices can speed recovery.

In this article we will be exploring the application of pedorthics in the field of sports medicine, as well as other allied health specialties.

The Importance of Pedorthists in Sports Medicine

Every person has unique foot pathology. An individual’s foot pathology combined with activity, overuse and ill-fitting shoes will eventually lead to dysfunction. If this dysfunction goes untreated, it will cause injury of the foot. Athletic activity makes this type of breakdown inevitable.

This is worsened by the “one style fits all” mentality concerning athletic shoes. By simply adding a custom insert to offload areas of high pressure, the risk of premature athletic breakdown of the foot can be avoided. The field of sports medicine, like many other allied health specialties, is just beginning to realize its need for pedorthists. Sports medicine can be a particularly viable discipline, as the pedorthist’s knowledge of biomechanics and skill in manufacturing orthotic devices are very pertinent to the needs of athletes.

Inappropriate or ill-fitting footwear is a common problem in professional and collegiate sports, especially given the amount of repetitive motions athletes make on the field. The impact of a basketball player’s feet on the court will lead to injury over time if they are wearing shoes without sufficient padding. A football player who doesn’t wear appropriate braces and footwear could do permanent damage to their joints and ligaments.

Prophylactic orthotics can extend an athlete’s career and keep them performing at their highest ability, as well as prevent long term injury from overuse. A pedorthist can easily treat a range of injuries caused by inappropriate footwear. However, it is also possible to work with shoe companies in hopes of creating better athletic footwear, thus reducing the amount of shoe-related sports injuries.

Shoe companies often pay athletes to wear their products for exposure or endorsement, but this does not necessarily mean that they provide appropriate footwear. While working as a consultant with a major footwear company, I learned that a pedorthist can work as a liaison between athletes and their footwear sponsors. By acting as a mediator, a pedorthist can create a mutually-beneficial relationship for all parties involved. After examining the athlete’s feet, the pedorthist can recommend product modifications to the shoe company. This will help the athlete maintain a high level of performance, help the shoe company create a better product, and allow the pedorthist to widen their scope of practice.

A main focus of sports medicine is slowing the onset and managing the effects of athletic breakdown, especially during the season. Most minor injuries acquired in-season are stalled or stabilized, but not healed, as the athletes will have the off-season to recover. This mindset, which is detrimental to the athlete’s performance and overall long-term health, is all too common in professional and collegiate sports.

According to a study published by the National Athletic Trainers Association, lower extremity injuries account for more than half of all injuries sustained by collegiate athletes (Hootman, Dick, & Agel). Simple preventative measures can be taken against these injuries: braces can be worn to protect joints from repetitive stress
injuries, while orthotics and properly-fitting shoes can preclude compensatory issues and protect an athlete’s foot from ongoing strain and breakdown. This new focus on prophylactic care should enable pedorthists to effectively contribute to the field of sports medicine by working on a multidisciplinary team of allied health professionals.

**Working with Allied Health Professionals**

As stated in the introduction, there is a niche for pedorthists in every allied health specialty. For the sake of brevity, we’ve chosen four professions that could provide an excellent opportunity for pedorthists looking to broaden their practice. Podiatrists, physical therapists, athletic trainers, and chiropractors are all indispensable to the field of sports medicine, and each could benefit from having their patients fitted with custom orthoses to supplement their primary care.

With an extensive knowledge of the biomechanics of the foot and the appliance of orthoses, a pedorthist will be able to effectively diagnose and treat a wide range of patient compensatory issues in any of these fields. It is important to showcase the versatility of pedorthists, as their knowledge and skill set could prove useful and relevant in many different areas of medical and rehabilitation science. Below, we have provided a list of suggestions to keep in mind when working with individuals from each of the aforementioned allied health fields. This information should help a pedorthist create a productive and cooperative relationship with other health professionals, and maximize their scope of practice.

**Podiatrists**

- Podiatrists possess specific knowledge of biomechanics focused on the feet and lower extremities.
- Podiatry tends to be a surgery-centric field. Operations are often believed to be the most effective solution to a patient’s ailments.
- Do not try to dissuade a podiatrist from conducting surgery in favor of using orthoses. Present your devices as supplements that could aid in the overall outcome of a surgical procedure, not as a “better” alternative to surgery.
- Act as a wholesaler. Be the lab podiatrists send their prescriptions to.
- Do not compete in making orthoses. It is unlikely that a pedorthist will become a referral source for a podiatrist.
- Be a piece in the puzzle. Pedorthists and podiatrists must work cooperatively for the benefit of the patient.
- Gain podiatrists’ respect to enlarge your scope of practice.

**Physical Therapists/Athletic Trainers**

- Physical therapists and athletic trainers tend to have a more broad knowledge of biomechanics, as they treat the whole body.
- Can be approached as a referral source, as a pedorthist can supply devices that physical therapists and athletic trainers cannot make themselves.
- Be aware of their different educational perspective. Physical therapists and athletic trainers focus on manual muscle techniques and modalities as opposed to surgical procedures.
- Play a piece in the puzzle. A pedorthist may be working with a physical therapist or athletic trainer that is part of a sports medicine team. In this case, it is important to remember that this is a collaborative effort and that all team members involved are working toward a common goal.
- Devices must be dynamic. Physical therapists and athletic trainers focus heavily on movement and functionality.
- Remember above all, their athletes must be able to perform.

**Chiropractors**

- Of the three allied health fields discussed, chiropractors are often the most well-versed and have the broadest understanding of biomechanics, since they study how ailments of the spine affect the rest of the body.
- Chiropractors tend to prefer manual and manipulative therapy for the muscles and joints over surgical procedure.
- Be aware that there are three different schools of thought within the field of chiropractic practice: some believe the body balances at the foot, while others believe that the body is balanced at the hips or below the neck.
- Act as a wholesaler. Be the lab chiropractors send their prescriptions to.
- It is not likely that a pedorthist will become a referral source for a chiropractor. Instead, pedorthists should focus on becoming a manufacturing resource for chiropractic practices.
- When working with a chiropractor, it is a pedorthist’s job to properly align the body from the ground up.
- Devices must be dynamic (triplanar posting and soft materials, for example).

The need for pedorthists is increasing due to a paradigm shift in sports medicine. The focus is moving from rehabilitation toward prevention. It is becoming clear that though eventual breakdown is natural in all people, premature breakdown leading to serious injury in athletes is not always inevitable if the correct measures are taken. As the need for pedorthic care is realized, it will become more and more common for pedorthists to broaden their scope of practice by treating sports injuries and working with other allied health professionals.

**References**

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The Athletic Trainer and the Pedorthist

The Benefits of Creating a Strong and Professional Relationship

BY ADAM BROWN, ATC, MS, LAT

The professions of both athletic training and podiatry involve extensive higher education and clinical experiences. Both professions can benefit from one another on many levels. The principles and professional background that athletic trainers possess can help a pedorthist understand the athlete on a more proficient level. Similarly, the finely tuned skills that a pedorthist acquires through extensive training can benefit an athletic trainer.

I am an Athletic Trainer, certified by the Board of Certification (BOC) working for the University of Pittsburgh Medical Center (UPMC) and am currently working at Point Park University, which is a Division II NAIA school. The sports I work with include the university’s men’s and women’s dance program, men’s and women’s cross country, women’s volleyball, men’s and women’s basketball, and baseball. I have encountered many lower extremity injuries here at Point Park University.

Peele (2005) points out that the majority of athletic injuries involve the foot and ankle. Athletic injuries I have encountered from all these diverse sports over the past six months included ACL reconstruction, drop foot, tibialis posterior weakness, Achilles’ tendonitis, plantar fasciitis, lower back pain, and various other lower extremity tendonitis and muscle strain conditions. After a full evaluation I gave these injured athletes a stretching and strengthening program in order to promote a healing environment. As part of the evaluation, I checked the athlete’s foot and arch for any conditions that may be present.

I observed for the following issues in my evaluations: supination, pronation, dropped arch, pes cavus, pes planus, tibial torsion, and any other compensation that the athlete may have. If, for example, I saw an athlete had a low or high arch, I explained to him or her proper walking gait for the foot. This included showing them the proper way for the foot to strike the ground. Then I explained how an abnormal arch may cause foot pain and other issues. Furthermore, I explained the benefits of orthotics.

Orthotics may help to alleviate lower extremity pain by cushioning the arch through walking and ascending/descending stairs, in addition to correcting any aforementioned abnormalities and foot conditions. After evaluation, the athlete is then offered services provided by UPMC that include orthotic and brace fitting. They may receive heat moldable orthotics or
custom fit orthotics or as another for the athlete to pursue is to purchase generic, non-custom fit orthotics at a local department store at a lower price.

The goal of a pedorthist is to “advance the understanding, prevention and management of lower extremity sports and fitness injuries” (American Academy of Podiatric Sports Medicine, 2013). Injured and non-injured athletes may benefit greatly with custom fit orthotics. Any Athletic Training program can benefit from the expertise of a pedorthist.

I have had several athletes buy a non-custom fit orthotic from a store and complain that it did not fit their arch correctly. These orthotics do not last very long and wear down quicker than custom fit orthotics. I explain to them that the least expensive orthotic to purchase is off-the-shelf, and cannot be molded to the athlete’s foot, but that there are other options that can be pursued. I referred several athletes to use UPMC pedorthists to fit their foot accordingly in order to help correct abnormalities with the foot.

After several days of using the orthotics, the athletes’ pain has decreased. A good example is a cross country runner presented with medial tibial pain this past September. After the initial evaluation and gait analysis, I suggested that she buy a pair of custom fit orthotics. She has never used orthotics before so I explained to her the reasons and benefits of using these products. She agreed and visited the UPMC orthotic branch where she was fitted specifically for custom-fit orthotics. Part of the process involved a gait walking and running analysis to evaluate any abnormalities and conditions. Additionally, the foot is examined and an evaluation is completed.

After the office visit, the athlete started to use the custom-fit orthotics at the end of September. During the first week she did not feel any difference. But after she started to use them every time she ran, by mid-October she felt better. Nearly a month later, she did not complain of any tibial pain. Other methods were used to help alleviate her pain, but I believe orthotics had a large part in this runner’s case.

Dancers are another type of athletes I deal with on a daily basis. These men and women put their bodies through extreme range of motion that push their bodies to the limit, let alone their feet and ankles. Many have presented with foot injuries over the past year. Almost all of the dancers had a low or high arch.

Some of the dancers have used orthotics previously while others have no idea what shoe inserts are or what the purpose orthotics serve. A number of them who tried orthotics told me it was difficult to use orthotics with their dance shoes due to the limited space within the shoe itself. The shoes are so tight and narrow that there is little to no room for a normal orthotic to be used.

With this issue in mind, it would be a great idea for the Athletic Trainer to refer dancers who need orthotics to a certified pedorthist to properly fit the dancer to a custom fit orthotic. That way the dancer will be able to use the orthotic, in turn, decreasing foot pain and resolving the issue at hand. Being an Athletic Trainer, I do not have the proper training or professional background to properly fit the dancer to a custom fit, dancer specific orthotic. Hence, the connection between the Athletic Trainer and pedorthist will benefit the dancer to the greatest extent.

I have been an avid runner for years. While training for my first marathon, I noticed tibialis posterior pain. I completed preventative exercises and stretch in hopes of alleviating the leg pain. After several weeks had passed without any significant decrease in the pain I was experiencing, I asked Rachel Eisenfeld, who owns and operates Soleful Orthotics, to analyze my running technique and to evaluate my foot.

After being evaluated, I was told I compensate when running; my ankle pronates and I have pes planus. With that said I visited Rachel and was fitted for heat moldable orthotics. Once the orthotics were made I started to use the products and integrated them into my weekly runs. After about two weeks of constantly using the orthotics, I noticed a significant difference in the way I run. Pain had decreased drastically. I was not compensating during running, therefore my low arch was not dropping as dramatically as it had been prior to using the orthotics.

With rehabilitation and time, the tibialis posterior pain had dissipated. One month after using the orthotics I did not notice any lower leg pain. I now have orthotics in each pair of shoes. I am a firm believer in the benefits that custom-fit and heat moldable orthotics offer to the avid runner, dancer, or athlete in general.

The networking between the Athletic Trainer and Pedorthist is an important relationship in that each can benefit from the others’ professional training and advice. As an Athletic Trainer, I believe there is so much helpful insight to be learned from a pedorthist. I enjoy learning new techniques on how to correctly identify foot conditions and how to properly and professionally aid my injured athletes. By building a strong network between the two health care professionals, I believe the injured athlete will benefit on the greatest level.

References

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CHECK IT OUT! PFA’s Symposium & Exhibition 2013

Boston’s World Class Cuisines only Steps Away from Your Doorstep

BY MARGARET HREN, CURRENT PEDORTHICS STAFF CONTRIBUTOR
Like most attendees to a conference, food always plays a major role in the enjoyment and socialization of attending. Even if it is in the hotel bar for a quick drink with friends, or a business dinner with a vendor, food is what brings people together and comfort in a new environment. So beyond the standard restaurants chains, hotel offerings and your mini bar, what options will you have available during the Symposium and Exhibition to feed your ‘sole?’ (Sorry – that is a pun I just couldn’t resist).

When it comes to five-star fine dining, *Boston Magazine* recently published a list of their top 50 restaurants choices in and around the city, for a tasty and memorable culinary experience. Of those 50, 24 of these restaurants are located right in downtown Boston. Though a bit more on the pricy side, these suggestions, and a short cab ride will offer you a once in a lifetime dining experience that is sure to satisfy and please your palate:

**Boston Magazine’s Top Picks**

**Bistro du Midi** – 272 Boylston Street/Boston/ 617-426-7878/ www.bistrodumidi.com

**The Butcher Shop** – 552 Tremont Street/Boston/617-423-4800/ www.thebutchershopboston.com

**Clio** – 370A Commonwealth Avenue/Boston/617-536-7200/ www.cliorestaurant.com

**Coppa** – 253 Shawmut Avenue/Boston/617-391-0902/ www.coppaboston.com

**Deuxave** – 371 Commonwealth Avenue/Boston/617-517-5915/ www.deuxave.com

**Eastern Standard** – 528 Commonwealth Avenue/Boston/ 617-532-9100/www.easternstandardboston.com

**Erbaluce** – 69 Church Street/Boston/617-426-6969/ www.erbalupecom

**The Gallows** – 1395 Washington Street/Boston/617-425-0200/ www.thegallowsboston.com


**Hamersley’s Bistro** – 553 Tremont Street/Boston/617-423-2700/ www.hamersleysbistro.com

**Island Creek Oyster Bar** – 5000 Commonwealth Avenue/Boston/617-532-5300/www.islandcreekoysterbar.com

**L’Espalier** – 774 Boylston Street/Boston/617-262-3023/ www.lepsalier.com

**Menton** – 354 Congress Street/Boston/617-737-0099/ www.mentonboston.com

**Myers + Chang** – 1145 Washington Street/ Boston/617-542-5200/www.myersandchang.com

**Neptune Oyster** – 63 Salem Street/Boston/617-742-3474/ www.neptunoyster.com

**No. 9 Park** – 9 Park Street/Boston/617-742-9991/ www.no9park.com

**O Ya** – 9 East Street/Boston/617-654-9900/ www.oyarestaurantboston.com

**Oishii** – 1166 Washington Street/Boston/617-482-8868/ www.oishiboston.com

**Scampo** – 215 Charles Street/Boston/617-536-2100/ www.scampoboston.com

**Sorellina** – One Huntington Avenue/Boston/617-412-4600/ www.sorellinaboston.com

**Toro** – 1704 Washington Street/Boston/617-536-4300/ www.tororestaurant.com

**Trade** – 540 Atlantic Avenue/Boston/617-451-1234/ www.trade-boston.com

**Uni** – 370 Commonwealth Avenue/Boston/617-536-7200/ www.unisashimibar.com

**Via Matta** – 79 Park Plaza/Boston/617-422-0008/ www.viamattarestaurant.com

Interested in dining close by to the conference center and our connecting hotel? Then make sure you plan an evening to explore the surrounding residential and shopping neighborhoods outside our conference location. Including a number of chain restaurants like The Cheesecake Factory, P. F. Chang’s and others in the underground mall and arcade connected to the conference center, you will find a number of local and neighborhood offerings that are all within a one to ten-square block walking radius. Broken down by street location, there is sure to be something to cure your hunger pangs and help you socialize with new and old friends:

**Dalton Street**

**Forty Dalton** – 40 Dalton Street/Boston/617-266-3537/www.fortydalton.com

**King’s Restaurant at Kings Bowl America** – 50 Dalton Street/ Boston/617-266-2695/www.kingsbowlandamerica.com

**Bukowski Tavern** – 50 Dalton Street/Boston/617-437-9999/ www.bukowskitavern.net

**Jasper White’s Summer Shack Back Bay** – 50 Dalton Street/ Boston/617-867-9955/www.summershackrestaurant.com

**Boylston Street**

**Dillon’s** – 955 Boylston Street/Boston/615-421-1818/www.dillonsboston.com

**Towne** – 900 Boylston Street/Boston/617-247-0400/www.towneboston.com

**Lir Irish Pub and Restaurant** – 903 Boylston Street/ Boston/617-778-0089/www.lirboylston.com

Pour House – 907 Boylston Street #21/Boston/617-236-1767/www.pourhouseboston.com

Back Bay Social Club – 867 Boylston Street/Boston/617-247-3200/www.backbaysocialclub.com

Whiskey Smokehouse – 885 Boylston Street/Boston/617-262-5551/www.whiskeyboston.com

Cactus Club – 939 Boylston Street/Boston/617-236-0200/www.bestmargaritas.com

Atlantic Fish Company – 761 Boylston Street/Boston/617-267-0755/www.atlanticfishco.com

Abe and Louie’s Boston – 793 Boylston Street/Boston/617-536-6300/www.abeandlouies.com

Mac Brenner – 745 Boylston Street/Boston/617-221-5890/www.maxbrenner.com

Newbury Street

Sonsie – 327 Newbury Street/Boston/617-351-2500/www.sonsieboston.com


J.P. Licks – 352 Newbury Street/Boston/617-236-1666/www.jplicks.com

Steve’s Greek Cuisine – 316 Newbury Street /Boston/617-267-1817/www.stevesgreekcuisine.com

Emack & Bolio’s Ice Cream – 290 Newbury Street/Boston/617-536-7127/www.emackandbolios.com

Espresso Royale Caffe – 286 Newbury Street/Boston/617-859-9515

B. Good – 272 Newberry Street/Boston/617-236-0440/www.bgood.com

Tapas at Tapero Restaurant and Tapas Bar – 268 Newberry Street/Boston/617-267-4799/www.tapeo.com

La Voile Boston – 264 Newberry Street/Boston/617-587-4200/www.lavoileboston.net

Mumbai Chopstix – 254 Newberry Street/Boston/617-927-4444/www.oneworldcuisine.com


Most or all of these restaurants listed will take reservations. If you have a Smartphone, you can look-up the websites for these restaurants to check out their menus or if you haven’t joined yet, consider downloading the Open Table app to make reservations. As a member of Open Table, you will earn dining points for patronizing the restaurant towards a gift certificate for use at any Open Table anywhere in the country. Or, use the old fashion way and visit the hotel concierge for maps and/or directions.

Though this is not a complete list of Boston restaurants, as a symposium attendee we want to make sure you have as many options available to socialize and network with your fellow attendees and experience the culinary side of an exciting and vibrant city. With six months left before PFA’s 54th Annual Symposium and Exhibition kicks off, plan on feeding your inner ‘foodie’ and discover something new and tasty. So mark your calendar – “The Pedorthists are Coming! ... “The Pedorthists are Coming!” October 31 – November 2, 2013 to fill their appetites for more than workshops and a bit of American history.
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Leaving Medicare Behind
One Pedorthist’s Story of Finding a Different Path

BY KEVIN JAEGER, C. PED.
Twenty Pages. That was the amount of documentation I sent in for my first prepayment review to CMS in 2011. I knew then that I was about ready to end my relationship with diabetic shoes through Medicare. Although I tried to avoid it, I had seen the writing on the wall for several years, and knew the time had come to make a very big business decision.

The CMS costs were piling up: facility accreditation $2,500; Surety Bond $250; Medicare application fee $550; CEDI server connection $25/month, and a continuing list of other expenses. The largest cost though was the cost of my time involved for compliance.

In 2006, when my family and I opened our retail pedorthic business, becoming a Medicare provider added another revenue stream for the business, and supported proper foot care for the growing diabetic population. At the time, there was no cost involved to become a Medicare provider. After filling out the 855s application, followed by passing a site inspection, we were ready to provide shoes through the Therapeutic Shoes for Diabetes Benefit (TSD).

The first few years went well and we grew this part of the business significantly, providing our patients with excellent service and quality products. However, increased costs and regulations led me to question the long-term viability of being a Medicare provider. In 2011, Medicare patients accounted for more than 20% of our business at our store, and losing it would mean we would need to increase our retail footwear business or orthotic business to make up for the lost revenue.

In addition to the challenges with Medicare, our retail business was struggling to grow. The growth of e-commerce led to the development of ‘show rooming’ and reduced our profit margins on footwear. Internet shopping also caused a loss on future sales since many clients ordered replacement pairs online to save money and time. In addition, the economic recession led to reduced consumer spending, especially hurting the premium comfort footwear market.

Like most small business owners, the breakeven point for our particular size store was about $26,000/month, not including my salary. I found myself stretched too thin financially; managing employees, buying and stocking retail inventory, medical billing/Medicare paperwork, marketing, and all the other administrative functions became just too much to handle. My wife and I were ready to start a family, but it wasn’t feasible with the stresses and workload I dealt with daily.

I decided it was time to make a change.

In April 2012 when our lease was up, my family and I decided to close our store. Any business owner of any size will tell you what a difficult decision this is. I had invested so much energy and myself personally into the business; I could not help but feel a sense of failure. However, I made this decision after carefully analyzing our situation and coming to the conclusion our business the way it was functioning at this time, would not grow significantly over the next three to five years as I had estimated in my business plan.

The largest business challenges were structural problems to the business model I was using. This was also unrelated to the economic struggles in the business landscape faced by all operating businesses. Rather than attempt to grow my retail business or struggle to keep up with the constantly changing standards for Medicare documentation, I decided to go smaller and operate as an independent pedorthic practice.

From a professional standpoint I had to focus on the ‘why’ of my business model. I still loved pedorthics and thoroughly enjoyed working with patients who needed custom foot orthoses or diabetic footwear. These parts of the business have higher margins of fulfillment and profitability than the retail side. Since there were only a few other providers in my area, this was a much needed service. I had to take the time to understand my local market and know which parts of my work I enjoyed. Using this premise helped me to visualize and restructure the business model for my new business.

The current business model I work with now is in many ways opposite of the previous one. I no longer accept Medicare, although I still work within a network that includes Blue Cross Blue Shield and another large local insurance company. I see patients by appointment only, and I am in a medical office building rather than a retail location. I do not stock a large selection of footwear, and only carry a sample fitting inventory.

Another major difference in my new business model is I do not have any employees. I now work in a smaller office space that is 350 sq ft. vs. 1400 sq ft originally. For these two reasons alone, my overhead has shrunk from $12,000/month to $900/month. Having been at this new location less than a year, my cash has turned positive each month. Also, I physically and mentally experienced less stress and feel like a heavy burden has been lifted from my shoulders. The new payoff is that I now have more time to spend with my family and friends, enjoying life outside of work.

My ability to change my business model away from Medicare and retail to a clinical setting has been dependent on several factors:
LEAVIGN MEDICARE BEHIND: ONE PEDORTHIST’S STORY OF FINDING A DIFFERENT PATH

1) **Strong relationships with referral sources and vendors.** People have to trust you and know about the value you provide. There are no shortcuts. You have to give value first. I rely on three doctors and two clinics for 85% of my business, and I will expand that number to reduce my risk and diversify. But keep in mind the quality of your referral sources is much more important than the quantity of referral sources. Your vendors can help you, but you need to be a good customer. Pay on time and in full every month.

2) **A focused plan.** You cannot be everything to everyone. I knew a very talented pedorthist who changed his business model every few months. First he carried no retail shoe inventory, and then he decided to carry footwear. He would only see patients by appointment only for several months, and then decided walk-ins were allowed and encouraged. He increased his number of insurance plans as an in-network provider, and then he decided that it was more important to focus on cash sales. After several years, he exited the business since he could never get traction. I believe it was because he never had a focused plan. You’re only one person, and it is much better to be excellent at one or two things than to be average at eight things.

3) **Spousal support and financial savings.** When money is tight, you will think about money more than ever. If you have the support of your spouse and you have a financial cushion, then it becomes much easier to concentrate on being successful. Keep overhead low, live simply, and stay focused.

4) **A mentor.** Going out on your own is difficult. Which is why I feel blessed to have some of the best teaching pedorthists in the county located nearby. Having people in your profession with whom you can ask questions and discuss your business is critical. I have met many very talented and helpful pedorthists and business owners through PFA, which is why every pedorthist should join and participate.

To give you a snapshot of how changing my business model helped make a difference in the profitability of my current business, below is a sample monthly profit and loss comparison to illustrate the potential difference between a retail location versus a practice setting. These numbers will vary greatly depending on the geographical location, business model created, and the management of the actual business.

<table>
<thead>
<tr>
<th>RETAIL LOCATION</th>
<th>CLINICAL LOCATION</th>
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<tbody>
<tr>
<td>Sales $40,000</td>
<td>Sales $10,000</td>
</tr>
<tr>
<td>COGS $18,500</td>
<td>COGS $2,500</td>
</tr>
<tr>
<td>Rent &amp; Utilities $3,400</td>
<td>Rent &amp; Utilities $600</td>
</tr>
<tr>
<td>Royalties or Debt Service $2,500</td>
<td>Royalties or Debt Service $0</td>
</tr>
<tr>
<td>Payroll $5,000</td>
<td>Payroll $0</td>
</tr>
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<td>Credit Card Fees $800</td>
<td>Credit Card Fees $130</td>
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<tr>
<td>Insurance and Cert Fees $350</td>
<td>Insurance and Cert Fees $120</td>
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<tr>
<td>Maintenance and Supplies $300</td>
<td>Maintenance and Supplies $150</td>
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<tr>
<td>Advertising $2,000</td>
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<tr>
<td>Postage/Printing $400</td>
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</tr>
<tr>
<td>Miscellaneous $500</td>
<td>Miscellaneous $100</td>
</tr>
<tr>
<td><strong>Owner’s Salary $5,000</strong></td>
<td><strong>Owner’s Salary $5,000</strong></td>
</tr>
<tr>
<td><strong>Net Income/Loss $1,250</strong></td>
<td><strong>Net Income/Loss $1,250</strong></td>
</tr>
</tbody>
</table>

There are many different options for a successful career in pedorthics. Some pedorthists believe that there is a bright future with the Medicare part of the business, and may choose to continue to focus on growing that part of their business. Although there are challenges to that market, there is also a significant need and demand for the services pedorthists provide. There are opportunities for great success on the retail side of the business as well.

Whichever direction you choose for your business remember, it is most important that you love what you do. Working at something you love reflects on all levels of your business, family and excellence in your profession. These positive outcomes are what all of us should strive for as business owners.

The business path I have chosen is not the only way, or the best way for everyone. Although I have spent less than a year at my new office, I feel optimistic about the opportunities for my career in pedorthics. With a more profitable office, operating at a much lower sales volume than our retail pedorthic business, I now enjoy the increased flexibility of my work schedule and simplicity of my new business. Although bigger is generally considered better, going smaller has been the right decision for me personally and professionally.
The Effects Of Shoes On Foot Strike, Performance

Medical News Today
www.medicalnewstoday.com
March 20, 2013

Many of today’s running shoes feature a heavy cushioned heel. New research presented at the 2013 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found that these shoes may alter an adolescent runner’s biomechanics (the forces exerted by muscles and gravity on the skeletal structure) and diminish performance.

Researchers recruited 12 adolescent competitive athletes from local track teams, and asked them to run on a treadmill in large heel trainers, track flats and without any shoes (barefoot) at four different speeds. Biomechanics - stride length, heel height during posterior swing phase and foot/ground contact - were measured with a motion capture system.

“Running barefoot or running in less of a running shoe (toe shoes, for example) is a newer trend,” said Scott Mullen, MD, an orthopaedic surgeon at The University of Kansas Hospital. “What we were trying to evaluate is whether or not the foot strike would change in an adolescent - who doesn’t yet have a permanently established gait - when they changed their shoe or running speed.”

The researchers found that shoe type “dramatically” altered running biomechanics in the adolescent runners. When wearing cushioned heel trainers, the athletes landed on their heel 69.8 percent of the time at all speeds. With the track flats, the heel was the first point of contact less than 35 percent of the time; and when barefoot, less than 30 percent of the time. Shoes with cushioned heels promote a heel-strike running pattern, whereas runners with track flats and barefoot had a forefoot or mid-foot strike pattern.

“What we found is that simply by changing their footwear, the runners’ foot strike would change,” said Dr. Mullen. “When they ran in the cushioned heel or an average running shoe - even when running a 5-minute mile - the athletes landed on their heel first.”

Many adolescent runners train in cushioned heels and compete in track spikes, “which may give them less of a (performance) advantage” in competition, said Dr. Mullen. More research is needed to determine the effects of shoes on foot strike.

The Foot Solutions Academy of Pedorthic Science Pedorthic Offers New Certificate Program at Kennesaw State College of Continuing Education

The Foot Solutions Academy of Pedorthic Science, one of the most respected international schools of pedorthics, has announced a new certificate curriculum, designed to prepare pedorthic students for the Pedorthic Certification Exam. This program has been approved by the state of Georgia and as a certified Veteran Training Center by the Department of Veterans Service in the state of Georgia.

ABC 2012 Annual Report Now Available

The American Board for Certification in Orthotics, Prosthetics and Pedorthics, Inc. 2012 Annual Report is now available on the ABC website. The report summarizes the organization’s successes and provides data on the total number of certified individuals and accredited facilities.

In the 2012 Annual Report, each of ABC’s five core departments provide statistical analysis and highlight the accomplishments that have helped to strengthen and improve ABC’s
The findings are published in the Journal of Neuroscience.

Neuropathic pain occurs when peripheral nerve fibers (those outside of the brain and spinal cord) are damaged or dysfunctional, resulting in incorrect signals sent to the brain. Perceived pain sensations are frequently likened to ongoing burning, coldness or “pins and needles.” The phenomenon also involves changes to nerve function at both the injury site and surrounding tissues.

Not surprisingly, much of the effort to explain the causes and mechanisms of neuropathic pain has focused upon peripheral nerve cells themselves. The new study by principal investigator Wendy Campana, PhD, associate professor in UC San Diego’s Department of Anesthesiology, with colleagues at UC San Diego and in Japan, Italy and New York, points to a surprisingly critical role for Schwann cells - a type of glial support cell.

Schwann cells promote the growth and survival of neurons by releasing molecules called trophic factors, and by supplying the myelin used to sheath neuronal axons. Myelination of axons helps increase the speed and efficacy of neural impulses, much as plastic insulation does with electrical wiring.

“When Schwann cells are deficient they can’t perform these functions,” said Campana. “Impaired neurons remain impaired and acute damage may transition to become chronic damage, which can mean lasting neuropathic pain for which there is currently no effective treatment.”

Specifically, the scientists investigated a protein called LRPI, which Campana and colleagues had first identified in 2008 as a potential basis for new pain-relieving drugs due to its signal-blocking, anti-inflammatory effects.

The researchers found that mice genetically engineered to lack the gene that produces LRPI in Schwann cells suffered from abnormalities in axon myelination and in Remak bundles - multiple non-myelinated pain transmitting axons grouped together by Schwann cells. In both cases, one result was neuropathic pain, even in the absence of an actual injury.

Moreover, injured mice lacking the LRPI gene showed accelerated cell death and poor neural repair compared to controls, again resulting in significantly increased and sustained neuropathic pain and loss of motor function.

“LRP1 helps mediate normal interactions between Schwann cells and axons and, when peripheral nerves have been injured, plays a critical role in regulating the steps that lead to eventual nerve regeneration,” said Campana.

“When LRPI is deficient, defects and problems become worse. They may go from acute to chronic, with increasing levels of pain.”

Campana and others are now pursuing development of a small molecule drug that can mimic LRPI, binding to receptors in Schwann cells to improve their health and ability to repair damaged nerve cells. “By targeting Schwann cells and LRPI, I think we can improve cells’ response to injury, including reducing or eliminating chronic neuropathic pain.”

Discovery Has Implications For Improving The Treatment Of Neuropathic Pain

An international team of scientists, led by researchers at the University of California, San Diego School of Medicine, says a key protein in Schwann cells performs a critical, perhaps overarching, role in regulating the recovery of peripheral nerves after injury. The discovery has implications for improving the treatment of neuropathic pain, a complex and largely mysterious form of chronic pain that afflicts over 100 million Americans.

The findings are published in the
He received the award at the 39th Academy Annual Meeting & Scientific Symposium in Orlando.

The William D. Beiswenger Volunteer Award was established in 2000 to honor its first recipient William Beiswenger, CPO, FAAOP, of Colorado Springs, Colo., for his outstanding record of volunteerism and his commitment to the ABC mission. The prestigious award was created to recognize volunteers who demonstrate dedicated service to ABC and the promotion of its mission to provide the highest standards of excellence in patient care.

“I have had the pleasure of working with Don on several of ABC’s exam committees and the ABC Board of Directors. I consider Don my mentor. He has always put in the extra effort and he has demonstrated the leadership and volunteerism that is ABC. I am proud and pleased that he is being recognized with such a distinguished award,” said Timothy E. Miller, CPO, ABC President.

Virostek began his service to ABC in 1996 as an examiner for the Clinical Patient Management (CPM) examinations. He has served on the Prosthetic Exam Development Committee, the CPM Administration Committee and the Professional Credentialing Committee. He was chosen to serve on the ABC Board of Directors in 2006 and has served for seven years including a term as president in 2012.

“I’m extremely honored to be selected for this award. Knowing the quality and dedication of the previous recipients, I feel blessed to be considered in their company. I am fortunate to have the support of my wife and family which allow me to volunteer my time to ABC. My years of volunteering have brought about many new friendships, for which I will be forever grateful,” said Virostek.

The Beiswenger award has only been given out five times since its inception. In addition to Beiswenger, previous recipients are Steven R. Whiteside, CO, FAAOP (2002), William Teague, CP (2005) and Frank Friddle, Jr., CO, FAAOP (2009).
What You’re Really Paying For Payment Processing: Breaking Down The Total Cost of Accepting Debit and Credit

You already know that accepting debit and credit is much more convenient for your customers, but is it worth it? The answer is yes. In 2011, roughly 60% of the total share of retail point-of-sale dollar volume was purchased with a credit or debit card* and that percentage is steadily rising. So you know you need to accept credit and debit cards, but, how do you know if you’re paying too much to accept them? Let’s talk about some basics of what makes up payment processing pricing.

Total Cost of Acceptance

What you’re really paying – your total cost of acceptance – is a combination of the rates you are charged to accept credit cards and access the various payment networks, which are regulated by the payment brands (Visa, MasterCard, AMEX, JCB) and the fees you pay your credit card processor. Here’s a high-level breakdown:

Interchange rate: Interchange rates make up by far the largest portion of your total cost of acceptance. The rate, which is based on many factors, including the type of card used, whether the card is present or not present at the time of the transaction, and the merchant’s overall type of business, covers the cost incurred by issuing banks for offering lines of credit and fraud mitigation. You will pay interchange rates regardless of which payment processor you choose.

Assessment fees: In addition to interchange rates, the individual payment brands, such as Visa and MasterCard, may charge separate assessment fees which cover the operating costs of managing their payment network. These are also mandated by the individual payment brands and not your payment processor.

The Processor fees: These are the fees you pay to your particular processor for accepting and processing credit and debit cards. Each processor is different and many factors go into calculating their fees: number of locations, equipment, connectivity, third-party gateways, reporting needs, etc. Processor fees may also include any monthly minimums, annual, start up fees and more.

The total cost of accepting cards includes all of your monthly fees and how they apply to the number of transactions and types of transactions your business processes. This is the amount that you really need to know.

A Payment Processor with Nothing To Hide

It is critical to work with a company that you know will disclose all fees and patiently explain the fee structure so you know what to expect. A properly trained merchant services professional will calculate your anticipated effective rate and help you understand everything. It is most important to know your overall cost of acceptance and not be drawn in by seemingly low teaser rates that may not pertain to the types of payments that your customers will be using. So, arm yourself with this knowledge when a payment processor throws a really low rate out there. Don’t bite until you have a clear understanding of all the details.

But How Do I Know If I’m Really Getting A Good Deal?

Ask your payment processor to do a comparison! If you already accept payments, ask your prospective processor to compare statements. They should be able to show you what you’re paying with your current processor and what the difference could be with them.

*Achilles Tendon Injuries More Likely In Male Athletes

Medical News Today/www.medicalnews-today.com – April 26, 2013

Male athletes are the group most likely to tear their Achilles tendon, according to a new study published in the April 2013 issue of Foot & Ankle International (FAI), A SAGE journal. The activity most likely to cause the injury was basketball, and NBA players such as Kobe Bryant have been in the news lately for this exact injury.

Drs. Steven Raikin, David Garras and Philip Krapchev reviewed 406 records from patients at one clinic diagnosed with Achilles tendon injuries from August 2000 and December 2010. The average age was 46 years old, 83% of the patients were males, and sports were responsible for 68% of the ruptures.

The most common sports involved were basketball (32% of all ruptures),

In 2011, roughly 60% of the total share of retail point-of-sale dollar volume was purchased with a credit or debit card* and that percentage is steadily rising.
tends (9%), and football (8%). Among patients younger than 55 years of age, 77% of ruptures occurred during sports, compared to 42% of the patients 55 or older.

Older patients, and those whose BMI (body-mass index) was greater than 30, were more likely to have non-sports related causes and were more likely to not have been diagnosed correctly at the time of injury. Greater than one-third of the tendon ruptures not caused by sports occurred at work. When the diagnosis was missed, it was usually because the initial diagnosis was an ankle sprain.

“Delayed diagnosis and treatment have been shown to result in poorer outcomes,” says Steven Raikin, MD, of the Rothman Institute in Philadelphia, PA, and American Orthopaedic Foot & Ankle Society (AOFAS) member. “Older individuals, and those with a higher BMI, should be evaluated carefully if they have lower leg pain or swelling in the Achilles tendon region.”

Re-rupture of the same tendon occurred in 5% of the group, and 6% of the study’s population had previously ruptured the other leg’s tendon. The study supported previous findings that an Achilles tendon rupture on one leg increases the likelihood of a rupture on the other leg. When the same tendon was re-ruptured, 85% of those injuries had not been treated surgically earlier.

**Unsuitable Footwear Linked To Foot Impairment And Disability In Gout Patients**

Medical News Today/www.medicalnews-today.com – News Archives

New research shows that use of poor footwear is common among patients with gout. According to the study published in Arthritis Care & Research, a peer-reviewed journal of the American College of Rheumatology (ACR), gout patients who make poor footwear choices experienced higher foot-related pain, impairment and disability. Gout patients also reported that comfort, fit, support and cost were the most important factors for selecting footwear.

Gout is a type of inflammatory arthritis caused by the crystallization of uric acid within the joints and other tissues. Those with gout experience severe pain and swelling, with the majority of cases affecting the feet. A study published last month in the ACR journal, Arthritis & Rheumatism, shows that doctor-diagnosed gout has risen over the past twenty years and now affects 8.3 million individuals in the U.S. Previous studies have shown that chronic gout contributes to changes in patients’ gait parameters, which is consistent with pain avoidance strategy, and likely leads to impaired foot function.

A research team led by Professor Keith Rome from AUT University in Auckland, New Zealand, recruited 50 patients with a history of gout from local rheumatology clinics. Researchers assessed clinical disease characteristics, overall function, foot impairment and disability. The type of footwear worn by patients and factors associated with patient choice of footwear were also evaluated. To determine the suitability of footwear, the team used criteria gauging the adequacy of the footwear from a previous rheumatoid arthritis foot pain study.

“We found that gout patients in our study often wore improper footwear and experienced moderate to severe foot pain, impairment and disability,” explains Professor Rome. Roughly 56% of patients made good footwear choices by wearing walking shoes, athletic sneakers, or oxfords. Of the remaining patients, 42% wore footwear that are considered poor and included sandals, flip-flops, slippers, or moccasins; 2% wore boots which are considered average; and none wore high-heeled shoes.

Characteristics of poor footwear included improper cushioning, lack of support, as well as inadequate stability and motion control. Those gout patients who wore poor shoes or sandals reported higher foot-related impairment and disability. More than half of all participants wore shoes that were 12 months or older and showed excessive wear patterns. Factors study participants identified as important for selecting footwear included comfort (98%), fit (90%), support (79%), and cost (60%).

“We found gout patients in our study wore footwear that lacked cushioning, control and stability,” concluded Professor Rome. “Many patients’ shoes also showed excessive wear and we suggest that proper footwear selection be discussed with gout patients to reduce foot pain and impairment.” The authors suggest that further research assessing economically-priced footwear with ample cushioning, adequate motion control and sufficient forefoot width is needed.

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Male athletes are the group most likely to tear their Achilles tendon, according to a new study published in the April 2013 issue of Foot & Ankle International (FAI), A SAGE journal.
HHS OIG Finds That Surety Bonds Remain an Underutilized Tool to Protect Medicare From Supplier Overpayments

In 2009, CMS began to require suppliers of durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS) to obtain a minimum of $50,000 in surety bond coverage per location. A surety bond is issued by an entity (the surety) guaranteeing that the surety will pay CMS the amount of any monetary obligations incurred during the term of the bond, and for which the supplier is responsible, up to the surety’s maximum obligation. Surety bonds can discourage enrollment of fraudulent suppliers and aid the recovery of debts owed to Medicare. The U.S. Department of Health and Human Services’ Office of the Inspector General (HHS OIG) set out to determine the extent to which CMS maintains complete and accurate surety bond data and to determine the amount of supplier debt that could have been recovered through surety bonds.

Two years after the surety bond requirement was implemented, CMS did not have accurate surety bond information for all suppliers. Information

Full Implementation of the Ordering/Referring Physician Requirement Begins May 1, 2013

As communicated in MLN Matters Article SE1305, DME MAC claim edits to deny invalid ordering/referring physician information on a claim will begin on May 1, 2013. This means that beginning with claims processed on May 1, 2013, if the ordering/referring physician name and NPI listed on your claim is invalid, then your claim will be denied.

Before submitting a claim to the DME MAC, you should always check to be sure that the ordering/referring physician information on your claim is correct, and that the physician is registered in Provider Enrollment, Chain, and Ownership System (PECOS). You can check the physician name and NPI using the CMS Ordering Referring Report, which can be downloaded on the CMS website at http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/MedicareProviderSupEnroll/MedicareOrderingandReferring.html. The Ordering Referring Report contains the NPIs and names of physicians and non-physician practitioners who have current records in PECOS and are of a type/specialty that is eligible to order and refer.

Prior to May 1, 2013, if you submit a claim to the DME MAC with invalid ordering/referring physician information, you will receive an informational warning message on your Medicare Remittance Advice, showing message N544 (Alert: Although this was paid, you have billed with a referring/ordering provider that does not match our system record. Unless, corrected, this will not be paid in the future.) If you are receiving these messages on your claims, then you must correct the physician information on your claims by May 1, 2013, in order to prevent claim denials.

Paper Claim Submitters: If you are eligible under ASCA to submit claims using the CMS-1500 form, you must enter the ordering/referring physician name in block 17 and NPI in block 17b of the claim form. When entering the physician name in block 17, we strongly recommend that you use the “First Name Last Name” format for the physician’s name (rather than “Last Name, First Name”). Submitting the physician’s name in a consistent format helps to ensure that we will correctly process your claim.

For additional information, refer to MLN Matters Article SE1305.
for thousands of bonded suppliers was missing, and surety bond amounts were not consistently maintained by supplier location. Bonded suppliers have tens of millions in uncollected overpayments. As of July 2012, CMS reported it collected $263,000 from the millions in overpayments eligible for surety bond recovery. Most of these overpayments will likely remain uncollected because a number of suppliers had overpayments of more than $50,000, and CMS can recover only up to the amount of the surety bond.

The OIG recommend that CMS:

(1) Improve oversight of supplier data to ensure accurate and consistent information,

(2) Immediately begin utilizing the surety bond requirement to recover outstanding overpayments from suppliers’ surety bonds,

(3) Consider using the legislative authority given by the Patient Protection and Affordable Care Act of 2010 to require increased surety bond amounts for suppliers that receive high overall Medicare payments, and

(4) Revise collection guidelines to state that collection of debts through surety bonds is based on dates of service.

CMS concurred with all four recommendations.

President’s Budget Would Reduce Medicare Spending, Boost Overall HHS Funding

Medicare funding would shrink by $370 billion under President Obama’s proposed budget for fiscal year (FY) 2014, while total spending for the Department of Health and Human Services (HHS) would increase $5.9 billion. The annual federal budget from the White House was released on April 10, 2013. This is a non-binding document outlining the President’s federal agency priorities for FY2014. The President’s FY2014 Budget contains several insights and reveals possible future policies as lawmakers continue to work toward federal deficit reduction.

Among the healthcare-related highlights proposed in the budget:

1. Durable Medical Equipment (DME) - Medicare prices for durable medical equipment would expand to Medicaid. This is estimated to reduce federal spending by $2.95 billion over ten years.

2. Electronic Health Records (EHRs) - The Department of Health and Human Services is estimated to collect $590 million in penalties from healthcare providers who do not satisfy electronic health record “meaningful use” criteria.

3. Community Health Centers (CHCs) - Community health centers would receive $3.1 billion to create 25 new health center sites.

4. Hospital Disproportionate Share Payments - Hospital DSH payment cuts would be delayed by one year to 2015. Healthcare reform legislation requires DSH payment cuts to safety-net hospitals to begin in 2014, which was intended to correlate with new insurance reforms.

Sequestration Q & A

**Question:** Does the 2% payment reduction under sequestration apply to the payment rates reflected in Medicare fee-for-service fee schedules or does it only apply to the final payment amounts?

**Answer:** Payment adjustments required under sequestration are applied to all claims after determining the Medicare payment including application of the current fee schedule, coinsurance, any applicable deductible, and any applicable Medicare Secondary Payment adjustments. All fee schedules, Pricers, etc., are unchanged by sequestration; it’s only the final payment amount that is reduced.

**Question:** How is the 2% payment reduction under sequestration identified on the electronic remittance advice (ERA) and the standard paper remittance (SPR)?

**Answer:** Claim adjustment reason code (CARC) 223 is used to report the sequestration reduction on the ERA and SPR.

**Question:** What is the verbiage for CARC 223?

**Answer:** “Adjustment code for mandated Federal, State or local law/regulation that is not already covered by another code and is mandated before a new code can be created.”

**Question:** Will the 2% reduction be reported on the remittance advice in a separate field?

**Answer:** For institutional Part A claims, the adjustment is reported on the remittance advice at the claim level. For Part B physician/practitioner, supplier, and institutional provider outpatient claims, the adjustment is reported at the line level.

**Question:** How will the payments be calculated on the claims?

**Answer:** The reduction is taken from the calculated payment amount, after the approved amount is determined and the deductible and coinsurance are applied.

**Example:** A provider bills a service with an approved amount of $100.00, and $50.00 is applied to the deductible. A balance of $50.00 remains. We normally would pay 80% of the approved amount after the deductible is met, which is $40.00 ($50.00 x 80% = $40.00). The patient is responsible for the remaining 20% coinsurance amount of $10.00 ($50.00 - $40.00 = $10.00). However, due to the sequestration reduction, 2% of the

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*Current Pedorthics* May/June 2013

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A non-participating provider bills an unassigned claim for a service with a Limiting Charge of $109.25. The beneficiary remains responsible to the provider for this full amount. However, sequestration affects how much Medicare reimburses the beneficiary. The non-participating fee schedule approved amount is $95.00, and $50.00 is applied to the deductible. A balance of $45.00 remains. Medicare normally would reimburse the beneficiary for 80% of the approved amount after the deductible is met, which is $36.00 ($45.00 x 80% = $36.00). However, due to the sequestration reduction, 2% of the $36.00 calculated payment amount is not paid to the beneficiary, resulting in a payment of $35.28 instead of $36.00 ($36.00 x 2% = $0.72).

CMS encourages physicians, practitioners, and suppliers who bill unassigned claims to discuss with their Medicare patients the impact of the sequestration reductions to Medicare payments.

**Tips to Avoid PECOS Ordering Physician Denials**

Effective for claims submitted on/after May 1, 2013, the Centers for Medicare and Medicaid Services (CMS) will turn on the edits to deny DME claims that fail the ordering/referring provider edits. Currently, suppliers are receiving the N544 message on their remittance advices for claims that fail the ordering physician edits. Claims submitted with the same error on/after May 1, 2013 will be denied.

N544 Alert: Although this was paid, you have billed with a referring/ordering provider that does not match our system record. Unless corrected, this will not be paid in the future.

Only physicians and certain types of non-physician practitioners are eligible to order or refer items or services for Medicare beneficiaries, as outlined below:

- Physicians (doctor of medicine or osteopathy, doctor of dental medicine, doctor of dental surgery, doctor of podiatric medicine, doctor of optometry),
- Physician Assistants,
- Clinical Nurse Specialists,
- Nurse Practitioners,
- Clinical Psychologists,
- Interns, Residents, and Fellows,
- Certified Nurse Midwives, and
- Clinical Social Workers.

Medicare will only reimburse for specific items or services when those items or services are ordered by providers or suppliers authorized by Medicare statute and regulation to do so. Claims that a supplier submits in which the ordering provider is not authorized by statute and regulation will be denied as a non-covered service. The denial will be based on the fact that neither statute nor regulation allows coverage of certain services when ordered or referred by the identified supplier or provider specialty.

CMS emphasizes the following limitations:

- Chiropractors are not eligible to order or refer supplies or services for Medicare beneficiaries. All services ordered or referred by a chiropractor will be denied.
- Optometrists may only order and refer DMEPOS products/services, and laboratory and x-ray services payable under Medicare Part B.
- CMS recommends that suppliers who are currently receiving N544 messages take the following steps in the order listed to correct the claim and avoid claim rejections:

1. Check to see whether the provider is a specialty that can order DMEPOS.

2. Verify that the ordering physician NPI is on the list of physicians and other
non-physician practitioners enrolled in PECOS. This can be done by:

1. Checking the CMS ordering/referring provider downloadable report containing the NPI, first name, and last name of providers enrolled in PECOS located at http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/MedicareProviderSupEnroll/MedicareOrderingandReferring.html

2. Calling DME MAC IVR to enter the NPI and name of the referring provider. The IVR will then respond if the individual is or is not enrolled in PECOS.

3. Ensure you are correctly entering the Ordering/Referring Provider’s name on the claim.

   1. Do not use “nicknames” on the claim, as this could cause the claim to fail the edits.

   2. Do not enter a credential (e.g., “Dr.”) in a name field.

   3. On paper claims (CMS-1500), enter the ordering provider’s first name first, and last name second (e.g., John Smith), in Item 17.

   4. Ensure that the name and the NPI for the ordering provider belong to a physician or non-physician practitioner and not to an organization, such as a group practice that employs the physician or non-physician practitioner who generated the order.

   5. On electronic claims, make sure that the qualifier in the 2310A NM102 loop is a 1 (person). Organizations (qualifier 2) cannot order and refer.

   6. On electronic claims, ensure that you are not submitting the last name in the first name field and vice versa. NAS has seen several suppliers who are submitting the ordering physician name backwards.

   7. Make sure you are spelling the ordering physician’s name correctly as listed in the PECOS listing in step 2b above.

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**CLASSIFIED RATES**

<table>
<thead>
<tr>
<th>Words</th>
<th>Member</th>
<th>Non-Member</th>
</tr>
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<td>50 or fewer words</td>
<td>$30</td>
<td>$50</td>
</tr>
<tr>
<td>51-75 words</td>
<td>$50</td>
<td>$70</td>
</tr>
<tr>
<td>76-150 words</td>
<td>$70</td>
<td>$130</td>
</tr>
</tbody>
</table>

The following rates are calculated by counting complete words. (A telephone number is counted as a complete word.)

To place a classified ad, email margaret@pedorthics.org, send a fax to (703) 995-4456, or mail to Pedorthic Footcare Association, ATTN: Current Pedorthics, 8400 Westpart Drive, 2nd Floor, McLean, VA 22101.

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**PFA’s E-newsletter Covers the Pedorthic Community**

An e-mail newsletter exclusively for members of the Pedorthic Footwear Association.

www.pedorthics.org

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Your AD Here
The ICD-10 Transition: An Introduction

The ICD-9 code sets used to report medical diagnoses and inpatient procedures will be replaced by ICD-10 code sets, with a new implementation deadline date of October 1, 2014. This article provides general background on the ICD-10 transition, general guidance on how to prepare for it, and resources for more information. We encourage readers to review the specific statutes, regulations and other interpretive materials for a full and accurate statement of their contents.

About ICD-10

ICD-10-CM/PCS (International Classification of Diseases, 10th Edition, Clinical Modification/Procedure Coding System) consists of two parts:

1. ICD-10-CM for diagnosis coding
2. ICD-10-PCS for inpatient procedure coding

ICD-10-CM is for use in all U.S. health care settings. Diagnosis coding under ICD-10-CM uses 3 to 7 digits instead of the 3 to 5 digits used with ICD-9-CM, but the format of the code sets is similar.

ICD-10-PCS is for use in U.S. inpatient hospital settings only. ICD-10PCS uses 7 alphanumeric digits instead of the 3 or 4 numeric digits used under ICD-9-CM procedure coding. Coding under ICD-10-PCS is much more specific and substantially different from ICD-9-CM procedure coding.

The transition to ICD-10 is occurring because ICD-9 produces limited data about patients’ medical conditions and hospital inpatient procedures. ICD-9 is 30 years old, has outdated terms, and is inconsistent with current medical practice. Also, the structure of ICD-9 limits the number of new codes that can be created, and many ICD-9 categories are full.

Who Needs to Transition

ICD-10 will affect diagnosis and inpatient procedure coding for everyone covered by Health Insurance Portability Accountability Act (HIPAA), not just those who submit Medicare or Medicaid claims. The change to ICD-10 does not affect CPT coding for outpatient procedures.

Health care providers, payers, clearinghouses, and billing services must be prepared to comply with the transition to ICD-10, which means:

- All electronic transactions must use Version 5010 standards, which have been required since January 1, 2012. Unlike the older Version 4010/4010A standards, Version 5010 accommodates ICD-10 codes.
- ICD-10 diagnosis codes must be used for all health care services provided in the U.S. and ICD-10 procedure codes must be used for all hospital inpatient procedures. Claims with ICD-9 codes for services provided on or after the compliance deadline cannot be paid.

Transitional to ICD-10

It is important to prepare now for the ICD-10 transition. The following are steps you can take to get started:

Providers – Develop an implementation strategy that includes an assessment of the impact on your organization, a detailed timeline, and budget. Check with your billing service, clearinghouse, or practice management software vendor about their compliance plans. Providers who handle billing and software development internally should plan for medical records/coding, clinical, IT, and finance staff to coordinate on ICD-10 transition efforts.

Payers – Review payment policies since the transition to ICD-10 will involve new coding rules. Ask your software vendors about their readiness plans and timelines for product development, testing, availability, and training for ICD-10. You should have an implementation plan and transition budget in place.

Software vendors, clearinghouses, and third-party billing services – Work with customers to install and test ICD-10 ready products. Take a proactive role in assisting with the transition so your customers can get their claims paid. Products and services will be obsolete if steps are not taken to prepare.

FAQs: ICD-10 Transition Basics

1. What does ICD-10 compliance mean?

ICD-10 compliance means that everyone covered by HIPAA is able to successfully conduct health care transactions using ICD-10 codes.


No. The switch to ICD-10 does not affect CPT coding for outpatient procedures. Like ICD-9 procedure codes, ICD-10-PCS codes are for hospital inpatient procedures only.

3. Who is affected by the transition to ICD-10? If I don’t deal with Medicare claims, will I have to transition?

Everyone covered by HIPAA must transition to ICD-10. This includes providers and payers who do not deal with Medicare claims.

4. Do state Medicaid programs need to transition to ICD-10?

Yes. Like everyone else covered by HIPAA, state Medicaid programs must comply with ICD-10.

5. What happens if I don’t switch to ICD-10?

Claims for all services and hospital inpatient procedures performed on or after the compliance deadline must use ICD-10 diagnosis and inpatient procedure codes. (This does not apply to CPT coding for outpatient procedures.) Claims that do
not use ICD-10 diagnosis and inpatient procedure codes cannot be processed. It is important to note, however, that claims for services and inpatient procedures provided before the compliance date must use ICD-9 codes.

6. If I transition early to ICD-10, will CMS be able to process my claims?

No. CMS and other payers will not be able to process claims using ICD-10 until the compliance date. However, providers should expect ICD-10 testing to take up to 19 months.

7. Codes change every year, so why is the transition to ICD-10 any different from the annual code changes?

ICD-10 codes are different from ICD-9 codes and have a completely different structure. Currently, ICD-9 codes are mostly numeric and have 3 to 5 digits. ICD-10 codes are alphanumeric and contain 3 to 7 characters. ICD-10 is more robust and descriptive with “one-to-many” matches in some instances.

Like ICD-9 codes, ICD-10 codes will be updated every year.

8. Why is the transition to ICD-10 happening?

The transition is occurring because ICD-9 codes have limited data about patients’ medical conditions and hospital inpatient procedures. ICD-9 is 30 years old, it has outdated and obsolete terms, and is inconsistent with current medical practices.

Also, the structure of ICD-9 limits the number of new codes that can be created, and many ICD-9 categories are full.

A successful transition to ICD-10 is vital to transforming our nation’s health care system.

9. What should providers do to prepare for the transition to ICD-10?

Providers should plan to test their ICD-10 systems early, to help ensure compliance. Beginning steps in the testing phase include:

- Internal testing of ICD-10 systems
- Coordination with payers to assess readiness
- Project plan launch by data management and IT teams

For providers who have not yet started to transition to ICD-10, below are actions steps to take now:

- Develop an implementation plan and communicate the new system changes to your organization, your business plan, and ensure that leadership and staff understand the extent of the effort the ICD-10 transition requires.
- Secure a budget that accounts for software upgrades/software license costs, hardware procurement, staff training costs, work flow changes during and after implementation, and contingency planning.
- Talk with your payers, billing and IT staff, and vendors to confirm their readiness status.
- Coordinate your ICD-10 transition plans among your partners and evaluate contracts with payers and vendors for policy revisions, testing timelines, and costs related to the ICD-10 transition.
- Create and maintain a timeline that identifies tasks to be completed and crucial milestones/relationships, task owners, resources needed, and estimated start and end dates.

To find out more, see the CMS implementation timelines and implementation handbooks tailored for specific audiences, which are available at www.cms.gov/ICD10.

10. What should payers do to prepare for the transition to ICD-10?

The transition to ICD-10 will involve new coding rules, so it will be important for payers to review payment policies. Payers should ask software vendors about their readiness plans and timelines for product development, testing, availability, and training. The ICD-10 Implementation Handbook for Payers on the CMS website provides detailed information for planning and executing the transition.

Visit the payers page at www.cms.gov/ICD10 to view additional resources and access the new ICD-10 coding guidelines.

11. What should software vendors, clearinghouses, and third-party billing services be doing to prepare for the transition to ICD-10?

Software vendors, clearinghouses, and third-party billing services should be working with customers to install and test ICD-10 ready products. Take a proactive role in assisting with the transition so your customers can get their claims paid. Products and services will be obsolete if steps are not taken to prepare.

CMS has resources to help vendors and their customers prepare for a smooth transition to ICD-10. Visit www.cms.gov/ICD10 to find out more.

12. Where can I find the ICD-10 code sets?

The ICD-10-CM, ICD-10-PCS code sets and the ICD-10-CM official guidelines are available free of charge at www.cms.gov/ICD10.

13. Why should I prepare now for the ICD-10 transition?

The transition to ICD-10 is a major undertaking for providers, payers, and vendors. It will drive business and systems changes throughout the health care industry, from large national health plans to small provider offices, laboratories, medical testing centers, hospitals, and more. You will need to devote staff time and financial resources to transition activities. The transition will go much more smoothly for organizations that plan ahead and prepare now.
14. What type of training will providers and staff need for the ICD-10 transition?

AHIMA recommends training should begin no more than six months before the compliance deadline. Training varies for different organizations, but it is projected to take 16 hours for coders and 50 hours for inpatient coders. For example, physician practice coders will need to learn ICD-10 diagnosis coding only, while hospital coders will need to learn both ICD-10 diagnosis and ICD-10 inpatient procedure coding.

Look for specialty-specific ICD-10 training offered by specialty societies and other professional organizations. Take into account that ICD-10 coding training will be integrated into the CEUs that certified coders must take to maintain their credentials.

ICD-10 resources and training materials will be available through CMS, professional associations and societies, and software/system vendors. Visit www.cms.gov/ICD10 regularly throughout the course of the transition to access the latest information on training opportunities.

Ordering/Referring Physician Checklist for Suppliers

Effective May 1, 2013, the Centers for Medicare and Medicaid Services (CMS) will turn on the Phase 2 denial edits. This means that Medicare will deny DMEPOS claims if the ordering/referring physician is not identified, not in Medicare’s enrollment records, or not of a specialty type that may order/refer the service/item being billed.

To verify your ordering/referring physician, or if you have received one of the following Remittance Advice Remark Codes (RARC), follow the steps listed below:

- N264: Missing/incomplete/invalid ordering provider name.
- N265: Missing/incomplete/invalid ordering provider primary identifier.
- N544 Alert: Although this was paid, you have billed with a referring/ordering provider that does not match the system record. Unless corrected, this will not be paid in the future (warning message prior to May 1, 2013).

1. Check the “Ordering Referring Report” – This file contains the NPIs and names of physicians and non-physician practitioners who have current enrollment records in PECOS and are of a type/specialty that is eligible to order and refer. CMS updates the report on a periodic basis, and each document includes a create date. You can access the file at http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/MedicareProviderSupEnroll/MedicareOrderingandReferring.html.

2. If the physician appears on the file, follow these tips for claim submission:

- File a new claim – no need to file an appeal if you received one of the above RARC messages.
- Use the name and NPI exactly as it appears on the file.
- Do not use “nicknames” on the claim, as their use could cause the claim to fail the edits.
- Do not enter a credential (such as “Dr.”) in a name field.
- On paper claims (CMS-1500), in item 17, you should enter the Ordering/Referring Provider’s first name first, and last name second (for example, John Smith).
- Ensure that the name and the NPI you enter for the Ordering/Referring Provider belong to a physician or non-physician practitioner and not to an organization, such as a group practice that employs the physician or non-physician practitioner who generates the order or referral.
- Make sure that the qualifier in the electronic claim (X12N 837P 4010A1) 2510A NM102 loop is a 1 (person). Organizations (qualifier 2) cannot order and refer.

3. If the physician does not appear on CMS’ “Ordering Referring Report” contact the ordering/referring physician to find out if they are in the process of enrolling with Medicare. The CMS “Ordering Referring Report” will include a create date; any applications processed after the create date will not appear on the report until it is next updated. Services ordered by a physician who is not enrolled in Medicare will be denied.

Chiropractors are not eligible to order or refer supplies or services for Medicare beneficiaries. All services ordered or referred by a chiropractor will be denied.

Opt-Out Physicians: A physician who has opted out of Medicare may order items or services for Medicare beneficiaries by submitting an opt-out affidavit to a Medicare contractor within the physician’s specific jurisdiction. Opt-out physicians who are able to order or refer Medicare services will appear on the “Ordering Referring Report”.

Department of Veterans Affairs (DVA), Public Health Service (PHS), or the Department of Defense (DoD)/Tricare: These physicians and non-physician practitioners will need to enroll in Medicare in order to continue to order or refer items or services for Medicare beneficiaries. DVA, PHS or DoD/Tricare physicians who are able to order or refer Medicare services will appear on the “Ordering Referring Report”.

Additional information for supplies can be found in MedLearn Matters article SE1305, available on the PFA and CMS websites.
Editor’s note: The listings provided in the Pedorthic Education Calendar are provided as an informational service. Inclusion of a course in this listing does not imply endorsement or support by the Pedorthic Footcare Association. Students and others considering courses are alone responsible to conduct due diligence when selecting their education provider.

**UPON REQUEST**

Eneslow Pedorthic Institute  
470 Park Avenue South @ 32nd Street, New York, NY  
1-on-1 Training & Tutoring Program, Individual and Small Group Program, One Day Review for Pre-Certification Exam.  
Contact: Sarah Goldberg, (212) 477-2300 ext 211 or sarah@eneslow.com or visit www.eneslow.com/epi

**COURSES**

Robert M. Palmer M.D., Institute of Biomechanics  
1601 Main St., Elwood, IN  
Courses providing pedorthic education for the retail, clinical or biomechanical knowledge seeking pedorthist. Also offering traveling courses to your area. Course dates for Levels 1-3 in a variety of locations in the United States, Hong Kong, Mainland China and Korea are available.  
Contact Pam Haig, (765) 557-7216; pam@pedorthicbiomechanics.org; www.pedorthicbiomechanics.org

**MONTHLY**

Riecken’s Orthotic Labs  
5115 Oak Grove Rd., Evansville, Ind. SAFIO Class and Wax and Sand Casting Class, held on an as-needed basis. Contact Charlesat 800-331-8040, extension 102.

**JUNE 2013**

**June 3-21**  
Foot Solutions Academy of Pedorthic Science Pedorthic Certificate Program  
Kennesaw State College of Continuing and Professional Education, Kennesaw, GA  
For more information and to register call (770) 423-6756  
www.ccpe.kennesaw.edu

**June 7**  
Therapeutic Shoe Fitter’s Course  
National Pedorthic Services, Milwaukee WI.  
Contact: Nora Holborow at (414)438-6662 or visit www.npsfoot.com  
E-mail: nholborow@npsfoot.com

**June 15 - 9 AM - 4 PM**  
Professional Development Event: Innovation  
Pedorthic Association of Canada and Technology in Pedorthic Practice  
Sunnybrook Health Sciences Centre, Toronto, Ontario  

**June 19**  
Pedorthic Footcare Association - LIVE WEBINAR!  
Physician/Supplier Documentation Requirements to Accurately Submit Claims for Therapeutic Shoes, Inserts and Modifications to Your Regional Jurisdictional DME MAC  
Presented by John Shero, CPA, C. Ped., PFA Board of Directors  
This live webinar will review the Physician/Supplier Requirements to accurately submit claims for therapeutic shoe, inserts and modifications to the regional Jurisdictional DME MACs. This session will include coverage Criteria for the Certifying Physician and an in-person evaluation of the patient, DMEPOS quality standards published in October 2009; coding examples; utilization limitations of coverage, required modifiers; documentation Requirements of a typical beneficiary file, orders, Statement of Certifying Physician, and medical records; CERT (Comprehensive Error Rate Testing) which includes the Audit Process and responding to a request from the CERT Contractor; and, DME MAC resources & events.  
CEUs: To Be Determined

**JULY 2013**

**July 8- 26**  
Foot Solutions Academy of Pedorthic Science Pedorthic Certificate Program  
Kennesaw State College of Continuing and Professional Education, Kennesaw, GA  
For more information and to register call (770) 423-6756  
www.ccpe.kennesaw.edu

**AUGUST 2013**

**August 16-18**  
Hands-on Custom Foot Orthosis Fabrication Course  
National Pedorthic Services, Milwaukee WI.  
Contact: Nora Holborow at (414)438-6662 or visit www.npsfoot.com  
E-mail: nholborow@npsfoot.com  
Approved CEUs: 18.25 ABC

**SEPTEMBER 2013**

**September 9-27**  
Foot Solutions Academy of Pedorthic Science Pedorthic Certificate Program  
Kennesaw State College of Continuing and Professional Education, Kennesaw, GA  
For more information and to register call (770) 423-6756  
www.ccpe.kennesaw.edu

**September 13-15**  
A Hands-On Approach to Footwear Modifications  
National Pedorthic Services, Milwaukee WI.  
Contact: Nora Holborow at (414)438-6662 or visit www.npsfoot.com  
E-mail: nholborow@npsfoot.com  
Approved CEUs: 19.25 ABC

**DO YOU HAVE SOME NEWS?**  
Send your industry news to the CURRENT PEDORHTICS editor at editorial@pedorthics.org.
OCTOBER 2013

October 18-20, 2013
Pedorthic Extremes: Managing Difficult and Challenging Feet
National Pedorthic Services, Milwaukee WI.
Contact: Nora Holborow at (414)438-6662 or E-mail: nholborow@npsfoot.com
Visit: www.npsfoot.com

October 31 – November 2
Pedorthic Footcare Association
54th Annual Symposium and Exhibition
John B. Hynes Veterans Memorial
Convention Center
Boston MA
Contact: (703) 610-9035; info@pedorthics.org or www.pedorthics.org

NOVEMBER 2013

November 15
Therapeutic Shoe Fitter’s Course
National Pedorthic Services, Milwaukee WI.
Contact: Nora Holborow at (414)438-6662 or visit www.npsfoot.com
E-mail: nholborow@npsfoot.com
(703) 610-9035; info@pedorthics.org or www.pedorthics.org

IN STOCK AND AVAILABLE IN THE PFA BOOKSTORE

The Pedorthic Association of Canada’s 2012 Clinical Practice Guidelines:
A Reference Manual of Best Practices in Pedorthics Care
The newest and best practices reference manual available on treatment methods and ongoing developments in pedorthics is a MUST resource for your bookshelf. From diseases and other medical afflictions, this guide discusses the benefits of pedorthic footwear treatments while helping pedorthists and other medical professionals understand the best treatment practices.
ORDER NOW ONLINE NOW FROM THE PFA BOOKSTORE FOR $94.98 (+ standard shipping and handling apply per order)
Pedorthist Wanted
Brownfield's Prosthetics and Orthotics is seeking a Certified Pedorthist or a Pedorthic student intern that may want to relocate to Idaho. Brownfield's has 3 locations that serve metropolitan Boise area. We offer a full benefit package. Please email your resume to jgillespie@brownfieldstech.com.

Pedorthist wanted for Connecticut Territory
HealthDrive is seeking a Part-Time, two days per week, C.Ped to provide footwear services to residents of nursing homes and long term care facilities. Work independently and fantastic earning ability. Contact Tanya @ providercare@healthdrive.com or 857-255-0293 for more information.

Chung Shi Seeks Experienced Footwear Agents
Chung Shi is a healthy footwear brand; with models helping the client achieving medical/health goals or relieving pain. We are primarily sold by comfort and pedorthic dealers, but also in other settings. Our agents are assigned an area in which they earn commissions for sales made. Sales can be achieved through the Internet, phone, and appointment. We assign territories that can be reached within a day's travel, so the agent's travel costs are minimized as is time away from home. We recognize that our agents’ financial needs may require them to carry other brands, as approved by us.

Duties:
1. Develop dealer prospects and open new doors.
2. Work to increase orders from existing dealers.
3. Provide high quality service to dealers, including problem solving and order advice.
4. Work trade shows as agreed with management.

Contact David M. Winchell at 404-991-2285 or chungshiusa@gmail.com.

Are You Following Us On Our Social Media Networks?
Connect NOW with PFA and Others in the Pedorthics Community!

Don’t miss out on the latest announcements and current topics we’re discussing on social media 24/7.

Join PFA today on Facebook, Twitter, LinkedIn and O and P Social for the latest industry and practice buzz!
This reference guide is intended solely to make it easier for individuals, facilities and companies to locate pedorthic products. Companies listed in the guide are PFA vendor/manufacturer members. Companies may produce additional products beyond those listed, and most companies are pleased to provide additional information on request. As a courtesy to our readers, Current Pedorthics has noted the year the company joined PFA in parentheses after the company’s name. Inclusion in this list does not suggest or imply PFA endorsement of companies or products. Vendor/Manufacturer members are encouraged to keep their listing up-to-date. To arrange changes in your company’s listing, email info@pedorthics.org.

**Acor (1979)**
Custom and comfort footwear, inserts and materials. Originator of Tri-Lam and P-Cell.
Cleveland, OH
Phone: (800) 237-2267
Fax: (216) 662-4547
Email: email@acor.com
Website: www.acor.com

**Aetrex Worldwide, Inc. (1973)**
Aetrex Worldwide has been a supplier of footwear products for 60 years. Aetrex’s brands include Aetrex® and Apex Footwear, Lynco® Orthotics, iStep® and raw materials.
Teaneck, NJ
Phone: (800) 526-2739
Fax: (201) 833-1485
Email: info@aetrex.com
Website: www.aetrex.com

**Affinity Insurance Services, Inc. (1998)**
Affinity Insurance Services administers the PFA product and malpractice liability insurance program. Designed for pedorthists, insurance protection can be customized for each-PFA member.
Chicago, IL
Phone: (800) 544-2672
Fax: (312) 922-9321

**Akaishi Co., Ltd. (2011)**
Shizuoka-City, Japan
Phone: +81-54-256-5551
Fax: +81-54-256-5550
Email: koichi@akaishinet.com
Website: www.akaishinet.com

**Amfit Inc. (1996)**
Since 1977, Amfit has elevated custom foot orthotics in the computer age. From diabetic care to professional athletes and beyond – Amfit 3D contact technology offers innovative, user-friendly tools to create the exact results you desire. From small scale operations to large labs. Where technology fits. Perfectly, Amfit is your custom foot orthotic partner.

Mt. Emry therapeutic line - accommodates, never correct! We have the shoes to accommodate charcot, edema, hammer toes, bunions & RA. Whether for depth, width or even for shape, select from our variety of styles to fit that special foot of your patient.

S. El Monte, CA
Phone: 626-448-8905
Fax: 626-448-8783
E-mail: sales@apisfootwear.com
Web site: www.bignwideshoes.com

**Arizona AFO, Inc. (2003)**
Arizona AFO manufacturers a line of medical ankle braces for the treatment of foot disorders. The Arizona AFO line is used by physicians and practitioners as a way to increase mobility, avoid pain, avoid surgery and provide a better quality of life.

Mesa, AZ
Phone: (480) 222-1580
Fax: (480) 461-5187
Email: don@arizonafa.com
Website: www.arizonafa.com

**Atlas International (1994)**
For pedorthic needs. Complete range of materials, prefabs, tools and machinery.

**Bestsole, Inc. (2010)**
We manufacture and distribute a glycerine-filled, therapeutic, massaging insole. Our insoles will massage your feet and increase circulation to your feet. They are also excellent shock absorbers for your feet, knees, hips and back. One pair fits in all shoes. Our insoles are machine washable. We offer a two-year replacement warranty. Our insoles have always been made in the USA. Visit our website for additional products.

**Birkenstock USA, LP (1990)**
U.S. distributor of Birkenstock sandals, shoes, clogs and arch supports, and also representing Footprints shoes and Birko Orthopadie arch supports.
Novato, CA
Phone: (800) 949-7301
Fax: (415) 884-3250
Email: kwiltz@birkenstockusa.com
Website: www.birkenstockusa.com

**Brooks Sports, Inc. (2001)**
Brooks Sports, Inc., is proud of our hard-earned reputation for engineering footwear that provides the perfect ride for every stride. Brooks works to ensure that all of our footwear products meet the biomechanical needs of runners, enhance comfort, and aid in the prevention of running-related injury. We’re dedicated to reducing running injury risk and have aligned ourselves with some of the top researchers around the world to tackle this.

**Bontell, WA**
Phone: (800) 2-BROOKS
Fax: (425) 483-8181
Email: shoeguy@seattleshoe.com
Website: www.brooksrunning.com

**Bontell, WA**
Phone: (800) 2-BROOKS
Fax: (425) 483-8181
Email: shoeguy@seattleshoe.com
Website: www.brooksrunning.com

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Phone: (800) 2-BROOKS
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Email: shoeguy@seattleshoe.com
Website: www.brooksrunning.com

**Davmarshoes.com (2004)**
Comfortable on the inside, stylish on the outside, our quality crafted shoes and socks are specially made to provide relief for problem feet. If you have diabetes, sensitive feet, circulatory problems, or swollen or wide feet, we invite you to step into our world and make yourself comfortable.

**Davmarshoes.com (2004)**
Comfortable on the inside, stylish on the outside, our quality crafted shoes and socks are specially made to provide relief for problem feet. If you have diabetes, sensitive feet, circulatory problems, or swollen or wide feet, we invite you to step into our world and make yourself comfortable.

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**Dr. Comfort (2004)**

Dr. Comfort manufactures, warehouses and distributes the finest quality extra-depth shoes for diabetics or patients who need quality comfort shoes.

- Mequon, WI
- Phone: (262) 242-5300
- Fax: (262) 242-9300
- Email: eric@drcomfortdpm.com
- Website: www.drcomfortdpm.com

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**Dr. Kong Footcare Limited (2005)**

Manufacturer of children’s, men’s and women’s healthy shoes insoles, footcare accessories and computerized assessment software. 33 chain shoe shops in Hong Kong. Provides check and fit services and healthy products for everybody.

- Kwai Chung, N.T., Hong Kong
- Phone: (852) 2744-2638
- Fax: (852) 2744-8845
- Email: raymond@footcare.com.hk
- Website: www.dr-kong.footcare.com.hk

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**Drew Shoe Corporation (1968)**

Men’s and women’s depth and comfort footwear in over 150 sizes.

- Lancaster, OH
- Phone: (800) 837-3739
- Email: customerservice@drewshoe.com
- Website: www.drewshoe.com

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**Euro International, Inc. (1997)**

Preformed insoles, diabetic shoes and materials in different hardinesses, especially for diabetics.

- Tampa, FL
- Phone: (800) 378-2480
- Fax: (813) 246-5986
- Email: euro@eurointi.com
- Web site: http://www.eurointi.com

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**Finn Comfort (1993)**

Luxury comfort footwear. Men’s and women’s walking shoes, sandals and boots featuring removable/modifiable orthopedic footbeds. Hand-crafted in Germany.

- Thousand Oaks, CA
- Phone: (805) 375-0338
- Fax: (805) 375-0848
- Email: info@kannercorp.net
- Website: www.finncomfort.de

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**Foot Solutions (2012)**

Feet are your foundation for life. At Foot Solutions, we use the most advanced technology combined with a full understanding of biomechanics of feet and gait, along with the highest quality footwear on the planet to fit your unique feet. Through our customized solutions, we will improve your comfort and body alignment and help you achieve better health through your feet.

- Marietta, GA
- Phone: (888) FIT-FOOT
- Fax: (770) 953-6270
- Website: www.footsolutions.com

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**Frankford Leather Company, Inc. (1997)**

Frankford Leather Co., Inc., is your single source supplier for your pediatric shoe repair and shoe store supply needs. In stock, more than 8,000 products are available for immediate shipment. Representing major brands and lines like Vibram, Soletech, Spenco, Powerstep, Pedifix, Pedors, Orthofeet, Kiwi; shoe care, adhesives, leather and more. Free catalog available.

- Bensalem, PA
- Phone: (800) 245-5555
- Fax: (215) 244-4411
- Email: sales@frankfordleather.com
- Website: www.frankfordleather.com

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**Gadean Footwear (2010)**

Gadean Footwear is the largest orthopaedic shoemaker in Australia. Gadean Footwear provides retailers with washable slippers, motion shoes, fashion shoes, depth shoes, removable insole sandals and many more products.

- Mount Hawthorn, Western Australia, Australia
- Phone: 08-9208 1000
- Fax: 08-9443 9915
- Email: info@gadeanfootwear.com.au
- Website: www.gadeanfootwear.com.au

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**Goodhew, LLC (2012)**

Goodhew, a leader in the ModernCraft movement, spins fresh designs, natural performance yarns, and the heritage of American craftsmanship to create high performance socks for the everyday world. Goodhew: a sock for every walk in the walk of life.

- Chattanooga, TN
- Phone: 423-643-0821
- Fax: 423-643-0825
- E-mail: eckardt@goodhew.us.com
- Web site: http://www.goodhew.us.com

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**Guard Industries, Inc. (1996)**

Components for shoe care, foot comfort, orthotics and prosthetics. Complete listing of available products will be sent upon request.

- St. Louis, MO
- Phone: (800) 535-3508
- Fax: (314) 534-0035
- Email: guardill@net
- Website: www.guardmf2.com

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**Haflinger/Highlander (Gerda Hoehm) (1999)**

Boiled wool slippers, latex arch support, felt and leather clogs, cork molded footbed. Highlander is Gerda Hoehm's new high-quality comfort line with a removable footbed. Both Haflinger and Highlander are made in Germany.

- New York, NY
- Phone: (212) 949-6767
- Fax: (212) 949-8833
- Email: haflingem@worldnet.att.net

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**Hapad, Inc. (1988)**

Hapad is a leading manufacturer of 100% natural wool felt foot products and sports replacement insoles used for conservative management of common, painful foot complaints. Correctly skived and adhesive backed for a quick and easy fit, Hapad products are an affordable alternative to custom made devices or they can be used to make custom modifications.

- Bethlehem, PA
- Phone: (800) 544-2723
- Fax: (800) 232-9427
- Email: info@hapad.com
- Website: www.hapad.com

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Shoe modification components, foot comfort products and shoe repair supplies. Products from Aetrex, Spenco, Vibram and Soletech.

- Granite Quarry, NC
- Phone: (704) 279-5568
- Fax: (704) 279-5261
- Email: jhcook@windstream.net

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**Jerry Miller I.D. Shoes, Inc. (1977)**

Jerry Miller Shoes extensive custom-molded shoes for men, women, and children. Guaranteed fit, same day shipping. Fashionable custom-molded shoes for men, women, and children. Guaranteed fit and service.

- Island Park, NY
- Phone: (800) 852-8855
- Fax: (516) 889-1253
- Email: info@justinblair.biz
- Website: www.justinblairco.com

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**KLM Laboratories (2006)**

An industry leader in the manufacture of foot orthotics and insoles, specializing in custom orthotics, pre-fabricated orthotics, orthotic insoles and orthotic materials.

- Valencia, CA
- Phone: (800) 556-3668
- Fax: (800) 556-3338
- Email: cservicel@klmlabs.com
- Website: www.klmlabs.com

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**Klogs-USA (2007)**

Distributor of comfort products, pedorthic, orthopedic and wound care supplies. Same day shipping.

- Sullivan, MO
- Phone: (573) 468-5564
- Fax: (573) 468-5660
- Email: jennifer@latitudesinc.com

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**Landesman Bros., Inc. (2003)**

Manufacturer of Ralyn Shoe Care and Backroom Supplies and NightCare Foot Care. Distributor for Aetrex, Acor, Darco, Herbal Concepts, Pedifix, Spewd-O, Silipos and Therafirm.

- Chicago, IL
- Phone: (800) 566-0664
- Fax: (773) 523-3639
- Email: orders@justinblair.biz
- Website: www.footsolutions.com

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**Lord Custom Molded Shoes, Inc. (1994)**

Fashionable custom-molded shoes for men, women, and children. Guaranteed fit and service.

- Bohemia, NY
- Phone: (800) SHOES11
- Fax: (516) 471-3090

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**JMS Plastics Supply (1992)**

JMS is your ONE source for all your fabricating materials, insoles and diabetic shoes. We carry JMS 500, polypropylene and co-polymer in sheets and precut plates, along with J-Foam in many durometers and colors.

- Neptune, NJ
- Phone: (800) 342-2602
- Fax: (732) 918-1131
- Email: sales@jmsplastics.com
- Website: www.jmsplastics.com

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**Web sites:**

- http://www.goodhew.us.com
- http://www.jerrymillershoes.com
- http://www.footsolutions.com
- http://www.frankfordleather.com
- http://www.finncomfort.de
- http://www.drewshoe.com
- http://www.eurointi.com
- http://www.goodhew.us.com
- http://www.guardmf2.com
- http://www.hapad.com
- http://www.jmsplastics.com
- http://www.jmsplastics.com
MacPherson Leather Co. (2005)

MacPherson Leather Company has provided a tradition of caring service since the early 1900s. As a generral family business, we are committed to providing excellent service and expertise for all of our customers’ needs.

As a wholesale and retail company, we offer quality products for saddle and tack, shoe findings, and leather craft trades. We hope you find what you are looking for on our site and please contact us with any questions you may have.

Seattle, WA
Phone: (206) 328-0855
Fax: (206) 328-0859
Email: info@macphersonleather.com
Website: www.macphersonleather.com

Pedorthic Footcare Association

Web site: http://www.mephisto.com/
E-mail: info@mephistousa.com
Fax: 615-771-5935
Phone: 800-775-7852

Miami Leather Company (2001)

Wholesaler to the orthopedic, prosthetic, retail shoe and shoe repair trades. Wide variety of products.

Miami, FL
Phone: (305) 266-8328
Fax: (305) 266-8728
Email: sales@miamileather.com
Website: www.miamileather.com

M. J. Markell Shoe Company, Inc. (1973)

Men’s, women’s and children’s comfort and orthopedic footwear.

Yonkers, NY
Phone: (914) 963-2258
Fax: (914) 963-9293
Email: info@markells shoe.com
Website: www.markells shoe.com

New Balance (1990)

New Balance is a leading manufacturer of technologically innovative athletic products.

Boston, MA
Phone: (617) 783-4000
Fax: (617) 783-7090
Website: www.newbalance.com

OrthoFeet* (1999)

Manufacturer and distributor of high quality depth-shoes and orthotics.

Northvale, NJ
Phone: (800) 524-2645
Fax: (201) 767-6748
Email: orthofoot@oil.com
Website: www.orthofeet.com

PartnerShip (2000)

PartnerShip, in cooperation with PFA, offers members-only discounts and savings on small package shipping with FedEx Ground, and on large freight shipments with Yellow Freight.

Cleveland, OH
Phone: (800) 599-2902
Fax: (800) 439-8913

PediFix, Inc. (2001)

Foot specialists since 1885, PediFix is the only fourth generation, family-owned business in the pedorthic industry. Choose from more than 150 quality foot treatment products, including a unique OTC line guaranteed to generate cash sales, keystone profits and doctor referrals, an assortment of both traditional and exclusive Visco-GEL foot pads and cushions, new dermatology products, GelStep silicone insoles and orthotics, Diabetic Solutions Socks, Pediplast and more. 15 new products are being introduced this year.

Contact PediFix today for a free color catalog.

Brewster, NY
Phone: (800) 424-5581
Fax: (845) 277-2851
Email: sales@pedifix.com
Website: www.pedifix.com

PEL Supply Company (1995)

Wholesale distributor stocks broad selection of finished foot and arch products, materials and tools for fabricating foot orthotics.

Cleveland, OH
Phone: (800) 321-1264
Fax: (800) 222-6176
Email: customerservice@pelsupply.com
Website: www.pelsupply.com

Propet USA, Inc. (2000)

Leading manufacturer in men’s and women’s comfort walking shoes. Available in up to 5 widths, sizes 5-13 in men’s. Propet features a vast selection of Medicare A5500 coded footwear with removable orthotics, secure closure and maximum customization.

Kent, WA
Phone: (800) 877-6738
Fax: (800) 597-8668
Email: customerservice@propetusa.com
Website: www.propetusa.com

Remington Products (2000)

Insoles and sheet packages, rigid arch supports, viscoelastic heel cups, 3/4 and full insoles.

Wadsworth, OH
Phone: (330) 335-1571
Fax: (330) 336-9462
Email: jwert@remprod.com
Website: www.remprod.com

Renia GmbH (2001)

Specially designed adhesives and components for the shoe industry, shoe repair trade, and O & P industry.

Cologne, Germany
Phone: 49-221-6307990
Fax: 49-221-63079950
Email: info@renia.com
Website: www.renia.com

SAS Shoemakers (1992)

Comfort walking shoes for women and men in a wide range of widths and sizes.

San Antonio, TX
Phone: (210) 924-6561
Fax: (210) 921-7460
Email: barmwood@sas-shoes.net
Website: www.SASShoes.com

STS Company (1997)

Resin-impregnated tubular and fitted socks made to take foot and ankle impressions for custom shoes and foot/ankle orthotic devices.

Mill Valley, CA
Phone: (800) 787-8907
Fax: (415) 381-4610
Email: stssox@att.net
Website: www.stssox.com

Shoe Care Innovations (2012)

At Shoe Care Innovations, we have a passion for bringing great new ideas to life. Our mission is to develop and market technically advanced and clinically proven products that revolutionize shoe care for customers with fungal infections and shoe odor and for customers want to provide a healthier environment for their feet.

With the SteriShoe® shoe sanitizer, we aim to take shoe care to a new level by offering millions of customers an easy, safe and clinically proven way to sanitize the inside of their shoes.

Redwood City, CA
Phone: (866) 686-7463
Email: adamullman@shoecareinnovations.com
Website: www.SteriShoe.com

Complete line of orthotic and prosthetic equipment including finishers/grinders, vacuum pans, pumps, presses, industrial sewing machines, fume busters and more.

Goshen, NY
Phone: (800) 354-6278
Fax: (845) 291-7097
Email: shoesystemsplus@hvc.rr.com
Website: www.shoesystemsplus.com

Sroufe Healthcare Products LLC (2006)

Custom diabetic inlays, casting foam boxes, pre-fabricated orthotics and orthopedic softgoods.

Ligonier, IN
Phone: (260) 894-4171
Fax: (260) 894-4092
Email: sales@sroufe.com
Website: www.sroufe.com


Ferndale, WA
Phone: (360) 384-1820
Fax: (360) 384-2724
Email: here@superfeet.com
Website: http://www.superfeet.com

TechMed 3D (2011)

TechMed 3D is an easy to use, accurate, and portable solution for the digital acquisition of images and measurements of human body parts, giving orthotists, prosthetists and pedorthists access to very reliable and consistent measurements.

Levis, Quebec, Canada
Phone: (418) 836-8100
Fax: (418) 836-1589
Email: info@techmed3d.com
Website: http://www.techmed3d.com


Ziera Shoes, formerly Kumfs Shoes, are women’s shoes, sandals and boots that are truly orthotic friendly. Ziera Shoes come in a wide range of heeled fashion and walking footwear. We have widths in stock from M through WW in sizes 34 through 45.

Los Gatos, CA
Phone: 877-717-0588
Fax: 877-717-0589
Web site: http://www.zierashoes.com/
Don’t Forget to Take Them Off!

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the healthiest shoes you’ll ever wear®