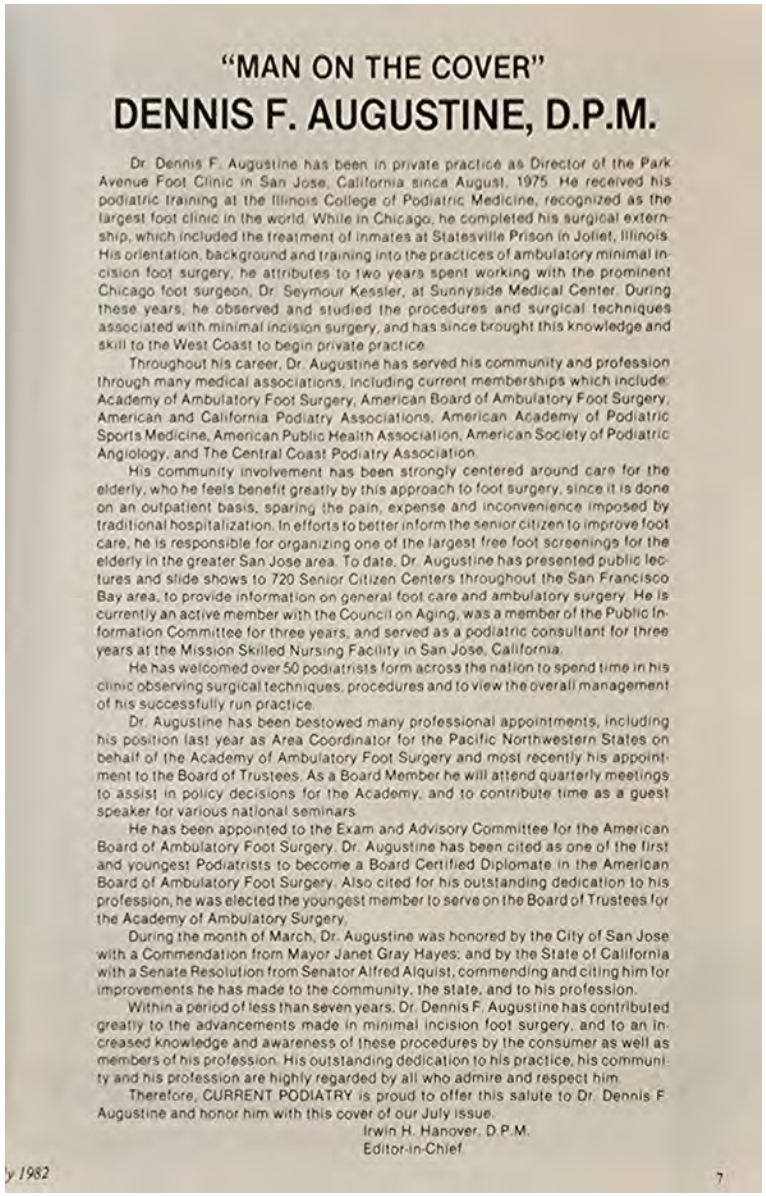


"MAN ON THE COVER"

DENNIS F. AUGUSTINE, D.P.M.

Dr. Dennis F. Augustine has been in private practice as Director of the Park Avenue Foot Clinic in San Jose, California since August, 1975. He received his podiatric training at the Illinois College of Podiatric Medicine, recognized as the largest foot clinic in the world. While in Chicago, he completed his surgical externship, which included the treatment of inmates at Statesville Prison in Joliet, Illinois. His orientation, background and training into the practices of ambulatory minimal incision foot surgery, he attributes to two years spent working with the prominent Chicago foot surgeon, Dr. Seymour Kessler, at Sunnyside Medical Center. During these years, he observed and studied the procedures and surgical techniques associated with minimal incision surgery, and has since brought this knowledge and skill to the West Coast to begin private practice.

Throughout his career, Dr. Augustine has served his community and profession through many medical associations, including current memberships which include: Academy of Ambulatory Foot Surgery, American Board of Ambulatory Foot Surgery, American and California Podiatry Associations, American Academy of Podiatric Sports Medicine, American Public Health Association, American Society of Podiatric Angiology, and The Central Coast Podiatry Association.

His community involvement has been strongly centered around care for the elderly, who he feels benefit greatly by this approach to foot surgery, since it is done on an outpatient basis, sparing the pain, expense and inconvenience imposed by traditional hospitalization. In efforts to better inform the senior citizen to improve foot care, he is responsible for organizing one of the largest free foot screenings for the elderly in the greater San Jose area. To date, Dr. Augustine has presented public lectures and slide shows to 720 Senior Citizen Centers throughout the San Francisco Bay area, to provide information on general foot care and ambulatory surgery. He is currently an active member with the Council on Aging, was a member of the Public Information Committee for three years, and served as a podiatric consultant for three years at the Mission Skilled Nursing Facility in San Jose, California.

He has welcomed over 50 podiatrists form across the nation to spend time in his clinic observing surgical techniques, procedures and to view the overall management of his successfully run practice.

Dr. Augustine has been bestowed many professional appointments, including his position last year as Area Coordinator for the Pacific Northwestern States on behalf of the Academy of Ambulatory Foot Surgery and most recently his appointment to the Board of Trustees. As a Board Member he will attend quarterly meetings to assist in policy decisions for the Academy, and to contribute time as a guest speaker for various national seminars.

He has been appointed to the Exam and Advisory Committee for the American Board of Ambulatory Foot Surgery. Dr. Augustine has been cited as one of the first and youngest Podiatrists to become a Board Certified Diplomate in the American Board of Ambulatory Foot Surgery. Also cited for his outstanding dedication to his profession, he was elected the youngest member to serve on the Board of Trustees for the Academy of Ambulatory Surgery.

During the month of March, Dr. Augustine was honored by the City of San Jose with a Commendation from Mayor Janet Gray Hayes; and by the State of California with a Senate Resolution from Senator Alfred Alquist, commending and citing him for improvements he has made to the community, the state, and to his profession.

Within a period of less than seven years, Dr. Dennis F. Augustine has contributed greatly to the advancements made in minimal incision foot surgery, and to an increased knowledge and awareness of these procedures by the consumer as well as members of his profession. His outstanding dedication to his practice, his community and his profession are highly regarded by all who admire and respect him.

Therefore, CURRENT PODIATRY is proud to offer this salute to Dr. Dennis F. Augustine and honor him with this cover of our July issue.

Irwin H. Hanover, D.P.M.
Editor-in-Chief

Lawrence J Kales, DPM

LAWRENCE J KALES, DPM

Stephen Fox, DPM
Fox Arthrodesis
Mentor to Jefferey Adler, DPM

"The Ultimate Hammertoe Procedure: The Fox Arthrodesis"

There have been more surgical procedures and non-surgical treatments listed in the journals of medicine, orthopedics and podiatry for hammertoe deformity than for treatment of any other malady that strikes the human foot. This article will offer to the readers a procedure that is a solution to the treatment of most, if not all hammertoe or mallett toe deformities. This paper is based on lectures and research done by Dr. Stephen Fox (Board Certified Podiatric Surgery AIFM). Rte. 4 and 17, Medical Building, 22 Madison Ave., Paramus, NJ 07652. The author is grateful to Dr. Fox for his research and for his help in putting together this paper.

Louis Sorto, Jr., DPM wrote in a study on head resection of the proximal phalanx on hammertoes at Northlake Hospital (JAPA Vol. 64 #12, Dec. '74) that 35% of all the treatment from hammertoe surgeries failed within a 1 to 5 year period. This has been backed by the research that Dr. Fox performed within the medical literature. The reason there were more surgical procedures for treating hammertoes, then for any other foot pathology, is because so many of the procedures failed. Space limitations keep the author from listing the various methods that have been reported, but a partial list would show procedures ranging from removal of the offending bone at the site of the deformity, suturing that helps splint the toe in a straight position, to the ultimate step of amputation of the digit as a way to treat painful hammertoes.

The method most in favor in the podiatry community, as of the writing of this paper, are the arthroplasty of the head of the proximal phalanx (done for a hammertoe with heloma durum on the dorsum of the proximal phalanx), the diaphysectomy, where a cut into the bone of the diaphysis of the proximal phalanx is made to straighten the position of a hammertoe, and soft tissue procedures which can combine extensor tenotomies or tenectomies as well as flexor tenotomies (the Arrowhead procedure developed by Dr. Edwin Probber, and the Phalangeal Set developed by Dr. M. D. Roven).

The three most common, hammertoe procedures each have assorted problems and side effects to the operated digit and digits surrounding it, with the main one being for the arthroplasty; 1. infection due to the large dead space left where the proximal phalanx head was; 2. disruption of the lymph supply producing the so-called "sausage toe" post operatively; 3. swelling and inability to wear shoes; 4. if a semi-elliptical incision is used with mattress sutures to hold the toe straight, a danger exists of disrupting the blood supply to either the medial or lateral aspects of the toe if the arterioles on that digit run more dorsally than intertriginally; 5. return of the deformity with hammering of the digit; 6. a floppy shrunken toe; 7. regrowth of the head of the proximal phalanx (a condition especially acute in darker skinned people).

Diaphysectomies have some of the same problems, except, because of the short period of time that the wound is open to perform the osteotomy of the diaphysis, there is less of a chance for a "sausage toe". The main problem with diaphysectomies is the recurrence of the problem or an exostosis growth just distal to the osteotomy site.

The problems with the flexor tenotomies are less, but these procedures are limited to flexible hammertoes, and the surgeon must be certain that he is not taking a contracted toe and making it by far the longest toe on the foot, or it will recontract.

Dr. Fox, after extensive research, concluded that the reason hammertoe procedures fail is that they do not address the etiology of the hammertoe problem itself, overgripping of the digit. This etiology results in a contraction of the extensor tendon and tightening of the dorsal capsule at the met-phal joint with an attendant contraction of the flexor tendon as the toe grips the ground to maintain stability. Biomechanically, a toe need only be a rigid lever when purchasing the ground in the gait cycle. Therefore, if something is not done to stop this excessive overgripping, all hammertoe surgical procedures, over a period of time are doomed to a greater or lesser extent of failure.

This is a dramatic statement to make, but if most surgeons will take a hard look at the results of their treatment of hammertoes, and compare it for results: pain relief, cosmesis, and lack of follow up problems for the patient; to any other procedure performed on the forefoot; they will agree with the above statement.

The hammertoe is referred to as a C-shaped curve of the toe, caused by dorsiflexion at either the proximal or distal interphalangeal joint. Mallett toe, is a form of a hammertoe with the contraction sometimes only at the distal interphalangeal joint or proximal interphalangeal joint, with no attendant dorsiflexion of the proximal phalanx. A hammertoe involve contraction of the extensor tendon as well as the capsule and the flexor tendon, and the mallett toe may only involve contraction of the flexor tendon. Therefore, this cause of the contracted toe has to be dealt with from the plantar aspect, and in certain instances, from the dorsal aspect.

Dr. Fox, in his research, found one of the higher success rates with the Lambrinudi procedure, which attempts to produce an arthrodesis of the toe. This procedure is fraught with problems due to the extensive handling of tissue while performing the operation. This trauma causes swelling and may produce a painful osteo-arthritic joint, not a "locked" joint.

Dr. Fox also found a very high success rate in cases of the Arrowhead or Phalangeal Set procedure. The combination of the above two procedures, plus some innovation of his own, is what the Fox Arthrodesis involves. The surgeon's aim is to produce a straight toe locked at the area where the contraction has taken place, and free of any pull from contracted extensor or flexor tendons. This allows no "toe gripping" post-operatively and successfully treats the etiology that produces hammertoes.

This author, as well as Dr. Fox, has used this procedure for all types of hammertoe and mallett toe problems with and without heloma durum formation. This article will discuss a modification of this procedure that produces straightening of the underlapping 5th toes that many patients present with.

The Fox Arthrodesis is performed thusly *on toes 2 to 4*, (assuming proper pre-operative vascular testing and blood testing have been performed to rule out any circulatory problems affecting healing to the digits, or systemic problems which may delay healing). The x-ray is examined on a DP and a medial oblique view, and the area of the deformity is identified. This can be at the distal or proximal interphalangeal joint.

The toe to be operated on is anesthetized using; in the author's office; 3 ccs. of Lidocaine 2% plain and Bupivicaine HCL .5% in a 1:1 mixture. The area is sterilely,

(Continued on page 17)

Lawrence J Kales, DPM

(Continued from page 16)
aeseptically scrubbed and draped, and once the surgeon has prepped, the surgical pack is opened.

This procedure is intended as a minimal incision or minimal traumatic procedure. This is very important to the results, since the less time spent handling tissue, the less chance you have of infection, edema, or discomfort to the patient afterwards.

The instrument pack contains a Beaver handle with a sterile #62 and #67 blade, a straight mosquito hemostat, a Polykopf rasp, a Joseph nasal rasp, a small Bell file, pickups, and bandage scissors for redressing. The surgical power instrument is an Emesco cable drill, and usually one to two Shannon #44 short burrs are used during the procedure.

The first part of the procedure is performed similar to the Arrowhead procedure or the Phalangeal Set procedure. The difference is that it does not matter if the toe is a flexible, a semi-flexible or a rigid toe in this instance, since further bone work will be performed to adjust the position of the toe. The incision site is made slightly proximal to the skin fold, so as not to cause dehissance of the wound site during manual manipulation of the digit.

Using the Beaver handle and a Beaver #62 blade, a vertical incision is made just proximal to the distal interphalangeal joint, and proximally near the base of the middle phalanx on the plantar aspect of the affected toe. The incision is continued down to bone, and the blade is withdrawn, partly out of the wound site, but the cutting edge is kept beneath the incision site. While in the incision site, the cutting edge of the blade is turned so the blade is now facing horizontally, and the flexor tendon is severed through a carousel motion of the blade preceding medial to lateral.

If the affected joint is the distal interphalangeal joint, the blade is then angled distally until the joint space is felt. Do not concern yourself if you have to go within the joint space, since the procedure is attempting to produce an arthrodesis, any scarring of the articulating cartilage that is done will help in the stiffening of the toe.

Using a carousel motion, the capsule surrounding the interphalangeal joint is severed, and the collateral ligaments are cut by using the #62 blade in a carousel motion going distally and proximally on both the medial and lateral sides of the interphalangeal joint. The surgeon will notice the toe straighten a bit when this is accomplished if you are dealing with a semi-flexible deformity; the toe will straighten less if you are dealing with a rigid deformity. A rigid deformity will not allow the surgeon to enter the joint, but the capsule must be cut anyway on the plantar, lateral and medial aspects of this joint.

The right hand then uses gradual pressure with a sterile 2x2 and using the index finger of the left hand to support the dorsal aspect of the toe, gradual dorsi-flexion is placed upon the plantar toe pad of the distal phalanx, and the toe is manipulated into a straight position. This accomplishes the opening of the joint and the closing of the incision site. Therefore, sutures or any external factors are not necessary for wound closure.

Using a #67 blade and going back into the same incision site, all soft tissue is removed from the lateral, medial and plantar aspects of the phalanx and a mosquito hemostat is placed in the wound for blunt dissection of the same area. Once the surgeon is assured that a good "channel" to bone is obtained, identification of the interphalangeal joint is the next objective.

The identification of the IP joint is done by placing a sterile 5/8" 25 gauge needle in the plantar aspect of the toe, going medially to laterally, and examining the area on Lixiscope, Polaroid 57 film, Fluoroscan or (this author's method and Dr. Fox's method) use of the Xiscan. The Xiscan allows real-time flouroscopic imaging on a TV monitor of the toe and is a must for any surgeon performing minimal incision surgery. The Sony Video Graphic Printer UP-811 is used to print out a hardcopy to examine where the needle is in relation to the joint of the toe.

Using the Shannon #44 burr, on the Emesco drill with a quick release handpiece; the IP joint is located by the burr pressing against the needle and by visual inspection of the Xiscan Sony Video Graphic Printer UP-811 printout. There should be a feel of the burr falling into an empty space in a semi-flexible condition with less of this in feeling a rigid hammertoe condition.

The needle is withdrawn and the burr is kept in place. The Shannon #44 is inserted with the tip of the burr at or near the IP joint that the surgeon wishes to arthrodese. Applying very gradual pressure on the foot rheostat, the Shannon #44 burr is used to produce a failsafe hole going from plantar proximal to dorsal distal at the IP joint. The surgeon must take care to make sure not to let the Shannon burr "skate" or move along the cortical surface of the bone during the initial incision for the failsafe hole. Avoidance of "skating" is why gradual pressure is applied to the rheostat. In MIS, you are looking for low RPM and high torque to avoid any tissue burning. The failsafe hole is accomplished by moving the Shannon #44 in a circular motion two to three times, once the surgeon is in the proper area.

The burr is removed from the wound site and another Sony Video Graphic Printer UP-811 printout, Polaroid 57 x-ray, or Lixiscope view is taken to identify the failsafe hole location. The failsafe hole does not have to be exactly in the center of the IP joint, if the distal or the proximal area of the failsafe hole intrudes into the wound space that is satisfactory. If the failsafe hole is not in the joint, drill another hole to accomplish this feat by used of the needle marker and the Xiscan as described previously to help in locating the IP joint in relation to the previous failsafe hole.

This author has found that even procedures performed just distal or just proximal to the IP joint, is enough to affect the articulating cartilage if the toe is kept bandaged long enough for arthrodesis to take place.

A new Shannon #44 burr is reinserted into the failsafe hole and the burr is moved one rotation medially and one rotation laterally through the affected IP joint. The bone paste is extruded from the wound with manual pressure, and a flush of sterile saline; to milk more bone from the wound site, is recommended proximally to the incision site. The area is inspected again on (the author's choice) Xiscan, and any areas of roughness are smoothed out using the Polykopf rasp, Bell rasp, and Joseph nasal rasp.

Enough bone must be removed to align the toe in a straight position, and if more needs to be removed, then it is necessary to put on a new Shannon burr, go through the area, and make another "sweep".

If an exostosis is involved with the hammertoe, the exostosis can be taken care of through the same plantar incision site. This is done by angling the Shannon #44 toward the exostosis through a series of three or four failsafe holes, undermining the bone and decompressing the cortical bone with manual pressure and the Joseph nasal rasp.

(Continued on page 18)

Lawrence J Kales, DPM

(Continued from page 17)

The author has found this plantar approach produces better results than making a second incision on the dorsum of the toe, since the surgeon is attempting to keep trauma to a minimum.

If you are dealing with a heloma molle, you can decompress the medial or lateral aspect of the bone, which has the exostosis on it, or you can rotate that aspect of the bone toward the plantar aspect of the foot, keeping the burr in position, since this way you will not burn tissue or do any work on areas you do not intend to operate on.

Post operatively, the author uses Bupivicaine HCL .5% and Dexamethasone Phosphate in a 1:1 ratio used for flushing, to provide additional anesthesia, and to act as an anti-flammatory agent post op.

This author uses Gentamicin .1% cream and Chlortrimazole cream on the incision site, as well as adaptic soaked in Betadine Solution. A folded gauze 2x2 is used and wrapped around the toe to produce a straightened digit. This gauze may be soaked in Betadine Solution to provide hardening. A sterile longitudinal felt pad is applied from the tip of the distal phalanx to the base of the toe to provide external fixation and Coban or Peg is wrapped around the digit to provide additional support and also wrapped dorsally to plantarly at the a base of the toe to provide a slight plantar flexion of the whole digit. This bandage is then covered with another layer of Coban around the forefoot to hold it intact. This author also uses a lo-dye strap on patients with biomechanical deformities to complete the bandage. Internal fixation (K-wire, et. al.) is contraindicated since it is unnecessary to help maintain position, traumatic and may cause more swelling and may act as a portal ofentry for bacteria to infect the toe.

The treatment for the 5th toe hammertoe with or without rotation that this author performs, is somewhat different than that performed by Dr. Stephen Fox. Dr. Fox uses an angulated approach from the dorsal aspect of the foot to straighten and derotate the 5th toe. This is an excellent procedure, but this author has made a modification of it that is explained below.

The Adler Modification of the Fox Arthrodesis for 5th hammertoe

A. 5th toes *without* rotation under the 4th toe (where there is *just* a contraction of the flexor tendon). The same procedure as is performed on 2 to 4 digits with bandaging technique the same.

B. Rotated hammertoes *underlapping* the 4th toe. In this instance, if something is not done about the position of the toe, laying underneath the 4th toe and the toe is straightened, irritation will be increased rather than decreased. The purpose is to rotate the toe into a more rectus position on the foot.

The incision is made proximally to the distal phalanx, and not on the distal skin fold or crease on the plantar aspect of the foot. The Arrowhead or Phalangeal Set procedure is performed as stated above. Medial, plantar and lateral to the incision site is "channeled" using sharp/blunt dissection to provide free movement of instruments on all aspects of the bone of the 5th toe without soft tissue interference.

The arthrodesis is performed at the distal interphalangeal joint as previously stated above with identification of the joint. Making the failsafe hole, and removing enough bone to straighten the toe. The arthrodesis is then done at the proximal interphalangeal joint by 1. the Phalangeal Set performed in this area by moving the #62 blade proximally rather than distally. 2. Using the Shannon #44 angled into the joint moving medial plantar to lateral dosal, at about a 15 degree angle. The failsafe hole should still be drilled in the center of the joint to identify the area. 3. Once the IP joint has been identified with the failsafe hole, reinsert the Shannon #44 burr and move it medially and laterally 1 to 2 rotations until free movement of the toe is noted. Inspection by Xiscan should be undertaken, and the wound should be "milked" clean of any bone paste. Any rough areas of bone should be filed with Polykopf rasp, Bell file or Joseph nasal rasp.

If this deformity exists with a Tailor's bunion, a MIS Tailor's bunionectomy with an oblique osteotomy going approximately 20 degrees sloping medially to the neck of the 5th metatarsal should be performed to

(Continued on page 19)

Morris Fleishman Student Scholarship Fund Founded

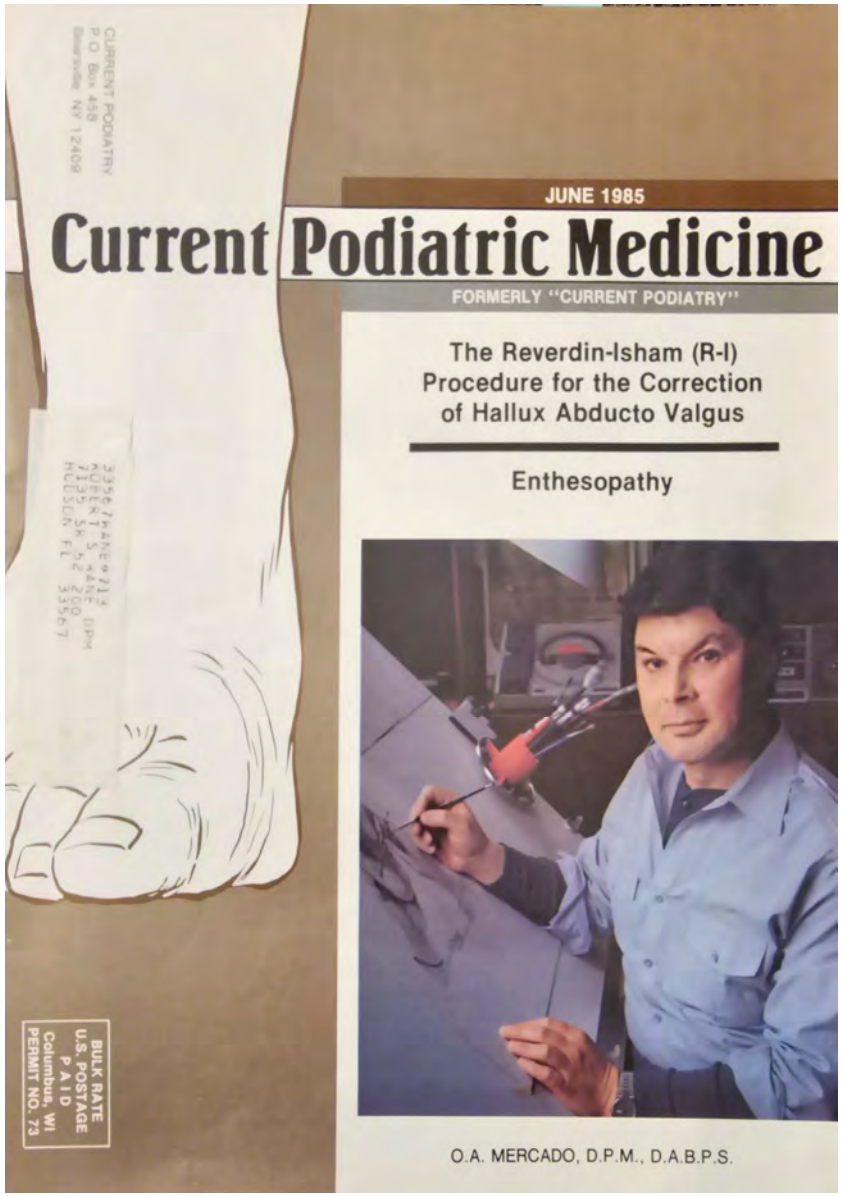
Dr. Morris Fleishman, a member Podiatrist from New York who recently passed away was a dedicated member of the AAFS since its inception, he was not only a credit to our Academy but to our entire profession. His leadership and lectures will live forever and his memory will always be with us. A fund for student scholarships was established in his memory at our Board of Trustees meeting on December 18, 1989. Donations have already been started by our newly elected President, Dr. O.T. New, with a donation of $1,000.00, other donations have been given by FAPA who donated $1,000.00 for the fund, and our Academy has donated $8,000.00, to establish a base of $10,000 for this fund. This is no where near our goal. **We need your help in donations** so that we may continue to advance our philosophy and educate the students of Podiatry so that they may have an opportunity to learn of all techniques and at least have the chance to choose. **Send your donations to: AAFS/Student Fund,** P.O. Box 2730, Suite 263 Tuscaloosa, AL 35403

We will keep you informed of the progress we are making with this fund in the Action Letter. All donations will appear on an honor roll in the newsletter unless you wish to remain anonymous.

Honor Roll

AAFS
Dr. O.T. New
FAPA Organization

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Man on the Cover

O.A. MERCADO, D.P.M., D.A.B.P.S.
(Photo Credit Henry VanWestrop)

This month's cover features Dr. O.A. Mercado as he sits in his studio in front of his drawing board where he spends many of his evening hours, after a busy day in the hospital and in his private practice. The time in his studio has been well spent, since he has written and illustrated five books. Because of his prolific writing, Dr. Mercado is probably the best selling author in Podiatric Medicine. His *Atlas of Podiatric Anatomy* alone has sold over ten thousand copies and has just gone into a second edition. *An Atlas of Foot Surgery-Vol. I* will go into a third printing this summer and *Volume II - Rear Foot and Ankle Surgery* is almost finished.

Dr. Mercado graduated from the Illinois College of Podiatric Medicine in 1961. He served his surgical residency in the old Civic Hospital (now Kern Hospital) of Detroit, Michigan, under the tutelage of Dr. Earl Kaplan. "Dr. Kaplan was a wonderful teacher. He inspired all of his residents with a desire to teach and help the profession grow," says Dr. Mercado as he recalls his residency days.

It was this desire to teach that brought him to the attention of the students who walked out of the Illinois College of Podiatric Medicine in the winter of 1971 and began what was the first strike in the history of Podiatric Education. When the strike was settled, Dr. Phillip Brachman became the new president and Dr. Mercado was appointed the chairman of the department of surgery. During his tenure at the college, he revamped the surgical curriculum and introduced a great many innovative teaching techniques including: the introduction of a surgical dissection course; the teaching of surgery in a "cook book" style with the extensive use of audio visuals; the production of some fifty surgical movies, dozens of audio-cassette and video tape programs, as well as books specifically written for the course.

Dr. Mercado serves as director of the Podiatric residency that he started in 1971 at Franklin Boulevard Hospital. In addition, Dr. Mercado is a much sought after speaker, although he limits his out of state speaking engagements to only four a year. For over ten years he has been one of the most popular lecturers at the Hershey Surgical Seminar. He particularly likes speaking there because " . . . Bill Goldfarb puts on the best surgery show in the country and it's exciting being part of a truly great seminar."

His readers always comment about the dedication of his books to his family. The dedication reads, "To Carol J. . . .My best friend and wife and to my children Kent, Cindy, Marc and Matt." Carol is still his best friend, wife and business manager. Kent is a freshman at the Ohio College of Podiatric Medicine, where Cindy will be attending, also this fall. Marc has inherited his dad's artistic talent. He is a senior, majoring in science, at the University of Illinois and is helping to illustrate *Volume II.* Readers of *Current Podiatric Medicine* will get a chance to judge his talent, since he will be illustrating the articles that his dad is writing for our journal. Matt, the youngest, is the musician of the family and is attending Columbia College in Chicago.

While Podiatry is both his profession and hobby, Dr. Mercado's other love is his 155 acre farm located 65 miles northwest of Chicago, in Capron, Illinois. There he spends his weekends and most Wednesdays, breeding black Angus cattle and raising Arabian horses. His favorite horse is a grey mare that he calls appropriately enough, Rosinante, after the steed of Don Quixote.

Practice wise Dr.Mercado has been blessed. Over the years he has built a large surgical practice. Because of his teaching and writing, he is constantly getting rare cases referred to him. It is not unusual to have patients referred from out of state or even out of the country. Last spring, a patient traveled all the way from Marburg, Germany for surgery by Dr. Mercado.

Our man on the cover manages to find time to serve his profession as well as the community. Since 1968 he has served in a Podiatric advisory capacity for the Illinois Department of Public Aid. In addition he has served, over the years, on many committees for the state Podiatry Society. He has never sought elected office in the society because ". . . a long time ago I realized that I was not a politician. What I do best is teaching and writing and I think that I can serve the profession better in this manner . . ." For over a decade he has been a member of the Catholic Charities advisory board and has served on many community boards. He is always pushing the image of Podiatry and has made numerous television and radio appearances on behalf of the profession.

"I am one of those lucky individuals who is entirely happy with his profession and family life," says Dr. Mercado. "I have had the good fortune to have been able to stimulate a great number of young people, including some of my own kids, into a career in Podiatry. I can truly say that while I have been disappointed by some individuals in the profession, I have never been disappointed by the profession."

Current Podiatric Medicine is proud to present this month's recipient and new Contributing Editor in Podiatric Surgery and Surgical Anatomy. Also Doctor Mercado will be a featured lecturer at the Thirteenth International Study Seminar in Orlando, Florida.

Gary P. Milack, DPM,FASPD
Editor-in-Chief

Lawrence J Kales, DPM

Osteotripsy for Heel Spur

O.A. Mercado, D.P.M.

A heel spur is a hyperostotic shelving of the plantar calcaneal tuberosities. A spur can develop as a result of sudden or violent trauma, or in the form of multiple minimal trauma to the heel (traumatic arthritis), it can also develop from a periosteal tear or chronic strain of the plantar fascia with degenerative fibrositis and calcaneous degeneration. When the condition does not respond to conservative treatment, surgical excision of the spur should be considered.

Most techniques for surgical correction of heel spur require long periods of non-weightbearing and even longer periods of postoperative pain and disability.

Dr. Mercado has developed a safe and simple technique which markedly reduces the long period of disability and pain and consistently yields good results. This technique consists of introducing a rasp at a carefully calculated side in the medial aspect of the heel to reduce the spur.

THe techniques available for surgical intervention have not been satisfactory. Casagrande, speaking for many surgeons, wrote, "the experience of surgical exostectomy of the spur for relief of the heel pain has been discouraging and this method can be used only as last resort, if at all." Even the less traumatic surgical procedures require prolonged periods of non-weightbearing followed by even longer periods of postoperative pain and disability.

To reduce markedly the long period of disability and pain, a technique for the surgical correction of heel spurs is here described. THis technique consists of introducing a rasp (osteotribe) at a carefully calculated site ing the medial aspect of the heel to reduce the spur by osteotripsy. This produces only minimal trauma to the neighboring tissues. Removal of an exostosis by rasping is not new, being commonly used by plastic surgeons in rhinoplasties. In podiatry, osteotripsy is sometimes used for the reduction of digital exostosis.

The technique for heel spur osteotripsy consists of four elements. These are: (1) determining site for introduction of rasp; (2) production of anesthesia, (3) insertion and placement of rasp; and (4) rasping, flushing, and closure.

Determination of Site

A standard lateral weightbearing radiograph of the foot is obtained with the patient elevating the heel approximately two inches from the film to preserve the contour of the heel. Two measurements are obtained from the radiograph. The first is the distance in millimeters from the posterior aspect of the heel to the tip of the spur and the second is the distance from the plantar surface of the foot to the tip of the spur. To ascertain the exact site for insertion of the rasp the measurements obtained from the x-ray are used to construct two intersecting lines. This intersection is the site for the insertion. Just prior to and in preparation for the surgery a line perpenducular tothe plantar surgace of the foot is drawn, with a ball point pen, on the foot at the number of millimeters from the posterior surface of the heel as obtained in the first measurement. The second measurement is used to construct a line parallel to the plantar surface and intersecting with the perpendicular.

It will be noted that the intersection occurs more posteriorly dorsal than might be expected from the clinical examination.

From our experience, it is essential to trust the measurements rather than the clinical impression.

Production of Anesthesia

Anesthesia is obtained with a tibial nerve block and local infiltration of the spur using lidocaine with epinephrine. Care must be taken to block the tibial trunk above the site where the calcaneal nerves branch off. THis is usually about the level of the tip of the medial malleolus. The calcaneal branch is the sensory nerve of the spur and its surrounding tissues.

After the tibial nerve is blocked, a 1 1/4 inch, 25 guage needle is inserted into the intersection of the two lines as obtained above, at right angles to the skin. a wheal is raised and the needle is inserted slowly, infiltrating a few drops of the anesthetic as it penetrates. The point of the needle will touch the bone before it is introduced all the way to its hub. This will be the medial sie of the hyperostotic shelf. Five-tenths milliliter of the anesthetic is injected and the needle is partly withdrawn.

The needle is then directed anteriorward and again inserted slowly, infiltrating a few drops of the anesthetic as it penetrates. The needle is now anterior to the spur and will penetrate all the way to the hub without touching bone. Five-tenths milliliter of the anesthetic is infiltrated into the area. The foot and ankle are then scrubbed again and draped in the usual manner.

Insertion and Placement of Rasp

An incision approximately 1 cm. long is made at the site of the intersection. The incision is deepened with a no. 15 blade, and a no. 540 rasp is inserted into the wound all the way to the bone. The rasp is withdrawn, inserted, and reinserted at different angles a few times for orientation. THe important points are: (1) in moving the rasp posteriorward, bone the spur is contacted; (2) in moving the rasp plantarward, fibers of plantar fascia can be distinctly felt; (3) moving the rasp superiorward, the soft bone of the first layer ofplantar muscles is recognizable; (4) in moving the rasp anteriorward soft yielding tissues (fatty tissue and sometimes and adventitious bursa) are encountered.

Rasping, Flushing, Closure and Follow-up

Once oriented, rasping is done quite vigourslY. Spur fragments are removed with each withdrawal stroke of the rasp by the escaping blood flushing out the wound. The rasping continues until the spur feels smooth.

After the spur is rasped smooth, a mixture of 1 ml. of prednisolone acetate 125mg.) and 1 ml. of 1% lidocaine with epinephrine are flushed into the wound. The small wound is then closed with two simple sutures of 000 black silk. The wound is dressed with 3 X 3 inch gauze squares and cohesive bandage.

The postoperative recovery period is uneventful with weightbearing occurring within 24 hours. The patient may return to normal duties in 7 to 10 days. The postoperative use of a banance "inlay" orthotic for 6 to 8 weeks is frequently useful.

Conclusion

A technique has been presented for the surgical correction of heel spurs. The technique is simple, non-disabling, safe and consistently yields good results. As

Continued on page 12)

Lawrence J Kales, DPM

Lawrence J Kales, DPM

The Reverdin-Isham (R-I) Procedure for the Correction of Hallux Abducto Valgus

STEPHEN A. ISHAM, D.P.M., D.A.B.A.F.S.
CHRISTOPHER DANIELE, D.P.M.
RITA KINNEY, BS, RN

A surgical procedure is presented modifying the Reverdin Bunionectomy by performing an Abductory Wedge Osteotomy in the metaphyseal area of the first metatarsal head at an angle preserving the articular surface of the hallucal sesmoids in grooves and resulting in the correction of the structural deformity on two planes. Pre-operative criteria, two techniques of operation and post-operative management will be presented.

Pre-Operative Criteria

This procedure is directed at the structural correction of the deformities of Hallux Abducto Valgus manifested at the metatarsal head. Specific criteria for the Reverdin-Isham procedure follows:

1. Symptomatic Medial Bunion Deformity.
2. Good Range of Motion of the 1st Metatarsal Phalangeal Joint. No pain, no crepitus, no degenerative changes.
3. Plantarflexed 1st Metatarsal may or may not be present.
4. Congruous or deviated joint.
5. I.M. angle of 16 degrees or less for rectus foot, 13 degrees or less for an adducted foot.
6. P.A.S.A. (Proximal Articular Set Angle) is increased above 8 degrees.
7. D.A.S.A. (Distal Articular Set Angle) normal, if abnormal combined with Akin procedure.
8. Hallux Abductus Angle from slightly to highly abnormal.
9. Hallux Axial rotation mild or absent.
10. Relative metatarsal protrusion normal to positive.

Operative Techniques

The Reverdin-Isham procedure is performed utilizing one of two surgical techniques.

A. Minimal Incisional Technique.
B. Open Exposure Technique.

Both techniques as performed by the author are described.

Technique A:

A 1.5 cm. longitudinal incision is made on the medial plantar aspect of the 1st metatarsal head. The incision is carried deep through the subcutaneous tissue to expose the capsule of the 1st metatarsal phalangeal joint. A capsulotomy is performed and the dorsal medial aspect of the head is freed of the capsule and ligamentous attachments. The medial eminence is then resected. The dorsal eminence and the tibial sesmoid is palpated and identified. A bone cutting instrument (e.g. Shannon 44) is inserted into the incision and an Angular Medial Wedge Osteotomy is performed from dorsal distal to plantar proximal in the metaphyseal portion of the head of the 1st metatarsal. Care must be taken to preserve the lateral cortex and the articular surface of the hallucal sesmoids, and the dorsal articular surface of the head. The Lixiscope facilitates placement of the Osteotomy and correct amount of bone to be removed. The hallux is then rotated into adductus and the osteotomy is compressed and closed. Remaining osseous structures are rasped smooth.

Attention is then directed to the lateral aspect of the 1st MPJ where a 0.5 cm. oblique incision is made over the 1st MPJ. The incision is deepened, and a lateral Capsulotomy and an Adductor Hallucis Tenotomy was performed. Skin edges are approximated using 4-0 nonabsorbable suture. If indicated by an increased D.A.S.A. an Akin procedure is performed. The wound is dressed and position maintained with a sterile splint dressing of the surgeon's choice.

Technique B:

A 6.0 cm. longitudinal incision is made over the dorsal aspect of the 1st metatarsal phalangeal joint medial to the extensor hallucis longus tendon. The incision is deepened through the subcutaneous tissue exposing the joint capsule. A capsulotomy of the surgeon's choice is performed and the head is freed of the capsular and ligamentous attachments. The head of the 1st metatarsal is delivered through the incision and the medial eminence is then resected. A lateral Capsulotomy and Adductor Hallucis Tenotomy are performed.

Attention is then directed to the 1st metatarsal head where an Angular Medial Wedge Osteotomy is performed using a bone cutting instrument. The angulation is from dorsal distal at the termination of the cartilage on the dorsum of the head plantar proximal to the termination of the cartilage on the plantar surface of the metatarsal posterior to the sesmoids. The lateral cortex is left intact. The osteotomy site is closed correcting the structural deformity on two planes. Internal fixation is the prerogative of the surgeon. Capsule is closed using 3-0 absorbable sutures. Skin closure using 4-0 subcutacular closure. If indicated by in-

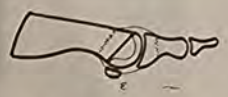
Lawrence J Kales, DPM

creased DASA an Akin procedure is performed. The wound is dressed with a sterile splint dressing of the surgeon's choice.

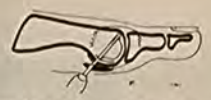
(A) Dorsal Plantar View demonstrating the portion of the medial eminence resected and the level at which the Osteotomy was performed; (B) Dorsal Plantar View showing the wedge of bone resected to achieve correction.

(C) Medial View of the completed Osteotomy.

(D) Dorsal Plantar View illustrating the completed Osteotomy following closure.



(E) Medial View illustrating the completed Osteotomy following closure and correction of the structural deformity.



(F) Medial View of the 1st metatarsal demonstrating the Plantar-Medial skin incision, Capsulotomy, and placement of the bone cutting instrument prior to the Osteotomy.

Post-Operative Management

Technique A:

Patient is ambulated in a wooden post-operative shoe, discharged, and is able to ambulate without assistance. Patient is allowed to increase ambulation to tolerance.

The dressing is changed on the 2nd or 3rd post-operative day and the sutures are removed. One week post-op the second dressing change occurs and a removable splint dressing is applied. It is to be changed daily by the patient. Bathing is permitted. The patient is kept in a wooden post-operative shoe for one to two weeks followed by a supported athletic-type shoe. Post-operative X-rays are taken on the first redressing and three to four weeks post-op for evaluation of the healing at the operative sites.

Technique B:

Post-operative care for Technique B is the same with one exception. The patient is kept in the wooden post-operative shoe for three to four weeks.

It is the author's opinion that Technique B requires more soft tissue dissecting resulting in increased instability at the osteotomy site. This increased instability indicates longer use of the wooden post-operative shoe.

Advantages of the Reverdin-Isham Procedure

1. Good healing due to the placement of the osteotomy in the metaphyseal bone.
2. Minimal fixation (internal or external) required because procedure is intracapsular and compressed by the retrograde force of the hallux.
3. Bi-plane correction of structural deformity with improved position of sesmoids.
4. Can be performed in children prior to epiphyseal closure because ephiphysis is located at the metatarsal base.
5. Can be performed in the presence of uncontrollable pronatory forces.
6. Reduction of the intermetatarsal angle of 4 to 8 degrees when performed with Akin procedure.

Disadvantages of the Reverdin-Isham Procedure

1. Sagittal plane deformity not corrected.
2. If poor healing takes place at the osteotomy site, possible shortening of the metatarsal may occur.

Summary

The Reverdin-Isham Procedure as presented is an excellent procedure for the correction of Hallux Abducto Valgus conditions that correspond to the pre-operative criteria outlined. It should prove to be highly effective to both the ambulatory and hospital based surgeons alike.

References

1. Gerbert J: *Textbook of Bunion Surgery*. Futura Publishing Co.: Mount Kisco, New York: 1981.
2. Akin OF: The treatment of hallux valgus: A new operative procedure and its results. Med Sentinel 33, 1925.
3. Colloff B, Weitz EN: Proximal phalangeal osteotomy and hallux valgus. Clin Orthop 54:105, 1967.
4. Gerbert J, Melillo T: A modified Akin procedure for the correction of hallux valgus. JAPA 61:132, 1975.
5. Gerbert J, Mercado OA, Sokoloff TH: The Surgical Treatment of Hallux, Abducto-Valgus and Allied Deformities, vol I. Podiatric Medicine and Surgery: A Monograph Series, Fielding MD (series ed). Mount Kisco, New York, Futura Publishing Co., 1973.
6. Funk JF, Wells Red: Bunionectomy with distal osteotomy. Clin Orthop Relat Res, June 1972.
7. Kelikian H: Hallux Valgus, Allied Deformities of the Forefoot and Metatarsalgia. Philadelphia, WB Saunders Co, 1965.
8. Peabody CW: Surgical cure of Hallux valgus. J Bone Jt Surg 13–273, 1931.

Mailing Address:
East 9405 Sprague
Spokane, Washington 99206

Lawrence J Kales, DPM

Isham Hammertoe Procedures for the Correction of Lesser Digital Deformities

13

Stephen A. Isham and Orlando R. Nunez

These Minimal Invasive surgical (MIS) procedures are utilized for the treatment of a variety of hammertoe deformities. Performing transverse, combination, or wedge osteotomies in the proximal or middle phalanxes of the deformed digits preserve the functional articular surfaces of the metatarsal phalangeal and interphalangeal joint resulting in the correction of the structural deformity of lesser digits. Performing percutaneous tenotomies and capsulotomies will result in correction of the soft tissue deformities of this pathology. MIS permits the surgeon to utilize different surgical procedures to address the different components of a given deformity.

These surgical procedures are reserved for surgeons with experience, not only in minimal invasive, but also traditional surgery. These surgical procedures are performed through a very small incision. If the surgeon is not precise, important structures can be damaged and lead to predicted complications.

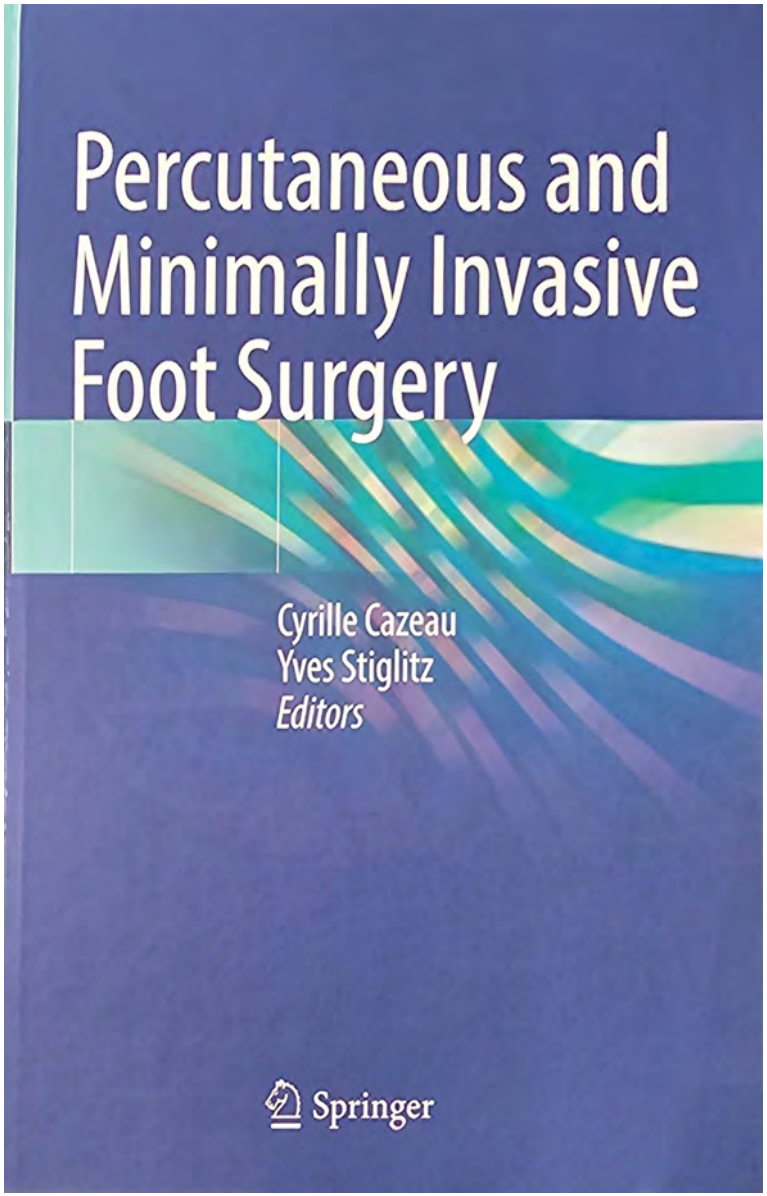
13.1 Definition

Hammertoe, including claw toe and mallet toe, deformities are a combination of one or more deformities of the digits at the metatarsal phalangeal joints (MPJ) and interphalangeal joint (IPJ). These deformities can be in sagittal, transverse, and frontal planes. Most commonly, the deformed digit is dorsal flexed at the metatarsal phalangeal joint and plantarflexed at the middle interphalangeal joints or distal phalangeal joints. These deformities contain both soft tissue and osseous components called positional and structural deformities.

S.A. Isham (✉)
San Francisco Hospital, Sanatorio San Francisco, Mexico DF, Mexico
e mail: drisham@frontier.com

N. Maffulli and M. Easley (eds.), *Minimally Invasive Surgery of the Foot and Ankle*,
DOI: 10.1007/978-1-84996-417-3_13, © Springer-Verlag London Limited 2011

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Reverdin-Isham Osteotomy

9

Christophe de Lavigne and Thomas Bauer

9.1 Principles

The Reverdin-Isham osteotomy is a distal osteotomy of the first metatarsal (M1) that minimally shortens it and also corrects the distal metatarsal articular angle (DMAA) (Figs. 9.1 and 9.2).

This osteotomy, which is derived from the one described by Reverdin in 1881 [1], was modified by Stephen Isham and then popularized by Mariano De Prado, which resulted in it being used to correct hallux valgus percutaneously.

The major modification that Isham made to the Reverdin osteotomy was to perform a 45° osteotomy cut from distal dorsal to proximal plantar relative to the M1 axis and finishing behind the sesamoids. Because of this orientation, the Reverdin-Isham osteotomy is more stable than the Reverdin osteotomy while achieving the same DMAA correction.

Also, intra-articular retraction and stiffness are minimized since it is located behind the sesamoids. The principle of this osteotomy consists in removing the nonfunctional cartilage (dorsomedial portion of metatarsal head) and then reloading the functional cartilage after reorientation due to varus shift and plantar flexion of the M1 head. No bone fixation is required because the oblique osteotomy cut and the lateral cortical hinge are self-stabilizing.

Fig. 9.1 Reverdin-Isham osteotomy of the first metatarsal. © Christophe de Lavigne 2015. All Rights Reserved

C. de Lavigne (✉)
Clinique du Sport, Merignac, France
e-mail: secdrdelavigne@gmail.com

T. Bauer
Orthopedic Department, Ambroise Paré University Hospital, Boulogne-Billancourt, France
e-mail: thomas.bauer@aphp.fr

C. Cazeau, Y. Stiglitz (eds.), *Percutaneous and Minimally Invasive Foot Surgery*.
https://doi.org/10.1007/978-3-030-98791-6_9

Lawrence J Kales, DPM

Fig. 9.2 Reverdin-Isham osteotomy of the first metatarsal. © Christophe de Lavigne 2015. All Rights Reserved

Fig. 9.3 Orientation of the burr to perform the osteotomy. © Christophe de Lavigne 2015. All Rights Reserved

9.2 Surgical Technique

The patient is positioned supine with his foot hanging off the table to facilitate the surgical procedures and fluoroscopy checks. After making a 3–5 mm incision on the medial and plantar side of the M1 head, immediately behind the medial sesamoid, the metatarsophalangeal joint's capsule is detached, and a working space is created around the M1 head using a beaver blade and elevators (see Chap. 3 on instruments). The Reverdin-Isham osteotomy is performed after bone is removed from the medial M1 head. Since this is a closing wedge osteotomy, more bone is resected from the M1 head than in other M1 osteotomies to prevent the reappearance of a medial bump after head rotation. The bone resection is checked with fluoroscopy and then extended into the functional cartilage of the M1 head, inside the medial groove.

After the bone debris is removed, the Reverdin-Isham osteotomy is performed with a straight burr introduced through the same approach. The burr's tip is placed immediately behind the superior articular surface of the M1 head and its position verified with fluoroscopy. The osteotomy cut (Fig. 9.3) is made parallel to the metatarsophalangeal joint's articular surface and directed distal dorsal (immediately behind superior articular surface) to proximal plantar (immediately behind sesamoids) at an average angle of 45° relative to the M1 axis. The metatarsal's lateral cortex must be preserved. The surgeon holds the hallux between his thumb and index finger and then forcefully places it in varus and plantar flexion (Figs. 9.4 and 9.5). This closes the medial wedge, compresses the osteotomy site, and corrects the

Fig. 9.4 Medial closing wedge and lateral cortical hinge resulting from the osteotomy cut. © Christophe de Lavigne 2015. All Rights Reserved

Fig. 9.5 Result after the osteotomy is closed by forcing the hallux into varus. © Christophe de Lavigne 2015. All Rights Reserved

DMAA (Fig. 9.6). Fluoroscopy is used to check the closure of the osteotomy with the foot placed in 45° dorsiflexion relative to the X-rays, which provides the best view of the osteotomy site. If the DMAA correction is not satisfactory, it means that either the lateral cortical hinge is too thick and the osteotomy cannot close (most common scenario) or the closure and medial compression are not sufficient (this occurs in cases with very large DMAA).

When the hinge is too thick, it must be thinned out more by introducing the straight burr in the same position but pushing it more laterally to weaken the lateral cortex. Often, the hinge is the

Lawrence J Kales, DPM

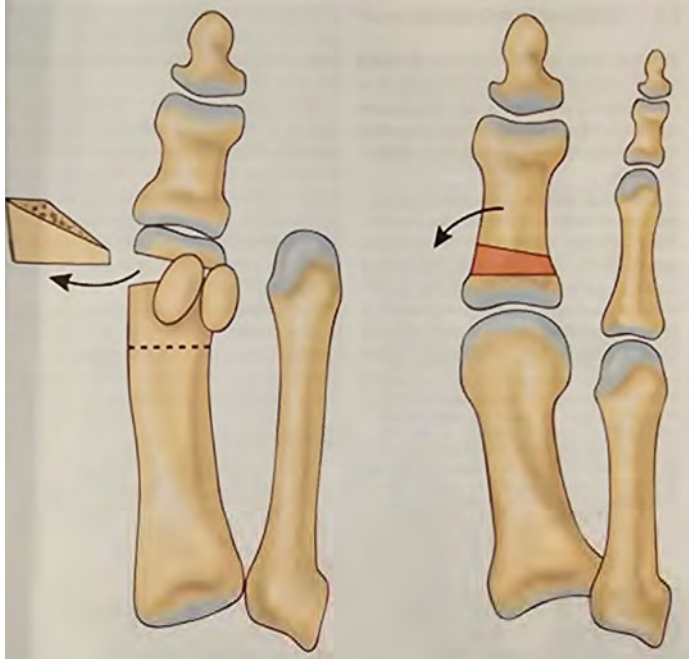


Fig. 9.6 Closing wedge osteotomies: M1 (left) and proximal phalanx (right). © Christophe de Lavigne 2015. All Rights Reserved

thickest and strongest on the lateral and plantar side of the metatarsal. If the preoperative DMAA is very large, a conical burr may be needed to resect a larger medial wedge, which will subsequently allow for greater correction. Lateral release is performed only after the DMAA has been corrected and after confirming the correction is sufficient and the osteotomy is self-stabilizing. In fact, once the lateral release has been performed, it is impossible to correct the DMAA through varus movements induced on the hallux.

9.3 Indications and Results

The ideal indication for hallux valgus correction using the Reverdin-Isham osteotomy is a foot with moderate deformity (hallux valgus <30° and metatarsus adductus <16°) and a large DMAA (>10°). This procedure has been reported to reduce the hallux valgus angle by 50% (28°–14°), reduce the DMAA by 50% (15°–8°), and alter the metatarsus varus slightly (13°–10°).

Lawrence J Kales, DPM

9.4 Risks and Complications

The main complication is rupture of the lateral cortical hinge of the osteotomy which can occur intraoperatively or postoperatively. This has been reported in 3% of cases but did not require fixation since the oblique osteotomy cut is intrinsically stable.

The risk of stiffness in the metatarsophalangeal joint of the first ray (MTP1) after Reverdin-Isham osteotomy is related to its very distal position near the joint. Stiffness has been reported in 17% of patients at 1 year of follow-up (90° overall range of motion preoperatively and 75° at 1 year postoperative). The biggest risk is that this will slow down the recovery of range of motion (3–6 months) in patients with preoperative stiffness or pre-existing metatarsophalangeal osteoarthritis; this justifies a rehabilitation prescription after 1 month.

Overcorrection of the DMAA happens because of an incorrect indication (normal or minimally increased preoperative DMAA), a technical error (rupture of lateral cortical hinge, excessive medial resection, overcorrection due to the dressing or toe orthotic use), or poor bone quality (osteoporosis, rheumatoid arthritis). This may cause postoperative incongruity of the MTP1 joint.

The postoperative dressing is critical because no bone fixation is used (Fig. 9.7). This is described in detail in a dedicated chapter.

Fig. 9.7 Postoperative dressing.

Lawrence J Kales, DPM

Editors' Point of View

Like exostectomy, this technique is part of the history of percutaneous foot surgery and is a great example of the sequence of essential steps that needs to be performed in the newer techniques. Mathematically, it can only correct the DMMA, not any other deformities, especially metatarsus varus, which is the most important deformity. The way this osteotomy was taught was misleading and inadequate, as it incorporated percutaneous into this very incomplete technique, by combining it with exostectomy. This added fuel to the fire for those who oppose percutaneous surgery, who hold on to their old practices and who ridicule new ones.

Reference

1. Reverdin J. De la déviation en dehors du gros orteil (hallux valgus, vulg. "oignon", "bunions", "Ballen") et de son traitement chirurgical. Trans Internat Med Congress. 1881;2:508–12.

Further Reading

de Prado M, Ripoll PL, Vaquero J, Golanó P. Tratamiento quirúrgico pecutáneo del hallux valgus mediante osteotomías múltiples. Rev Ortoped Traumatol. 2003;47:406–16.

de Prado M, Ripoll PL, Golanó P. Cirugía percutánea del pie: técnicas quirúrgicas, indicaciones, bases anatómicas. Barcelona: Masson; 2003.

Canovas F, Poirée G, Bonnel F, Vergnes N, Nicolau F, el Hammami R. Radiographic analysis of the orientation of the distal articular surface of the first metatarsal in the horizontal plane [article in French]. Rev Chir Orthop Reparatrice Appar Mot. 1998;84:546–9.

Coughlin MJ. Hallux valgus in men: effect of the distal metatarsal articular angle on hallux valgus correction. Foot Ankle. 1997;18:463–70.

Isham SA. The Reverdin-Isham procedure for the correction of hallux abducto valgus. A distal metatarsal osteotomy procedure. Clin Podiatr Med Surg. 1991;8:81–94.

Andreasi A, Coppo M. L'intervento di Reverdin-Gren modificato nel truittamento quirurgico dell'alluce abdono-valgo. In: Gaggi A, editor. Progresi in Medicina e Chirurgia del Piede. L'alluce valgo. Bologna: Aulo Gaggi; 1997. p. 105–14.

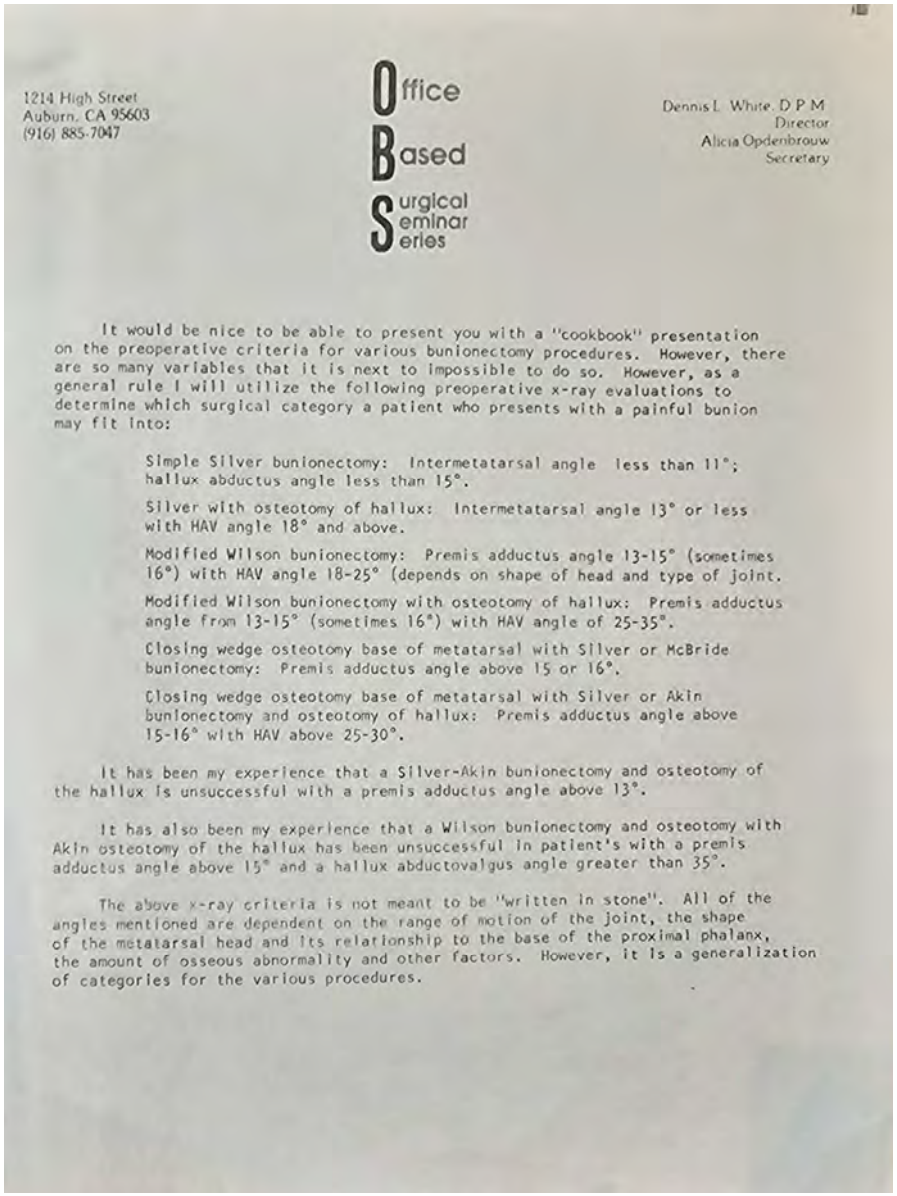
Laffenêtre O, Cermolacce C, Coillard JY, et al. Chirurgie mini-invasive de l'hallux valgus. In: Valtin B, Leemrijse T, editors. Cahiers d'enseignement de la SOFCOT: chirurgie de l'avant-pied. Paris: Elsevier SAS; 2005. p. 96–104.

Bauer T, de Lavigne C, Biau D, De Prado M, Isham S, Laffenêtre O. Percutaneous hallux valgus surgery: a prospective multicenter study of 189 cases. Orthop Clin North Am. 2009;40:505–14.

Lawrence J Kales, DPM

LAWRENCE J KALES, DPM

Denis White, DPM
Traditional branch to MIS



1214 High Street
Auburn, CA 95603
(916) 885-7047

Office
Based
Surgical
Seminar
Series

Dennis L. White, D.P.M.
Director
Alicia Opdenbrouw
Secretary

It would be nice to be able to present you with a "cookbook" presentation on the preoperative criteria for various bunionectomy procedures. However, there are so many variables that it is next to impossible to do so. However, as a general rule I will utilize the following preoperative x-ray evaluations to determine which surgical category a patient who presents with a painful bunion may fit into:

Simple Silver bunionectomy: Intermetatarsal angle less than 11°; hallux abductus angle less than 15°.

Silver with osteotomy of hallux: Intermetatarsal angle 13° or less with HAV angle 18° and above.

Modified Wilson bunionectomy: Premis adductus angle 13-15° (sometimes 16°) with HAV angle 18-25° (depends on shape of head and type of joint.

Modified Wilson bunionectomy with osteotomy of hallux: Premis adductus angle from 13-15° (sometimes 16°) with HAV angle of 25-35°.

Closing wedge osteotomy base of metatarsal with Silver or McBride bunionectomy: Premis adductus angle above 15 or 16°.

Closing wedge osteotomy base of metatarsal with Silver or Akin bunionectomy and osteotomy of hallux: Premis adductus angle above 15-16° with HAV above 25-30°.

It has been my experience that a Silver-Akin bunionectomy and osteotomy of the hallux is unsuccessful with a premis adductus angle above 13°.

It has also been my experience that a Wilson bunionectomy and osteotomy with Akin osteotomy of the hallux has been unsuccessful in patient's with a premis adductus angle above 15° and a hallux abductovalgus angle greater than 35°.

The above x-ray criteria is not meant to be "written in stone". All of the angles mentioned are dependent on the range of motion of the joint, the shape of the metatarsal head and its relationship to the base of the proximal phalanx, the amount of osseous abnormality and other factors. However, it is a generalization of categories for the various procedures.

Lawrence J Kales, DPM

LAWRENCE J KALES, DPM

Marvin Arnold, DPM
Digital protocols made simple

Davidson's Original

SIXTH ANNUAL VALLEY OF THE SUN PODIATRY SEMINAR
LAS VEGAS ❖ Dunes HOTEL, LAS VEGAS, NEVADA

MARCH 9, 10, 11, 1979 — FRI., SAT., SUN.

The New Era of Practice Management

MASS MEDIA COMMUNICATION FOR PRACTICE ENHANCEMENT: (Advertising)

TELEVISION
RADIO
NEWSPAPERS
MAGAZINES

Dr. Davidson as seen on TV

TELEPHONE BOOK
BILLBOARDS
HANDOUTS
& MORE

(Double, Triple, Quadruple Your New Patient Volume)

HOW TO BUILD THE $250,000 PRACTICE (QUICKLY).

JULI'S ™ Patent Pending — BECOME A REGIONAL DISTRIBUTOR

Scientific Program

THE GREAT METATARSALGIA MYTH: THE PLANTAR WEB, "STRINGBEAN" NEUROMA

SOPHISTICATED FOREFOOT SURGICAL BALANCING: USING THE FUNCTIONALLY NORMAL PARABOLA CONCEPT

HEEL NEUROMA REVISITED: INCLUDES PATHOLOGY SLIDE STUDY

CHEVRON H.V.'s: TWO YEARS OLD AND LONGER

"V" OSTEOTOMY: USING THE DAVIDSON CUTTING INSTRUMENT

REVIEW AND UPDATE: PARTIAL DIAPHYSECTOMY — THE FINEST IN HAMMER TOE SURGERY. DISLOCATED M-P JOINT RE-ESTABLISHMENT. WART CURETTEMENT and THE MAGIC POTATO PEELER. OFFICE EFFICIENCY AND MANAGEMENT. RUN LIKE A COMPUTER WITHOUT ONE. PLUS MUCH, MUCH MORE

WIN THE $500.00 FOOT SURGERY CONTEST

INTENSIVE WORK SESSIONS FROM 10:00 A.M. TO 2:00 P.M. FRI., SAT., SUN.

LEAVING PLENTY OF TIME FOR LAS VEGAS VACATION AT THE FABULOUS DUNES HOTEL WITH **FINE, DINING, ENTERTAINMENT, SUN and FUN**

FOR SEMINAR REGISTRATION:
SEND $190.00 CHECK TO:
VALLEY OF THE SUN PODIATRY SEMINAR
5702 N. 19th Avenue
Phoenix, Arizona 85015
ATTENTION: Sherri
(602) 249-0213

Seminar Tuition includes THE COMPENDIUM

Name _____
Street _____
City _____ State _____ Zip _____

FOR HOTEL RESERVATION:
CONTACT HOTEL DIRECTLY:

❖ Dunes
3650 Las Vegas Blvd. South
Las Vegas, Nevada 89109
ATTENTION: Room Reservations

(702) 737-4110

Single or twin occupancy $40.00 per night plus 6% tax
A 50¢ charge per room per night for telephone service
One night room deposit required for room reservations

A unique experience, ask someone who's been to a Valley of the Sun Podiatry Seminar.
WATCH FOR SEMINAR MAILER IN DECEMBER.

Lawrence J Kales, DPM

Retrograde Force: The Awesome Foot Disrupter

M. R. Davidson, DPM, FACFS, DABPS
M. H. Dershowitz, DPM

ABSTRACT:

The concept of retrograde force is discussed, and how this often overlooked entity plays a predominant role in most forefoot deformities. Our philosophy of eliminating this force is proposed and illustrates the achieve skeletally sound and more permanent manner in which it may be resolved so as to corrections of forefoot deformities.

Forefoot deformities and the attendant pain and suffering which the patient experiences have been traditionally the primary foot deformities that podiatrists have been called upon to treat. We are all too familiar with the multiple and varied treatments and surgical procedures that have evolved to treat hallux abducto-valgus deformity. An equally bewildering array of procedures has also evolved to treat hammertoe deformities, plantar callosities and intractable plantar keratoses. These procedures have evolved not only to render the patient asymptomatic but to hopefully alleviate the etiology of the deformity. It is our feeling that there is a common denominator which relates to the formation and maintenance of hammertoe deformities, intractable plantar keratoses, metatarsal-phalangeal joint dislocations and subluxations, and hallux valgus deformities. This common denominator which we will attempt to illustrate is what we term "retrograde force". What is retrograde force, how does its existence plague the forefoot and how can it best be resolved with the eventual irradication of the symptomatic lesion?

Retrograde force can best be defined, relative to podiatry, as any distal segment exerting any undue influences upon any proximal segment. The concept is not a new one. Various procedures have been designed intentionally or accidentally to eliminate retrograde force, causing the deformity. However, not enough attention was paid to the loss of function resulting from joint destructive procedures while eliminating the retrograde force. For example, one of the most popular bunion procedures over the years has been the Keller[1] Procedure which many times will correct the hallux valgus deformity by removing a satisfactory length of the base of the proximal phalanx of the hallux.

Retrograde force will be resolved. If enough bone is resected, then the increased inter-metatarsal angle will be decreased significantly and the bunion will appear well-corrected. However, the loss of function that results and the sometimes flail hallux that results, are all too familiar. Any of the bunion procedures that have been performed to correct apparent aberrations in proximal and distal articular set angles, such as the Reverdin[2] and Akin[3] Procedures have resulted in some bone shortening. However, the intention of these procedures, rather than reducing retrograde force, is the re-establishment of the "normal" relationship between the articular surface of either the metatarsal or phalanx and its shaft. One important point that is often overlooked is that the radiograph which illustrates that "apparent aberration" is a two-dimensional representation of a three-dimensional object. In a recent study by McRae, et. al., it has been shown that various radiographic criteria which are being utilized to aid in determining the appropriate surgical procedure, are dependent upon precise angulation of the x-ray head. Minor variations in x-ray technique will result in significant alterations of these radiographic findings. Additionally, any frontal plane rotation of either the hallux or metatarsal will tend to distort this apparent relationship, as well as the apparent intermetatarsal angulation. Therefore, those surgeons who pay strict attention to criteria such as these may not be pleased with the longterm results of their efforts.

The Hueter,[5] Mayo[6] and Stone[7] bunionectomies additionally involve the solution of retrograde force but also involve destroying the articulation. The Mitchell[8] Procedure, as well, results in some dissolution of retrograde force while preserving the joint, but often times does not involve the resection of enough bone to resolve the excessive retrograde force, as this is not the intended purpose of the procedure.

The C.A.P.[9] Procedure, as advocated by Raymond Suppan, does recognize the retro-

Lawrence J Kales, DPM

grade force concept and does not include the unnecessary destruction of viable joints. However, we feel that there is more inherent stability in the architecture of the procedure we utilize for our corrections.

Let us consider the concept of retrograde force, and how it relates today to what is considered to be the "normal" structure of the human foot. There can be no doubt that the force of gravity has been the dominant influence in man's development. No other force has been as predominant or omnipresent as gravity. As man's earlier life forms were able to achieve a terrestrial existence only after development of advanced automotive powers, it seems likely that the force of gravity, with its exertion of constant mechanical influences and stresses, did much to determine man's eventual form and substance, as that which can best deal with the superimposed force.[10] Developmentally, from fish to amphibians to reptiles to lower primates, there has been an adductus of the entire first ray. As evolution progressed, the divergence of the first ray gradually reduced leading to the present configuration of the human foot. The concept of ontogeny recapitulates phylogeny is certainly evident in an x-ray of a nine week old human fetus which, as our earlier primate adult forms possessed, reveals a greatly adducted first ray.[11] The adult foot has almost straight alignment of the first metatarsal, proximal and distal phalanges, and cuneiform, navicula, and talus. What then, predisposes man to develop a hallux valgus and other forefoot deformities? It is our contention that since the onset of the industrial revolution man has been forced to walk on unyielding surfaces, modern shoe gear has essentially jammed man's foot into a triangular-shaped toe box, when in fact his forefoot has more of a rectangular shape, and that a combination of these environmental influences, and artificial shoe gear restrictions have predisposed what at one time was an essentially straight first ray alignment to become deviated in the valgus direction. Studies of African and Australian tribes[12] have shown that where man is not forced to cram his foot into what we consider modern foot wear and where man is not forced to walk upon hard, unyielding surfaces and is able to walk upon soft earth in a jungle-type environment, the predisposition towards symptomatic hallux valgus is almost non-existent. Though "genetic" hallux valgus is universally present, as the predisposition to an adducted first ray is genetic in origin, the hallux valgus cases that become symptomatic only could occur in industrialized societies where shoe gear and hard unyielding surfaces for ambulation are present.

Certain foot types as well, where the first ray or the tip of the hallux extends beyond the second digit, also predisposes man towards developing a hallux valgus. As this excessively long segment is constantly being forced into a valgus position by shoe gear, the all too familiar overlapping great toe and underlapping great toe begin to develop. We do not mean to imply that faulty biomechanics, excessive calcaneal eversion with subsequent atrophy of intrinsic musculature, and loss of muscular stabilization due to the calcaneal eversion and cuboid abduction and eversion do not exist. However, we are postulating that in addition to these biomechanical faults that are readily recognizable, it must be understood that environmental influences that have only existed for the past one hundred forty years have so overcome man that evolution has not had the opportunity to catch up. The evolutionary process is a very long one indeed and one hundred forty years, relative to evolution, is a very minute segment of time.

Philosophy of the Chevron Hallux Valgus Correction:

The Chevron hallux valgus correction,[13] we feel, is an ideal solution to the problem of dissolution of retrograde force. Where the hallux extends beyond the second toe, we remove a Chevron-shaped wedge of bone, the apex proximal, from the surgical neck and shaft of the first metatarsal. If enough bone is resected, this sufficiently reduces the retrograde force, the hallux, after the bone is removed, is now in straight alignment with the rest of the first segment, and if there was any increase in inter-metatarsal angle, this has been decreased as well. Therefore, we eliminate the need for closing wedge osteotomies at the base of the first metatarsal. We find that this procedure does not result in loss of function, the soft tissue that has been effectively lengthened by shortening bone, very quickly according to Davis' Law, re-adapts to this new shortened position and the primary deformity, that of the hallux

Lawrence J Kales, DPM

valgus has been corrected. Occasionally because of this excessive shortening of the first metatarsal, transfer lesions under the second metatarsal head may develop. If such is the case, then these are effectively dealt with as well, either using a simple "V" osteotomy at the neck of the metatarsal or a Chevron osteotomy to remove additional retrograde force in the second segment.

This same retrograde force concept is applicable to the correction of tailor's bunions as well. In addition to the normally occurring fifth metatarsal abduction, the etiology of the "metatarsal quintus pronatus" or even bowed fifth metatarsal as seen on many radiographs, may be retrograde force. As our modern shoe gear is constantly pressing on the fifth digit, producing an abduction of the fifth metatarsal through the fifth metatarsal phalangeal joint, this resultant retrograde pressure on the fifth metatarsal shaft, by altering the stress on the shaft of the bone and resulting in an oblique vector of force on the fifth metatarsal, may, according to Wolff's Law, result in a remodeling of the osseous structure along these altered lines of stress.

The philosophy of retrograde force also extends to the correction of hammertoe deformities. Rather than doing a proximal phalangeal head resection, resulting in flail toes, and destroying a joint that in almost every case is a good functioning joint with cartilage, we are able to resolve the retrograde force by removing a small portion of diaphyseal bone in the surgical neck area of the proximal phalanx. This preserves toe function, results in resolution of retrograde force, and does not destroy the joint. The amount of bone to be removed is not an arbitrary amount, it is calculated pre-operatively, as is the amount of bone removal in a Chevron hallux valgus correction. To determine the amount of bone to be resected, we construct an arc from the tip of the hallux to the base of the proximal phalanx. A second arc is constructed from the base of the first metatarsal to the articulating surface of the head of the first metatarsal. The point of intersection of the two arcs is then measured, and this area of overlap at the widest point is the amount the bone which is resected.

The same philosophy is true in the correction of intractable plantar keratoses.

HALLUX VALGUS CORRECTIONS

Chevron

Pre-Operative
Note: Large Intermetatarsal Angle

2 Week Post Operative 0° Intermetatarsal Angle Skeletally Normal Foot

1 Year Post-Operative — A Lasting Skeletally Normal Correction

HALLUX VALGUS PROXIMAL PHALANX DEMONSTRATES RETROGRADE FORCE ON FIRST METATARSAL CAUSING INCREASED I.M. ANGLE.

Lawrence J Kales, DPM

DRAWING INTERSECTING ARCS TO DETERMINE AMOUNT OF CHEVRON TO REMOVE.
NOTE: SAME PROCEDURE DEMONSTRATES ARCS FOR CORRECTING RETROGRADE FORCE IN LESSER I.P.J. STN TON.

BONE REMOVAL IN BOTH CONDITIONS. (H.A.V. & N.T. STN).

RESOLUTION OF RETROGRADE FORCE AND 150° ALIGNED JOINT 1ST M.P.J.

A. B.

C. D.

A. H.A.V. WITH RETROGRADE FORCE.

B. AIKEN CORRECTION (NON DISSOLUTION OF RETROGRADE FORCE).

C. SIX MONTH P.O. FAILURE.

D. RE-OPERATED CHEVRON SHORTENING OF 1ST METATARSAL, RESOLUTION OF RETROGRADE FORCE. SUCCESSFUL RESULTS

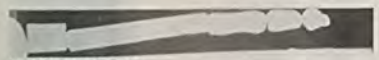
MANUSCRIPTS WANTED
500 to 1500 WORDS

November 1978

Lawrence J Kales, DPM

RETROGRADE FORCE TAILORS BUNION

CONDYLECTOMY PLUS (TILTING) "V" OSTEOTOMY FOR CORRECTING A TAILORS BUNION.



A-P VIEW OF RETROGRADE FORCE ON LESSER METATARSAL.

LATERAL VIEW OF RETROGRADE FORCE ON A LESSER METATARSAL CAUSING METATARSAL HEAD S.P.K.

CONTINUED RETROGRADE FORCE CAUSING JOINT DISLOCATION, SUBLUXATION OF M.P.J.

Many procedures have evolved over the years, including condylectomies, metatarsal head resections, osteoclasis or "crunch" procedures, floating procedures done at the neck of the metatarsal, floating procedures done at the base of the metatarsal, procedures involving internal fixation at the neck of the metatarsal and procedures involving internal fixation at the base of the metatarsal. In addition to biomechanical causes of intractable plantar keratoses and plantar callosities, any excessive declination of the metatarsal will, of course, cause the same problem. If, either a Chevron-shaped section of bone is removed, or a simple "V" osteotomy is performed at the neck, depending upon the amount of deformity present, not only is the metatarsal effectively shortened and raised to an elevated position, but removal of a small segment of bone and effectively shortening the metatarsal results in the metatarsal's plantar declination being decreased. This results in dissolution of retrograde force. Metatarsal phalangeal joint dislocations and subluxations can be effectively treated in this same way, provided that a sufficient segment of bone is removed from the metatarsal at the neck level, thus resolving retrograde force, decreasing the plantar declination of the metatarsal, and bringing the metatarsal phalangeal joint into proper alignment.

We also recognize the importance of the role of soft tissue in the overall concept of retrograde force. As a forefoot deformity develops, whether the etiology be genetic, environmental, or biomechanical, soft tissue structures acting over an intervening joint will adapt to this altered osseous configuration (according to Davis' Law) and not only maintain it, but may accentuate the original deformity and cause further bone remodeling (Wolff's Law) secondary to the constant soft tissue tension. In the first metatarsal phalangeal joint, the extensor hallucis longus and flexor hallucis longus exert their actions perpendicular to the joint surface and maintain the hallux in a 180° alignment. If, however, the hallux becomes deviated, this now deviated position will alter the pull of these tendons allowing for mechanical advantage and these soft tissue structures then act as deforming forces upon the joint.

Lawrence J Kales, DPM

IPK'S AND DISLOCATED MPJ REVOLUTIONARY METATARSAL SURGERY

Pre-Operative
Dislocated 2nd MPJ
Painful Sub 2nd Lesion

1 Year Post-Operative
Asymptomatic Relocated
Normal 2nd MPJ

SIMPLE "V" OSTEOTOMY USED TO CORRECT M.P.J. WITH RETROGRADE FORCE.

CHEVRON SHORTENING USED TO CORRECT SUBLUXED M.P.J.

A similar situation occurs at the lesser metatarsal phalangeal joints as a result of the actions of the extensor digitorum longus, flexordigitorum longus, and intrinsic musculature. If, due to faulty biomechanics, the intrinsic muscles are unable to stabilize the phalanges in a plantar direction, the long and shore extensors will exert more force, causing the digits to contract dorsally. This occurs as the long extensors effectively overpower the short flexor, one reason being that the majority of the range of motion at metatarsal phalangeal joints from a functional point of view is in the direction of dorsiflexion throughout the propulsion stage of ambulation. Thus the metatarsal phalangeal joints will be extended dorsally, the long tendons will contract to maintain this position and the flexor tendons will subsequently contract to adapt to this altered position. Additionally, capsular and ligamentous adaptation will occur and aid in maintaining this deformity. Thus, these soft tissue effects upon osseous structures must be appreciated and it must be remembered that once the osseous pathology is corrected the soft tissue will converely assist in maintenance of this now "correct" configuration.

What we are attempting to illustrate is that regardless of the manner in which the

Lawrence J Kales, DPM

PARTIAL DIAPHYSECTOMY

(AS GOOD AS CLASIS & "V's" ARE FOR METATARSAL SURGERY)

DESTINED TO REPLACE ALL HAMMERTOE SURGERY

A. B. C. D.

A. *Pre-Operative 5th Hammertoe with Clavus. Note Buckling, (Retrograde Force).*

B. *Two Days — Post Operatively — Note Reduced Retrograde Force — 180° Alignment — Good Osteotomy Apposition.*

C. *Four Months — Post Operatively — Osteotomy Site Healing — Good Alignment.*

D. *1 Year — Post Operatively — Healed — Skeletally Normal Corrected Hammertoe. (Never flail).*

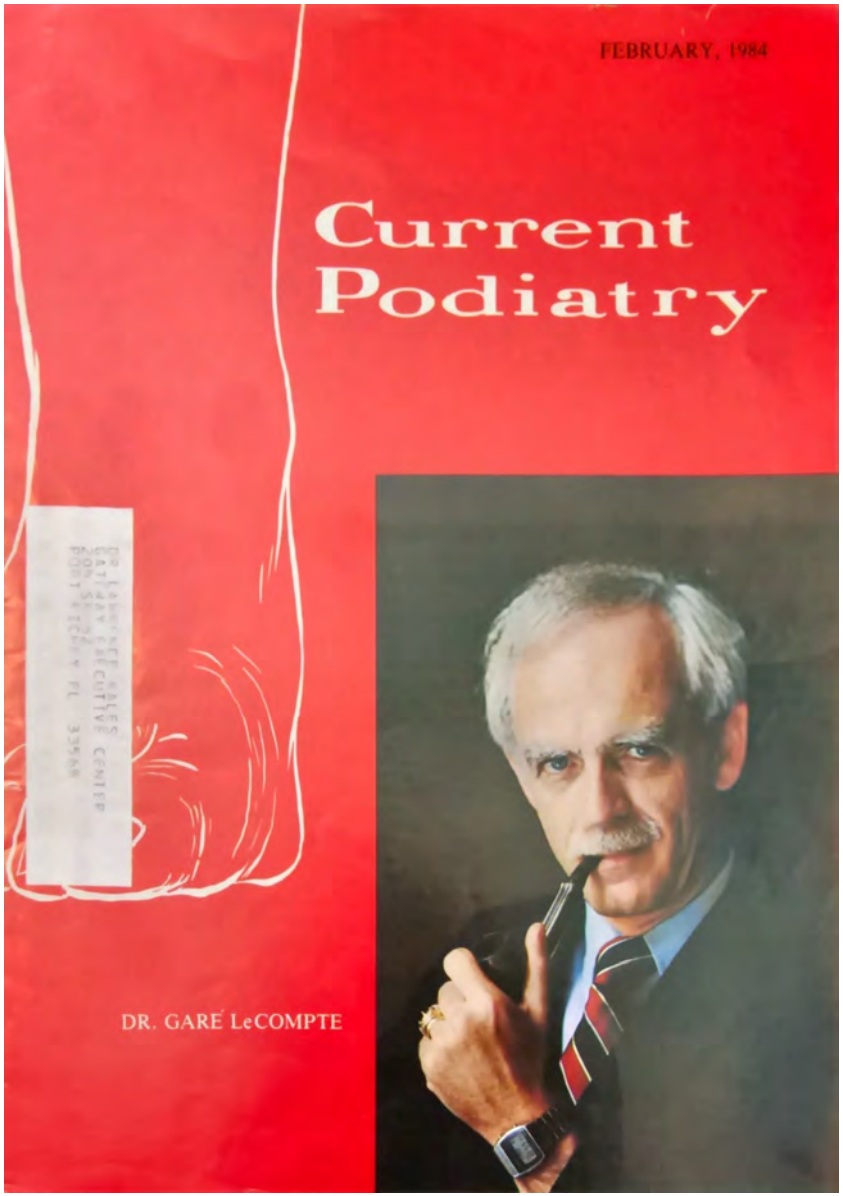
A. B. C.

A. HAMMER 5TH TOE I.P.J. RETROGRADE FORCE.

B. MEASURING BONE REMOVAL "ARC" TECHNIQUE.

C. CONDYLECTOMY & PARTIAL DIAPHYSECTOMY.

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Man On The Cover

DR. GARÉ LeCOMPTE

It took men like Abe Plon, and Sam Granoff, to name just a few, and others of the era to plan and launch the Academy of Ambulatory Foot Surgery. CURRENT PODIATRY is proud to have played a major role in placing this organization before the eyes of the entire profession.

Eventually a peak was reached that began to serve the needs of podiatry. However, it was not until Garé Le Compte, Ph.D. was appointed as executive director that things really began to roll. When you read his background, that follows, you will understand how his expertise, experiences and knowhow has been so wisely applied and is continuing to do a great job for the Academy and the profession.

You've seen his name on several hundred D.P.M. diplomas, signed when he was the Dean of the College at OCPM (1973-1976), and several thousand "post-doctoral education" certificates (a term he pioneered for podiatry's CME) holding the plaster on the walls of podiatry offices, signed when he set up OCPM's large-scale seminar program, 1976-1980. More recently, many more of his signed certificates are gracing office walls as he implements the largest surgical training program attempted as Executive Director of the Academy of Ambulatory Foot Surgery. And, you may have seen his name on any one of over 80 publications, including Stickel Award winning projects and studies relating stress and the behavioral sciences to podiatry.

For the past decade, Dr. Garé LeCompte's name has been connected with podiatric medicine on many fronts. Its been just a decade since Benjamin Mullens, D.P.M. and Marvin Steinberg, D.P.M. sat in a Binghamton, New York restaurant and urged him to get involved with podiatric medicine by taking the deanship in Cleveland.

Over the years, Dr. LeCompte has joked about his "professional reincarnations," as he's worked as a political scientist, sociologist, economist, and psychologist. He was trained in multiple disciplines at the University of Washington in the 1950's, after U.S. Navy training in submarines, and subsequently did graduate work at Harvard University and Boston University before completing a Ph.D. at the College of Public Service of American University in Washington, D.C. He subsequently earned a second Ph.D., in psychology, at Case Western Reserve University, and has specialized in the treatment of stress disorders in the rapidly developing field of "behavioral medicine."

His professional life has not been "academic," versus "practical." Dr. LeCompte started out with the U.S. Departments of State and Defense producing psychological warfare and military research studies, subsequently worked in industry, and later served as Director of Social and Behavioral Research for the Connecticut State Research Commission. As an "applied researcher," he became involved in health systems research, and when the federal government decided to see if "theory" can actually work in "practice," he took over the technical direction of one of the original "Experimental Health Service Delivery Systems" to test out concepts of health care quality, accessibility, and cost-containment.

In addition to his focus on applied research, he has also had a strong academic side. "You can't walk on just one professional leg," he has said many times, "you have to be as strong academically as you are in the applied area if you really want to contribute to your profession and the public." Consequently, he has served on the faculty of the University of Hartford, was a Ford Foundation-sponsored visiting professor at the University of Damascus in Syria, and has been on the visiting lecturer and research staff of a half-dozen colleges and universities. He has served many time as a consultant to federal agencies, including the National Science Foundation, U.S. Department of Education, and the U.S. Department of Health and Human Services.

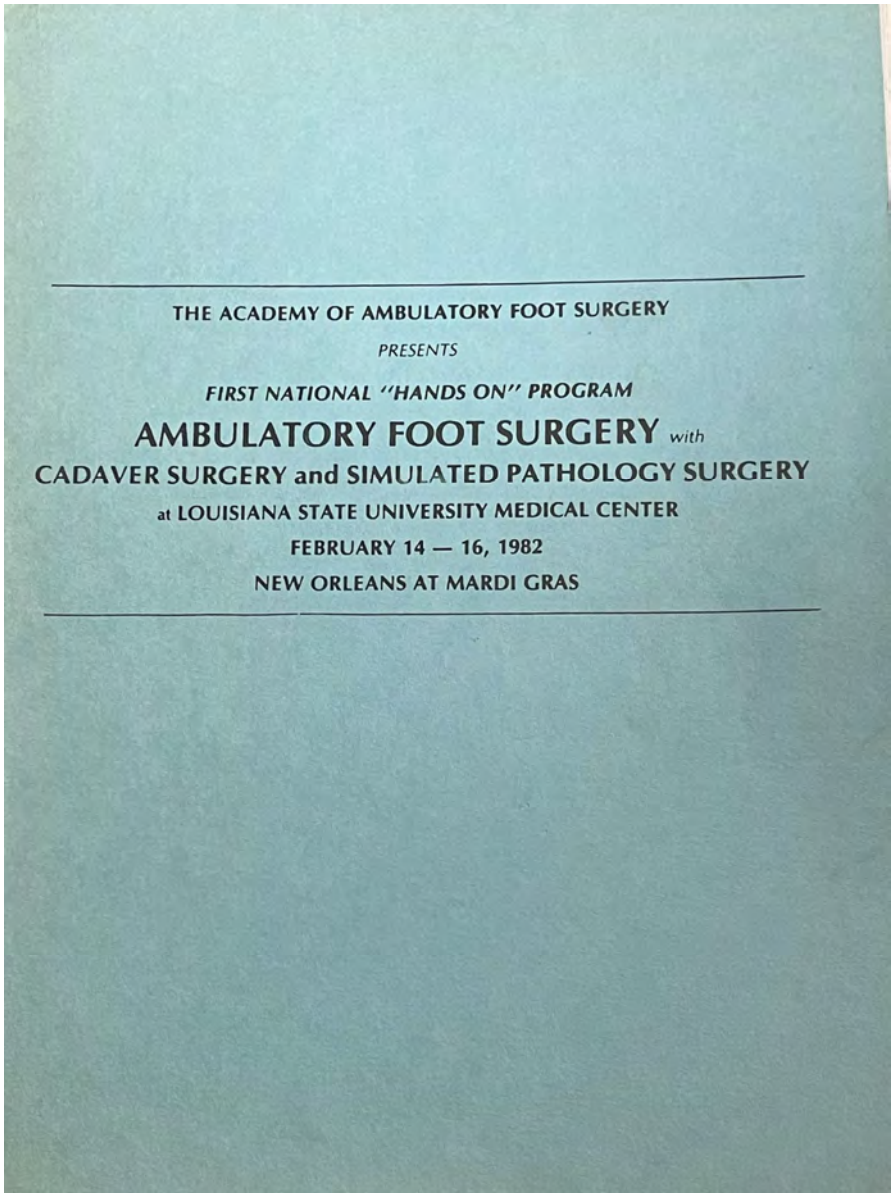
Because of his concern for the advancement of podiatric medicine, Dr. LeCompte has used his involvement with the health system to insure podiatry's inclusion in many areas, including health standards for correctional institutions, and the National Science Foundation's "Research Agenda for the 1980's for Applied Science and Research Applications," as well as the U.S. Council for the UN International Year for Disabled Persons in 1981.

His sense of humor, and outright outspokeness are well known. Dr. LeCompte was the only Dean to give his graduating seniors boxes of "Crackerjack" instead of diplomas at a graduation rehearsal, along with a note saying that he really felt they were a "crackerjack" bunch of young doctors. On the otherhand, he has been outspoken on the need to improve podiatric medical education, produce research beyond the single case study article, and get podiatry thinking and acting in the mainstream of the American health system. He's been outspoken for podiatry for a decade now, and says that he really is "wedded" to the profession. Dory LeCompte, D.P.M., his wife of 22 years and mother of three, is a recent practitioner. With what he calls his "real doctor" in the household, he faces podiatry 24-hours a day. Only a psychologist could endure that.

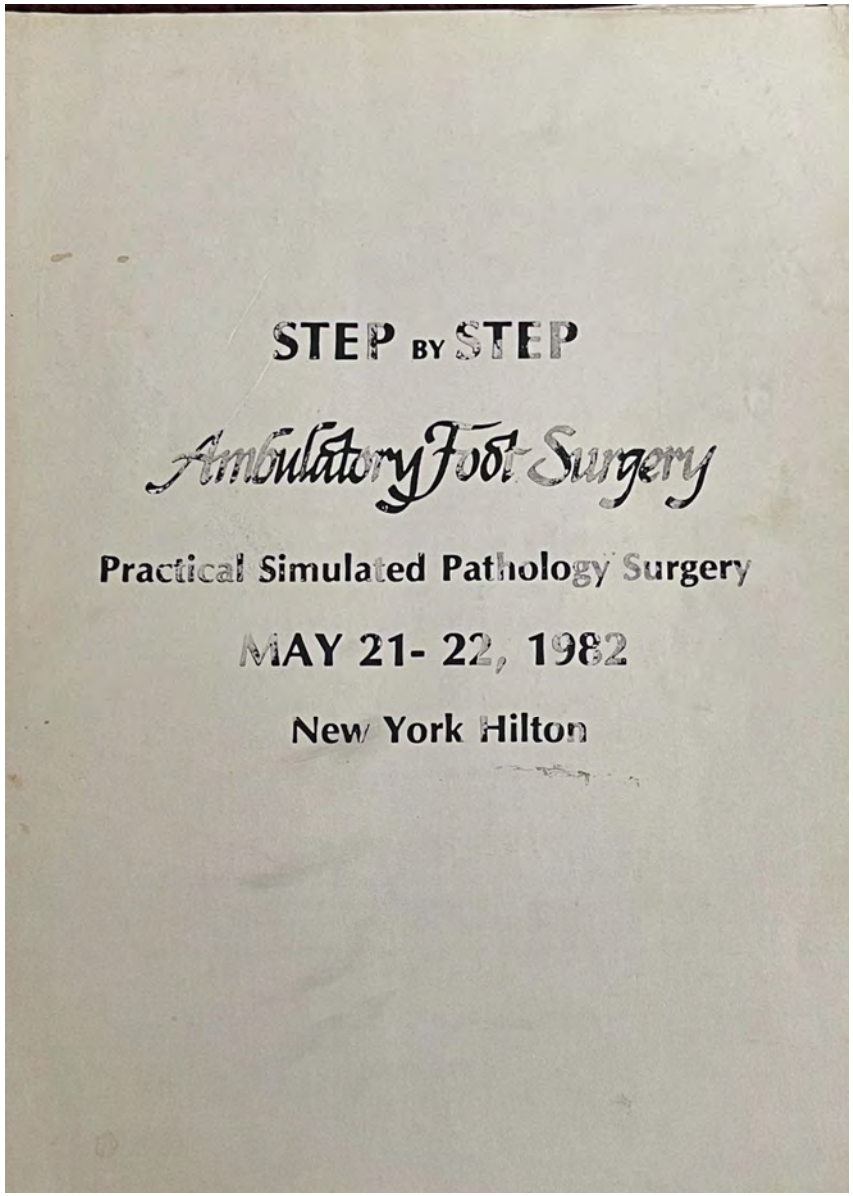
It is with the greatest satisfaction and pride that CURRENT PODIATRY presents Dr. Garé LeCompte with the honor of "Man on the Cover" for this month. We ask the entire profession to join with us in recognizing his achievements.

Charles Philip Cangialosi, D.P.M.
Editor-In-Chief

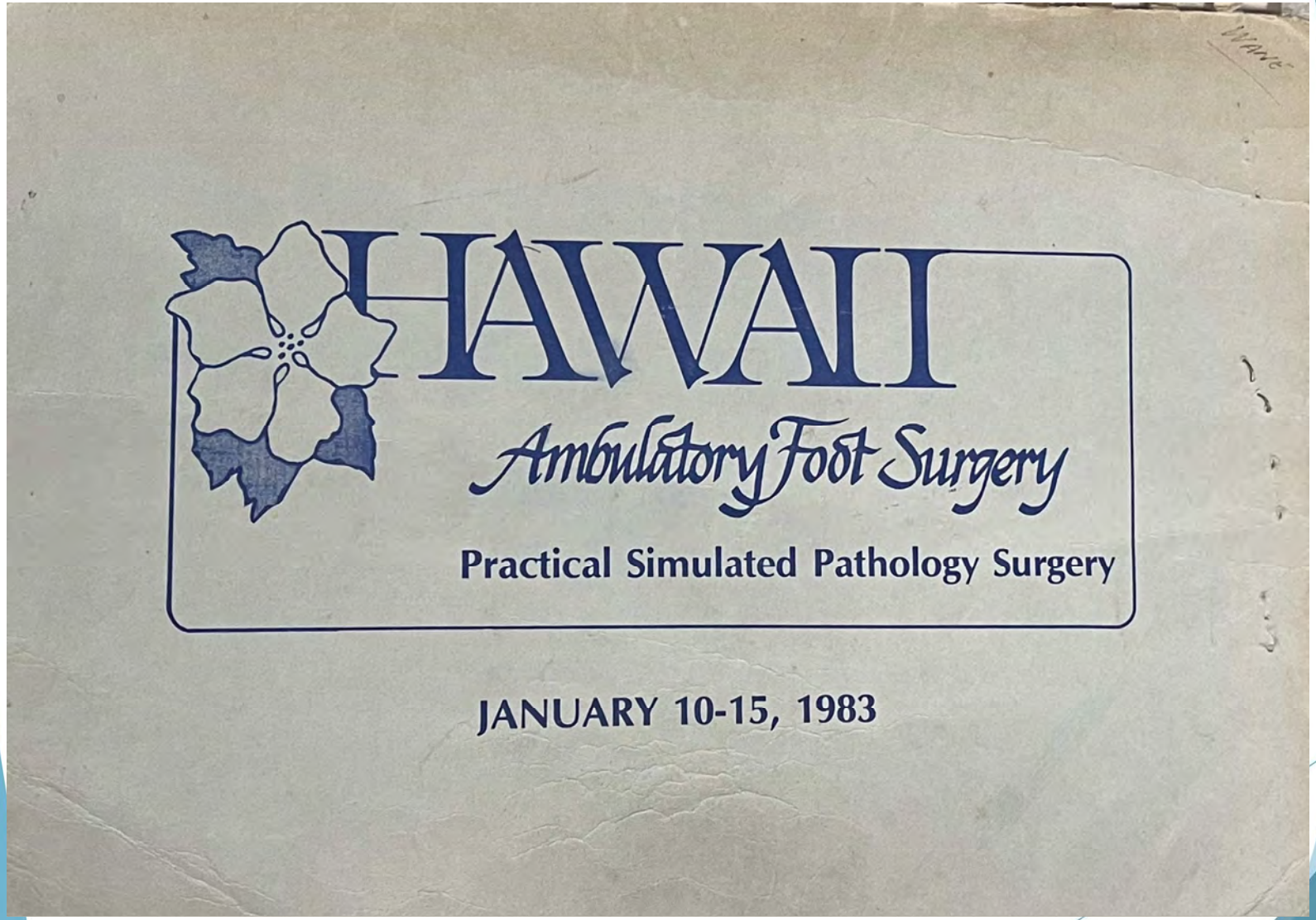
Lawrence J Kales, DPM



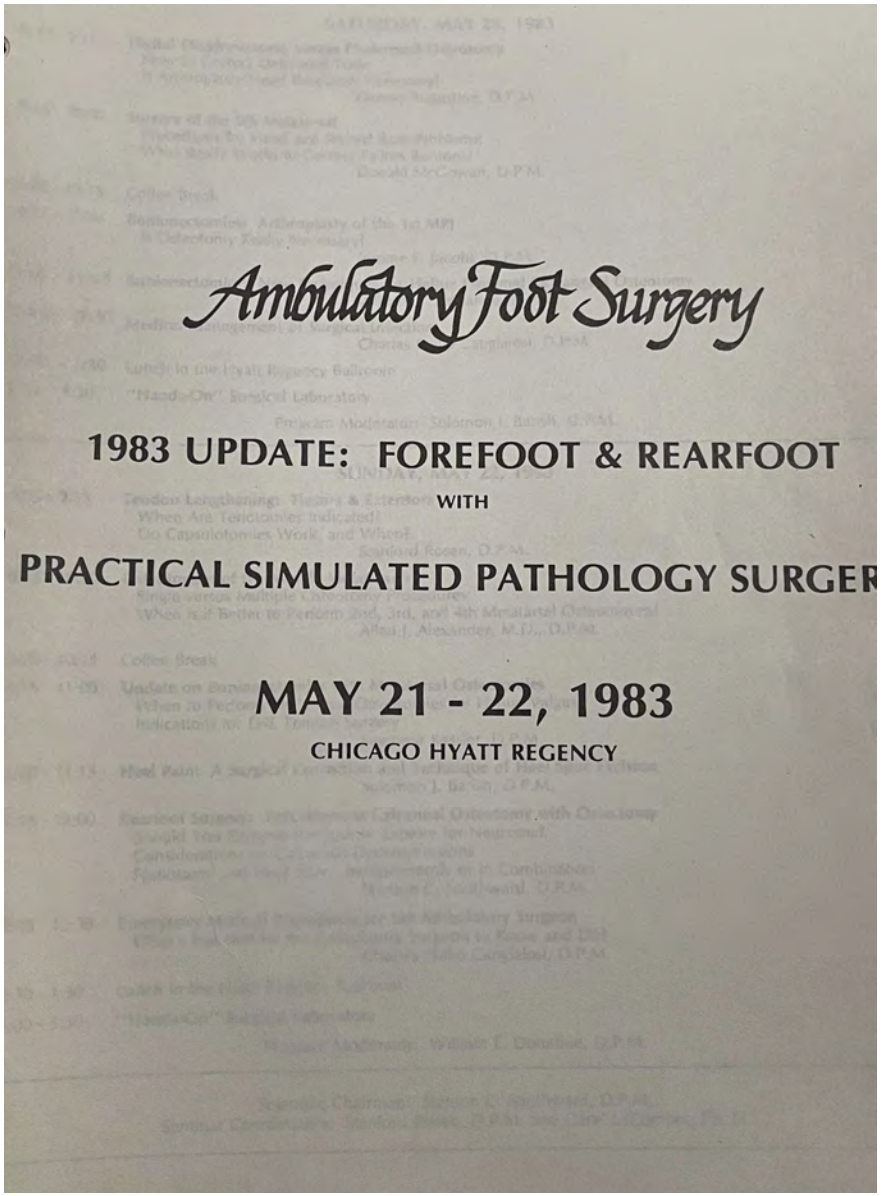
Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM

The Academy of
Ambulatory Foot Surgery

IN CONJUNCTION WITH

Louisiana State University Medical School

PRESENT

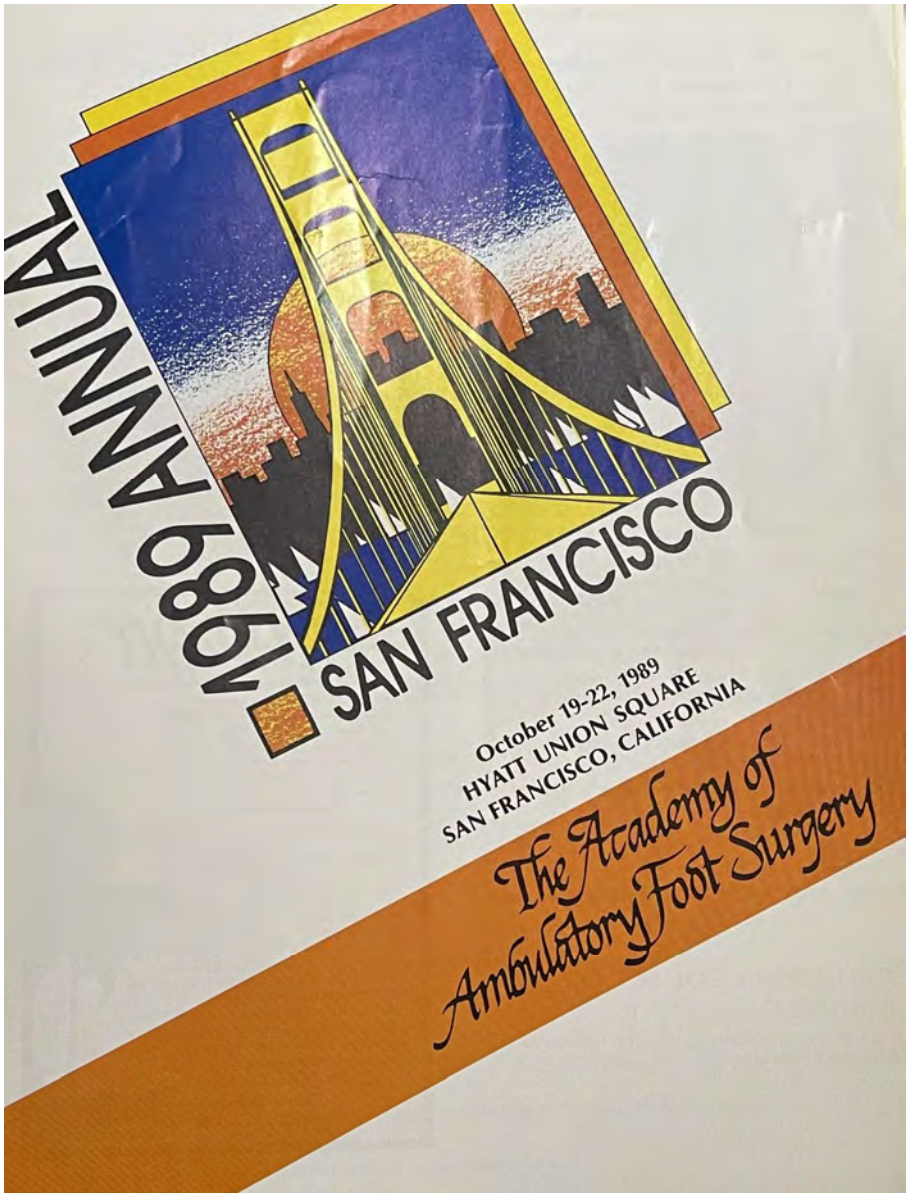
Cadaver Surgical Seminar

May 19-22, 1988

New Orleans, Louisiana

Lawrence J Kales, DPM

Lawrence J Kales, DPM



Lawrence J Kales, DPM

ACTION LETTER

Convention Issue

November-December 1989 Volume 2, Number 6

The Academy of Ambulatory Foot Surgery

AN INTERNATIONAL SCIENTIFIC ISSUE FOR AMBULATORY FOOT SURGEONS

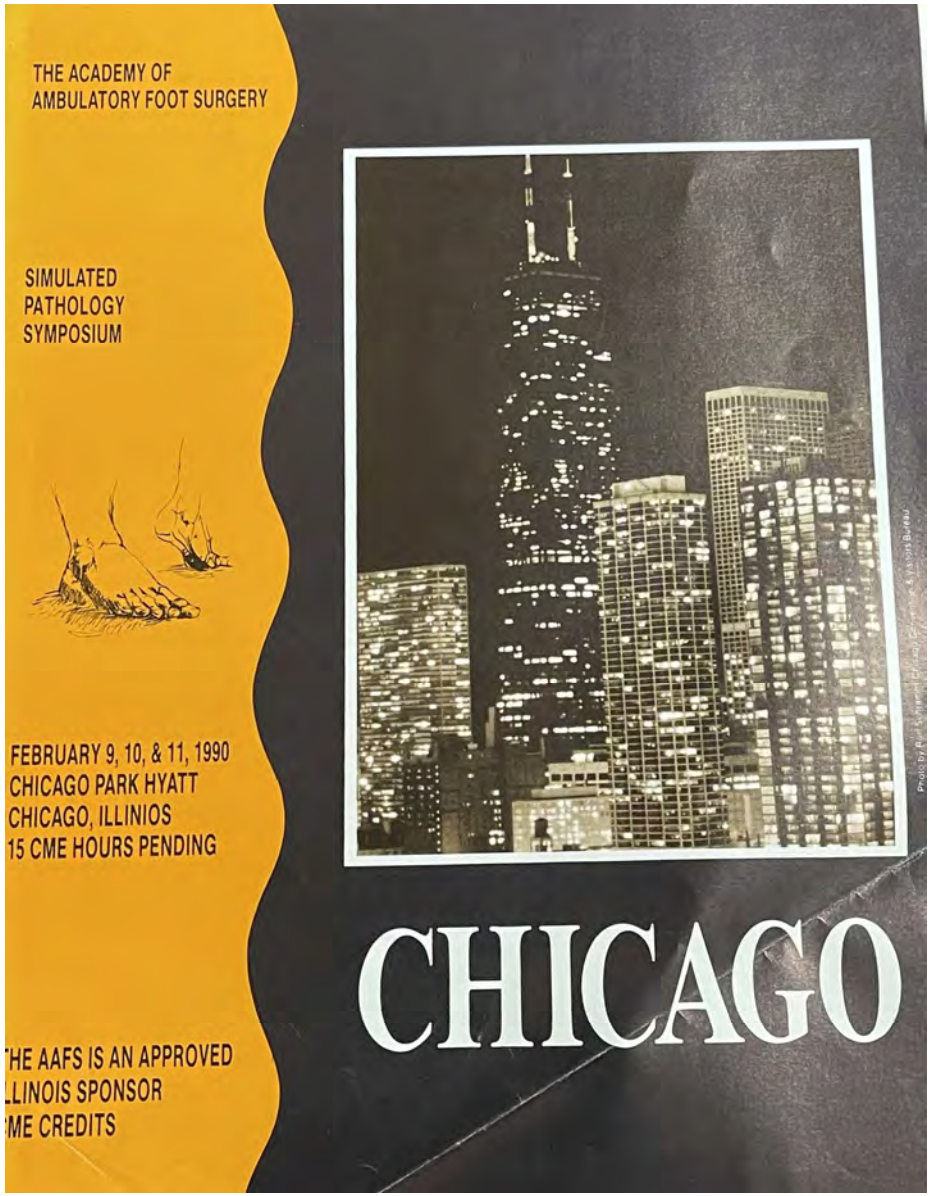
5:04 p.m., Oct. 17, 1989

15 seconds that shook our lives

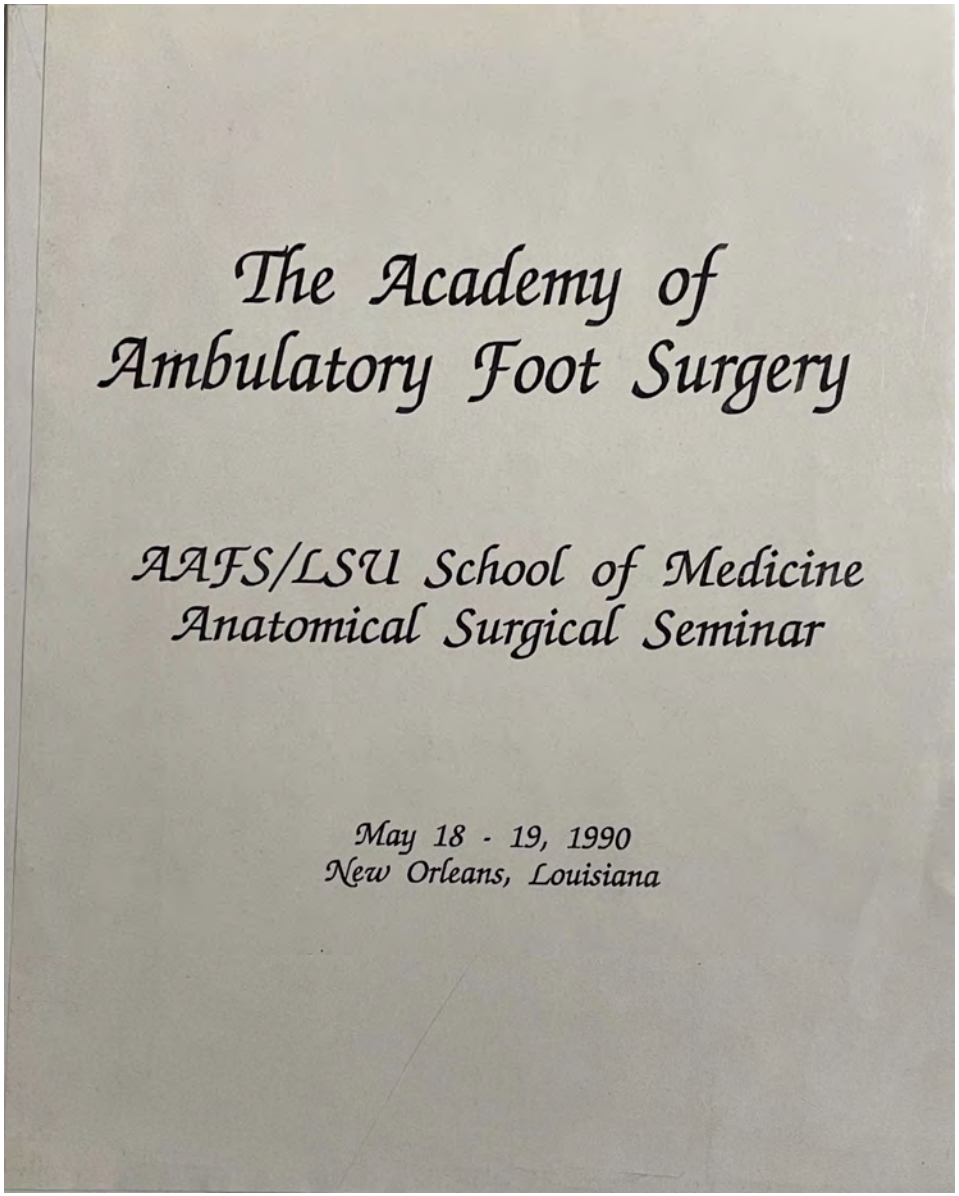
Up from rubble

The earthquake bestows a second chance to change our destiny to SCOTTSDALE, ARIZONA

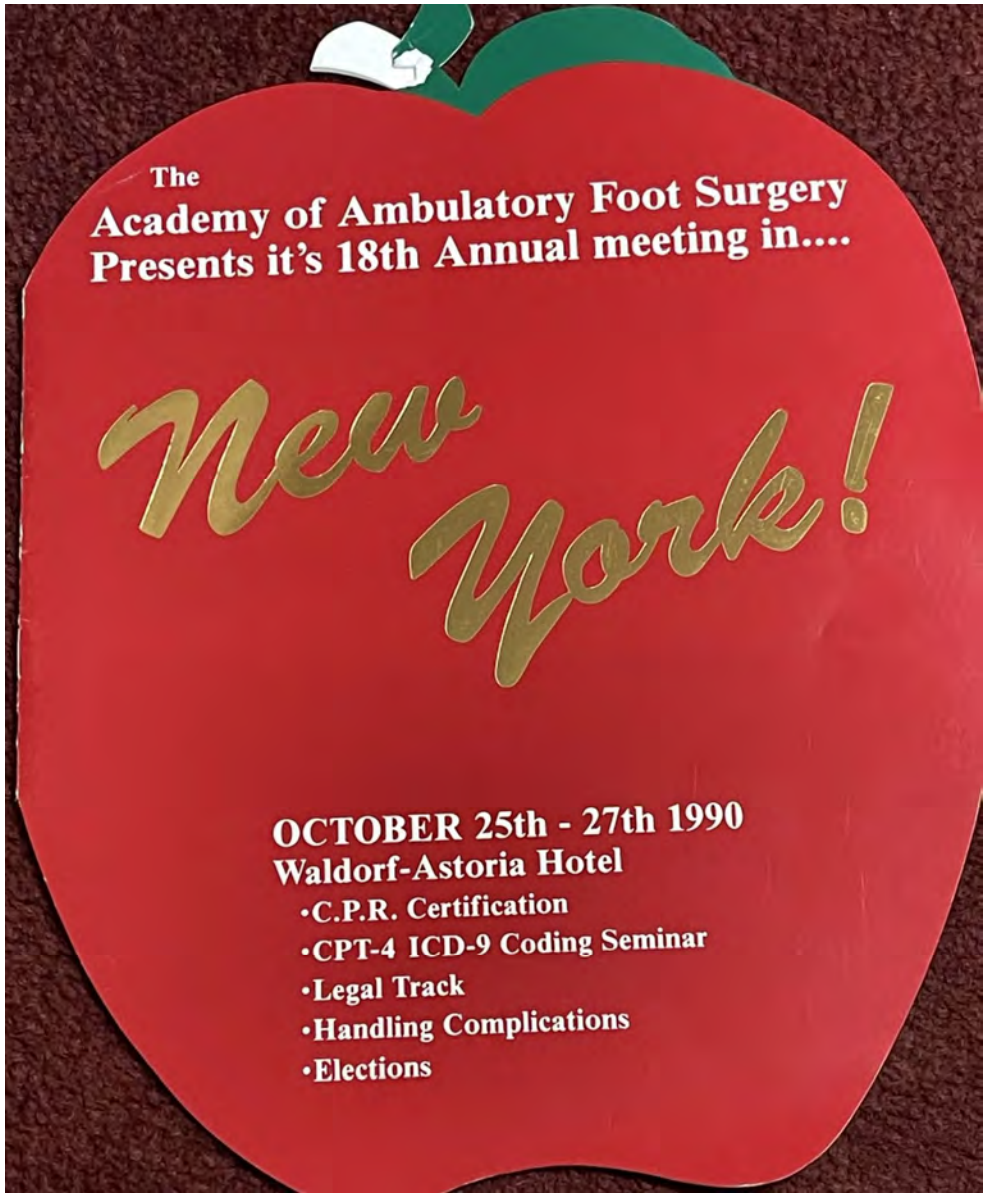
Lawrence J Kales, DPM



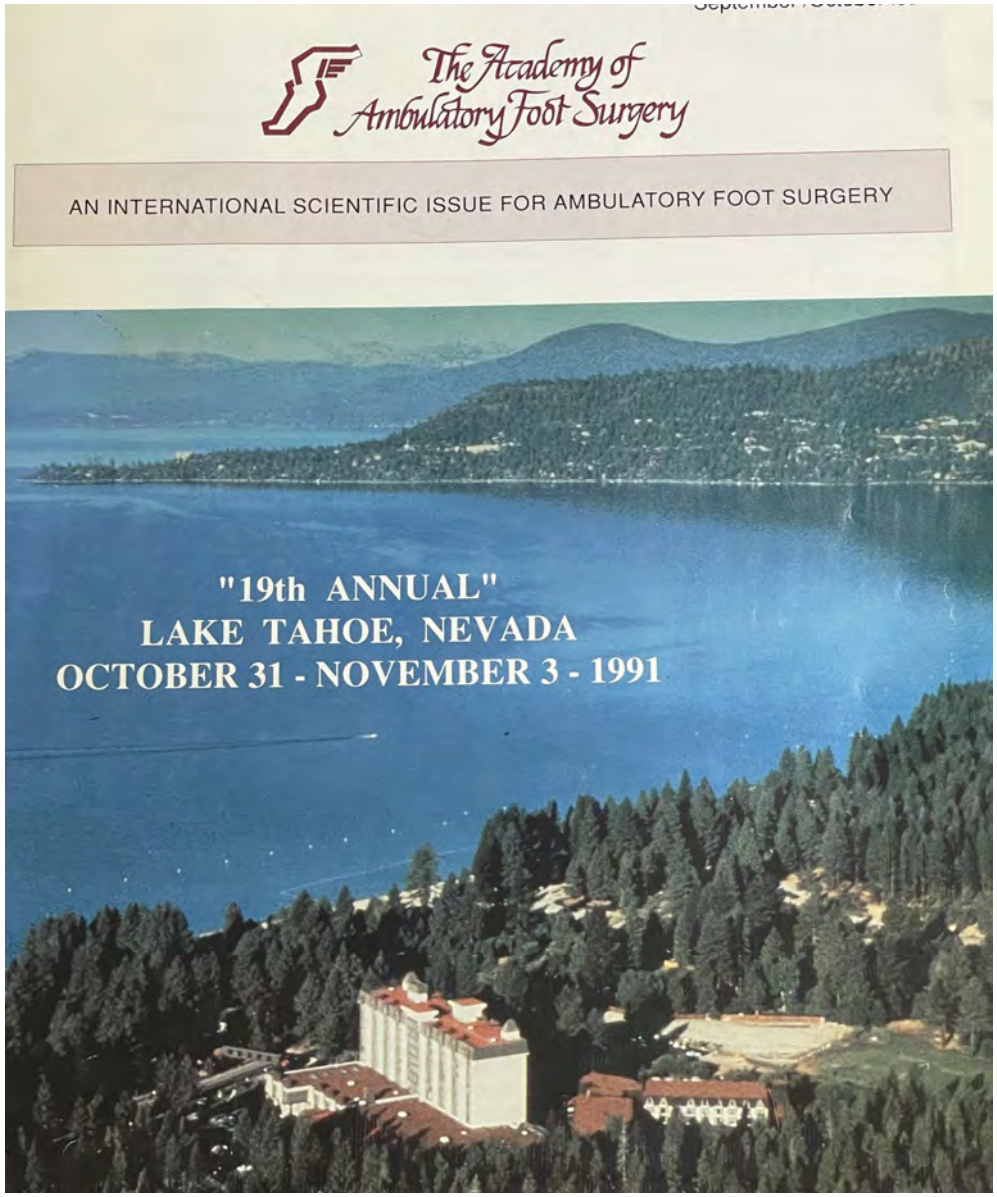
Lawrence J Kales, DPM



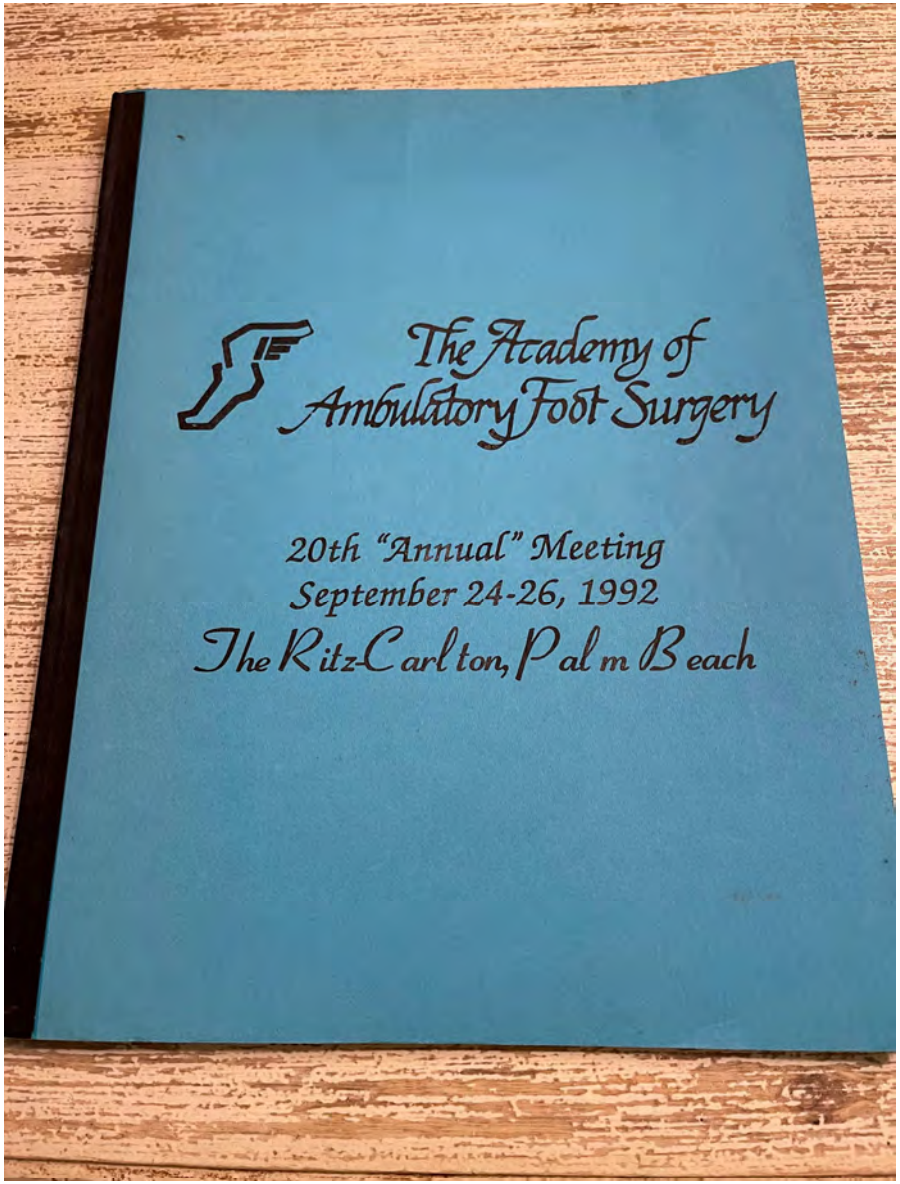
Lawrence J Kales, DPM



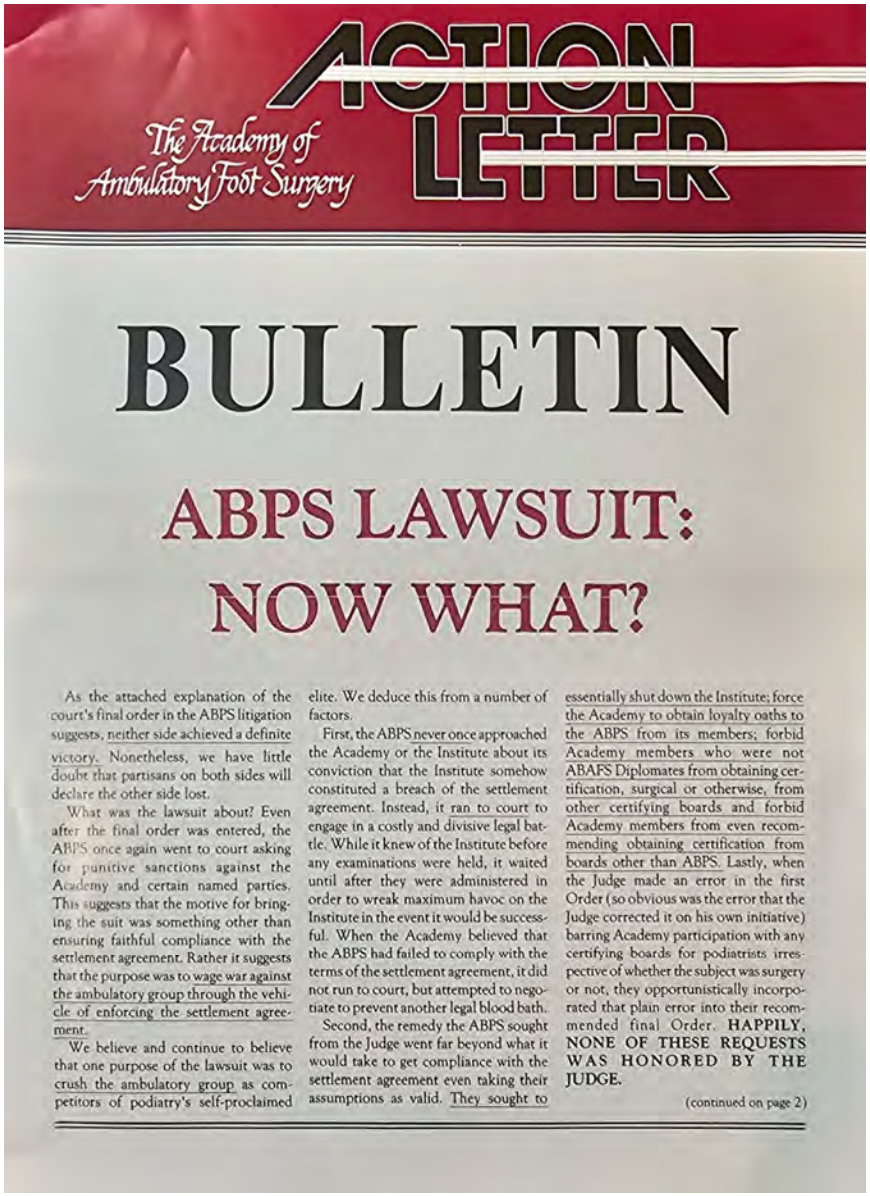
Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM



The Academy of Ambulatory Foot Surgery

ACTION LETTER

BULLETIN

ABPS LAWSUIT: NOW WHAT?

As the attached explanation of the court's final order in the ABPS litigation suggests, neither side achieved a definite victory. Nonetheless, we have little doubt that partisans on both sides will declare the other side lost.

What was the lawsuit about? Even after the final order was entered, the ABPS once again went to court asking for punitive sanctions against the Academy and certain named parties. This suggests that the motive for bringing the suit was something other than ensuring faithful compliance with the settlement agreement. Rather it suggests that the purpose was to wage war against the ambulatory group through the vehicle of enforcing the settlement agreement.

We believe and continue to believe that one purpose of the lawsuit was to crush the ambulatory group as competitors of podiatry's self-proclaimed elite. We deduce this from a number of factors.

First, the ABPS never once approached the Academy or the Institute about its conviction that the Institute somehow constituted a breach of the settlement agreement. Instead, it ran to court to engage in a costly and divisive legal battle. While it knew of the Institute before any examinations were held, it waited until after they were administered in order to wreak maximum havoc on the Institute in the event it would be successful. When the Academy believed that the ABPS had failed to comply with the terms of the settlement agreement, it did not run to court, but attempted to negotiate to prevent another legal blood bath.

Second, the remedy the ABPS sought from the Judge went far beyond what it would take to get compliance with the settlement agreement even taking their assumptions as valid. They sought to essentially shut down the Institute; force the Academy to obtain loyalty oaths to the ABPS from its members; forbid Academy members who were not ABAFS Diplomates from obtaining certification, surgical or otherwise, from other certifying boards and forbid Academy members from even recommending obtaining certification from boards other than ABPS. Lastly, when the Judge made an error in the first Order (so obvious was the error that the Judge corrected it on his own initiative) barring Academy participation with any certifying boards for podiatrists irrespective of whether the subject was surgery or not, they opportunistically incorporated that plain error into their recommended final Order. **HAPPILY, NONE OF THESE REQUESTS WAS HONORED BY THE JUDGE.**

(continued on page 2)

Lawrence J Kales, DPM

BULLETIN

ABPS LAWSUIT: NOW WHAT?

Now, almost eight months and hundreds of thousands of dollars after the ABPS went to court, all that was obtained is a bar on Academy management and ABAFS Diplomates being managerially involved with groups like the Institute. It should be pointed out that persons occupying management positions within the Academy had begun withdrawing from the management of the Institute two months before the filing of the lawsuit. Similarly, all such Academy people had pledged to withdraw from the Institute before filing of the lawsuit. The net result is that ABAFS Diplomates (perhaps 250) are barred from becoming involved with groups like the Institute beyond being candidates for certification or simply being members. **Was this worth all that? Would not an effort to negotiate this have been preferable to the costly legal war just concluded?**

Of interest, the court has made clear that if the ABPS fails to effectuate the proposed credentialing changes, he has invited us to come back to him and he might order the ABPS to make the changes they pledged to make some five years ago.

During the course of the argument, the Judge became more familiar with the nature of the underlying dispute between the Academy and ABPS. Near the end of the last hearing before him (there were three such hearings), he volunteered this advice to the ambulatory community:

> "See if . . . your parties work hard enough — you know, the ABPS will go out of business, find out (that) minimal surgery is the thing. That's what you need to work toward. Don't need to go in a hospital, playing around . . . You're going to flow with the tide, take a look, you're fighting against it. It's a good fight."

So, if you hear that the Judge was completely for the ABPS and against the Academy, consider what he denied the ABPS and his parting advice to you.

Having said all that, engaging in an evaluation as to who won and who lost is pointless. All podiatrists lost. This is so because of the enormous amount of money wasted on a dispute that probably could have been settled through good faith negotiations. We had tried to do that, but had been rebuffed by the ABPS. Instead we had another lawsuit. That money could have been spent on assisting podiatry to position itself in the health care industry. That is the challenge before us. We are like two passengers fighting on the station platform as to who will sit in first class while the train is pulling out of the station without either of us.

While we have had our differences with the APMA, we do salute them for trying to assist the Academy and the ABPS to negotiate. The fact that those negotiations came to nothing was not the fault of the APMA. Similarly, they resisted the effort of the ABPS to drag them into this lawsuit and stood up to the insults heaped on them in public by the APBS for that sensible and farsighted stand.

We will once again attempt to bring this profession into a united front vis-a-vis the health care industry generally. Of course, within the profession we will continue to compete vigorously. Such competition is good for comsumers because it motivates all of us to become even more responsive to patients.

We hope all of this can be put behind us and extend an invitation to all of the parties to sit down and work together to cope with the changes taking place around us in health care. If professional associations do not do that, then everything else, regardless of the high sounding rhetoric in which it is wrapped, is a waste of time.

The district court in Washington, D.C. has issued its final Order in the ABPS legal action against the Academy and the American Institute of Foot Medicine.

Our purpose here is to explain to Academy members what the Order means. We have little doubt that the podiatry grapevine will soon generate its own reports and interpretations which may or may not be accurate. For that reason, we are reproducing relevant sections of the Order's text.

While we disagree with the assumptions of the Judge in issuing this Order, we will abide by it in order to apply the resources of the profession to address the more substantive issues confronting podiatry and the health care industry in general.

The first paragraph prohibits Academy directors, officers and others holding postions of responsiblity, while holding those positions, from "engaging in the process of certifying or participating in the certification of podiatrists in podiatric surgery." It similarly prohibits them from "aiding or assisting" (to be defined further below) anyone or entity other than the ABPS from engaging in the certification of podiatrists in podiatric surgery. The Order also prohibits those "acting in active concert or participation" with such Academy officials from engaging in that process. This last sentence simply means that the identified Academy people cannot circumvent the Order by working through others.

The second paragraph prohibits ABAFS Diplomates from engaging in that process. This prohibition extends for life just as those Diplomates have ABAFS Diplomate status within the ABPS for life.

The third paragraph defines the term, "aiding and abetting," so as to give guidance to those bound by it. We believe these provisions are largely self-explanatory.

Lawrence J Kales, DPM

Court Issues Final Order In ABPS Lawsuit

ANALYSIS

Who Is Bound?

In addition to certain named parties, hree groups are subject to the terms of he order:

. Academy management defined as: "directors (trustees), officers, agents, servants, employees and attorneys" while holding these positions.

. ABAFS Diplomates. The explanation accompanying the Order defines this class as the eighty-three people who held the distinction at the time of filing the original lawsuit. However, those who acquired that status during the three-year period after the settlement agreement was approved may also be bound and should seek judicial clarification before engaging in any of the prohibited activities. This group is bound for life although anyone can petition the court for relief if they wish.

. Persons acting in active concert or participation with either of the above two classes. This is standard language in court orders, and is meant to prevent evading the Order through the use of intermediaries.

Who Is Not Bound?

It is plainly more difficult to identify ll those who are not bound. On one evel, the answer is anyone who is not entioned in the Order. However, for urposes of clarification, we will identify ome groups we believe are not bound. nyone seeking to engage in the prohiited activities should seek competent gal counsel regarding their rights and esponsibilities before doing so. What llows are our preliminary conclusions.

. Academy members who do not hold Academy positions of responsibility and are not ABAFS Diplomates are not bound. At the most, there are only about 250 ABAFS Diplomates and a few dozen Academy positions of responsiblity. Therefore, the vast majority of Academy members are not bound by the Order. We wish to emphasize that if a person is not an ABAFS Diplomate and ceases to hold an Academy postion of responsiblity, that person is not bound by the Order. Institute members who are not ABAFS Diplomates and who do not hold management positions within the Academy are not bound.

Any other podiatrist who is not an ABAFS Diplomate and does not hold an Academy position of responsibility is not bound.

Note: Such persons, as well as all others not bound by the Order, who choose to engage in the certification of other podiatrists in foot surgery must exercise judgement independent of the Academy as an organization and its managers.

However, any corporation that does so will be independent of the Academy, and the usual rules of corporate law would prohibit someone in its management from doing that in any event. Therefore, the Order, in this regard, simply incorporates general principles of corporate law.

What Is Prohibited?

The Order prohibits only those bound by it from "engaging in the process of certifying or participating in the certification of podiatrists in podiatric surgery" or "aiding or assisting" any person or entity other than the ABPS from engaging in the process. The Order defines the term, "aiding or assisting" in ways which we believe are self-explanatory. However, it essentially prohibits the establishment of another surgical certifying board for podiatrists or playing any role in it other than as a member or candidate for certification. This would include sitting on the governing Board, being an officer, designing questions or otherwise participating in the examination process as anything other than as a candidate for surgical certification. The safest course for the 300 or so people bound by the Order is to confine one's participation in surgical certification, with anyone other than the ABPS, to being a candidate or member.

What Is Not Prohibited?

As with the question "Who is not bound?", the answer to this question could simply be that you can do anything not prohibited. However, the definition of "aiding or assisting" clearly indicates that the list is not confined to those things listed. Therefore, any activities beyond:

1. being a member
2. being a candidate
3. paying normal membership dues, fees or assessments

in a surgical certification board for podiatrists other than the ABPS should be approached with caution and on the advice of competent legal counsel.

It should be noted that the earlier preliminary Order prohibited those bound by the Order from encouraging or advising podiatrists to obtain podiatric surgical certification from anyone other than the ABPS. At the request of the Academy, this provision was deleted from the final Order. Therefore, you are free to advocate anything you want with reference to podiatric surgical certification.

Lastly, if you are not bound by the Order (which is certainly true for the vast majority of the podiatric ambulatory surgical community), the issue of what is and what is not prohibited is irrelevant.

(continued on page 4)

Lawrence J Kales, DPM

Court Issues Final Order In ABPS Lawsuit

(cont. from pg. 3)

We have presented this because we believe that all podiatrists in the United States should know what this costly and bitter litigation produced as well as what it did not produce. We recognize that some Academy people will have questions about the reach of the Order which we have not answered here. We will attempt to assist Academy people to determine whether they are bound and, if so, what the Order prohibits and allows. However, everyone is legally responsible for their own actions and should obtain their own competent legal counsel before acting.

We must tell you that the ABPS obtained substantially less than they sought (as will be explained in the accompanying article), and judging from prior experience we must consider the possibility that they will pursue a maximally vindictive legal course of action. The Academy believes that this policy is shortsighted and a disservice to the podiatric profession. While protecting its rights, the Academy will continue to work to resolve antagonisms and to build a strong future for podiatry.

Alexander Hamilton 1755-1804

Poet and Patriot, Soldier and Statesman. He was at the Forefront of Change – The Birth of a Nation

Change

A New Era in Ambulatory Technology and Advancement in Foot Surgery.

The Academy represents the leading edge of cost containment and technology in foot surgery through its advanced seminars we bring you to the forefront of change in your practice.

Join us at our 16th "Annual" in Bethesda, MD. at the Hyatt Hotel, October 26-30, 1988. Registration and programs available from the Academy of Ambulatory Foot Surgery

The Academy of Ambulatory Foot Surgery

P.O. Box 2730, Suite 263
Tuscaloosa, AL 35403

The Academy of Ambulatory Foot Surgery
Suite 263 • P.O. Box 2730
Tuscaloosa, AL 35403

BULK RATE
U.S. POSTAGE
PAID
TUSCALOOSA, AL
PERMIT NO. 200

DATED MATERIAL
OPEN
IMMEDIATELY!

Lawrence J Kales, DPM

Open Letter To The Rank File Members Of The ABPS And The APA

*Richard I. Polisner, DPM
S. C. Southward, DPM

Dear Colleagues:

I am writing this letter because I feel that the leaders of our Profession have been extremely negligent in informing the rank and file members of the APA and the affiliated organizations; namely, the ABPS and the AAFS of the serious problem that exists presently within our Profession.

After much discussion with leaders of the APA, AAFS and ABPS it is apparent to me that I am not a doomsday prophet, but that we have a very real very serious problem existing within our Profession presently.

I am speaking of the pending filed law suit between the AAFS, the APA and the ABPS. I do not believe that if the rank and file members of these organizations were made aware of the potential disaster that could come from this law suit that they would be in favor of pursuing this type of action on either side.

I will attempt to remain brief. It is my understanding, and I do not have all of the facts, that the AAFS is suing the ABPS, the APA, and other affiliated organizations for equal standing as far as recognition goes. That is, if the ABPS is a recognized Board in hospital based foot surgery, the AAFS then wants to be a recognized Board in office based foot surgery. If the AAFS Board is not recognized as an accredited Board, then they feel that there should be no Board accreditation to ABPS. The AAFS contends that a single Board recognition or accreditation by APA or by CPE, an affiliate of the APA, constitutes a serious restraint of trade; whereby, eventually only those Board Certificated by the ABPS will be able to get on to hospital staffs and possibly reimbursed by third party carriers. The ABPS in turn contends that only one Board may be accredited, otherwise diluting the credibility of our Board Certification.

It appears to me, that both aides have some points to make. In a recent letter that I received as an ABPS member the last paragraph refers to settling this issue once and for all in a court of law. This is a very accurate statement. If the Profession chooses to carry this case on in a court of law then organized Podiatry will no longer exist as we know it. Leaders of all three of the organizations involved agree with this statement in personal conversations with me. Any of you who have personal knowledge of anti-trust cases are aware that a few issues are constant in an anti-trust case. Number one, if litigated, anti-trust cases take extremely long periods of time to drag through the courts. Number two, the attorneys fees on all sides of the issue are extremely high, as anti-trust lawyers are specialists in their field and command extremely high fees for their services. Number three, if the AAFS were to win the law suit, they would collect treble damages. In other words, they would collect three times the damages to them. Number four, if the AAFS were to lose the law suit, nothing happens to any of the parties except that they must each pay their attorney's fees.

Lawrence J Kales, DPM

Let's examine the possible implications. In the event AAFS were to win the law suit, they would force a resolution of the problem and they would bankrupt both ABPS and APA. Both organizations would *fold*. On the other hand, if AAFS loses their battle in the courts, which they are prepared to do, then they would bankrupt ABPS, the APA, and probably themselves due to the excessive attorneys fees that would be involved. The only winner, in answer to the ABPS letter, would be the attorneys, who would still be laughing all the way to the bank.

In August at the APA meeting in Florida an arbitration agreement was tendered to the APA by an independent fact finding Board. This agreement was the most beautiful arbitration document that I have ever seen. It allowed for, the maintaining of the present accreditation to the American Board of Podiatric Surgery, but it established two arms for the ABPS. One arm would be the hospital based surgery arm, namely the present ABPS. The second arm would be the ambulatory office based arm, namely the present AAFS Board. There would be a common Board of Directors made up of two men from each of the Boards. Each Board would maintain their autonomy within their own Board. This arbitration agreement was acceptable to the AAFS at the time. It was voted down by the House of Delegates at the annual meeting. Interestingly enough, the major objectors at the House of Delegates meeting were your representatives who coincidently happen to be members of the ABPS, which I believe to be an extreme conflict of interest.

In summation, I would strongly suggest that you as the rank and file of the APA, ABPS and AAFS *write, call* and **demand** that this issue be settled quickly and quietly and inexpensively at the arbitration table without expensive attorneys, or else the Profession, as we presently know it, with a strong National organization and with strong independent affiliates, will no longer exist.

1043 Curtiss Ave.
Downers Grove, Ill. 60515

1900 E. Pikes Peak
Colorado Springs, CO 80909

WHEN ADVISING OF CHANGE OF ADDRESS PLEASE INCLUDE PREVIOUS FULL ADDRESS WITH ZIP CODE ALLOW SIX TO EIGHT WEEKS FOR PROCESSING

Lawrence J Kales, DPM

ABAFS and ABPS Complete Merger

On March 15, 1984 the Merger between the American Board of Podiatric Surgery and the American Board of Ambulatory Foot Surgery became official.

The final steps were accomplished on March 6 when the Articles of Merger were filed with the District of Columbia Department of Consumer and Regulatory Affairs, and with the Commonwealth of Pennsylvania Department of State Corporation Bureau. These filings spelled out the details of the merger including the representations and warranties by both parties, the amendments to the ABPS Bylaws required by the merger agreements.

The ABAFS actually went out of existance on March 15. Since that date, however, it's officers and board members have continued to function as an informal committee working closely with Academy President Stanford Rosen, the Academy's Board, and with Academy counsel Evan Spelfogel to insure that the transition into a merged certifying board will be a smooth one, consistent with the spirit of the agreements.

Under the merger there are two sections -- the "American Board Section" and the "Ambulatory Section." The members of both are collectively referred to as "members of the ABPS." All of the present certified Diplomates of the former ABAFS, and all those who complete their requirements by mid-1985, will be "Diplomates of the American Board of Ambulatory Foot Surgery, a Section of ABPS."

Dr. Frank Toepp, past president of the ABAFS and Board Member of the Academy, has been designated to serve as the Ambulatory Sections's first representative on the new ASBPS Board of Directors. Dr. Abe Plon, past president of the Academy, and Dr. Louis Shure, have been selected to represent the Ambulatory Section as members of the ABPS Credentials Committee. The Ambulatory Section will also have three representatives on the ABPS Examinations Committee. The first designees are Drs. Ronald J. Strauss, Donald D. McGowan, and Marvin Z. Arnold. Dr. Toepp has already attended several meetings of the new ABPS Board, and has reported back to members of the Ambulatory Section and to the Academy's Board. He feel there is a true spirit of cooperation, and an effort to insure that the merger will be everything we have hoped for.

Many thanks in the negotiation and implementation of this merger must go to past presidents of the ABAFS — Frank Toepp, Herbert Greenberg and Ronald J. Strauss; to past and presidents of the AAFS B. Robert Fabricant and Stanford Rosen, to all of the members of the Boards of both the ABAFS and the AAFS, and of course to the counsel Evan Spelfogel.

In the coming months they and the Academy's Executive Director Gare LeCompte along with Ambulatory Board's Executive Director John Graziano will be working closely together with their counterparts at the ABPS to iron out whatever remaining matters may come up during transition period.

Lawrence J Kales, DPM

American Board of Foot and Ankle Surgery

Minutes
Forty-Ninth Annual Business Meeting
Los Angeles, California
February 9, 2023

1. The President, Dr. Jeffery Giesking, called the meeting to order at 12:05 pm and welcomed those present for the 49th Annual Meeting of the Members of the American Board of Foot and Ankle Surgery (ABFAS)

2. The minutes of the 48th Annual Meeting, held on February 24, 2022, were approved.

3. In 2022, ABFAS launched the inaugural "Surgeons of Tomorrow" essay/video contest. Students from all 10 podiatric colleges submitted videos or essays answering two important questions:

   - Why is ABFAS Board Certification important to you as an aspiring podiatric surgeon?
   - How will you use it to benefit your patients?

   Dr. Giesking recognized the following students:
   - Faith Carelli, essay contest recipient, Des Moines University College of Podiatric Medicine and Surgery
   - Remi Drake, video contest recipient, Arizona School of Podiatric Medicine at Midwestern University

4. The American Board of Foot and Ankle Surgery Michael L. Stone Outstanding Professional Conduct Award is presented to the graduating senior who exemplifies the highest standard of professionalism, deportment, and ethics in the student's interactions with peers, patients, professors, and staff. The award includes a recognition plaque and a cash award of $2,000 to be used at the student's discretion.

   Dr. Giesking acknowledged the following students:
   - Shadi Mattar, Arizona School of Podiatric Medicine at Midwestern University
   - Stephanie Aroworade, Barry University School of Podiatric Medicine
   - Jordan Franklin, California School of Podiatric Medicine at Samuel Merritt University
   - Emily Zink, Des Moines University College of Podiatric Medicine and Surgery
   - Miriam Jones, Dr. William M. Scholl College of Podiatric Medicine at Rosalind Franklin University of Medicine and Science
   - Kyra Iluzzi, Kent State University College of Podiatric Medicine
   - Gregory Rose, New York College of Podiatric Medicine
   - Emily Cziraky, Temple University School of Podiatric Medicine
   - Katherine Gutierrez, Western University of Health Sciences, College of Podiatric Medicine

5. The Board recognized a moment of silence for ABFAS Past President Dr. Samuel S. Mendicino, and the leaders we have lost who served our organization so well.

Lawrence J Kales, DPM

- **Future Plans:**
  - Ongoing item writing training for didactic item writers
  - Membership Survey
  - Board of Directors Strategic Planning Session
  - Major database upgrade for ABFAS
  - Updates to the LEAD site (spaced repetition of missed questions, select category area percentages, etc.)
  - Midwestern Conference exam preparation presentation

7. Dr. Michelle Butterworth, Secretary/Treasurer, presented the membership report as of December 31, 2022.

ABFAS Diplomates and Board Qualified					
	Ambulatory	Foot & Ankle	Foot	Foot & RRA	Total
Certified	19	724	4,813	1,840	7,396
Qualified			853	1,542	2,395

Total Board Certified and Board Qualified						
Calendar Year-End	2017	2018	2019	2020	2021	2022
Certified	7,069	7,123	7,193	7,262	7,368	7,396
Qualified	2,278	2,327	2,412	2,411	2,449	2,395

8. Dr. Butterworth provided an overview of ABFAS' financial condition. A breakdown of revenues and expenses indicated the following:

Revenue FYE August 31, 2022

Revenue:	Total Revenue
Annual Fees	$ 3,136,698
Examination Fees	2,486,353
Verification Fees	1,264,541
Investment Income	(1,261,308)
Total	$ 5,626,284

Expenses FYE August 31, 2022

Expense:	Total Expense
Administration	$ 1,242,012
Board Activities	281,903
Committees	895,446
Examinations	1,584,919
External Organizations	24,563
Legal	58,806
Occupancy	246,788
Personnel	3,210,159
	$ 7,544,596

Editorial

The Rocky Road of Marriage

Discord in any marriage is a matter of concern for both parties. It gives a "warning signal" for both parties to reassess their actions, and reach for positions to reduce antagonism and encourage the harmony necessary for survival of the marriage. The only alternative to this sensible patter is to file for divorce, without any attempt to preserve the union.

The signs of discord in the "marriage" of associations, such as the Academy and the A.P.A., should be viewed and treated in the same light. That is, it should be seen as a "warning signal," a call for sensible effort to avoid future problems which could result in divorce.

Since the beginning of the year, as the Academy endeavored to meet all conditions of its "marriage" with the A.P.A., we have seen antagonisms grow.

We watch as others try their darndest to scuttle the negotiated compromise that brought peace to our profession. We see them suddenly change the membership requirements of the American College of Foot Surgeons, to exclude ambulatory surgery diplomates from the same privileges accorded their other ABPS diplomates. We see one powerful major state podiatry association act on a resolution that denies recertification of those ambulatory diplomates in ABPS who had not served residency programs. We see ABPS excluding ambulatory surgeons from board certification processes specifically named in the settlement.

And we watch A.P.A. officials say that ambulatory procedures should only be used for "minor problems," thus ignoring what the majority of this profession clinically practices throughout the country. Then, when it comes to fairly dealing with the grievances of Academy members now being forced to join the A.P.A., they propose a list of their members without knowledge of the Academy (while we used Academy members to initially form our grievance boards who had remained members of A.P.A.).

As signs of discord were becoming increasingly evident, Academy President Stanford Rosen telephoned A.P.A. President Charles Bradley and called for a meeting between presidents, vice presidents and executive directors to be held in mid-April in Chicago. The Academy pledged to continue to progressively work for the marriage with A.P.A., and the A.P.A. stated it would strive to heal the wounds and endeavor to prevent any more wounds from being inflicted on the Academy.

A.P.A. leadership said, however, that they were "powerless" to control the hostile actions launched against the Academy by state societies and A.P.A. affiliated organizations. Harassment by state associations, other A.P.A. affiliated organizations and boards, and state boards, they saw as "the Academy's own problem" to deal with, and not the A.P.A.'s problem.

An editorial is a personal statement of the Editor, and as they say on the radio commentaries, "the views stated are those of the speaker and do not represent the views of this station." Now that I've made this very true disclaimer—and because as Editor no one has the ability to edit my remarks —I can clearly state what is on my mind.

I'm concerned that the Academy and its members are being attacked in spite of the agreements entered into with two other associations in our profession, the A.P.A. and the ABPS. I am concerned when these agreements are disregarded, such as when ambulatory participation in ABPS examinations are blatantly denied for asinine reasons. When a state attorney general files an anti-trust suit against a state association for using its powers in a manner antagonistic to the public good, and the case that started the matter was against one of our senior members, *and* the A.P.A. supports the state society against him, including using their own attorney, my level of concern goes sky-high!

Then, when I find out that the list of individuals selected to issue "final decisions" on the fate of the grievances filed by Academy members who petitioned not to be forced to join their state association was "stacked" to largely avoid A.P.A. members who were also members of our Academy, my concern becomes one of "fear" that our members will not be fairly treated.

Our Academy has really "walked the line", as Johnny Cash sings, in sticking to the straight-and-narrow path to make this marriage with A.P.A. work. We've followed the dictates of our members in reaffiliating with A.P.A. with our compromise settlement. And, we've had to fairly deny some of the grievances of some of our members, to follow the direction set by the majority of our members.

But when the other partner in this marriage promotes discord and allows other parties to negatively enter into the picture, claiming they are powerless to protect their spouse, then I think we have to take the gloves off to deal with these hostile actions and reassess our position.

It's now time for the "marriage counselor" on this marriage that has yet to see its wedding night. We should be ready to continue to work to save the marriage. But any settlement of marital discord takes the work of both partners to save the marriage. From where I'm sitting, it's up to the A.P.A. to start holding up its end of the marriage contract, and stop the harassment of this bride by other members of his official family.

I'm anxiously waiting for A.P.A. to progressively work to save this marriage. Perhaps I'm anxious because I have one of the grievances being heard by the A.P.A. But my concern is for the overall health of our marriage, and the Academy's desire that peace and harmony dominate in our profession.

Executive Director's Notes

The Maturity Shows

Lawrence J Kales, DPM

ABMSP

Boots Horowitz, DPM

Path to certification for all DPM's multiple categories including MIS

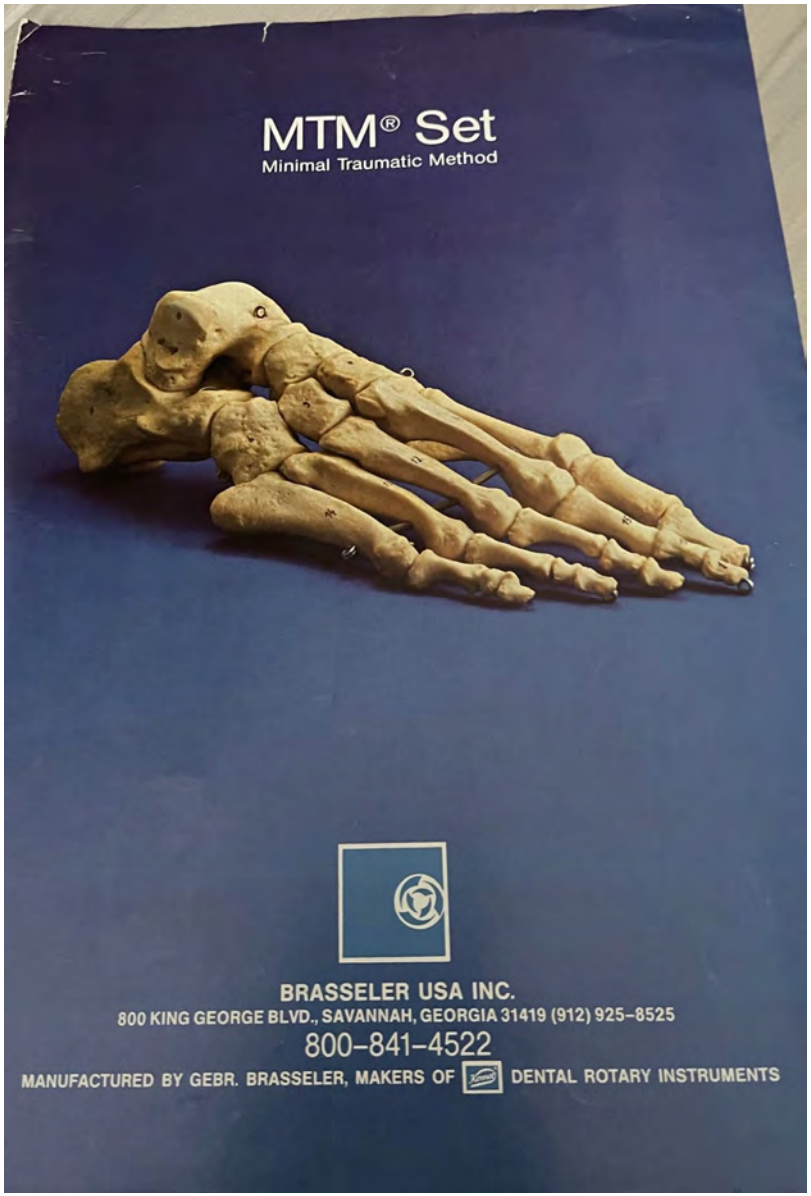
Beth Pearce, DPM

Keeping Boots vision alive and well.
Necessity to become ABMSP Certified in MIS

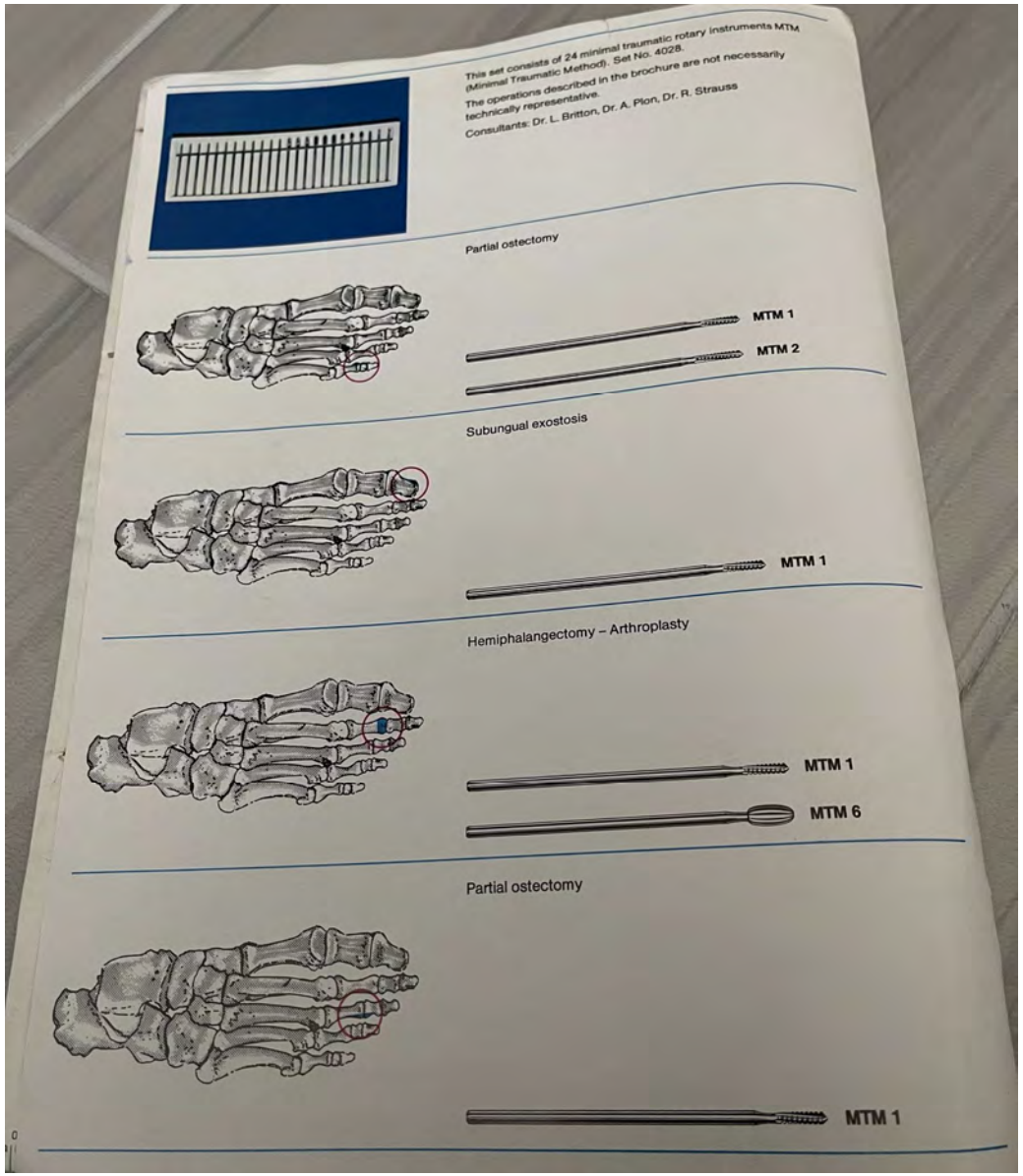
Lawrence J Kales, DPM

Lawrence J Kales, DPM

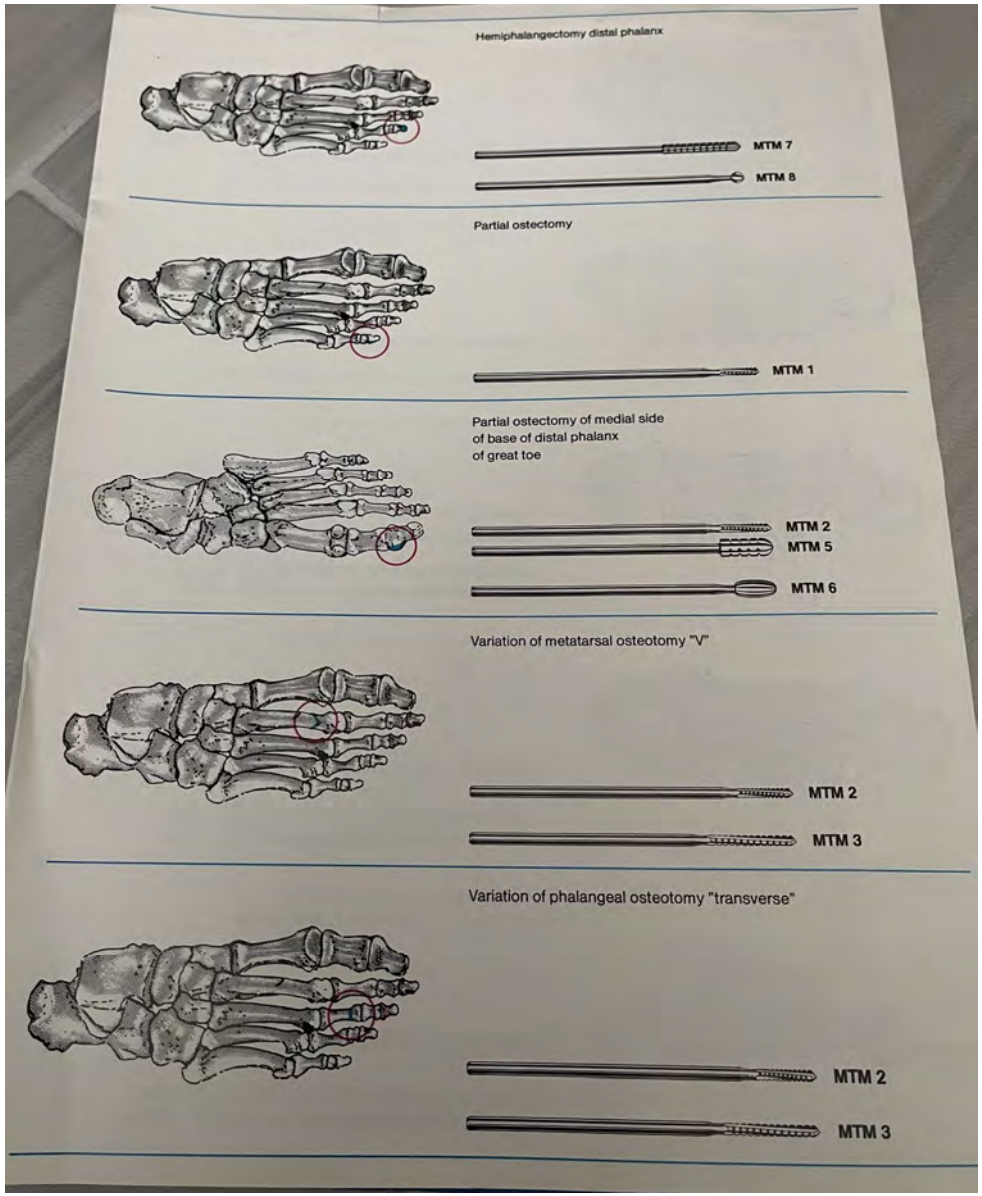
Lawrence J Kales, DPM



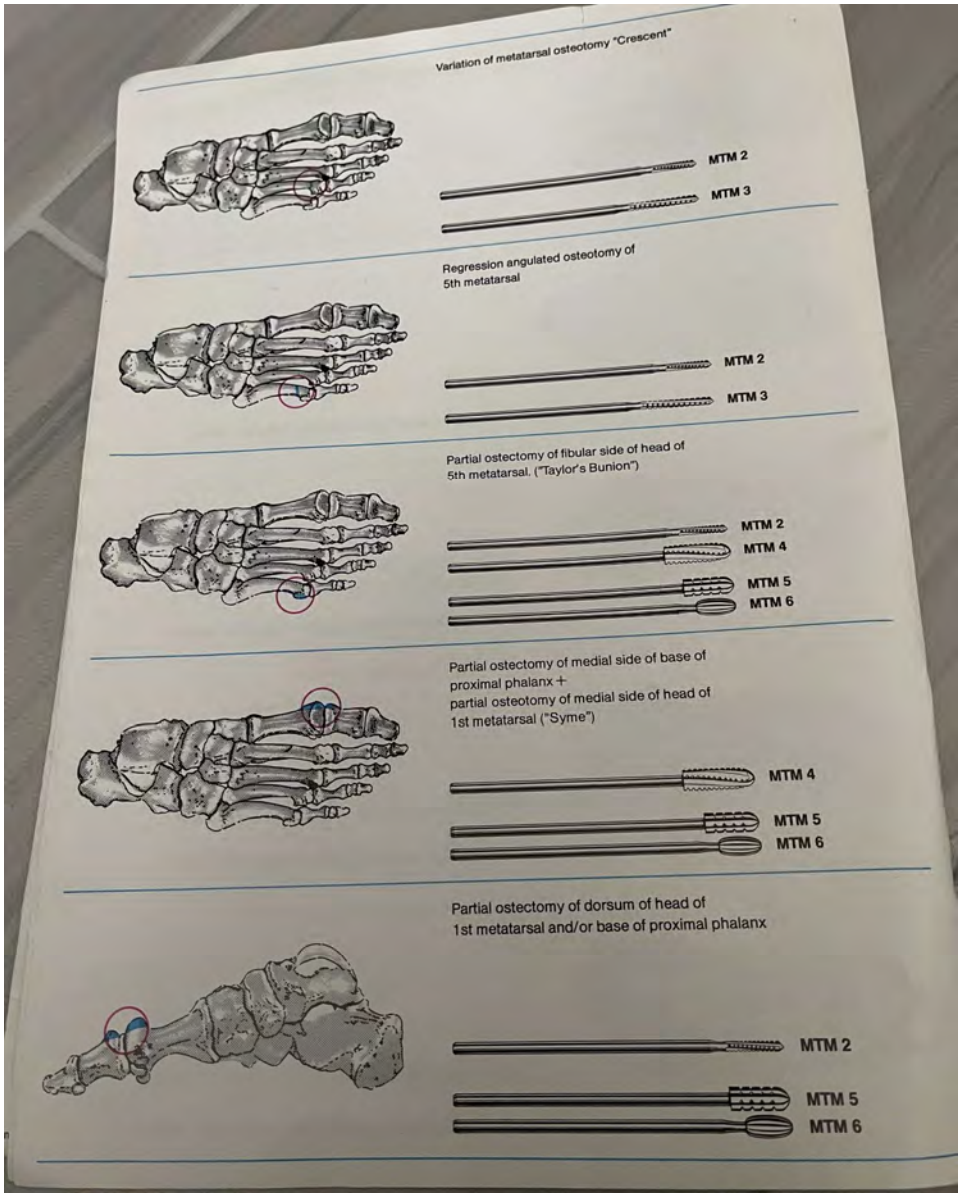
Lawrence J Kales, DPM



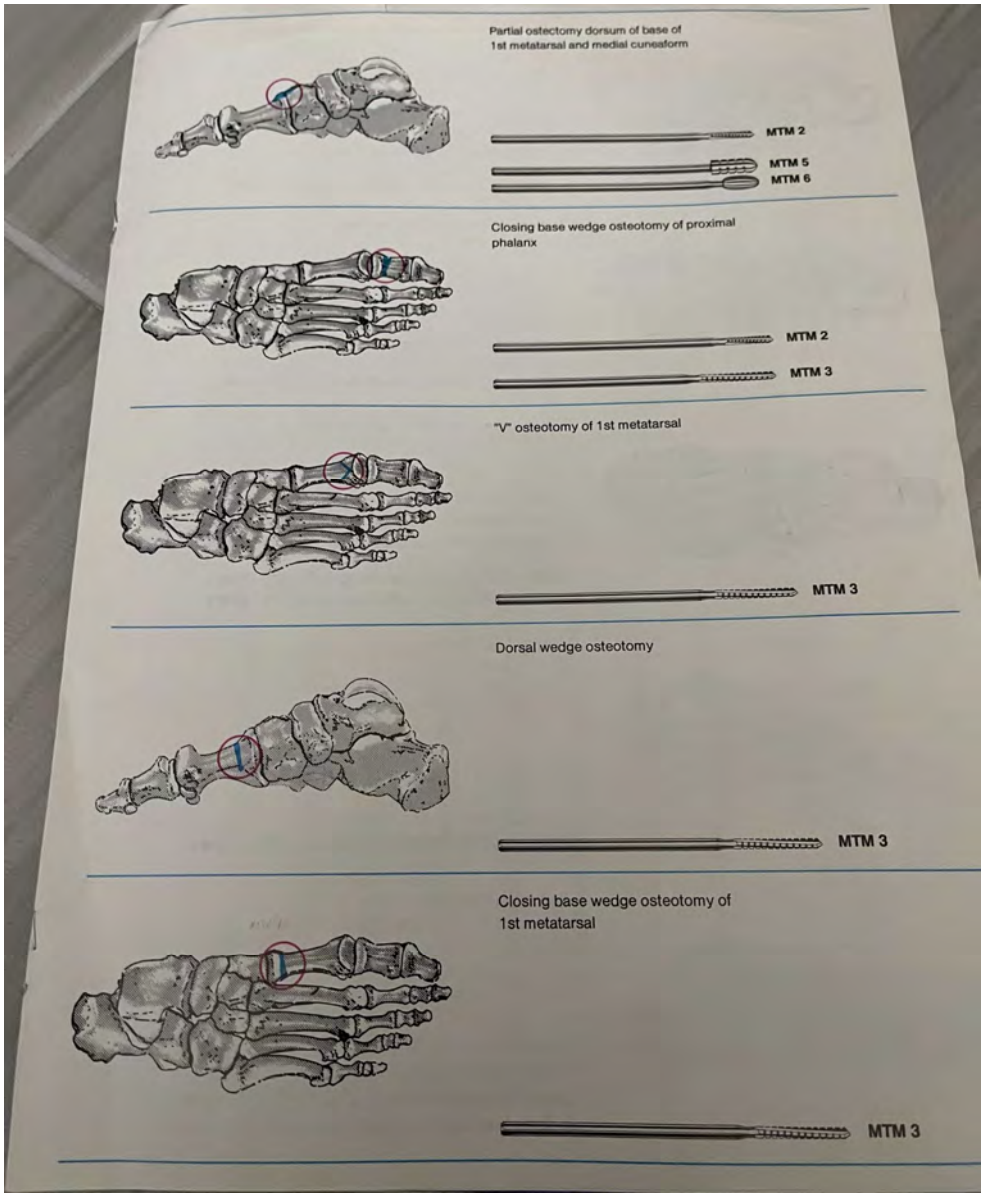
Lawrence J Kales, DPM



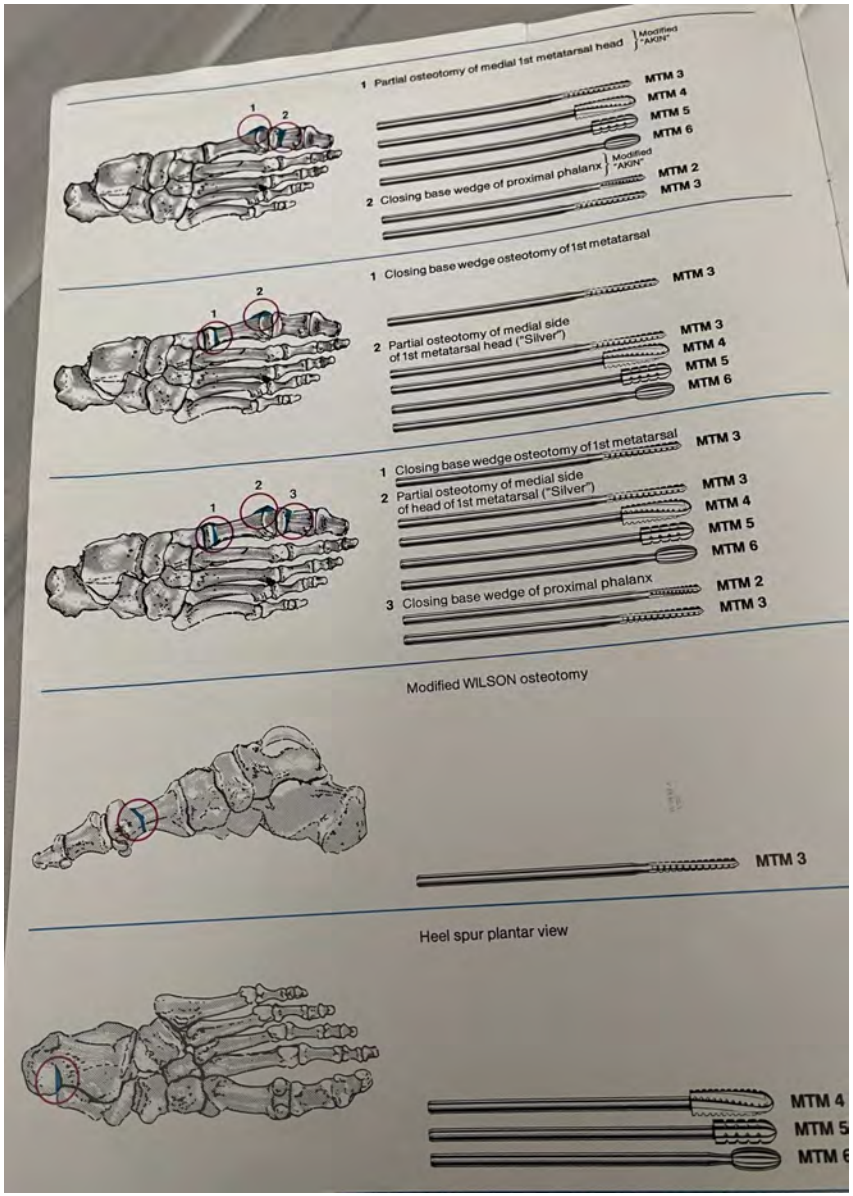
Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM

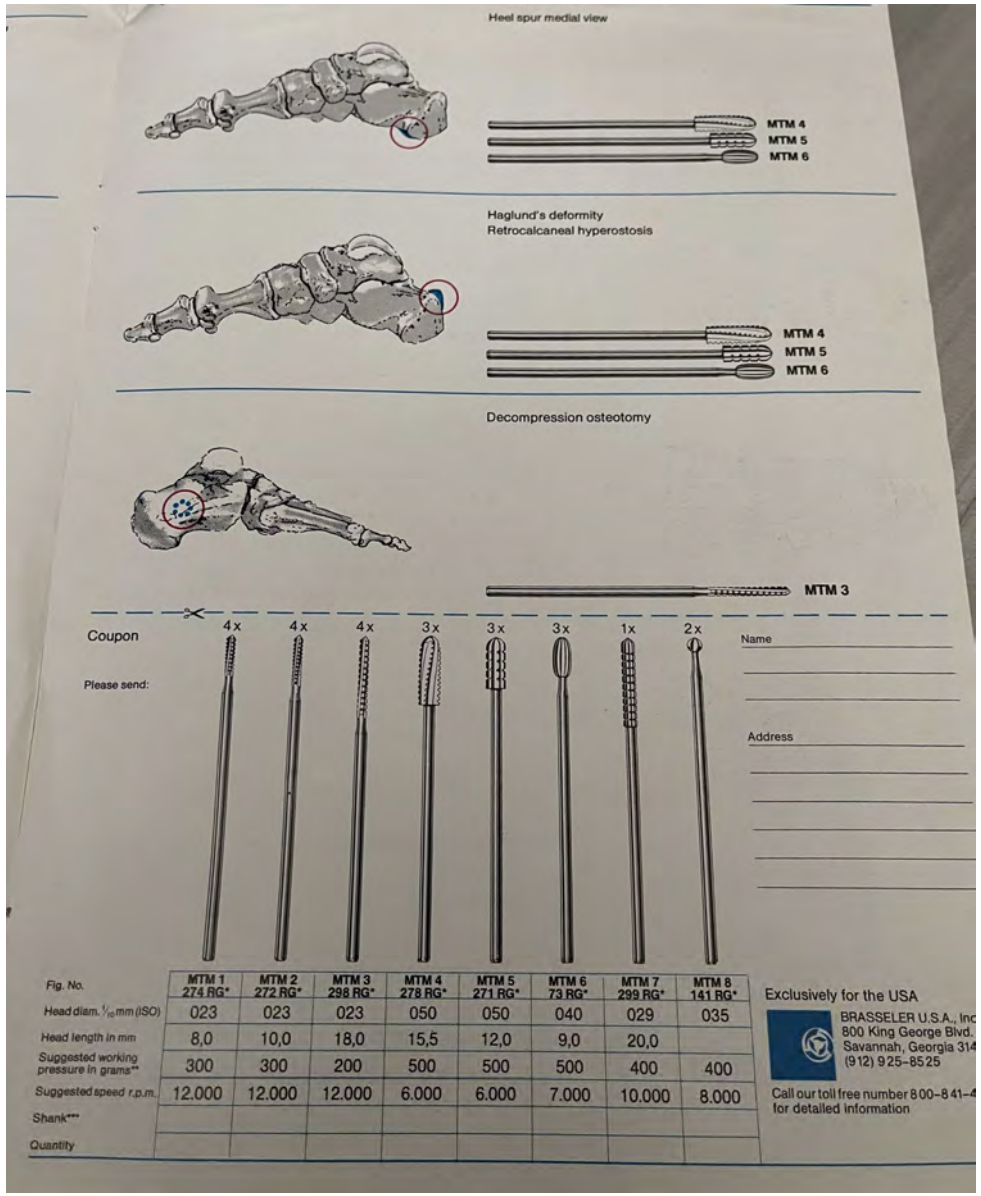


Fig. No.	MTM 1 274 RG*	MTM 2 272 RG*	MTM 3 298 RG*	MTM 4 278 RG*	MTM 5 271 RG*	MTM 6 73 RG*	MTM 7 299 RG*	MTM 8 141 RG*
Head diam. 1/10 mm (ISO)	023	023	023	050	050	040	029	035
Head length in mm	8,0	10,0	18,0	15,5	12,0	9,0	20,0	
Suggested working pressure in grams**	300	300	200	500	500	500	400	400
Suggested speed r.p.m.	12.000	12.000	12.000	6.000	6.000	7.000	10.000	8.000
Shank***								
Quantity								

Lawrence J Kales, DPM

Seven Years Of Podiatry Progress Of The Academy Of Ambulatory Foot Surgery

Seven years ago, when several hundred podiatrists who had developed skills and new instruments to perform foot surgery in their offices, decided to form a new subsidiary organization within the profession . . . little did they dream what they had wrought.

Membership in this organization is now nearing 2,000, plus major supporting student groups in three of the colleges of podiatric medicine, and a woman's auxiliary.

The theme of the Academy set the target for the Academy and its members, a theme which has been adhered to faithfully: "Ambulation, Rehabilitation, Education."

Yes, as pioneers in ambulatory surgery, members of the Academy placed emphasis on minimizing the trauma of surgical procedures and keeping patients ambulatory and productive. So successful has this trend become, that a study by the Illinois College of Podiatric Medicine concludes that podiatrists have saved the consumer $100 million last year alone in unnecessary hospital costs and loss of productive time — not to speak of discomfort and pain.

Rehabilitation is the keystone of the A.A.F.S. theme because the members have relieved thousands of pain and suffering and given men, women and children the ability to enjoy walking, running and indulging in sports in comfort.

Education, of course, is the basis for the success of the Academy because this organization places tremendous emphasis on undergraduate education for the student — and continuing graduate education for its membership throughout the nation and overseas.

As part of its move to educate, the Academy has directed a considerable amount of its effort towards public awareness and education. In the past seven years, messages of interest to the consumer have appeared in thousands of newspapers, national and local radio and television, and national publications. This is a continuing effort which continues to bear fruit not merely for members of the Academy — for all of Podiatry.

Best estimates are that over 200 million viewers have seen A.A.F.S. messages on TV, 40-50 million heard network and local messages on radio. It is difficult to estimate readership for columns, stories on the Associated Press and United Press International or in local newspapers. This has brought the profession of Podiatry to the forefront for the first time in a constructive, positive impact utilizing legitimate news and feature material and subject matter of vital interest to the public.

For example, our messages have appeared on NBC-TV, ABC-TV, CBS Radio, McCall's, Sports Illustrated, National Enquirer, Midnight Globe. Stories are upcoming in Argosy, Good Housekeeping and Ladies Home Journal, and on the Arlene Frances Show (300 stations).

On the educational front, the A.A.F.S. has maintained an important high profile. For example, the Academy has helped the Illinois College of Podiatric Medicine establish the first Ambulatory Foot Surgical Center with member contributions in excess of $15,000. The Academy has established a program for training preceptees in ambulatory surgery, and has undertaken programs to train foreign podiatrists in ambulatory techniques while exchanging information with professionals in other countries.

In the 10 regions of the Academy in this country, at least four scientific sessions are held each year for a total in excess of 200 regional and local seminars and study groups.

It is estimated that nearly 5,000 podiatrists attend these regularly scheduled seminars and workshops, plus an additional 1,000 who attended two major seminars at the Illinois College; two sponsored by the Ohio College, including a cadaver surgery

Lawrence J Kales, DPM

seminar in New Orleans; and two at the New York College, including a cadaver surgery seminar.

Contributions by the A.A.F.S.

(All contributions designed to further the teaching of ambulatory foot surgery)

Illinois College of Podiatric Medicine	$27,000
Ohio College of Podiatric Medicine	11,000
N.Y. College of Podiatric Medicine	6,000
Penna. College of Podiatric Medicine	3,000
Calif. College of Podiatric Medicine	3,000
Total	$60,000
Contribution towards joint study by the Veterans Administration, on effects of ambulatory surgery in relations to aging veterans	$20,000
Estimated support of regions to establish seminars	$15,000
Public Relations fees, radio and TV and expenses for continuing program and national conferences (does not include printing and mailing)	$55,000
Assists in establishing residency programs, ladies auxiliary, student groups	3,000
Estimated return of honoraria by members of the Academy who act as faculty during lectures	35,000
Preparation of films, video tapes, slides for education of students and members	3,000

Benefits to Colleges from Seminars

Illinois College of Podiatric Medicine	$20,000
Ohio College of Podiatric Medicine	34,000
N.Y. College of Podiatric Medicine	33,000

Hotline

This hotline, restricted to members, has responded to inquiries on 3rd party and Social Security Adm. problems, other problems with governmental agencies, malpractice threats, and advice on technical problems encountered by members. Estimated over 15,000 calls processed.

Literature

In addition to a consumer brochure, the Academy distributed free of charge to members Dr. Seymour Kessler's manual "Instrumentation and Tray Set-Up for Ambulatory Surgery."

Scholarships

The New York, Illinois, Pennsylvania and Florida regions have made grants to students and to colleges to provide scholarships for worthy and needy podiatric students. All regions are planning to provide similar funds for scholarships.

Scientific Papers

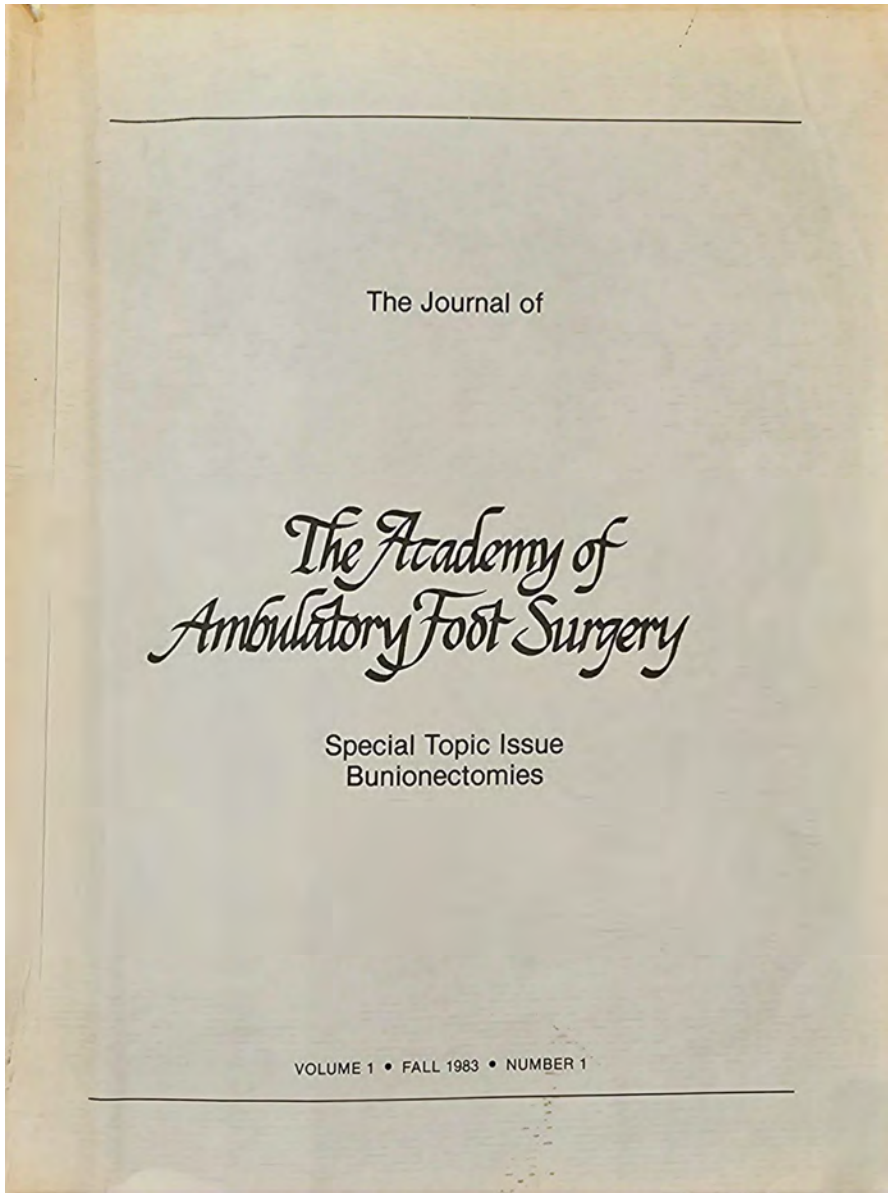
The A.A.F.S. instituted, three years ago, a scientific writing contest, with winners hosted at the annual conference. This has acted as a stimulus to research and progress at all levels of the professions.

These papers are published in the Academy's quarterly Newsletter, as are technical papers by Academy members. In the fall a complete collection of scientific papers will be published in a Journal for distribution to A.A.F.S. members at the 7th National Conference in San Diego.

American Board of Ambulatory Foot Surgery

This Board was established in 1975 to encourage excellence and superiority in ambulatory foot surgery. The Board is composed of seven men and a certifying examination is given once a year, usually at the annual national conference of the Academy. Its standards are such that a podiatrist who is certified can be considered at the top of his profession.

Questions for the written exam are submitted by department heads at the Colleges of Podiatric Medicine. Thousands of questions are received. Selected questions are then forwarded to an independent testing service, which selects 100 questions in each of five subjects. The Board has no way of knowing which questions will be selected because extra questions are subsequently destroyed. The 100 questions for each subject is put into booklet form and is locked up until the day for testing. The independent testing service administers the examination. Upon completion, all exam booklets are collected by the ITS and removed from the premises. All are marked by computer, assuring complete fairness. Approximately two to three months later, the candidate receives his marks from ITS, with a copy to the Secretary of the Board. The day after the written exam the Oral examinations to candidates are given by two or more Diplomates to insure fairness. The oral part usually takes 15 to 20 minutes, and these papers are also forwarded to the testing service to be correlated with the written exam.



Lawrence J Kales, DPM

The Journal of The Academy of Ambulatory Foot Surgery

VOLUME 1 / NUMBER 1 / FALL 1983

Contents

Officers and Board of Trustees

Editorial Staff and General Editors

Regional Directors

Presidential Message
Robert Fabricant, DPM

Editorial: Cooperation and Contribution: *A Success Story*
Charles Philip Cangialosi, DPM

Editorial: A National Momentum for Ambulatory Surgery
Clare LeCompte, PhD

Podiatry's Role in Health Care: It's Time to Examine the Shibboleths
Richard Rothenberg, MD

3 An Internist's View: Diabetes and Elective Surgery
Herbert Gershberg, MD

7 Simple Bunionectomy and Hallux Valgus Correction (Akin Procedure)
Robert Fabricant, DPM

20 The Evolution and Modification of the Wilson Procedure for the Correction of Hallux Valgus
Dennis F. Augustine, DPM

25 Nutritional Support in the Ambulatory Surgical Patient
Cheryl H. Godfryd, RD

33 Podiatrists, Health Insurers, and the Federal Antitrust Laws: The *Hahn* Case
Andrew K. Dolan, JD, Dr. PH

36 The Oblique Displacement Osteotomy of the First Metatarsal
Seymour Kessler, DPM

40 Podiatric Infections: *An Overview*
Charles Philip Cangialosi, DPM

45 Modification of the Oblique Displacement Osteotomy of the First Metatarsal and its Relationship Hallux Limitus: *A Case Study*
Denise M. Turski, DPM
Seymour Kessler, DPM

51 Preparing to Testify in a Malpractice Case: What Every Doctor Should Know
James B. Rosebloom, JD

55 A Review of Local Anesthetic Techniques
Robert S. Bennett, DPM

63 Sixteen Month Post-Operative Kessler Bunionectomy: *A Case Study*
Malcolm Herzog, DPM
Seymour Kessler, DPM

64 Treatment of Ingrown Toenail with Bipolar Electrosurgery
Eugene L. Bodian, MD

69 Pre-Surgical Criteria: An Outline
Marvin Arnold, DPM

72 Mathematical Modeling in Podiatric Surgery: *A New Approach to Biomechanical Evaluation*
Philip H. Delmp, DPM, MA, MS

74 Book Reviews

76 Guide Lines for Authors

Lawrence J Kales, DPM

Selected Reprints

Ambulatory Treatment Of Osseous Pathodeviation By Metatarsal Osteotomy

Edwin Probber, D.P.M.*

Podiatrists have long considered neurofibrous intractable plantar lesions to be one of their most difficult treatment problems. A new method of coping with this elusive podiatric enigma was recently brought to our attention; even though medical writings show that physicians have, for more than fifty years, used this basic approach for the treatment of other bones in the body. It was not until 1968 that this technique was adapted for use in foot therapy.[1] Estimates taken on a nationwide survey, taken at the beginning of 1972 (personally conducted) revealed that more than ten thousand of these operations have been performed and documented.[1]

The first podiatrist to officially publish information on this method of treating feet was Joseph B. Addante, D.P.M.[2]. This Massachusetts podiatrist observed several patients who were apparently cured of plantar keratosis after accidental fracture of the involved metatarsals. These incidents persuaded Dr. Addante to perform and report on metatarsal osteotomy as a treatment for intractable plantar keratosis.[1]

On February 27, 1971[6], Larry Hilderbrand, D.P.M., surgically demonstrated his version of Dr. Addante's basic technique. It was this experience that motivated me to substitute power equipment instead of bone forceps and to think in terms of small incisions. Between March of '71 and April of '72 I performed sixty eight metatarsal osteotomies using power instrumentation. Results have been close to astonishing; and this has been verified by communications and statistical information.

Through the application of this method, thousands who have suffered the excruciating pain of neurofibrous intractable lesions, can now experience complete relief of their agony with resultant permanent correction. In addition to relief of pain, one of the most appealing aspects of this approach is that the patient ambulates immediately and can most always continue to work. The patient walks into the office, the surgery is expediently performed, the patient then puts his shoes back on and walks out of the office. Post operative discomfort varies; ranging from complete absence to moderate. Pain however, is of short duration and easily controlled. Occasionally, the sensitive patient may find it necessary to stay off their feet for a day or two; however, the individual who is operated upon Friday, can usually return to work on Monday.

Our technique is an exacting scientific procedure designed primarily to alleviate painful plantar exerescences by redistributing weight. Osteotomy may also be used on the first metatarsal and/or the proximal phalanx of the first toe for the correction of hallux valgus and metatarsus primus varus. Nerve compression, chronic bursitis, Tailors bunion and other bone deviations can also be handled using this method. A fundamental thought in the application of osteotomy; it can be used to derotate and shorten bones.

The metatarsals constitute the most frequent location for the application of osteotomy. A survey of podiatrists who collectively performed twenty five hundred of these operations annually, revealed that 1% were performed on the First, 40% on the Second, 23% on the Third, 21% on the Fourth and 30% on the Fifth (personally conducted survey). Since this establishes statistically that the most frequent site for this procedure is the second metatarsal, we will use this bone as a model for explaining the technique.

Preoperative and post operative radiologic examinations are essential in doing this type of work. An axial view will show the profile of the involved bone; thus, revealing the depressed head, arthritic osteophyte, calcified bursa, or even the presence of an exostosis. Dorsoplantar views with markers over the lesion are also necessary and should be taken on weight bearing with the shoes being worn. This type of film survey will provide needed presurgical information, including the exact location of the lesion in relationship to the bony prominence while the foot is under its usual stress. Postoperative films can be helpful in refining ones' technique and can prove to be invaluable in medicolegal situations.

The surgical approach to correct intractable lesions by osteotomy is through the dorsum of the foot. After the customary presurgical workup and preparations, the area from the head of the second metatarsal to the middle of that bone is infiltrated on each side with a total of 4 or 5 cc. of 2% anaesthetic solution without epinephrine. It is essential that no tourniquet be applied; nothing must impede the flushing effect produced by normal blood flow. The foot is now prepared in the customary manner. By flexing the second metatarsal phalangeal joint and palpating it dorsally, one can locate the exact point at which the bone is to be osteotomized. This should be as close to the metatarsal head as possible. When anaesthesia is complete, a 1 cm. incision is made over the afflicted bone, just proximal to its head and parallel to the extensor tendon. The incision is deepened until the blade makes contact with the lateral aspect of the surgical neck. Next, the incision is entered with a blunt probe and the soft tissue is coaxed away from the bone at the point where the osteotomy is to be performed. Bearing the bone in this way

minimizes clogging of the bur and also serves to notch the bone so that when the drill is engaged it will be easier to continue cutting in exactly the desired location. Since the nutrient artery of the bone is located at the distal portion of the middle third of the metatarsal shaft, an osteotomy at this site should be avoided even though I could not find literature saying this could be harmful.

When doing this work, three different burs may be utilized. A linderman #168R[1] the superior bur but should not be used by the novice because the shank is thin and tends to break easily. A bur which barely "snaps" and which suffices beautifully for this work is the Shannon #44R[2] or the sake for the sake of facility. I call the last bur "Probber osteoclasis bur #1R[1]. This bur is strong. It has a greater diameter than the Shannon #44 and therefore cuts out a larger segment

Lawrence J Kales, DPM

of bone.

Working under the extensor tendon, use an up and down rocking motion from side to side to completely sever the neck. First state the bur slowly until the bone is well notched, and then more rapidly. Burs need to be cleaned or changed frequently when clogging occurs. The angle of the ostcotomy varies with the individual doctor. To-date, good results have been achieved with a perpendicular cut through the bone. Many variations have been suggested. O. Theodore New, D.P.M.[7] describes a method of weakening a bone through a series fo bur channels (Osteostixes) and subsequently breaking the bone mannually. Leonard Britton, D.P.M.[8] lectured on osteotomy initiated through a "fail safe hole" drilled through the center of the metatarsal neck.

Surgical dislocations may occur after performing these procedures. When this did happen, the foot readily compensated and healed uneventfully. After complete resolution, these patients ended up with asymptomatic normal functioning feet.

Osteotomy of the metatarsal brings about correction in two ways: 1) the epiphysis "floats," thus finding its proper level in relation to the other metatarsal heads. 2) The resultant bone shortening causes less weight to be borne on the afflicted segment. These factors help to bring about a more equitable distribution of weight between all the metatarsals. An important point to bear in mind is that the greater the bur diameter, the more bone excised the greater the tendency towards bone callus proliferation and the shorter the bone.

After osteotomy with a bur, fine particles are left in the wound. I have no misgivings about leaving this material at the surgical site. Many doctors have reported using suction to aspirate this "by-product," but it has been my experience that the presence of these small bone particles act as a bridge between the severed bones, thus enhancing the healing process.

Many doctors employ subdermal and simple skin sutures for closing the incision. My preference is to approximate the skin edges with a cross-over clamp, and then apply steristripsR[4]. A sterile guaze dressing with accompanying mild pressure is then applied. This bandage is usually removed five or six days after surgery and a lighter dressing applied at this time.

Indulging in any activity that might traumatize the operative site could produce serious complications. Infection, osteomylitis and even septicemia must be thwarted at the very onset. Patients must be impressed with the importance of following the post operative instructions to the letter. It is the obligation of the doctor to see the patient often until the wound is completely healed.

Generally speaking, I like the patient to walk out of the office wearing their own shoes, providing they offer proper support. This permits healing to take place in a more natural environment and keeps the operative area protected by a dynamic cast.

During the first few weeks following surgery some patients experience a clicking sensation. Another sequella which may follow osteotomy is the appearance of a mound or lumb over the incision spot. This is caused by the proliferation of new bone callus; a necessary body reaction to the normal healing of bone. Any unusual aftermath must be carefully explained to the patient.

A problem which has occurred in 8.2% of all cases is the so called transfer lesion, (personal survey). Some doctors have reported incidence as low as 5%. Concensus of opinion indicates that the majority of these conditions appear between six and eighteen weeks postoperatively. If none develop by that time, they are likely not to appear at all. Transfer problems never seem to be as painful as the original complaint, and since relief from the initial lesion is so much appreciated, patients seem readily ameanable to have a second osteotomy performed. Post surgical orthotics should be explored as a possible means of treating or preventing the transfer lesion.

A most satisfactory method has been presented for premanently resolving one of the most presistent and disabling lesions common to the human foot. The aforementioned basics have worked well for me and my patients.

*194 Jericho Turnpike
Floral Park, N.Y. 11001

References

1-2-3. Addante, Joseph: "Metatarsal Osteotomy as an Office Procedure to Eradicate Intractable Plantar Keratosis". A. P. A. Journal, Vol. 60, No. 10. Oct. 1970

4. Britton, Leonard: "Power Hallux Correction Using Wedge Osteotomy" Lecture notes, Dr. Probber Symposium, Key Biscayne, Florida, March 5, 1972.

5. Davidson, Murray: Personal Correspondence.

6. Hilderbrand, Larry: "Osteoclaasis, A Startling Dynamic Therapy for Weight Bearing Plantar Lesions", Dr. Probber Symposium, N. Y. C., Feb. 27, 1971, Lecture notes.

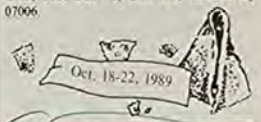
7. New, O. Theodore: "The "NEW" view to Ambulatory Surgery", Dr. Probber Symposium, N. Y. C., Feb. 27, 1971, Lecture notes.

R1. Linderman No. 168 Bur: Pfinsgt Co. Inc., 62 Cooper Square, N. Y. C. 10003

R2. Shannon No. 44 Bur: Hu Fredes, Chicago, Illinois.

R3. Probber osteoclasis bur No. 1: Lincoln Dental Supply, 1319 W. Medro Ave., Plhiladelphia, PA 19141.

R4. Steristrips: MMM Co. Products Division, P.O. Box 76, Caldwell, New Jersey 07006.



A Medical Legal Committee

I hereby request that any Academy member involved in a professional liability litigation, provide my committee with a copy of the plaintiffs professional podiatric witness' disposition.

Interrogatories or depositions that are taped could also provide important legal material that could benefit the membership.

Expert witnesses are constantly being sought. Board certification is a necessary prerequisite. If you are thinking of retiring or have spare time, this could be a golden opportunity to "uncork" your hidden talents for meaningful purposes. I would also like to note that it is the policy of the defendants attorney to reimburse experts for their time and expense.

Our meeting in New Orleans will probably be one of the most important get-togethers we will ever have. *Each one of you are personally involved.* Be there.

Edwin Probber, D.P.M.
194 Jericho Turnpike
Floral Park, N.Y.

Lawrence J Kales, DPM

Capsulatomy And Tenotomy Ambulatory Surgical Techniques

DONALD S. PRITT, D.P.M.

The objectives of surgical procedures for joint capsules and tendons of the foot are to reduce deformity, repair injury, and improve function. DuVries declares: "When a tendon is sectioned and the cut ends of a tendon are held in proximity to each other, not permitting the proximal end to be pulled away by muscle spasm, the ends undergo healing for four weeks, similar to wound healing of other soft tissues which takes about four weeks to become firm enough to withstand tension or traction."

In the practice of ambulatory foot surgery, this four-week period of healing progression dedicated to tension reduction with splinting, bed rest or some other form of non-traction trauma is eliminated. The patient is able to walk from your office and pursue normal activity in everyday discourse. Using the techniques of ambulatory surgery, small joints and tendons are operative by certain procedures of capsulatomy and tenotomy.

OPERATIVE OBJECTIVES AND INDICATIONS

In-as-much as tendons and joints of the foot lack the performance delicacy necessary as, for instance, in the hand, foot tendon and joint repair requires a "somewhat less meticulous surgical procedure." Shubert has suggested that surgical correction of digital problems should not only involve the relief of pain, but the restoration of function. Operative objectives and indications of capsulatomy and tenotomy, therefore, will conform to this purpose. They are used for reduction and correction of a variety of conditions.

For example, the techniques help to relieve pressure on the plantar metatarsals so as to cause atrophy of deep-seated callouses, especially the flat-type callous. Of the many foot problems, 85 per cent occur in the forefoot with contracture of the toes. Indeed, before other remedies are undertaken, capsulatomy or tenotomy procedures are carried out first to help realign the forefoot. They hold down the incidence of infection. The operator is careful to undertake a few operative techniques at a time so as to keep the feet in balance and maintain the patient in ambulation.

The two procedures are excellent for achieving reduced symptoms of metatarsalgia and Morton's toe problems. Their accomplishment may preclude the necessity for excision of osseous hypertrophy. The aid intaking off pressure from scar tissue, mallet toes, hammer toes, prominent toe articulations and helomatous toe lesions in adjacent juxtapositioned toes. All this is done by relieving extension and flexion contracture against gravitational forces, usually at the metatarsaphalangeal articulation. Contracture of the digits is characteristic when long posterior muscles flex the distal phalanges in opposition to the interossei. There is counter-action and antagonism with one muscle force overpowering the strength of another and thus creating contracture.

The following tendons may be operated for treatment of the foregoing conditions: The flexor digitorum longus to relieve plantar flexion of the distal phalanx, the dorsal capsular tissue at the metatarsophalangeal articulation and at the lesser phalangeal articulations, the flexor digitorum longus which extends the proximal phalanx of the digit, the extensor digitorum brevis that assists that longus in extension of the proximal phalanx of the first digit and the adjacent three digits, and all associated structures relating to antagonists as a group or individually in counter-action to each other. This will include the interossei muscles when necessary. In short, the surgeon is the final judge which structures should receive attention.

THE OPERATIVE TECHNIQUE FOR CAPSULATOMY-TENOTOMY

Of course, usual care is given for preoperative preparation to insure sterility and afford anesthesia. These will be mentioned later in a miscellaneous category. For the operative technique entailing capsulatomy the extensor digitorum longus tendon is identified. This is carried out dependent upon the particular toe needing correction; one, two or three toes will have their lesser tendons identified. As many may be operated as necessary.

A tenotomy is carried forward first with the capsulatomy following through the same

Lawrence J Kales, DPM

incision. Your incision is made longitudinal to the extensor digitorum longus tendon amounting to one or one an one-half centimeters (cm) long. That is, a linear incision is made on the dorsum of the foot parallel to the tendon. Then deepen it by blunt and sharp dissection to free the tendon from the underlying and surrounding tissues.

Next, instruct your patient to dorsiflex the toe. At the same time, you should plantarflex the toe. The combined forces will cause the tendon to stand out markedly. it will become easy to locate. Use your sharp blade to transect the tendon from the dorsum downward by means of an incision one cm. in length, and retract your instrument.

At this time, the tenotomy accomplished and the only procedure intended to be performed, the incision site would be closed. Sometimes sutures are used for closure but frequently they are not because the incision is that small and suturing is unnecessary.

A capsulatomy accompanying the tenotomy will cause you to continue with the same linear incision. Make it as before one to one and one-half cm. in length parallel to the longitudinal axis of the extensor digitorum longus tendon and resect it. Then, locate the metatarsalphalangeal articulation beneath the tendon and bring your instrument blade vertically downward. Perform the capsulatomy by beginning the incision dorsally along the medial side of the joint and the lateral side as well. Forcefully manipulate the metatarsal-phalangeal articulation by grasping and moving the involved digit. In other words, plantar flex the toe downward and observe for freeing of the joint contracture.

Closure consists of Adaptic compression with fluff gauze applied over the incision area. Owens dressing with 2" x 2" gauze may be substituted. Follow the sterile dressings with an Elasticon wrap for compression. This will hold the gauze in place. The patient is allowed to ambulate thereafter.

What differentiates the use of capsulatomy rather than merely tenotomy alone? Chronicity or pre-set of the condition is the determinant. When the dorsum of the tendon contracts it pulls up the toe. Sometimes the dorsum of the capsule of the metatarsalphalangeal joint also is contracted. Your release of the tendon may not see the toe drop as freely into position as desired. The dorsal capsule, contracted as it is, will be holding it still. A simple transection through the capsule will cause a release of the digit. Thus, you will have carried out a capsulatomy.

POST-OPERATIVE EFFECTS

Ambulatory surgical tenotomy and capsulatomy are among the most simple and least complicated of techniques. Rarely will there be any complication. The only aftereffect may be ecchymosis, a discoloration of the skin caused by the extravasation of blood. This occurs from lack of hemostasis. The black and blue discoloration is insignificant and soon disappears. Nothing more in post-operative medication will be required than aspirin-phenacitine-caffeine tablets. The patients can walk out of your office and continue with regular daily duties.

MISCELLANEOUS TECHNIQUE INFORMATION

The cutting blade may be your smallest scalpel or even a Beaver Blade so that the incision could be smaller than one cm. If you are resecting three tendons of the same foot in juxtaposition, make use of the number 15 scalpel blade and incise the central tendon first. To preclude creating additional incisions dorsally on the skin surface, lay your blade flat so that it is lying against the dorsum of the foot. Then push it underneath the tendon of the next toe, turn it at its position beneath the tendon so that the sharpness faces upward. Plantar flex the toe and the tendon's contact with the blade's cutting edge will automatically transect the tendon. That way you'll have caused a minimum of soft tissue trauma. All three tendons may be cut in this manner. Other methods entail your making three small stab incisions one next to each tendon. Or make the initial incision directly over each tendon instead of incising linearly at the side at the surface of the skin. The Polokoff hook blade is unnecessary. Brown's technique includes making the incision dorsally between the skin and the tendon by means of a sawing motion. This should carry the cut only one half of the way through the tendon of the extensor hallucis longus. Thus a dorsally contracted big toe can be corrected with the same type of tenotomy technique. In the event the extensor hallucis longus does not drop upon partial cutting with the first incision, move your blade one cm. to the side of the incision and partially cut the tendon again. This should

Lawrence J Kales, DPM

Indications and Benefits of Tenotomies

ROBERT O. VAN HORN, D.P.M.

A few tenotomies were performed about twenty five years ago by certain chiropodists in hospitals. A longitudinal incision one cm. long was made over a metatarsal bone. A curved haemostat was then inserted into the wound and under the tendon. The tendon was delivered through the wound. The jaws of the haemostat were opened to free the tendon and allow the surgeon to section it.

Today the tenotomy is one of the most popular foot surgeries performed. It is employed by thousands of podiatrists in offices and hospitals throughout the United States. Snap tenotomies may now be performed with an eye blade while the toes are forcibly extended by the patient. The eye blade leaves only a tiny puncture wound.[1]

There are five basic indications for tenotomies. Tenotomies may be performed for any one of these reasons and the entire foot will benefit from the procedure. A leading podiatrist stated in a recent lecture that "more people have received more benefits from the tenotomy than any other single foot surgery".[2]

Tenotomies are indicated for the prevention and treatment of hammertoes. If tenotomies are performed early enough on digits that are contracted, but not ankylosed, hammertoes may be prevented. Extensor tenotomies may be all that is needed. Some more advanced cases of contracted digits may require flexor Tenotomies. If tenotomies are not performed early enough the toes may continue their contraction until ankylosis of a phalangeal joint occur and a painful skin lesion forms on the dorsal or distal surface of the toes. When a toe reaches this stage, it is usually necessary to remove some part of one of the phalanges to obtain a correction. A tenotomy is usually an essential part of the hammertoe correction.

Tenotomies are indicated for the prevention and treatment of calluses. When the digits are contracted they cause a distortion of the alignment of the metatarsal phalangeal joints. The retrograde force of contracted toes causes plantar flexion of the metatarsal heads with some metatarsal heads being forced down farther than others. This causes an uneven distribution of weight in which some metatarsals bear too much weight causing pressure points and eventually calluses. Contraction of the digits also cause a displacement of the plantar fat pad distally causing the feeling of skin over bone on palpation. These factors may be corrected with simple tenotomies.

Tenotomies are indicated for the treatment and prevention of neuralgia and neuroma. As stated before the retrograde force of contracted toes will cause plantar flexion of the metatarsals. As the patient bears weight the metatarsal-phalangeal joints are forced dorsally and the contracted toes plantar flex. This can be demonstrated on approximately 90% of your patients by pushing up on the ball of the foot. This excessive and uneven motion of the metatarsal heads and the bases of the proximal phalanges causes a pressure and a friction of the first, second and third distal branches of the medial plantar nerve. This irritation produces neuralgia. Over long periods of time, a neuroma may be formed. This pressure and friction on nerves can be corrected by tenotomies.

Tenotomies are indicated for the prevention and treatment of "heel spurs". The plantar fascia originates at the anterior aspect of the calcaneal tuberosity. It runs distally beneath the foot and finally divides into five parts which insert into the toes. If the toes are contracted, the plantar fascia is tight.[3] As the foot bears weight and the longitudinal arch depresses, an unusual amount of strain is put on the plantar fascia. Over a prolonged period of time this excessive strain and pull of the plantar fascia on

Lawrence J Kales, DPM

the tuberosity of the calcaneum will produce a hyperostotic shelf of bone called a heel spur. The tension and pull of the plantar fascia can be prevented or corrected by tenotomies.

Tenotomies are indicated for the prevention and treatment of plantar myofascitis. As stated previously, the plantar fascia divides into five parts and inserts into the toes. When the toes are in a contracted position, the plantar fascia is tight like a bow string, as the foot pronates even more pressure is put on this structure and a severe strain or rupture may appear in the fascia. Tenotomies will relax the plantar fascia and prevent tearing or rupture of the organ and pain will be relieved.

Five conditions have been described which can be prevented or treated by performing tenotomies. Tenotomies should be used in conjunction with other modalities such as physio-therapy and orthotics.

715 Adair Ave.
Zanesville, Oh. 43701

REFERENCES

1. New, O.T., D.P.M., Lecture Columbus, Ohio, July 22, 1978.
2. Hilderbrand, L.R., D.P.M., Lecture Chicago, Illinois, April 26, 1978.
3. DuVries, H.L., Surgery of the Foot.

Lawrence J Kales, DPM

Minimum Incision Surgical Techniques Borrowed From Rhinoplasty In Plastic Surgery

RONALD W. RIMELLER (79)
M.I.S. Course
LEONARD HYMES, D.P.M., PCFM

Minimum incision foot surgery has been defined as "a system of surgical techniques applied to the foot and leg. Treatment is performed through the smallest possible workable incision without direct exposure of the deeper surgical sites and with minimum surgical trauma to the surrounding tissues."[1] Many of the techniques used by podiatrists in such surgery have been borrowed from plastic surgeons. In fact, of the seven basic techniques listed by Hymes (brushing, sectioning, drilling, stab incision, initial incision, underscoring, and channeling)[2] all but one are commonly used, in modified form, in rhinoplastic surgery.

Briefly, a rhinoplasty is a remodeling of the nose performed through an intracartilaginous endonasal incision. Appropriate portions of cartilage, bone, and soft tissue are removed with knife, scissor, saw, chisel, and rasp. Septal work may also be involved. Basic techniques were developed by Poe (in 1887) and refined by Joseph, Aufricht, and others. A number of soft tissue techniques are employed in the course of such surgery.

Hymes defines an *initial incision* as "usually a stab incision that does not penetrate too deeply into the tissue. It is usually not much wider than the width of the #15 blade. It is usually in conjunction with further surgery that will eventually penetrate deeper into the tissues or in conjunction with bone surgery."[3] The endonasal rhinoplasty incision first employed by Poe and now used by all plastic surgeons is an example of this initial incision technique. A small incision is made within the nares, out of sight but affording access to all necessary structures. Poe best describes this technique in his paper on "The Correction of Angular Deformities of the Nose by a Subcutaneous Operation":

> I made a lineal incision completely through the upper wall of the left nostril, to the under side of the skin. This incision I widened laterally from the insertion of the upper border of the triangular cartilage half-way down the side of the nose, until I had a sufficiently large opening to permit the introduction of the instruments freely.[4]

A *stab incision* is "a small incision penetration to perform a specific task" while *blunt channeling* is using a blunt instrument "to cut a channel to the bony prominence."[5] Both M.I.S. soft tissue techniques are used in rhinoplastics. For example, when narrowing the bony base, a "stab is made in each lateral vestibule, and a subperiosteal pocket is developed with the Joseph elevator."[6]

Underscoring, defined by Hymes as "a sharp incision that is expanded under the skin in all directions characterized in mobilizing adhesions or loosening an area"[7] is also borrowed from the plastic surgeons. Fomon describes his technique as follows: "a straight pointed double-edged Joseph knife is introduced into the left incision and carried to the nasofrontal articulation in the plane immediately above the perichondrium and the periosteum. The knife is swept from side to side, separating the structures for a distance equal to the width of the blade; then it is withdrawn."[8]

Several bony techniques have also been borrowed. *Grooving (or sectioning)* of a bone is carried out by means of a Joseph saw or chisel and mallet. The "bridge with its hump is lowered by the use of long slender saw through the nasal bones, a 1 cm. chisel through the radix, and straight osseous scissors along the septum and the chondromucosal sidewalls."[9] And, in narrowing the bony base a two step approach is used. "A. Through a stab in the lateral vestibule a subperiosteal pocket is dissected; into this a Joseph saw is inserted for the osteotomy of the frontal process. B. A 5 mm. chisel inserted through the same entrance is used to complete the osteotomy when

Lawrence J Kales, DPM

Oblique Displacement Osteotomy For Correction Of Hallux Adducto Valgus

LOUIS J. SHAPIRO, D.P.M.

The standard procedures for correction of hallux adducto valgus have all had their beneficial results. The need for a myriad of procedures seems necessary for the deformity and foot type presented to the foot surgeon. In most cases, the trauma and soft tissue handling can be as disabling as the original problem. The patient is rarely able to return to normal function for six to eight weeks and can miss up to six months of his usual activities.

The modification of Wilson's Osteotomy[1] by Seymour Kessler, D.P.M.[2] returns the first metatarsal phalangeal joint and its soft tissue structures to its normal function. this would seem to be the ultimate goal of the foot surgeon. I believe this procedure approaches this ultimate goal. This paper will not deal with the Wilson Osteotomy, but Kessler's modification, which is significantly different.

In Kessler's original article, the intitial incision is made dorso-medial, approximately 3 cm. in length at the third distal of the first metatarsal. The osteotomy is also performed dorsally. Dr. Kessler still uses this approach on severe hallux valgus. On my visitation to his office, additional modifications were made. These modifications and others will be discussed in this paper. In a recent communication with Dr. Kessler, additional changes have been made, and will soon be published.

Operative Technique

An incision approximately ½ cm. is made, just posterior to the first metatarsal head, above midshaft (Fig. 1) and carried down to the bone. A power drill with a #44 burr® [3] is used to make the intitial fail safe hole through the shaft at a 45 degree angle (Fig. 2). the osteotomy cut is made from medial to lateral and carried dorsally to proximal (Fig. 3). Burrs are changed frequently to prevent clogging and bone burn. The burr is reintroduced at the fail safe hole and the osteotomy is completed plantarly at a 90 degree angle (Fig. 3). The distal portion should now be free to be displaced laterally.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Lawrence J Kales, DPM

Grasp the hallux and forceably manipulate it in a varus position while applying direct pressure on the medial side of the metatarsal head, moving the fragment laterally (Fig. 4). In 90% of the procedures, the hallux will realign itself, forming a congruous joint.

It is important that the hallux be forecably manipulated, at this time for the best alignment and help in slight varus position. If the hallux cannot be manipulated, one or more soft tissue procedures are performed. The extensor hallucis longus tendon is lengthened, using the Al Brown, D.P.M. technique[3]. In most instances, this is sufficient to allow the hallux to be free to align on the first metatarsal head. In most severe cases, additional soft tissue releases are necessary. A stab incision is made on the dorsum over the base of the proximal phalanx and the adductor tendon is released. The blade is then directed to the first metatarsal phalangeal joint and a lateral capsulatomy is performed. In our office, no sutures are used. This is the choice of the surgeon. Occasionally, a butterfly is used if there is gapping in the skin incision. The wound is covered with precut parachute silk, dipped in Ioprep® [2]. A folded 3 x 3 is then placed over the medial side of the metatarsal head and wrapped snuggly with 2 inch Kling® [3], using a prehensile dressing (Fig. 5). This dressing is reinforced with one inch tape. The patient is fitted for a surgical shoe, given written instructions for home care and a prescription for Tylenol with Codeine® [4]. The patient is dispensed Pediboro® [5] and begins soaks in four hours, thereafter, three times a day. The patient returns to the office in 24 to 48 hours for the first redressing. Post operative edema and discomfort are minimal. the previous described dressing is continued for three weeks when there is firm fibrous There is good boney callus in six weeks and no further dressing is necessary. The patient is permitted to return to most activity, slowly to their tolerance.

Fig. 5

Fig. 6

Summary

In our study of 150 patients, the age ranged from fourteen to eighty years. More than 95% were females, and the largest age group ranged from 60 to 70 years of age. All the cases were performed unilaterally. Instances where a second osteotomy was performed, it was done six to eight weeks later. Only further passage of time will herald this procedure as the first choice.

Advantages

1. An in-office ambulatory procedure.
2. Wide patient acceptance and acclaim; most publicized bunion surgery appearing in magazines, newspapers and live television.
3. Cost containment amounting to a $1000.-00 or more.
4. Minimal post operative morbidity, pain, edema and scarring.
5. No internal fixation or casting required.
6. Early resumption of activities and return to work.
6. A simplified technique which has an excellent success rate after several thousand procedures perormed in two years.
8. A podiatric procedure performed only by podiatrists.

Disadvantages

1. Transfer lesions appears under the second metatarsal head in 15% of the cases. This can be reduced by orthotic follow up.
2. This procedure is contradindicated in hallux rigidis.

1903 Wyoming Blvd., NE
Albuquerque, NM 87112

Lawrence J Kales, DPM

The Kornfeld Procedure For Correction of Rigid Hammertoe By Minimal Incision Surgery

MILTON I. KORNFELD, D.P.M., F.A.A.F.S.

The author has been a practitioner of minimal incision surgery for the past twenty-five years with very successful results in all forms of minimal incision procedures. During these years, it has become evident that the most successful results of minimal incision surgery occurs when the least amount of trauma is applied to bone and soft tissue.

After experimenting with many different approaches and using various types of rotory burs, the author has perfected a fairly simple and most effective procedure for the correction of rigid hammertoes.

The foot is prepared in the usual aseptic manner. Povidine scrub and solution being the choice of antiseptics. Anesthesia is accomplished with the use of 2% Lidocaine with 1:100,000 epinepherine, utilizing a toe block. No more than 1cc. of anesthetic should be used, since too much fluid in the tissues causes pressure which can result in unnecessary trauma. One-half cc. is injected on each side of the toe at its base from the dorsal aspect (Fig. 1). A puncture incision, using a #67 mini-blade, is made on either the lateral or medial side of the toe (depending on the surgeon's preference) slightly proximal and plantar to the midhead of the proximal phalanx (Fig. 2). The puncture is continued down to bone at a right angle to it. A #44 Shannon bur is introduced into the incision and a fail-safe hole is drilled through the lateral and medial sides of the head, at a right angle to the bone. The bur is re-inserted into the fail-safe hole and a cut is made dorsally through the cortex at ninety degrees to the plantar aspect of the toe, care being taken not to puncture the overlying skin (Fig. 3). If properly done, this cut should be proximal to the exostosis on the dorsal aspect of the head of the bone. The bur is again inserted into the fail-safe hole and a second cut is made approximately thirty to forty-five degrees dorsally and distally (depending on the angle of deformity) through the cortex, again taking care not to puncture the overlying skin (Fig. 4). If properly accomplished, this cut should end distal to the exostosis on the dorsal aspect of the head of the bone. The result is a pie shaped wedge remaining, with the apex pointing plantarly (Fig. 5).

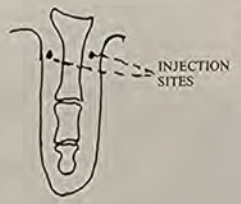


Figure 1

The bur is again placed into the fail-safe hole. Slowly and methodically the pie shaped wedge is triturated by the rotory action of the bur. This can be felt by moving the bur proximally and distally over the area of the wedge. It is important to note that the plantar cortex *is not* cut during this procedure and

Figure 2

that the toe is allowed to remain in its original deformed position.

When the wedge has been completely triturated, the toe is forcibly extended causing a green-stick fracture of the plantar aspect of the head and a closing of the pie or V wedge space (Fig. 6).

Closing of the wedge space causes an extrusion of the bone paste through the incision. The area is then flushed with sterile saline solution and further remnants of bone paste are removed. A quarter inch felt plug is then placed along the entire length of the toe on the plantar surface. This holds the toe in proper position (Fig. 7). A sterile band-aid with antibiotic powder is

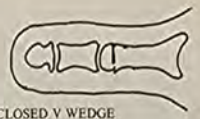
Figure 3

Lawrence J Kales, DPM

placed over the incision and turned around the toe plus the plug. Adhesive strips, approximately a quarter inch in width, are then bound around the toe starting at the distal end and working back to the proximal end of the toe. This type of dressing prevents any excess swelling of the toe. The felt plug acts as a splint for the healing and the dressings are changed weekly for about four weeks.

A tenotomy and capsulotomy is then performed at the metatarsophalangeal joint so that the proximal phalanx is lowered to the proper level. The corrected toe is then bound to the adjacent normal toe, also for the four week period.

FIRST AND SECOND CUTS
Figure 4 and 5

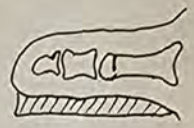


CLOSED V WEDGE
Figure 6

There is very little or no post-op pain because of the minimal amount of trauma. The patient ambulates immediately with no discomfort.

The Kornfeld procedure, for rigid hammertoe correction, has been used by the author for the past four years and follow-up of at least twenty five patients after a period of one year, has shown optimum correction with absolutely no shortness of the toe. No flail toes results and there are no contractures from scarring or sutures. Cosmetically the toe looks perfect, since there are no suture marks, no obvious missing bone, and the allignment of the toe is perfect or near perfect.

The use of minimal incision surgery by well trained and competent minimal incision surgeons can produce a superior functional and cosmetic result.



¼" FELT PLUG
Figure 7

Lawrence J Kales, DPM

Percutaneous Plantar Fasciotomy—A New Approach

MICHAEL J. BERLIN, D.P.M.*
HARVEY P. PILZER, D.P.M.*

This article will describe a new modification for plantar fascial release by a minimal traumatic method.

Cutting of the plantar fascia to gain entry for removal of heel spur is not new. It has been described by many authors.[1, 2, 3] Denuding of the plantar fascia from the heel subperiostally has been described for pes cavus deformity as a percutaneous plantar fasciotomy. This is made through a large medial incision.[4] For this condition it is considered an adjunctive procedure and conservative approach for relief of plantar fascial strain by dividing the plantar ligament at it's origin.[5]

Etiology

The etiology of heel pain is well known. This author concurs with Pagliano and Subotnick wherein they state that it is due to a partial tear of the plantar fascia at it's origin into the medial plantar aspect of the calcaneous.[6, 7] Also, body weight can be a causative factor in plantar fasciitis with the end result being the formation of heel spur.[8]

Procedure

This approach is called a "percutaneous plantar fasciotomy" and was first described by Harvey Pilzer in February 1983. Pilzer reports the plantar approach for relief of heel pain in a study of 184 patients with a follow-up period of 4 years.[9]

Herein is the description of this procedure for plantar fascia release with or without heel spur present. First palpate the area to isolate the origin of the fascial pain. Then, using a 1½" 22 gauge needle, local infiltration is accomplished through the plantar surface of the fascia and fanning the solution medially and laterally. Approximately 5 cc. of lidocaine 2% plain is used. Next, the surgical site is prepped in the usual aseptic manner. Then a transverse puncture incision is made on the plantar skin the width of a #67 blade. The incision is made at the area where the infiltration of the anesthesia was previously accomplished. The incision is deepened with a #67 blade on a long handle. One then proceeds directly to the plantar fascia. The foot is extended on the ankle to 90° and in a sawing fashion the medial attachment is severed transversely with the #67 blade. The blade is then reversed inside and a partial fasciotomy is performed laterally. At this point the fascia will release and it will feel like cutting through "celery". At this level you may feel a heel spur if it is present. Because the incision is so small there is no need for sutures. Hemorrhage is usually minimal. Next, the surgical site is dressed with 2 x 2's, 3 x 3's, 2" gauze and 2" elastic tape. Discomfort is minimal because only the fascia is severed. Analgesics are dispensed but usually the patient does not use them. The patient ambulates normally and is seen in 2-3 days. At this time the incision is usually closed but the patient is requested to use a bandaid at the incision site for another week.

Postoperative Care

The patient is prescribed active extension exercises (e.g.: extended foot on ankle at 90°) fifty repetition three times a day for one week. This will keep the fascia stretched to it's maximum. The patient is then seen at intervals of two weeks and at six weeks is usually discharged. This procedure can be done just as simply on a bilateral basis with the same post-op follow-up.

This procedure when used properly for the correct indications will yield consistently favorable results for plantar fascial pain with or without heel spur.

Summary

The above variation of plantar fasciotomy differs from others in that it approaches the plantar fascia directly from the plantar surface. Pilzer reports 184 cases over a period of four years with consistently favorable results.

M. J. Berlin, D.P.M.
2210 S. Federal Blvd.
Denver, CO 80219
(303) 922-3721

H.P. Pilzer, D.P.M.
521½ Granby Street
Norfolk, VA 23510
(804) 622-6450

*Berlin, M.J., Staff Podiatrist Highlands Center Hospital, Denver, Colorado.
*Pilzer, H.P., Staff Podiatrist Norfolk General Hospital, Norfolk, Virginia.

References

1. Brown, Albert: A simplified approach to the reduction of calcaneal spur.; *Journal of Foot Surgery*, Vol. 7 No. 2 pp. 28, Baltimore, 1968.
2. Kaplan, E. and Stone, J.: A new view of calcaneal spur surgery.; *Journal of Foot Surgery*, Vol. 10 No. 1 pp. 10, Baltimore, 1971.
3. DuVries, H.: *Surgery of the Foot*; pp. 151, C.V. Mosby, St. Louis, 1965.
4. Jahaas, M.: Pes Cavus.; *Disorders of the Foot.*; pp. 477-478, W. B. Saunders, Philadelphia, 1982.
5. Campbell's Operative Orthopedics,; Steindler-anterior poliomyelitis,; pp. 1435-1436, C. V. Mosby, St. Louis, 1963.
6. Pagliano, John W.: Heel pain in Runners; *Archives of Podiatric Medicine and Foot Surgery*; Sports Medicine '78; pp. 77, Futura, Mount Kisco, N.Y., 1978.
7. Subotnick, S.: Heel injuries; Cures for Common Running Injuries; pp. 77, *World Publication*, 1977.
8. Gehlin, F. and Weiner, S.: Heel spur syndrome and clinical and rediographic inter-relationships—a preliminary study; *Current Podiatry*; pp. 33, 8/82.
9. Probber-Weisenthal Seminar, Houston, Texas 2/83.

Lawrence J Kales, DPM

The Effect of Power Instrumentation On Wound Healing Using Minimal Incision Therapy

*Paul A. Chromey, B.S., '80

In order to facilitate wound healing, the poditrist should understand the three phases of the process. The substrate phase is characterized by vascular, hemostatic and cellular response and occurs from the first to the fourth day. During the lag period, hemorrhage is controlled and fibrin is deposited in the wound. Also, mucopolysaccharides and soluble protein precursor of collagen are produced.

In the proliferative or repair phase, there is epithelization, wound contraction, connective tissue repair and healing in special tissue. The production of collagen fibers brings tensile strength. The estimated time period is the fifth to the twentieth day.

The remodeling phase begins approximately three weeks after surgery. In this phase remodeling, reorganization and differentiation occur. The fibroblast acts in migration realignment at this phase. Tensile strength is not fully regained for several months.

With rotary type power instrumentation, the podiatrist must consider two basic properties; i.e. torque and speed. The ideal speed which offers a good, smooth revolving burr appears to be less than 3000 RPM's. The speed should be just fast enough to move along and sculpture bone without excessive dragging. Usually, the higher the speed of the equipment, the less torque. In addition, the equipment should operate with minimal vibration and be well balanced so virtually one should feel the bone disintegrate as you work.

The ultra-high speed burrs do not disturb normal bone histology. Hall reports that following initial intramedullary hemorrhage repair reaction was represented by progressive fibroblastic and endosteal proliferation. This was confined to the traumatized areas with minimal inflammatory reaction and a total lack of bony necroses. He observed no bone sequestra. Bone cortex adjacent to the surgical site exhibited no degeneration of necrosis at any time post-surgically. Complete repair occurred in 30 days by osteoid occlusion of the cut through the cortex and there was minimal scarring of the underlying medulla. Bone incision from MIS displayed no bone necrosis with normal repair rate.[1] Power instrumentation utilized in MIS, when properly used, will not cause thermal necrosis and adjacent bone will heal without malunion or delayed union. MIS has experienced less bone hemorrhage utilizing power instruments than with the use of bone cutting forceps and osteotomes. The low speed-high torque power equipment utilized in MIS permits accuracy in removal of bone with superior shaping, contouring and sculpturing of bone of such degree that isn't possible with reduction in operating time, less trauma to adjacent tissues, less post-op pain and edema and early ambulation is facilitated. When a burr strikes soft tissue, it will not cut or tear, although some fraying does occur.

Dr. Michael A. Perrone reports using high power instruments (airmotor) for permanent removal of nail matrix. His technique produces less surgical trauma and less pain and no impairment in the wound healing process. In fact, most patients require no post-op pain medication with earlier ambulation.[2]

Dr. O. A. Mercado developed a safe and simple technique of osteotripsy for heel spur by introducing a rasp at medial aspect of heel. Rasping is done vigorously until spur feels smooth. Dr. Mercado reports the post-op recovery period is uneventful with weight-bearing occurring within 24 hours and no delay in the wound healing process.[3]

One must consider the mechanical properties of wound healing when encountering power equipment in MIS. Four parameters are now considered: tensile strength, tensile strain, modules of elasticity, and energy absorption.

It has generally been held that tension across a surgical wound enhances the production of collagen and more particularly leads to greater orientation of the collagen fibers. In mechanical terms, this leads to the

*Class '80; Submitted during fourth year Pennsylvania College of Podiatric Medicine

Lawrence J Kales, DPM

production of a surgical wound with a higher tensile strength, lower elasticity (i.e., a higher elastic modulus) and lower tensile strain. Change in energy absorption would depend upon the relative magnitude of the changes in the other parameters.

If this concept of surgical wound tension is true, then closure methods which hold the wound rigidly fused, with little tension transmitted through the tissue itself, will be expected to produce more elastic surgical wounds with a lower tensile strength. How does all this relate to MIS in Podiatry? In clinical practice, it's known that surgical wounds in different areas of the lower extremity are subjected to different force systems. Areas subjected to a large range of movement, e.g., MPJ, ankle joint, etc., require a low modulus of elasticity, otherwise high stresses will be generated.

Some of the power equipment utilized in MIS are the following: The Ritter-Kerr® drill, Stryker 1603 Roto® and reciprocatng saw handpiece, Foredom Model R® , Shannon #44 burr for fine cutting, Lindemann Burr #83, Hanahan burr, Allport burr, Cottle power rasp, etc.[4] All evidence points to the fact that in MIS, the greatest advantage of using power equipment has been in aiding in proper development of the wound healing process. Thus, in the first days and weeks there develops what has been termed the primary callus response, which is a very fundamental reaction of bone to injury. Because this initial response is finite, bridging of the osseous fragments then enters the phase of bridging external callus. This is a rapid process involving widespread cellular activity between fragments. If satisfactory bridging of fragments is achieved, movement is arrested and the remodeling process occurs.

When performing MIS, the rapid rate in wound healing of surgical wounds is partly attributable to atraumatic technique in handling tissue; i.e., using sharp blades, blunt retractors, avoiding overstretching of the wound and underlying tissues, nerves and vessels. The size of the instrument should be appropriate for the operative area. Strict asepsis must be observed by the surgical team. Adequate hemostasis and visualization of tissue is essential. Proper dressing of wounds immediately post-op.

From the many interviews I have had with various surgeons and clinicians at PCPM and at private offices of other Podiatrists, the following statements are a summary of their years of experience in doing MIS with power instrumentation relative to the wound healing process.

Wound healing was maximized when the surgical incision was made perpendicular to the skin, careful atraumatic handling of tissue, good flushing out ("milking") of bone chips, bone dust, blood, fragments of necrotic tissue, bone "paste". Irrigation of sterile saline during the operation using power burrs and rasps, adequate hemostatis, and adequate wetness of tissue during surgery all helped in wound healing after using power equipment. Also, power equipment allowed for good sculpturing of bony exostosis, nail matrix, heel spurs, etc.; hence, less incidence of swelling (edema), pain, and sausage toes. Power instrumentation allowed less exposure of tissue and bone; hence less incidence of post-op infection and other complications; such as, pseudoarthrosis, malunion and delayed union following metatarsal surgeries.

One interesting idea to mention is the use of corticosteroids following a surgical procedure. Many Podiatrists have expressed their feeling that cortisone may delay the development of granulation tissue, depress the proliferation of capillaries and retard healing when administered before and after surgery. The literature states that cortisone, in large amounts, suppresses fibroblast proliferation and also can mask an existing infection and postpone prompt management in proper wound healing.[3]

In summary, another form of Podiatric surgery is Minimum Incision Surgery, which utilizes power equipment with accord to the standard precautions of asepsis and sterile technique. Its affect on wound healing is most beneficial both to the patient and podiatric Physician. We have seen that ultra high speed burrs do not disturb normal histology, does not cause thermal necrosis and adjacent bones heal well. And finally, power equipment used in MIS facilitates the three phases of the wound healing process.

Sutton Apt. 918-B
Collingswood, N.J. 08107

REFERENCES

1. Hall, R.N.: Effective high speed bone cutting without the use of Water Coolant, Oral Surgery and Oral Medicine and Oral Pathology, 20:150, 1965.
2. Perrone, M.A.: Nail Malucetomy by Onychotripsy with Airmotor: J.A.P.A., 60:2, February 1970.

Lawrence J Kales, DPM

I. INTRODUCTION

To: **President Dr. Stanton Southward, Vice President Dr. O. Theodore New, Secretary Dr. Ronald J. Strauss, Treasurer Dr. Arthur C. Haspel, Immediate Past President Dr. Jerome F. Jacobs, Past President Dr. Marvin Z. Arnold, Dr. Martin Kobak, Dr. Lawrence Kobak, Dr. Margie Plon, Dr. Edwin Probber, Dr. David H. Zuckerman, Dr. Lawrence J. Kales, Dr. Frederick W. George, and Executive Director Dr. Stanford Rosen.**

This Organizational Audit of the Academy of Ambulatory Foot Surgery, Inc. was performed by Bernard F. Whalen and Barry L. Kennedy of NFP Solutions Inc., a marketing, communications, research, and management consulting firm serving not-for-profit associations.

The consultants interviewed the Academy's Executive Director Dr. Stanford Rosen by telephone and performed on-site evaluations and interviews at the Academy's central office in Tuscaloosa, Ala., from May 3 to May 5, 1989.

Hundreds of pages of documents also were reviewed. These included the Academy's articles of incorporation, bylaws, past and current newsletters, conference and seminar proceedings, service brochures, membership materials, books, journals, letters, advertisements, financial data, reports by consulting firms and public-relations agencies, internal memoranda, and other documents. A Reference List is provided at the conclusion of this report.

NFP Solutions Inc. bases its recommendations on the findings of this investigation as well as on the professional experience and observations of the consultants and generally accepted association management and governance practices, as found in the professional literature and reference materials of the American Society of Association Executives and its local affiliates and the Society for Nonprofit Organizations.

The members and officers of the Academy's Board of Trustees are encouraged to study the findings of the Organizational Audit prior to reading the Primary and Secondary Recommendations and Summary Statement.

FINAL REPORT

Lawrence J Kales, DPM

II. ORGANIZATIONAL AUDIT RESULTS

A. Administration

The Academy of Ambulatory Foot Surgeons, Inc. was founded in 1972 but was not officially incorporated as a not-for-profit association until September 24, 1974, in Philadelphia, Pa., by Dr. Abram Plon of Elkins Park, Pa., and Dr. Samuel J. Granoff of Upper Darby, Pa., who acted on behalf of a group of podiatrists with similar interests.

At some point thereafter, the name of the organization was changed in practical usage to the "Academy of Ambulatory Foot Surgery," hereinafter referred to as AAFS. The organization apparently has a U.S. Internal Revenue Service 501 (c)(3) tax-exempt license to operate as a not-for-profit educational association of individual members.

The AAFS has had offices throughout the nation, including sites in Pennsylvania, Cleveland, Seattle, St. Louis, Pennsylvania (again), and finally Tuscaloosa, Ala., and has had a variety of individuals and companies serve as the "Executive Director." For several years, the AAFS served as an affiliate of the American Podiatric Medical Association (APMA), the large umbrella organization of the podiatry profession.

The AAFS has written Bylaws; the statement of November 25, 1989 having been reviewed. The Bylaws cover the AAFS offices, members, Board of Trustees, officers, regional operations, and miscellaneous operational practices. The mission of the AAFS is set forth in the Articles of Incorporation, but not the Bylaws.

The AAFS does not operate a for-profit subsidiary, not-for-profit foundation, nor regional offices. Its headquarters consists of 700 sq. ft. of office space in Tuscaloosa, Ala. The office, which adjoins the Executive Director's podiatry practice, is equipped with a separate telephone system, personal computer and printer, typewriters, photocopy machine, and office furniture. The premises are insured.

The Academy owns the computer, printer, and photocoper. The Executive Director owns the remainder of the office equipment, but the AAFS is repurchasing these items at a monthly rate of $206.

FINAL REPORT

Lawrence J Kales, DPM

D. Membership

Depending on the statistical source, there are 12,000 to 14,000 practicing podiatrists in the United States. About 9,000 are members of the American Podiatric Medical Association, one of a dozen national podiatry associations.

Seven universities annually graduate approximately 500 Doctors of Podiatric Medicine (D.P.M.). These professionals are licensed by the states in which they operate their practices. Each state and some major metropolitan areas have podiatry associations. Certification is offered through the American Board of Podiatric Surgery.

It is estimated that approximately 2,000 podiatrists, especially those practicing Minimal Incision Surgery (MIS), are potential members of the AAFS. In 1984, AAFS had 1,800 members; this total dropped to 1,400 in 1987 and currently stands at 740 paid members. The Academy has seven membership categories (listed in the Bylaws), including 30 international members, 140 lifetime members, and several honorary members. About 10% of the members are female. The AAFS has 16 regional chapters.

Podiatrists affiliate with AAFS through a formal application, submission of cases, and a peer review process, and pay annual dues of $285 plus a $75 application fee. Only 20 of the lifetime members have paid their $50 annual dues. The last dues increase was in 1984, from $185 to $285. Dues are paid annually in the first quarter. Members are asked to adhere to the AAFS "Standards of Care," a code of ethics. The AAFS has never expelled a member.

Dues invoicing is implemented by direct-mail and through the AAFS newsletter. Membership records are maintained on the personal computer in the Academy's central office.

The membership retention ratio is erratic; the Academy has lost more than half of its members in the last five years. Retention efforts focus mainly on public relations. Nonmembers are allowed to advertise in the Academy's publications and attend AAFS events.

FINAL REPORT

Lawrence J Kales, DPM

III. PRIMARY RECOMMENDATIONS

The results of the Organizational Audit suggest that the AAFS is a viable not-for-profit association which has survived numerous challenges, including several changes in offices and executive directors, large decreases in revenues and membership, separation from affiliation with APMA, fluctuations in programs and services, and the expense and negative perceptions derived from a long legal battle over board certification. Academy documents also suggest that several former AAFS officers have been the targets of negative publicity relative to malpractice litigation.

However, it is clear that AAFS is now at a critical point in its organizational life-cycle. When associations start to decline, the problems always show up first at the top—at the governance level. Consequently, the major problems must be addressed by the Board of Trustees, which bears ultimate responsibility for the fiduciary and legal condition of the Academy as well as its day-to-day operations and performance.

The recommendations contained in this report are divided into two categories—Primary and Secondary. The Secondary recommendations are categories which support and amplify the primary recommendations. **It is essential that the Academy implement the Primary Recommendations prior to addressing the Secondary Recommendations.**

Previous experience in reviving declining associations indicates that major problems must be solved first to create a strong foundation for future improvements. The Trustees are urged to take immediate action on the 10 primary recommendations in this report. **Time is very important. The Board must act soon. It must communicate its efforts to the membership and the entire podiatry profession to instill confidence in the Academy. There is no "quick fix."**

FINAL
REPORT

Lawrence J Kales, DPM

PRIMARY RECOMMENDATION NO. 1

The Board of Trustees should restate the mission of the Academy of Ambulatory Foot Surgery in writing and in 25 words or less.

PRIMARY RECOMMENDATION NO. 2

The Board of Trustees should solidify its administrative leadership by engaging the services of Dr. Rosen through a formal, written Executive Employment Agreement.

PRIMARY RECOMMENDATION NO. 3

The Board of Trustees should demonstrate leadership and commitment to rebuilding the Academy by operating in a businesslike fashion. This includes conducting regularly scheduled meetings to properly govern the Academy.

PRIMARY RECOMMENDATION NO. 4

The Board of Trustees should authorize the Executive Director to retain additional staff to operate the Academy's central office. The two positions which should be filled are Communications Manager and Administrative Assistant. Priscilla DiMario should be retained as the Manager of Administrative and Membership Services.

PRIMARY RECOMMENDATION NO. 5

The Board of Trustees, working with its committee chairs and Dr. Rosen, should draft and approve an annual written budget to manage the Academy's finances.

PRIMARY RECOMMENDATION NO. 6

When staff is increased, the "Action Letter" should be converted to a monthly publication.

PRIMARY RECOMMENDATION NO. 7

The Board of Trustees must support and assist the staff in identifying, locating, and reactivating the memberships of the 700 podiatrists who have not renewed their membership in the Academy in the last 18 months.

PRIMARY RECOMMENDATION NO. 8

The Board of Trustees, committee chairmen, and Executive Director must draft and approve plans to strengthen the annual conference and reposition the midyear conference of the Academy.

PRIMARY RECOMMENDATION NO. 9

The Board of Trustees should authorize expenditure of the funds necessary to purchase or rent additional equipment for the central office. These include a facsimile machine, postage meter system, computer software and training, telephone system upgrades, workstations for new staff, and possibly a desk-top publishing system.

PRIMARY RECOMMENDATION NO. 10

The Board of Trustees, working with the Executive Director and perhaps an outside supplier, should conduct a statistically valid membership survey and subsequently draft and approve a preliminary marketing plan for the Academy.

Lawrence J Kales, DPM

DALLAS WHALEY, CAE
3580 YARMOUTH HILL
LAWRENCEVILLE, GA 30245
(404) 923-9518

October 26, 1988

To the Ladies and Gentlemen
Board of Trustees
Academy of Ambulatory Surgery

Almost a year ago, I stood before the AAFS Board and made a commitment to the realization of the then possibility to use our combined talents and resources to BUILD an organization that would make a definite difference in the lives of Podiatrists and the specialty of Podiatry.

At that time I could see an association designed to meet the needs of Ambulatory Foot Surgeons. This association would have its own identity and would stand for the extension of quality and excellence of the specialty.

The following report is an expression of my continued commitment to that possibility.

Sincerely,

Dallas F. Whaley, CAE
President
the Directorate

DFW/gp

Enc.

Lawrence J Kales, DPM

Introduction

The wise ol´ bard Shakespeare once rhymed, ".... Beauty is in the eye of the beholder". His comment on loveliness can be expanded easily to REALITY. Here is a common test for perception of reality. Is it a beautiful woman dressed for a gala ball or an old crone bundled up against the cold?

Reality then, is in the eye of the beholder. Some see an old woman, others see a charming young lady, while still others see both (one, then the other) and a few see nothing at all. Which is right? None. The drawing is "actually" a set of ambiguous lines and shadings that represent nothing. Meaning has to be applied by the observer. Such a meaning when applied to a set of circumstances is defended as a fact. This stand is not lightly taken by the viewer. Men, over the ages, have gladly walked into the "jaws of death" for their concept of the truth.

An organization must also deal with the vagaries of perception, sometimes even misperception, of its motives and being. What the "public" thinks is the truth about a company, is the truth. Many sound businesses and wise governments have fallen because what they were prudently doing was totally misperceived by the public.

As illusive as it is, what an association´s reality is -- what its members and the general public believe to be correct about its actions and policies -- must be sought. A board of trustees (BOT) must make its decisions in the shadow of this public opinion. If that opinion is correct, the board must make the necessary adjustments to right the wrong. If that conviction is unfavorable and misinformed, the board has an equal responsibility to amend or change the general view. If the image of the association is favorable, then the board has a fiduciary challenge to continue to promote its goodwill and strengthen its positive impressions.

This report is a snapshot of the Academy of Ambulatory Foot Surgery´s (AAFS) present reality -- as seen by some of its members, ex-members and non-members.

Lawrence J Kales, DPM

Methodology

During the months of July through October, 1988, the staff of **the Directorate** met with and telephoned about 50 member, ex-member and non-member podiatrists across the country. In addition, comments were collected from a Podiatric Association executive, lawyers, public relations practitioners, news media, HMO directors, Podiatric students, Healthcare Industry representatives, assistants and office employees, nurses, M.D.'s and a few patients. Following the revised plan, approved by the AAFS Board of Trustees on May 19, 1988, the interviews and focus groups concentrated on three major areas:

a. The Future of Podiatry
b. The Future of Ambulatory Foot Surgery
c. The Role of AAFS in these Futures.

While the interviews were held in high-density areas of AAFS membership concentration, supplemental discussions were conducted with podiatrists in other areas of the country.

Data was collected and interpreted against Mr. Whaley's professional experience of more than 30 years as a career association executive with proficiency in managing all forms and sizes of trade and professional organizations. In order to assure anonymity, all recordings of the sessions were erased as promised to the participants and the notes taken on the interviews were done in such a fashion to assure no attribution to any single individual. These notes, questionnaires and materials remain the property of **the Directorate.**

Nothing in this report is intentionally derogatory, defamatory or libelous toward any person or organization. It is as fair a representation of the information and opinions expressed by the individuals questioned as the author can make it. It represents, in the author's view, the operational environment surrounding the professional association at this time.

Findings and Recommendations

THE FUTURE OF PODIATRY

What is the future of Podiatry? was often the first query asked of the doctors. It was disconcerting to hear the limited prognoses offered in the interviews and focus groups. Most of the participants were evasive and non-

Lawrence J Kales, DPM

specific in their answers to this question. Quite a number would answer with a history of how Podiatry moved from C&C to "whatever" it is today. However, there was little attempt to cross the threshold of the by-and-by. The majority of the parties, when asked, made it clear that the forecasting and planning the future domain lay in the hands of someone else and it was evident that the interviewees felt that "they" had little to do with its course.

There was also a note of futility in the voices of many respondents. They felt that Podiatry was so small that it could not make much noise. Others saw the specialty tied to allopathic medicine and would share its national fate.

Some of the projections that were offered included:

1. Podiatry will always be around. It will probably go back to more palliative care and move away from some of the more specialized areas of treatment for the mainstream practitioner.

2. Branches of Medicine (Orthopedics, Dermatology, General Practice) will take over much of what is known today as Podiatry.

3. Podiatry will be broken into two levels of practice. Those with board certification and those without. Those "with" will be the gatekeepers for the rest -- and the gate will remain closed on almost everything but palliative work.

4. According to several students -- Podiatry will become a specialty of allopathic medicine like a super sub-specialty of Orthopedics. One old timer said, that was the student's "talk" when he graduated in 1936.

5. Podiatrists will become "employees" of M.D.'s and carry out their unique care of the foot in Medical offices.

While many of the respondents acknowledged hearing of the Project 2000 Report (supposedly the most definitive discourse on Podiatry by the year 2000), and several knew of some of its more "startling suggestions", most had not read the report itself nor were they sure where the report presently stood toward adoption. Yet many of their speculations are also being suggested in the 2000 Report. A separate section (Appendix A) of this account is reserved for projections offered by Project 2000.

Less than 2% of those asked indicated that their sons and daughters were following them in the profession. Only two out of the 18 students had parents in the field.

The strongest positive outlook for the future of Podiatry was the claim made by several members of the AAFS, that MIS (Minimal Incision Surgery) was the wave of the new era - in fact, made a future possible for most Podiatrists who

Lawrence J Kales, DPM

couldn't obtain certification and/or hospital privileges. These procedures were destined to "open up" the practice of office surgery because of their ease, safety, patient acceptance, fast healing rate, permanent cure to chronic problems, little pain, marketability, facility and quickness with which the techniques can be learned and their profitability. Many of the other members and a strong number of non-members disagreed.

Comment:

There appears to be a void in the overall leadership of the specialty. Further it would seem as if communications are jammed about the future of the specialty. Practitioners and students are hearing about all the problems in practice today and are not hearing about the solutions being found everyday by men and women in practice.

If there is overall planning being done by responsible parties within the specialty, it isn't filtering down to the rank-and-file. Respondents expressed a feeling that their specialty is out of their control -- almost anyone's control.

What is being communicated to the rank-and-file by organized Podiatry, is not including messages of long range planning, a sense of mission, growth and activities with a purpose, competent leadership that cares for the concerns of the member, etc. No one seemed to feel Project 2000 and the APMA's Master Plan (which was never mentioned) will solve the problem of inadequate planning.

Recommendation #1:

The Long Range Planning Committee of AAFS be charged to:

1. Produce a working synopsis of the Project 2000 Report, APMA's House Review Committee's Findings and APMA's Master Plan adopted August 1988.

(2) Make a critique of these documents from the view of:
   a. Podiatry in general.
   b. AAFS membership.

3. Publish these comments to the AAFS membership.

4. Direct appropriate commentaries to the APMA about these views.

5. Develop the most likely scenario(s) for the unfolding of the future of Podiatric Medicine in the United States.

Lawrence J Kales, DPM

LEADERSHIP

The issue about the leadership of the AAFS is most likely the epicenter of the additional questions facing the Academy today. Most of the other comments from the interviewees were nowhere as emotionally charged as this. The one clear message to come from the members, ex-members and non-members was that many of the current leaders of the association are the major impediments to the development of the AAFS into an outstanding force within the specialty of Podiatry. This same problem is claimed to be the obstacle in reaching an amicable solution to the ever escalating internecine conflict that separates the AAFS from the other Podiatric organizations. Further, many ex-members and non-members contended that it was the awarding of these leaders top positions of honor within the association that caused them to reject maintaining membership in the AAFS or prevented them from wishing to join the group. Finally, it is these same notables and other members in the Academy who have high incidences of malpractice worries that have driven away the professional liability carriers that were highly prized as a membership benefit.

Not to belabor the criticisms, it is enough to say, that if the sample of persons talked with in these interviews is anywhere near representative of the population, then much of the AAFS leadership has lost the trust and confidence of a large percent of the AAFS membership. In addition, they may have been responsible for putting-off those persons outside the society that the organization needs to draw upon or deal with in a problem solving setting in the near future.

The author has no way of knowing if these accusations are accurate or reflective of a majority of thought of the Academy members or would-be members. One can only be reminded that what is believed to be the truth about an organization is the "truth" with which that body must deal. It was only in the New York focus group that this sentiment was hardly discussed and little criticism was leveled at the AAFS leadership. However, the private interviews contained a flavor of this imputation -- especially, among the ex-members.

If this deterioration of the confidence in several of the AAFS leadership has been an externally organized insidious plot, then it has been executed successfully. Members are likely voting with their feet and moving away from the AAFS rapidly. It is estimated that the membership rolls have dropped from 1,800 to 800 in less than three years. It is obvious that the membership "believes" something is drastically wrong.

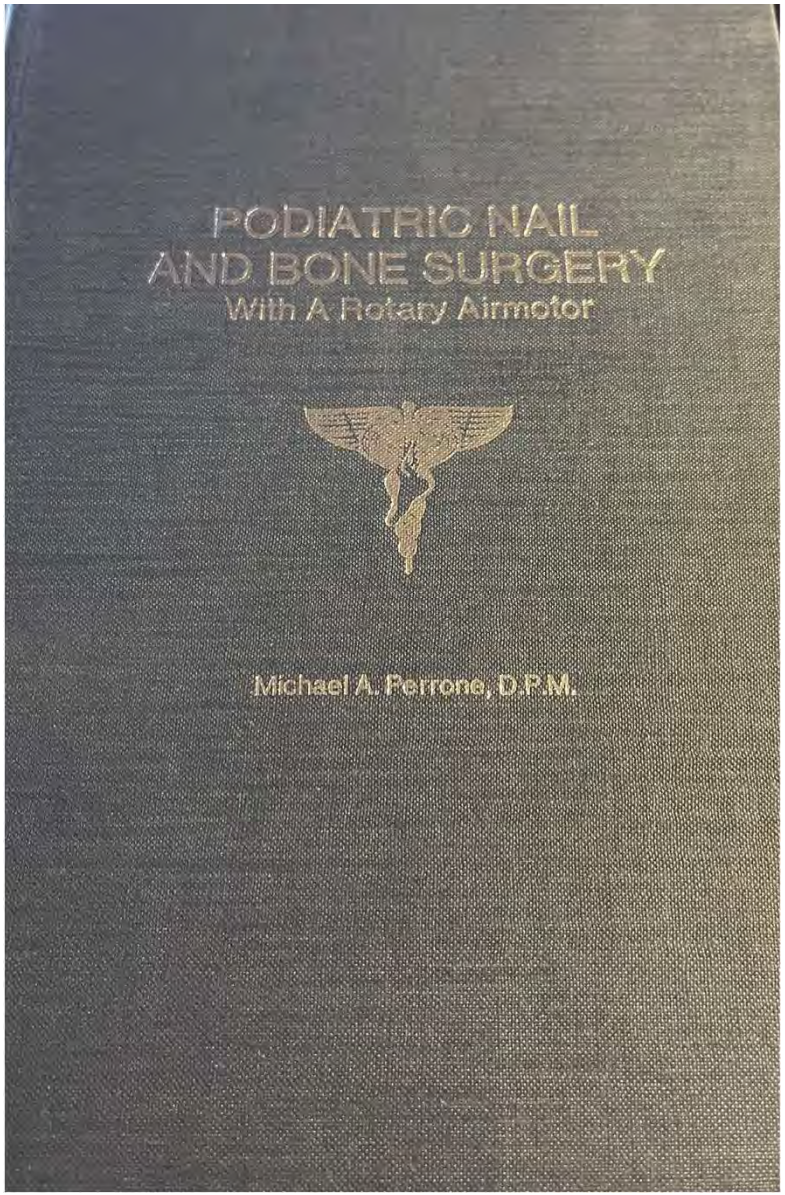
Comment:

There is no solution that the author can offer to this problem, if it indeed is legitimate. The leadership must decide if it wishes to tough it out and wait for a revolt or watch the organization dwindle.

If it is a false scheme then the Board must undertake a major re-education of its members, prospective members and other Podiatric leaders.

Any other solution must be either a voluntary withdrawal by the parties involved or action by the board itself. This is the King's business.

Lawrence J Kales, DPM



Lawrence J Kales, DPM

EXCISION OF THE INFERIOR CALCANEAL SPUR

Pre-Surgical Consideration

A thorough examination of this condition should lead to the differential diagnoses involved with the inferior calcaneal spur. It is important that a diagnosis be made prior to the surgical consideration of this growth. For example, if a patient has an inferior calcaneal spur with associative gout, just surgical excision of the spur will not render complete relief of symptoms. Therefore, a thorough examination with differential diagnoses must be performed prior to the surgical consideration with emphasis on abnormal laboratory findings and pathomechanical factors.

The excision of the inferior calcaneal spur in the past has been one which was performed only as a last resort and only after all forms of medical and pathomechanical treatments were rendered. Surgery was considered only as a last resort because with the conventional approach it was somewhat disabling. It was a surgical procedure that produced a great amount of trauma with considerable pain and disability, therefore, we podiatrists generally rendered a certain amount of treatment which usually enabled the patient to perform without a great deal of pain. Now, however, with the advent of the airmotor we are indeed fortunate to be able to excise this osseous growth in a manner which is far less traumatic, less painful, and less disabling.

The surgeon who wishes to use the conventional open approach in the excision of this osseous growth will find that less exposure will be necessary when removing it with the airmotor. In the conventional open procedure once the exposure has been made and the plantar fasciotomy has been performed, the bone may be removed with the long, round surgical bur.

With the advent of the ambulatory procedure, the podiatrist may consider the excision of the inferior calcaneal spur initially. Because of the lack of gross trauma and disability, I have found that my choice of treatment is the surgical removal of this growth. In so doing, I have been able to render a service which is somewhat unique. Removal of this growth may be done so that the patient is completely ambulatory and has less trauma and less pain.

In the ambulatory procedure it is important to isolate the point of maximum tenderness. Prior to anesthesia the doctor must palpate for the point of maximum tenderness. This area is encircled with a permanent non-washable skin marking, as seen in Figure No. 125.

Lawrence J Kales, DPM

Figure 125

This landmark will permit direct access to the osseous growth. Once the landmark has been outlined on the plantar surface of the heel, the area is anesthetized. After complete anesthesia has taken place, a long twenty-two gauge needle is inserted perpendicular to the point of maximum of tenderness as shown in Figure No. 126.

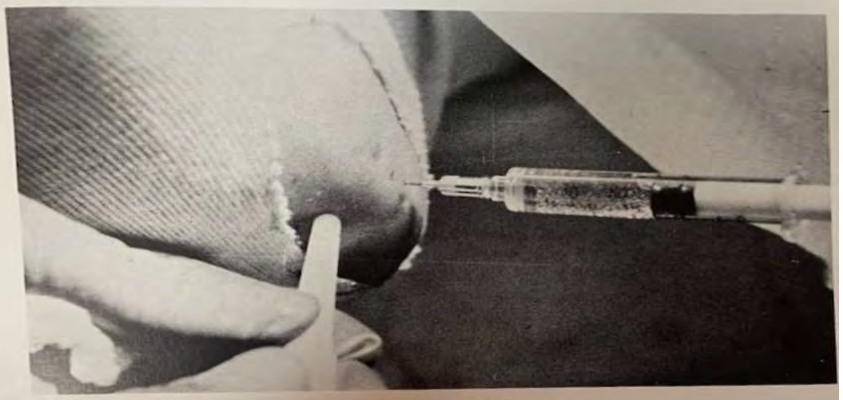


Figure 126

Lawrence J Kales, DPM

This perpendicular entry into the medial aspect of the foot will mark the area to be surgically incised. If the needle is inserted, and the osseous growth is not felt, it is withdrawn and moved a short distance in either direction going from dorsal to plantar and medial to lateral. The podiatrist will now find that the osseous growth is located rather easily. Once the landmark on the inferior surface has been made, the approximate landmark for the incision site may be located rather easily using the above described method. A small transverse incision approximately ten to fifteen millimeters in length is made at the exact location of the needle puncture, as shown in Figure No. 127.

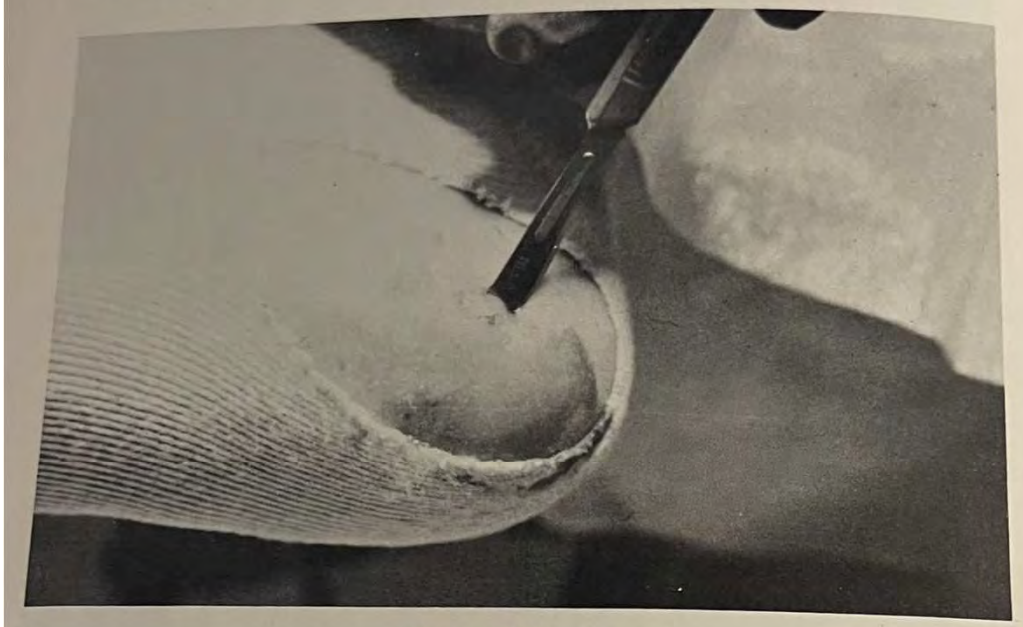


Figure 127

The incision is deepened into the skin. Once the skin has been deeply incised, a small osteotome, as shown in Figure No. 128,

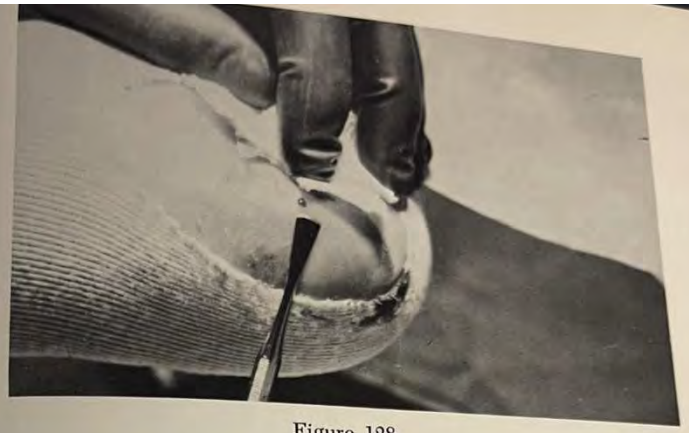


Figure 128

approximately eight millimeters in width is entered into the wound. With the osteotome the plantar fascia is completely denuded from the bone. When inserting the osteotome, turn it at an angle approximately 45° in the same plane as the inferior calcaneal surface of the spur. Tactile sense will enable the podiatrist to recognize the feeling that is encountered in denuding the plantar fascia from the bone. As the osteotome removes the plantar fascia from the bone, it will be a sensation distinguishable to the podiatrist. Once the plantar fasciotomy has been performed, the next step is to insert a probe to feel the counter of the plantar aspect of the oscalcis. The bur, which is attached to the airmotor, may be inserted as a probe in order to outline the contour of the plantar aspect of the oscalcis. Reduction should not be done until this plantar aspect is outlined in the ambulatory fashion.

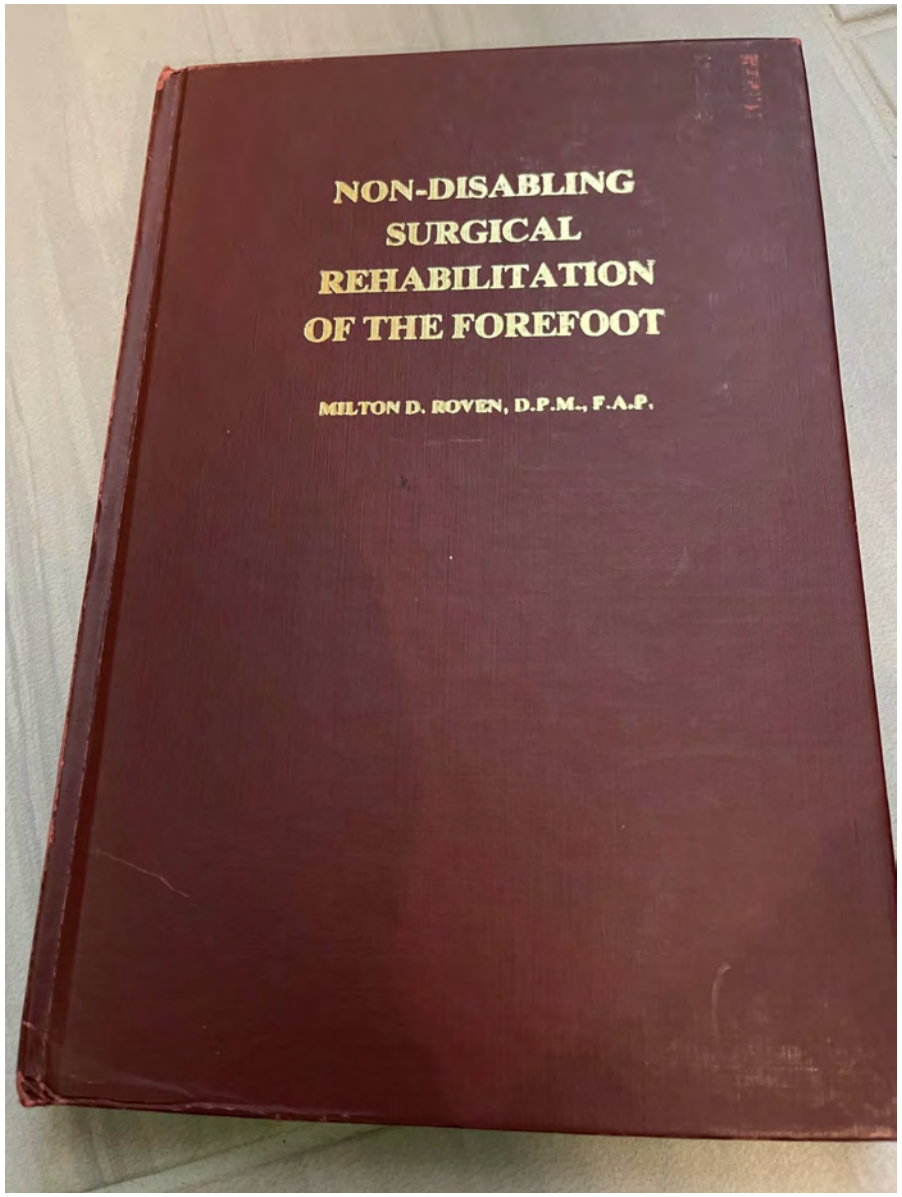
A long, round, single cross-cut bur is inserted. If the periosteum is thick and the bur appears to slip over the bone and does not make the definitive bone noise it should be removed. The surgical inverted cone is then inserted into the airmotor and will remove the periosteum from the bone. Once the periosteum has been removed, the long, single, round, cross-cut bur is again inserted, and in a brushing fashion the inferior calcaneal spur is very quickly removed.

This technique should not be completed until an immediate X-ray interpretation of your result is obtained. This is truly a blind procedure, and one that does require an immediate X-ray interpretation. Because of the large inferior calcaneal surface, it is difficult to ascertain in the

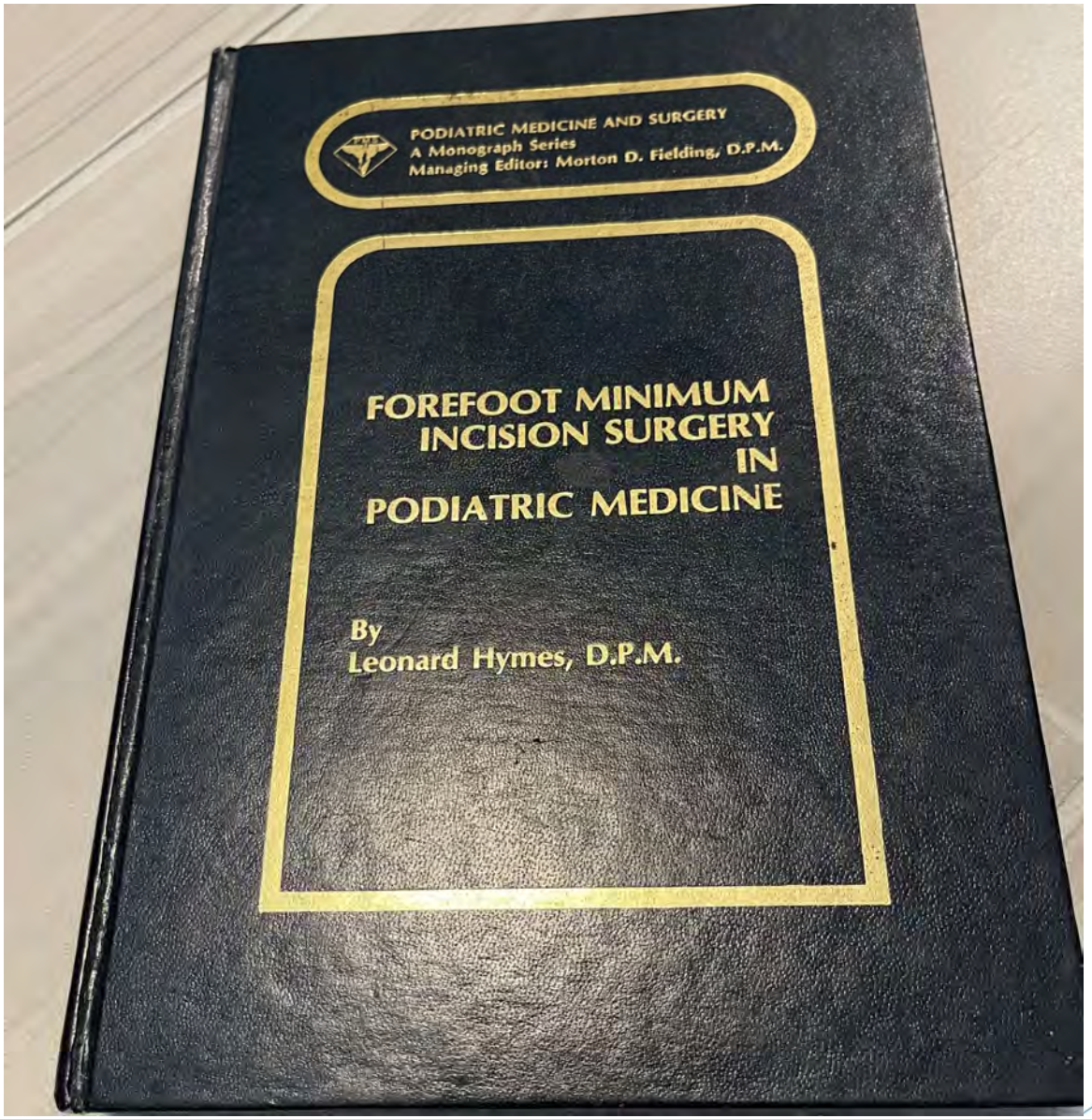
ambulatory procedure, if enough of the spur has been removed. After immediate X-ray interpretation, if the result is not satisfactory, the surgery is resumed.

After completion of surgery a large volume of sterile saline is introduced into the area and the flushing technique is performed. It should be done here using a large volume under pressure, preferably in a 10 cc. or a 20 cc. syringe. Here again it is difficult to remove the paste from the area, therefore it should be flushed thoroughly. The incision site should be closed with one single interrupted suture, as seen in Figure No. 129.

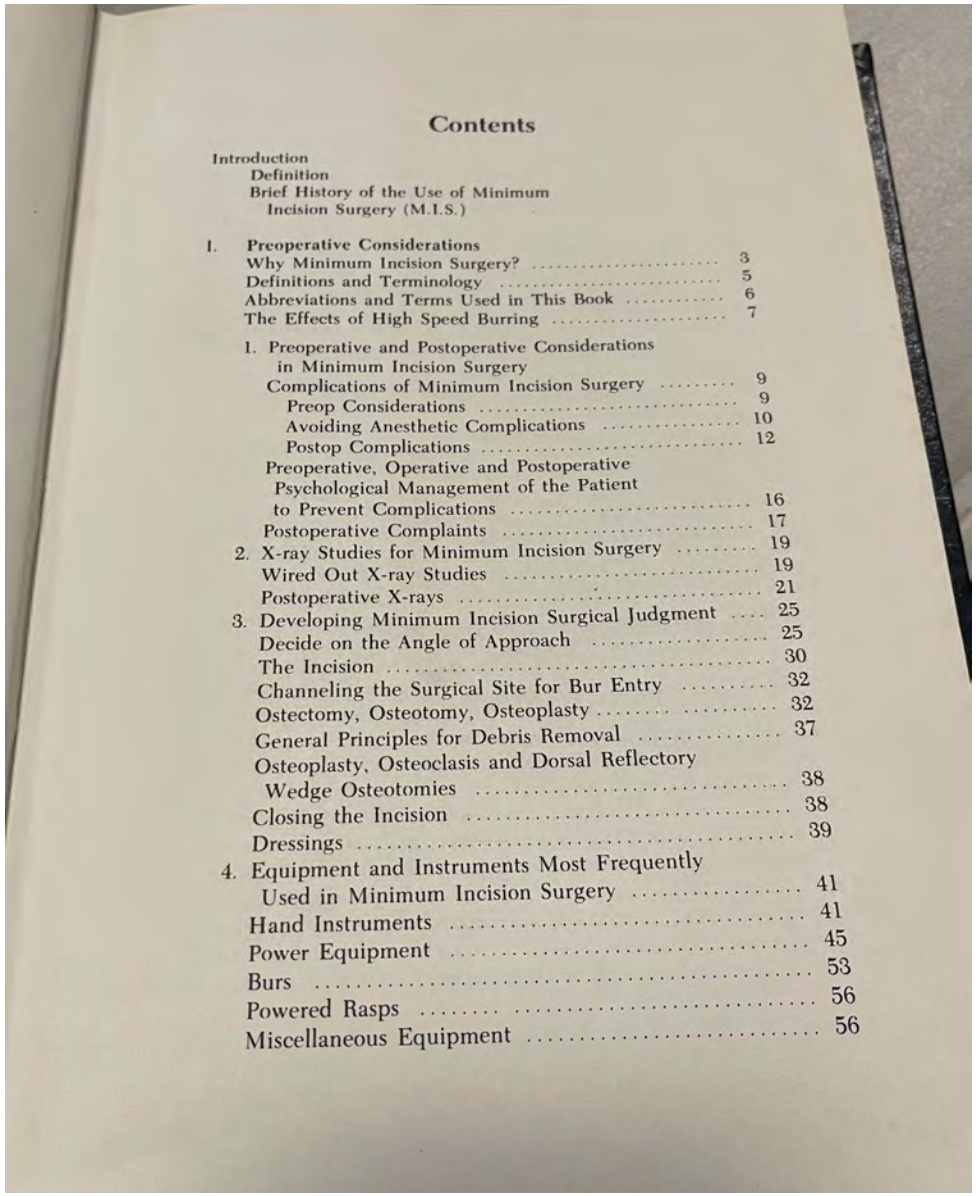
Figure 129



Lawrence J Kales, DPM



Lawrence J Kales, DPM



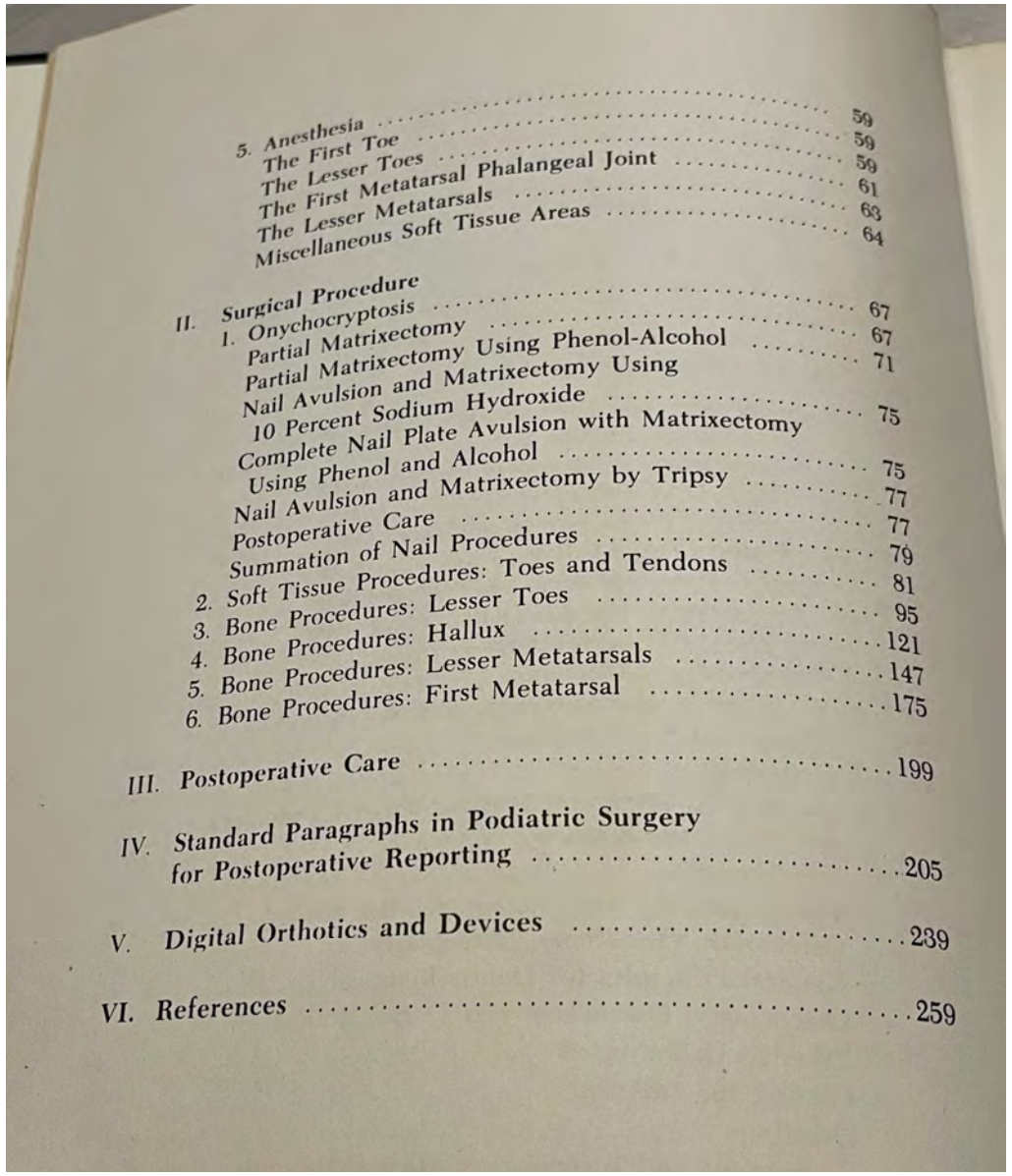
Contents

Introduction
Definition
Brief History of the Use of Minimum Incision Surgery (M.I.S.)

I. **Preoperative Considerations**
Why Minimum Incision Surgery? 3
Definitions and Terminology 5
Abbreviations and Terms Used in This Book 6
The Effects of High Speed Burring 7

1. Preoperative and Postoperative Considerations in Minimum Incision Surgery
Complications of Minimum Incision Surgery 9
Preop Considerations 9
Avoiding Anesthetic Complications 10
Postop Complications 12
Preoperative, Operative and Postoperative Psychological Management of the Patient to Prevent Complications 16
Postoperative Complaints 17
2. X-ray Studies for Minimum Incision Surgery 19
Wired Out X-ray Studies 19
Postoperative X-rays 21
3. Developing Minimum Incision Surgical Judgment 25
Decide on the Angle of Approach 25
The Incision 30
Channeling the Surgical Site for Bur Entry 32
Ostectomy, Osteotomy, Osteoplasty 32
General Principles for Debris Removal 37
Osteoplasty, Osteoclasis and Dorsal Reflectory Wedge Osteotomies 38
Closing the Incision 38
Dressings 39
4. Equipment and Instruments Most Frequently Used in Minimum Incision Surgery 41
Hand Instruments 41
Power Equipment 45
Burs 53
Powered Rasps 56
Miscellaneous Equipment 56

Lawrence J Kales, DPM



5. Anesthesia 59
The First Toe 59
The Lesser Toes 59
The First Metatarsal Phalangeal Joint 61
The Lesser Metatarsals 63
Miscellaneous Soft Tissue Areas 64

II. Surgical Procedure
1. Onychocryptosis 67
Partial Matrixectomy 67
Partial Matrixectomy Using Phenol-Alcohol 71
Nail Avulsion and Matrixectomy Using 10 Percent Sodium Hydroxide 75
Complete Nail Plate Avulsion with Matrixectomy Using Phenol and Alcohol 75
Nail Avulsion and Matrixectomy by Tripsy 77
Postoperative Care 77
Summation of Nail Procedures 79
2. Soft Tissue Procedures: Toes and Tendons 81
3. Bone Procedures: Lesser Toes 95
4. Bone Procedures: Hallux 121
5. Bone Procedures: Lesser Metatarsals 147
6. Bone Procedures: First Metatarsal 175

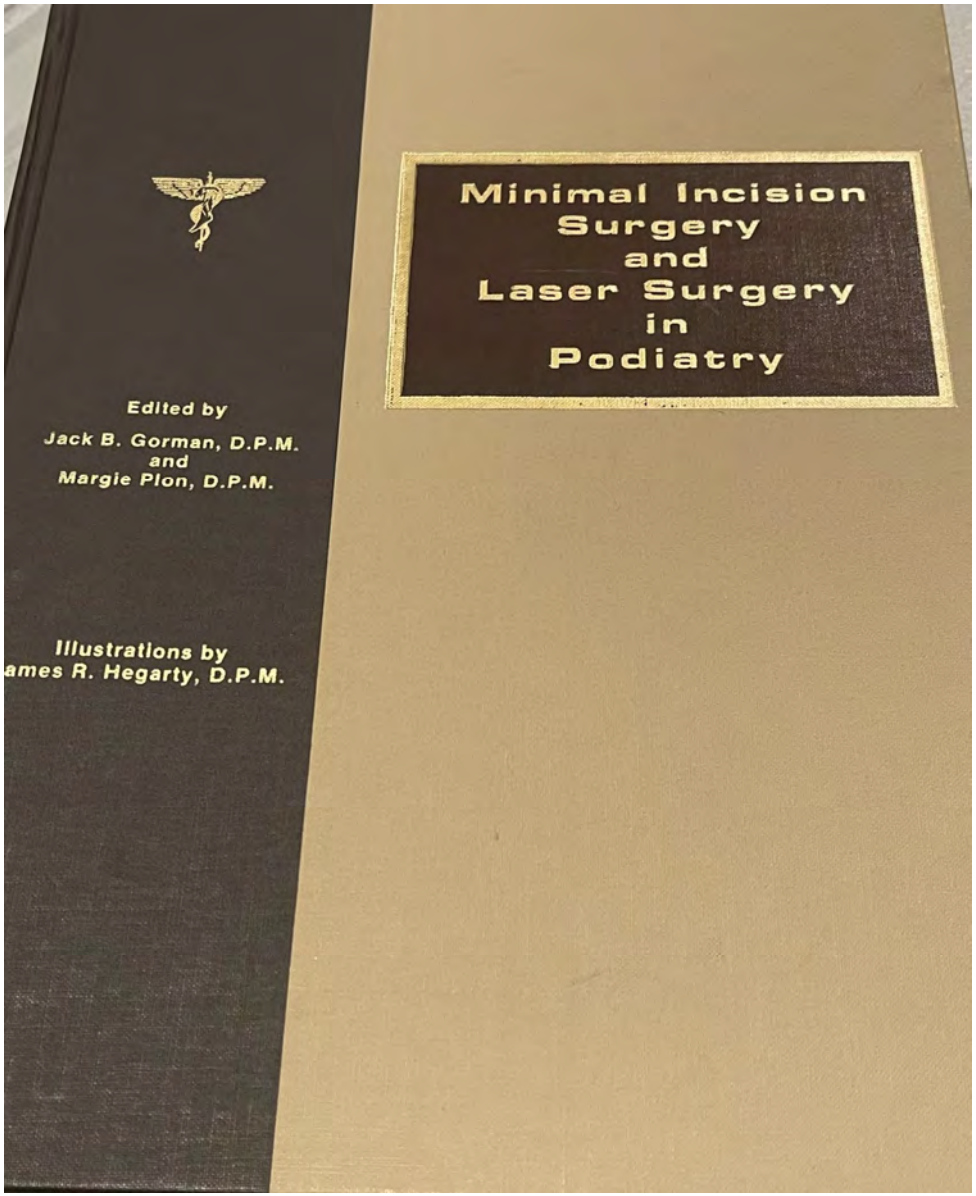
III. Postoperative Care 199

IV. Standard Paragraphs in Podiatric Surgery for Postoperative Reporting 205

V. Digital Orthotics and Devices 239

VI. References 259

Lawrence J Kales, DPM



Lawrence J Kales, DPM

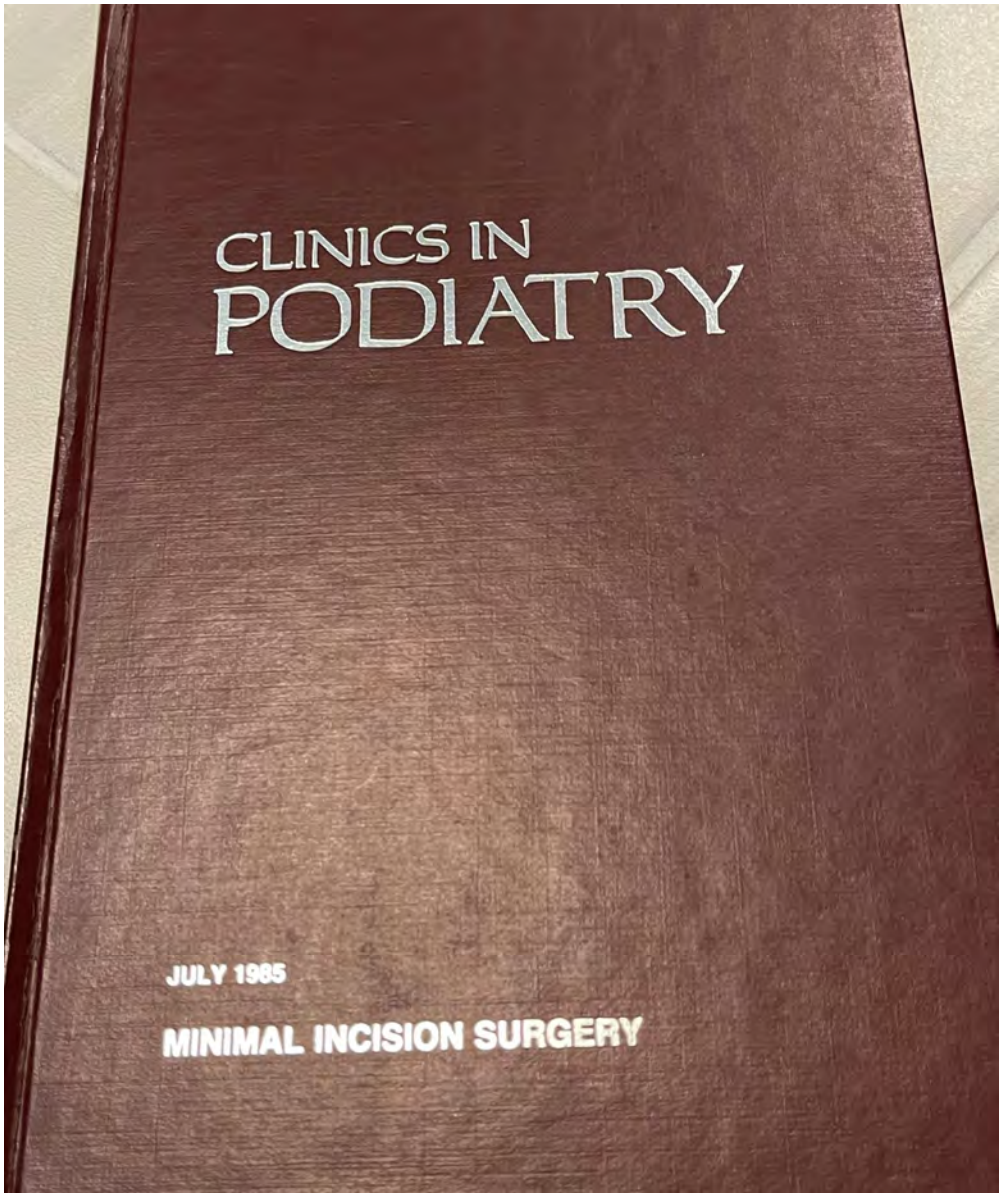
TABLE OF CO

		Page
Anatomy		1
Soft Tissue Procedures		
Suggested Soft Tissue Pack Nail		15
Procedure Performed No. 1:	Partial nail avulsion with [illegible]	16
Procedure Performed No. 2:	Total nail avulsion with [illegible]	19
Suggested Soft Tissue Pack		22
Procedure Performed No. 3:	Extensor tenotomy and capsulotomy	23
Procedure Performed No. 4:	Flexor tenotomy with plantar capsulotomy	25
Procedure Performed No. 5:	Tenotomy of extensor hallucis longus	27
Procedure Performed No. 6:	Adductor tenotomy and lateral capsulotomy of the first metatarsal phalangeal joint	31
Digital Procedures		
Suggested Digital Pack		37
Procedure Performed No. 7:	Partial Ostectomy of dorso-lateral aspect of head of proximal phalanx and base of middle phalanx, fifth toe	38
Procedure Performed No. 8:	Partial ostectomy of the dorsal aspect of the head of the proximal phalanx and base of the middle phalanx	40
Procedure Performed No. 9:	Arthroplasty of the lateral or medial aspect of the head of the proximal phalanx and base of the middle phalanx	42
Procedure Performed No. 10:	Reconstruction of proximal or distal interphalangeal joint involving either the lateral or medial aspects of the head of the proximal phalanx or the base of the distal phalanx	44
Procedure Performed No. 11:	Partial ostectomy of the lateral aspect of the base of the distal phalanx	46
Procedure Performed No. 12:	Partial ostectomy of the distal aspect of the distal phalanx	48
Procedure Performed No. 13:	Exostectomy of the dorsal aspect of the distal phalanx	50
Procedure Performed No. 14:	Arthroplasty of the proximal interphalangeal joint	52
Procedure Performed No. 15:	Arthroplasty distal interphalangeal joint	5
Procedure Performed No. 16:	Closing wedge osteotomy of the base of the proximal phalanx and medial capsulotomy of the metatarsal phalangeal joint	
Procedure Performed No. 17:	Closing base wedge osteotomy of the proximal phalanx of the hallux	
Metatarsal Procedures		
Suggested Metatarsal Pack		
Procedure Performed No. 18:	Arthroplasty of the dorsal aspect of the first metatarsal phalangeal joint	
Procedure Performed No. 19:	Modified Silver bunionectomy	
Procedure Performed No. 20:	Modified Wilson osteotomy	
Procedure Performed No. 21:	Modified Austin osteotomy of the first metatarsal	
Procedure Performed No. 22:	"V" osteotomy of first metatarsal	
Procedure Performed No. 23:	Partial ostectomy of tibial sesamoid	
Procedure Performed No. 24:	Angulated osteotomy of the base of the first metatarsal	
Procedure Performed No. 25:	Base wedge osteotomy of the first metatarsal	
Procedure Performed No. 26:	Dorsiflectory wedge osteotomy of the base of the first metatarsal	
Procedure Performed No. 27:	"V" osteotomy of lesser metatarsal	
Procedure Performed No. 28:	Transverse osteotomy	
Procedure Performed No. 29:	Dorsiflectory wedge osteotomy of the lesser metatarsals (head)	
Procedure Performed No. 30:	Dorsiflectory wedge osteotomy of the lesser metatarsals (base)	

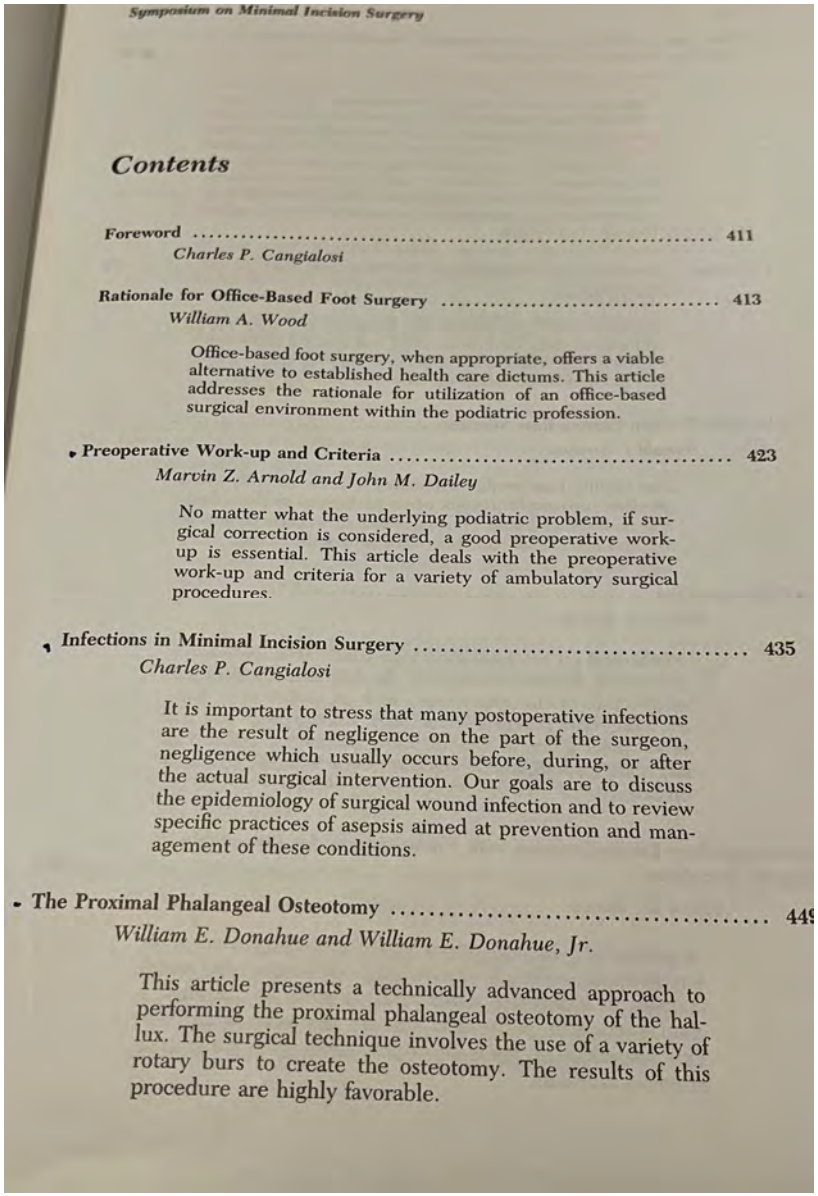
Lawrence J Kales, DPM

		Page
Procedure Performed No. 31:	Partial osteotomy of the lateral and dorsal-lateral aspects of the head of the fifth metatarsal	102
Procedure Performed No. 32:	Angulated osteotomy of the fifth metatarsal (surgical neck)	104
Procedure Performed No. 33:	Angulated osteotomy of the fifth metatarsal (just above base)	106
Procedure Performed No. 34:	Exostectomy of the lateral aspect of the base of the fifth metatarsal	108
Rear Foot Procedures		
Suggested Rear Foot Pack		113
Procedure Performed No. 35:	Exostectomy of the dorsal aspect of the base of the first metatarsal and medial cuneiform	114
Procedure Performed No. 36:	Excision of plantar calcaneal spur, with plantar fasciotomy	117
Procedure Performed No. 37:	Decompression osteotomy of the calcaneous	121
Procedure Performed No. 38:	Partial osteotomy of the posterior superior lateral aspect of the calcaneous	123
Laser		
The Carbon Dioxide Laser in Podiatry		129
Laser Surgical Techniques		143
Guidelines for Laser Use		147

Lawrence J Kales, DPM



Lawrence J Kales, DPM



Contents

Foreword 411
Charles P. Cangialosi

Rationale for Office-Based Foot Surgery 413
William A. Wood

Office-based foot surgery, when appropriate, offers a viable alternative to established health care dictums. This article addresses the rationale for utilization of an office-based surgical environment within the podiatric profession.

Preoperative Work-up and Criteria 423
Marvin Z. Arnold and John M. Dailey

No matter what the underlying podiatric problem, if surgical correction is considered, a good preoperative work-up is essential. This article deals with the preoperative work-up and criteria for a variety of ambulatory surgical procedures.

Infections in Minimal Incision Surgery 435
Charles P. Cangialosi

It is important to stress that many postoperative infections are the result of negligence on the part of the surgeon, negligence which usually occurs before, during, or after the actual surgical intervention. Our goals are to discuss the epidemiology of surgical wound infection and to review specific practices of asepsis aimed at prevention and management of these conditions.

The Proximal Phalangeal Osteotomy 449
William E. Donahue and William E. Donahue, Jr.

This article presents a technically advanced approach to performing the proximal phalangeal osteotomy of the hallux. The surgical technique involves the use of a variety of rotary burs to create the osteotomy. The results of this procedure are highly favorable.

Lawrence J Kales, DPM

• **Restoration of Toe Function with Minimal Traumatic Procedures Including Advanced Diaphysectomy** 457
Dennis F. Augustine and Jerome F. Jacobs

Minimal traumatic surgery is considered the preferred treatment for painful digital deformities including hammertoes, overlapping toes, mallet toes, underlapping toes, and painful corns. With the introduction of technology such as intraoperative x-ray monitoring, these procedures can be performed more efficiently, safely, and without unnecessary hospitalization in most cases. Mobility is kept to a minimum, yet the patients can be comfortably mobile while they are recovering.

• **Tenotomy, Tenectomy, and Capsulotomy for the Lesser Toes** 471
Milton D. Roven

Indications and contraindications for tenotomy, tenectomy, and capsulotomy have been cited and surgical procedures outlined. The importance of possible supplemental surgery and biomechanical follow-up have also been stressed.

• **Minimal Incision Closing Base Wedges** 477
Ronald J. Strauss

The closing base wedge osteotomy will consistently yield excellent prognostic results when performed as described. The technique should be used when an angular change at the first metatarsal base is needed in any direction.

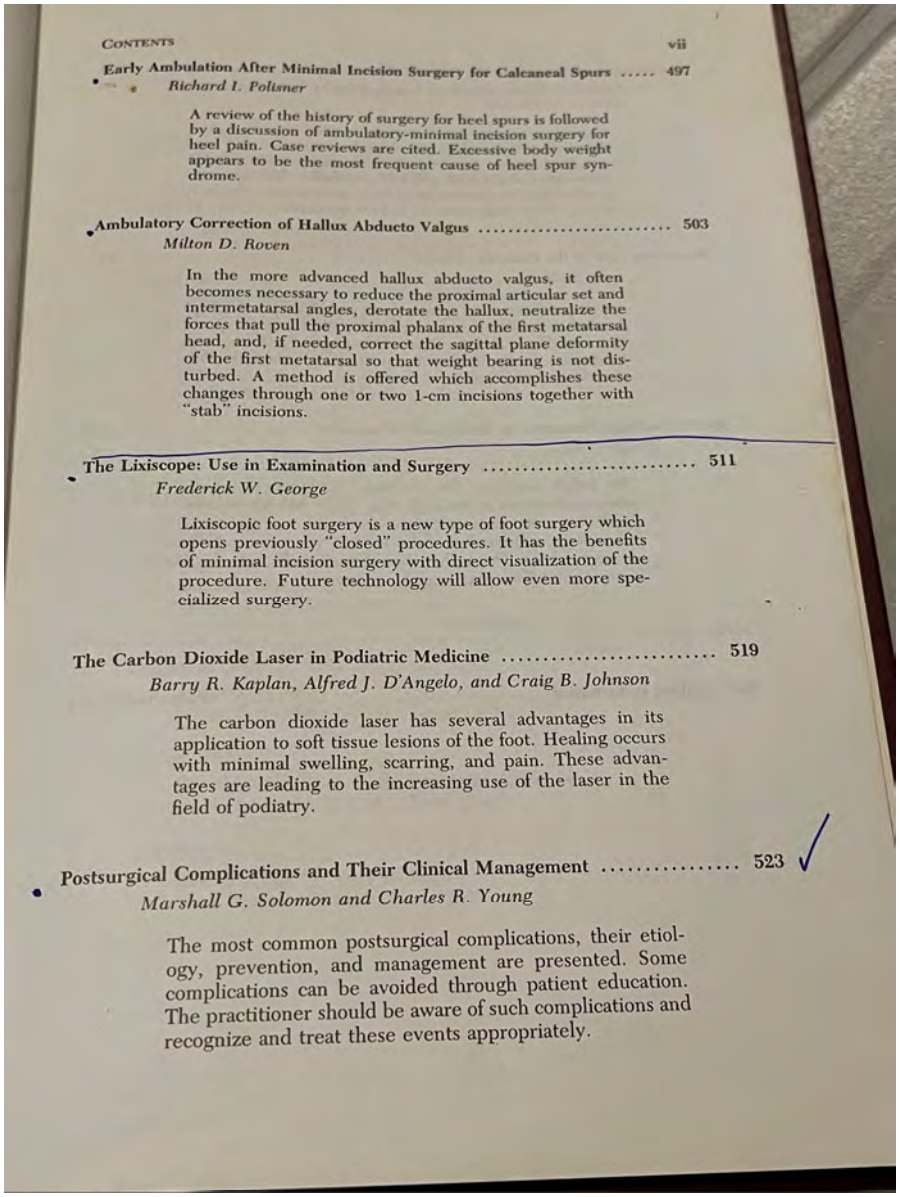
• **Phalangeal Set** 483
Milton D. Roven

Phalangeal set has been used successfully as an ambulatory procedure for the treatment of flexible malalignment and contraction of the lesser toes, such as mallet toes, hammertoes, underlapping (varus) toes, overlapping toes, and other deformities of one or more phalanges. Indications and contraindications are outlined along with the operative procedure.

• **Intramedullary Decompression with Condylectomy for Intractable Plantar Keratoma** 491
Milton D. Roven

A method of relieving excessive plantargrade pressure from a metatarsal is offered via a drill-hole decompression which appears to lessen the downward pressure. In addition, a condylectomy is performed through the same drilll hole. This procedure presents fewer postoperative sequelae than previous methods.

Lawrence J Kales, DPM



CONTENTS vii

Early Ambulation After Minimal Incision Surgery for Calcaneal Spurs 497
Richard I. Polisner

A review of the history of surgery for heel spurs is followed by a discussion of ambulatory-minimal incision surgery for heel pain. Case reviews are cited. Excessive body weight appears to be the most frequent cause of heel spur syndrome.

Ambulatory Correction of Hallux Abducto Valgus 503
Milton D. Roven

In the more advanced hallux abducto valgus, it often becomes necessary to reduce the proximal articular set and intermetatarsal angles, derotate the hallux, neutralize the forces that pull the proximal phalanx of the first metatarsal head, and, if needed, correct the sagittal plane deformity of the first metatarsal so that weight bearing is not disturbed. A method is offered which accomplishes these changes through one or two 1-cm incisions together with "stab" incisions.

The Lixiscope: Use in Examination and Surgery 511
Frederick W. George

Lixiscopic foot surgery is a new type of foot surgery which opens previously "closed" procedures. It has the benefits of minimal incision surgery with direct visualization of the procedure. Future technology will allow even more specialized surgery.

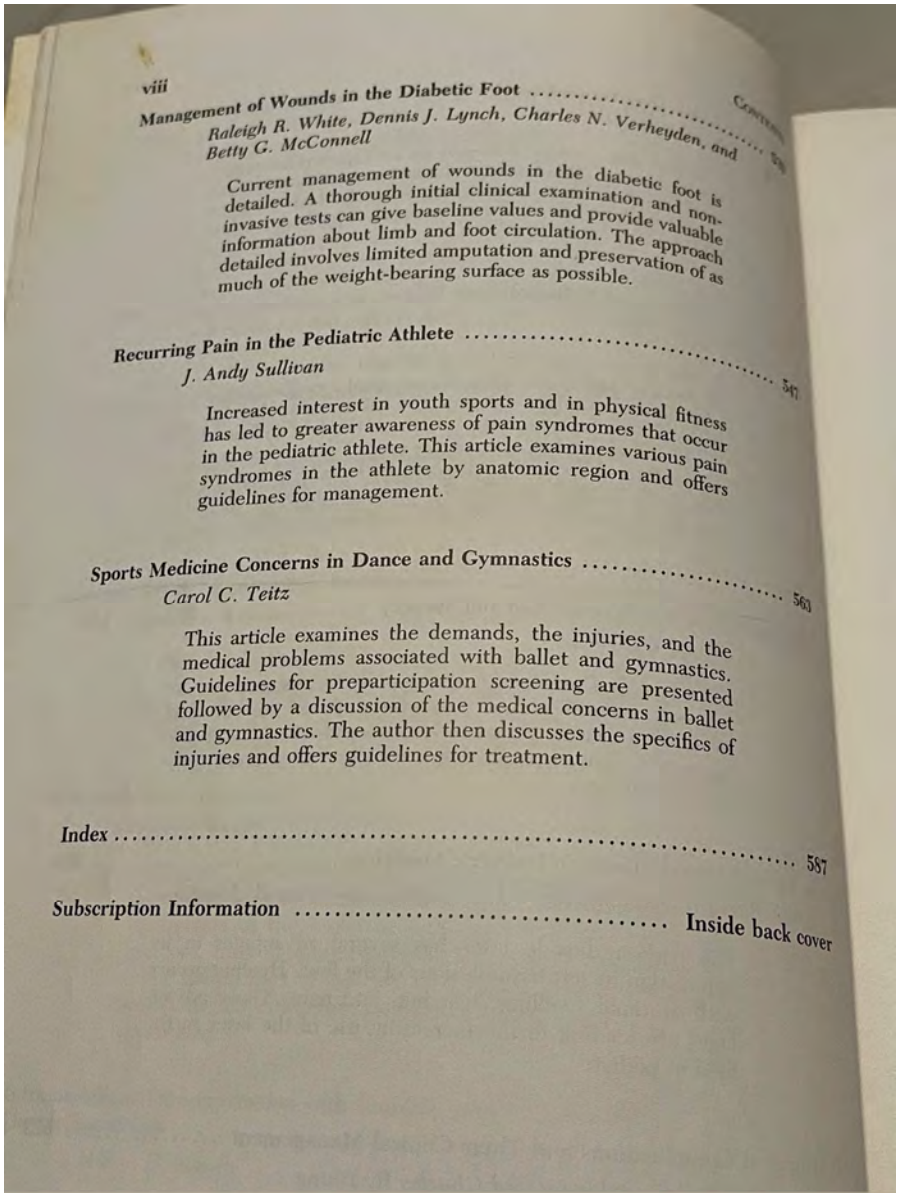
The Carbon Dioxide Laser in Podiatric Medicine 519
Barry R. Kaplan, Alfred J. D'Angelo, and Craig B. Johnson

The carbon dioxide laser has several advantages in its application to soft tissue lesions of the foot. Healing occurs with minimal swelling, scarring, and pain. These advantages are leading to the increasing use of the laser in the field of podiatry.

Postsurgical Complications and Their Clinical Management 523
Marshall G. Solomon and Charles R. Young

The most common postsurgical complications, their etiology, prevention, and management are presented. Some complications can be avoided through patient education. The practitioner should be aware of such complications and recognize and treat these events appropriately.

Lawrence J Kales, DPM



Management of Wounds in the Diabetic Foot 529
Raleigh R. White, Dennis J. Lynch, Charles N. Verheyden, and Betty G. McConnell

Current management of wounds in the diabetic foot is detailed. A thorough initial clinical examination and non-invasive tests can give baseline values and provide valuable information about limb and foot circulation. The approach detailed involves limited amputation and preservation of as much of the weight-bearing surface as possible.

Recurring Pain in the Pediatric Athlete 547
J. Andy Sullivan

Increased interest in youth sports and in physical fitness has led to greater awareness of pain syndromes that occur in the pediatric athlete. This article examines various pain syndromes in the athlete by anatomic region and offers guidelines for management.

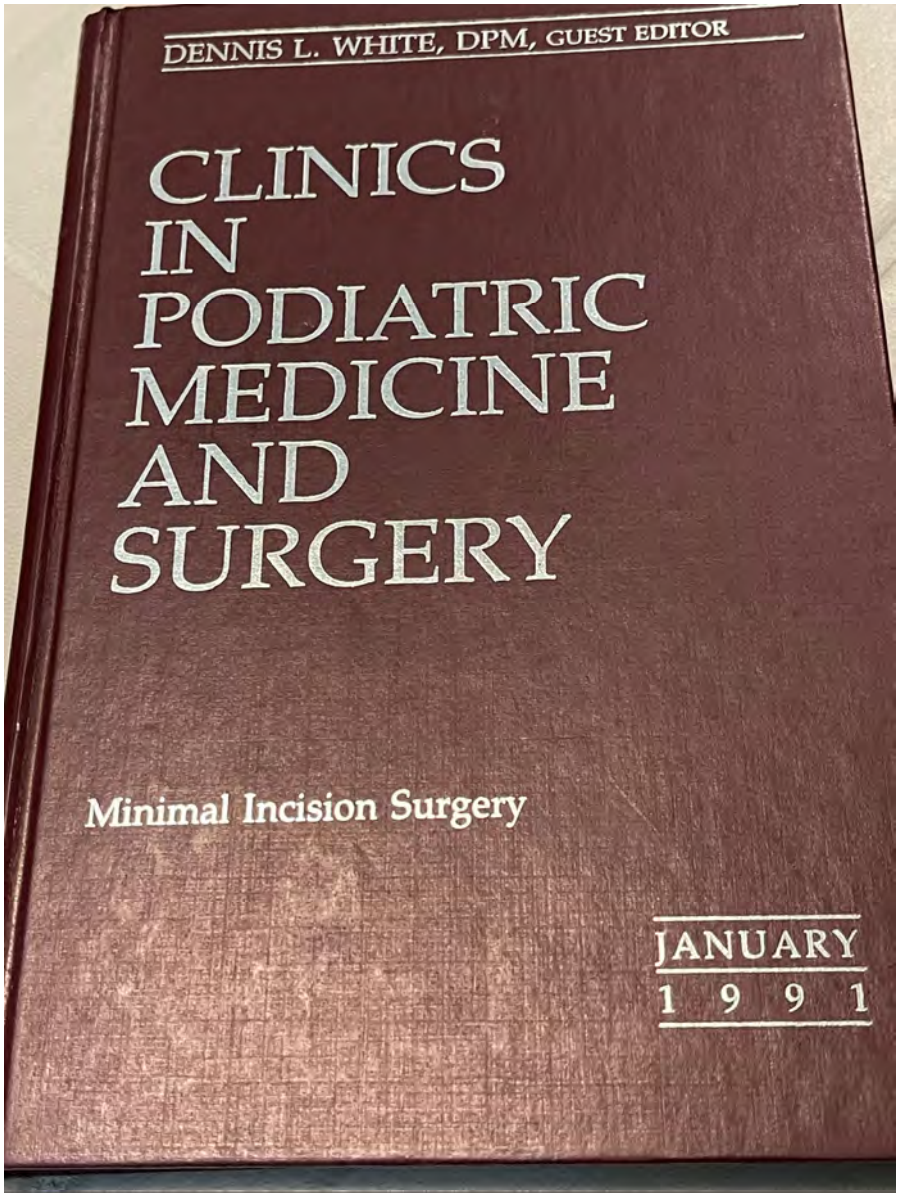
Sports Medicine Concerns in Dance and Gymnastics 563
Carol C. Teitz

This article examines the demands, the injuries, and the medical problems associated with ballet and gymnastics. Guidelines for preparticipation screening are presented followed by a discussion of the medical concerns in ballet and gymnastics. The author then discusses the specifics of injuries and offers guidelines for treatment.

Index 587

Subscription Information ..... Inside back cover

Lawrence J Kales, DPM


DENNIS L. WHITE, DPM, GUEST EDITOR
CLINICS IN PODIATRIC MEDICINE AND SURGERY
Minimal Incision Surgery
JANUARY
1 9 9 1

L
a

CONTENTS

Preface xiii
Dennis L. White

Minimal Incision Tenotomy for Hallux Interphalangeal Joint Extensus 1
Donald D. McGowan

Painful hallucal pathologies are often associated with a hallux interphalangeal joint extensus deformity. This condition can easily be corrected through an extensor hallucis longus tenotomy, using a minimal incision approach. Included are two long-term case studies and the author's personal observations.

Hallux Tenotomy-Capsulotomy 9
L. Bruce Ford

A more common podiatric pathology is the mycotic hallux nail, which is often seen secondary to a subungual exostosis. This pathology is easily corrected with a tenotomy-capsulotomy at the level of the distal interphalangeal joint. During a 3-year period, 25 cases were followed. The procedures used for these patients and the results obtained are discussed

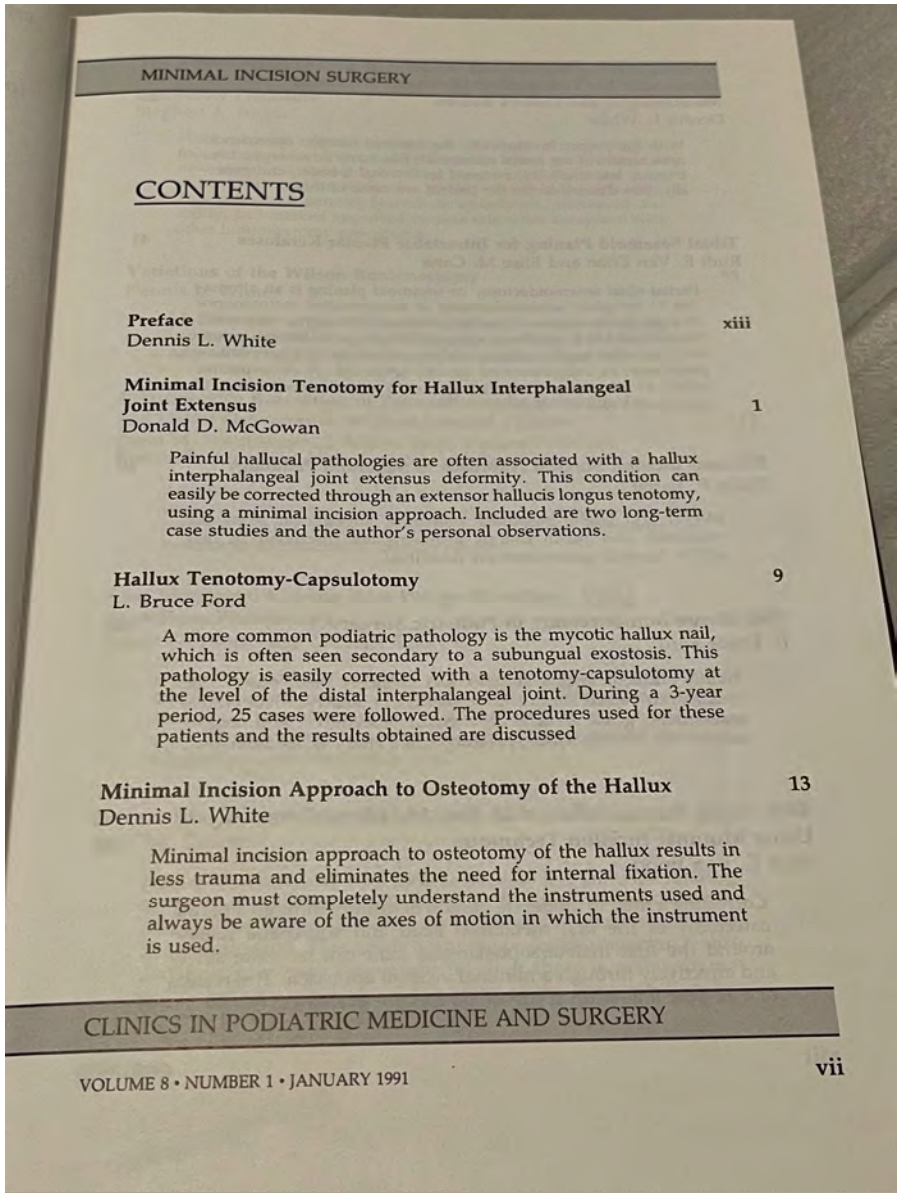
Minimal Incision Approach to Osteotomy of the Hallux
Dennis L. White

Minimal incision approach to osteotomy of the hallux results in less trauma and eliminates the need for internal fixation. The surgeon must completely understand the instruments used and always be aware of the axes of motion in which the instrument is used.

CLINICS IN PODIATRIC MEDICINE AND SURGERY

VOLUME 8 • NUMBER 1 • JANUARY 1991

Lawrence J Kales, DPM



CONTENTS

Preface xiii
Dennis L. White

Minimal Incision Tenotomy for Hallux Interphalangeal Joint Extensus 1
Donald D. McGowan

Painful hallucal pathologies are often associated with a hallux interphalangeal joint extensus deformity. This condition can easily be corrected through an extensor hallucis longus tenotomy, using a minimal incision approach. Included are two long-term case studies and the author's personal observations.

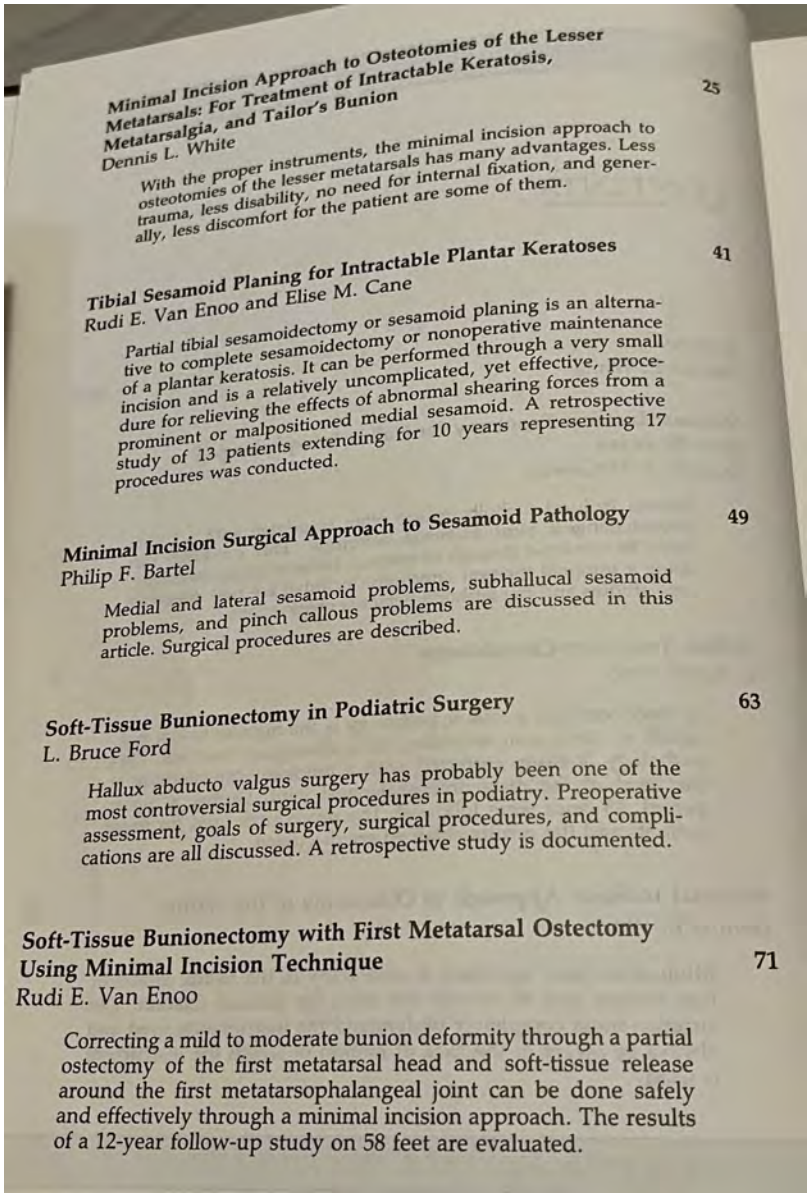
Hallux Tenotomy-Capsulotomy 9
L. Bruce Ford

A more common podiatric pathology is the mycotic hallux nail, which is often seen secondary to a subungual exostosis. This pathology is easily corrected with a tenotomy-capsulotomy at the level of the distal interphalangeal joint. During a 3-year period, 25 cases were followed. The procedures used for these patients and the results obtained are discussed

Minimal Incision Approach to Osteotomy of the Hallux 13
Dennis L. White

Minimal incision approach to osteotomy of the hallux results in less trauma and eliminates the need for internal fixation. The surgeon must completely understand the instruments used and always be aware of the axes of motion in which the instrument is used.

Lawrence J Kales, DPM



Minimal Incision Approach to Osteotomies of the Lesser Metatarsals: For Treatment of Intractable Keratosis, Metatarsalgia, and Tailor's Bunion 25
Dennis L. White

With the proper instruments, the minimal incision approach to osteotomies of the lesser metatarsals has many advantages. Less trauma, less disability, no need for internal fixation, and generally, less discomfort for the patient are some of them.

Tibial Sesamoid Planing for Intractable Plantar Keratoses 41
Rudi E. Van Enoo and Elise M. Cane

Partial tibial sesamoidectomy or sesamoid planing is an alternative to complete sesamoidectomy or nonoperative maintenance of a plantar keratosis. It can be performed through a very small incision and is a relatively uncomplicated, yet effective, procedure for relieving the effects of abnormal shearing forces from a prominent or malpositioned medial sesamoid. A retrospective study of 13 patients extending for 10 years representing 17 procedures was conducted.

Minimal Incision Surgical Approach to Sesamoid Pathology 49
Philip F. Bartel

Medial and lateral sesamoid problems, subhallucal sesamoid problems, and pinch callous problems are discussed in this article. Surgical procedures are described.

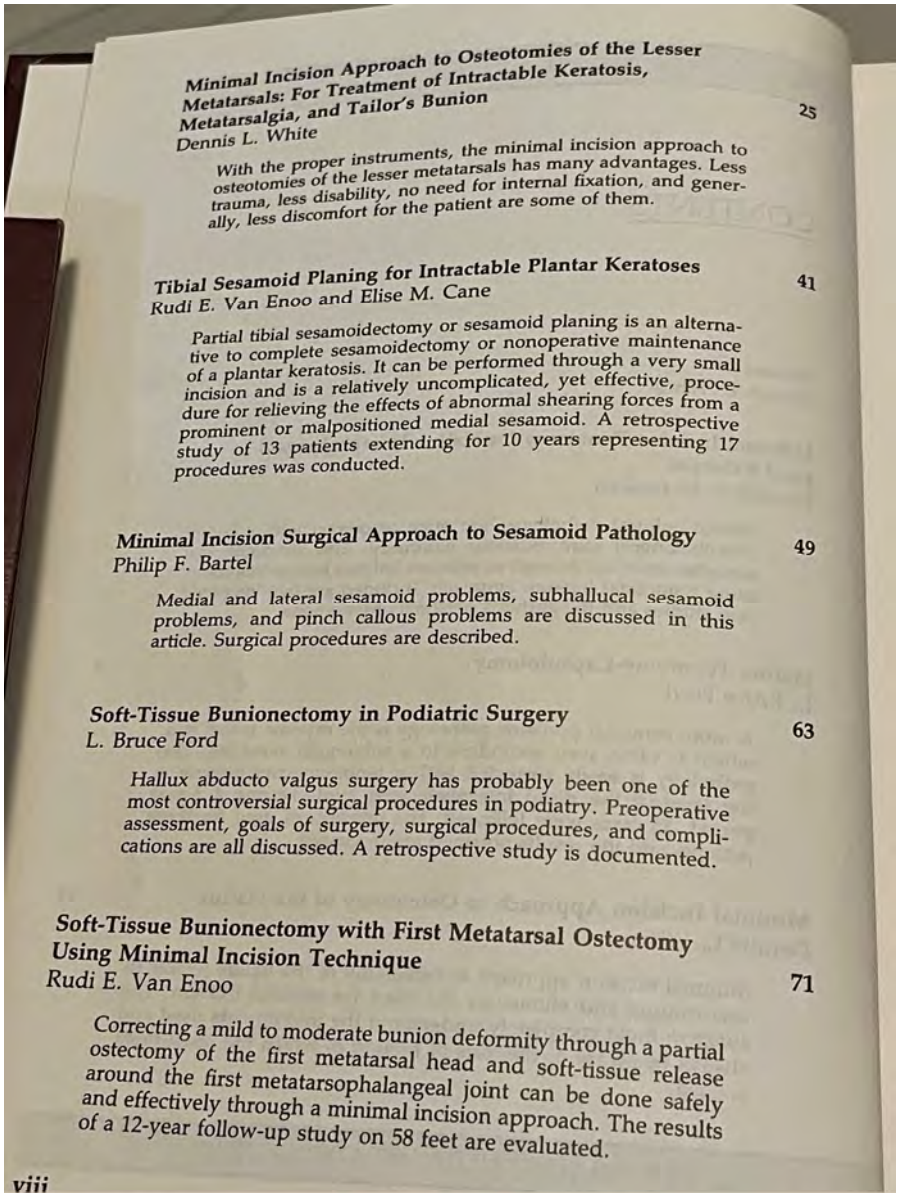
Soft-Tissue Bunionectomy in Podiatric Surgery 63
L. Bruce Ford

Hallux abducto valgus surgery has probably been one of the most controversial surgical procedures in podiatry. Preoperative assessment, goals of surgery, surgical procedures, and complications are all discussed. A retrospective study is documented.

Soft-Tissue Bunionectomy with First Metatarsal Ostectomy Using Minimal Incision Technique 71
Rudi E. Van Enoo

Correcting a mild to moderate bunion deformity through a partial ostectomy of the first metatarsal head and soft-tissue release around the first metatarsophalangeal joint can be done safely and effectively through a minimal incision approach. The results of a 12-year follow-up study on 58 feet are evaluated.

Lawrence J Kales, DPM



Minimal Incision Approach to Osteotomies of the Lesser Metatarsals: For Treatment of Intractable Keratosis, Metatarsalgia, and Tailor's Bunion 25
Dennis L. White

With the proper instruments, the minimal incision approach to osteotomies of the lesser metatarsals has many advantages. Less trauma, less disability, no need for internal fixation, and generally, less discomfort for the patient are some of them.

Tibial Sesamoid Planing for Intractable Plantar Keratoses 41
Rudi E. Van Enoo and Elise M. Cane

Partial tibial sesamoidectomy or sesamoid planing is an alternative to complete sesamoidectomy or nonoperative maintenance of a plantar keratosis. It can be performed through a very small incision and is a relatively uncomplicated, yet effective, procedure for relieving the effects of abnormal shearing forces from a prominent or malpositioned medial sesamoid. A retrospective study of 13 patients extending for 10 years representing 17 procedures was conducted.

Minimal Incision Surgical Approach to Sesamoid Pathology 49
Philip F. Bartel

Medial and lateral sesamoid problems, subhallucal sesamoid problems, and pinch callous problems are discussed in this article. Surgical procedures are described.

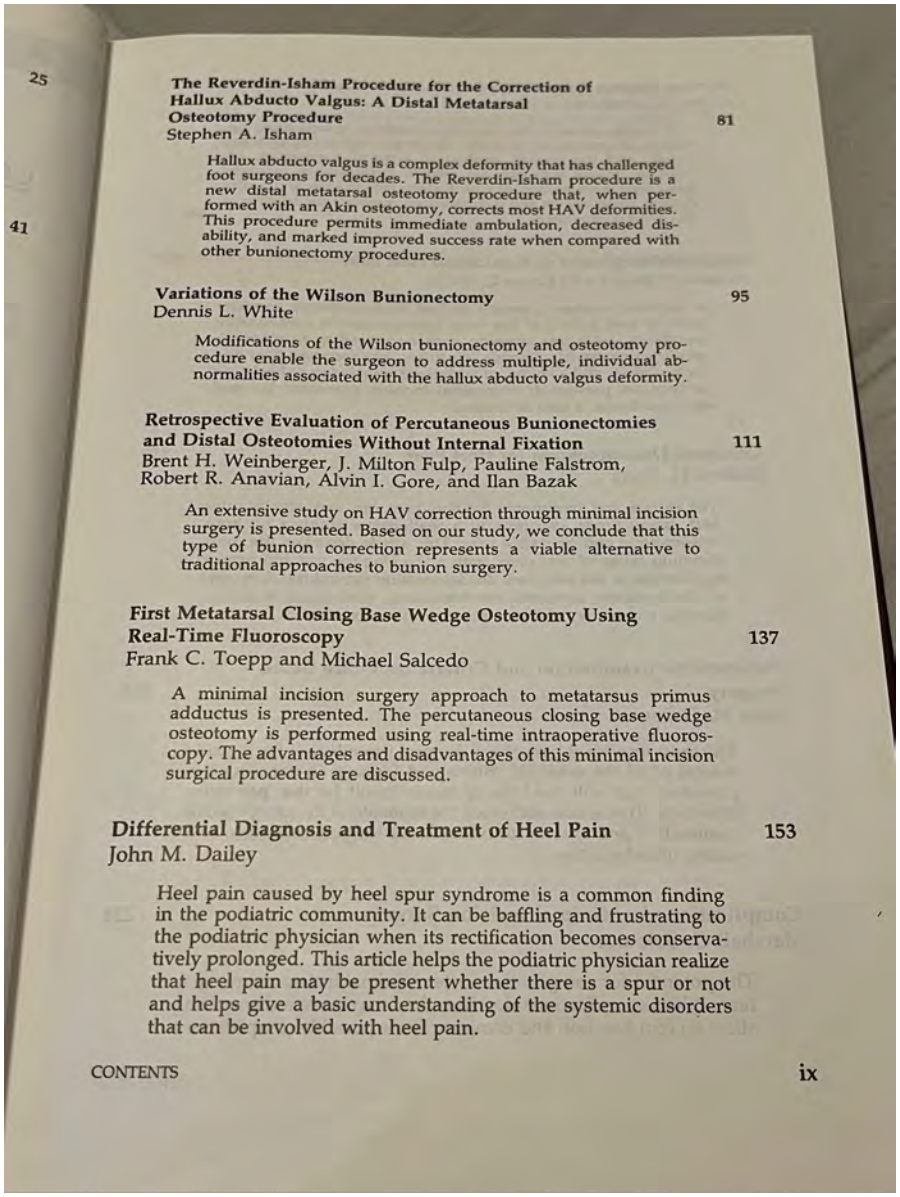
Soft-Tissue Bunionectomy in Podiatric Surgery 63
L. Bruce Ford

Hallux abducto valgus surgery has probably been one of the most controversial surgical procedures in podiatry. Preoperative assessment, goals of surgery, surgical procedures, and complications are all discussed. A retrospective study is documented.

Soft-Tissue Bunionectomy with First Metatarsal Ostectomy Using Minimal Incision Technique 71
Rudi E. Van Enoo

Correcting a mild to moderate bunion deformity through a partial ostectomy of the first metatarsal head and soft-tissue release around the first metatarsophalangeal joint can be done safely and effectively through a minimal incision approach. The results of a 12-year follow-up study on 58 feet are evaluated.

Lawrence J Kales, DPM



25

The Reverdin-Isham Procedure for the Correction of Hallux Abducto Valgus: A Distal Metatarsal Osteotomy Procedure 81
Stephen A. Isham

Hallux abducto valgus is a complex deformity that has challenged foot surgeons for decades. The Reverdin-Isham procedure is a new distal metatarsal osteotomy procedure that, when performed with an Akin osteotomy, corrects most HAV deformities. This procedure permits immediate ambulation, decreased disability, and marked improved success rate when compared with other bunionectomy procedures.

41

Variations of the Wilson Bunionectomy 95
Dennis L. White

Modifications of the Wilson bunionectomy and osteotomy procedure enable the surgeon to address multiple, individual abnormalities associated with the hallux abducto valgus deformity.

Retrospective Evaluation of Percutaneous Bunionectomies and Distal Osteotomies Without Internal Fixation 111
Brent H. Weinberger, J. Milton Fulp, Pauline Falstrom, Robert R. Anavian, Alvin I. Gore, and Ilan Bazak

An extensive study on HAV correction through minimal incision surgery is presented. Based on our study, we conclude that this type of bunion correction represents a viable alternative to traditional approaches to bunion surgery.

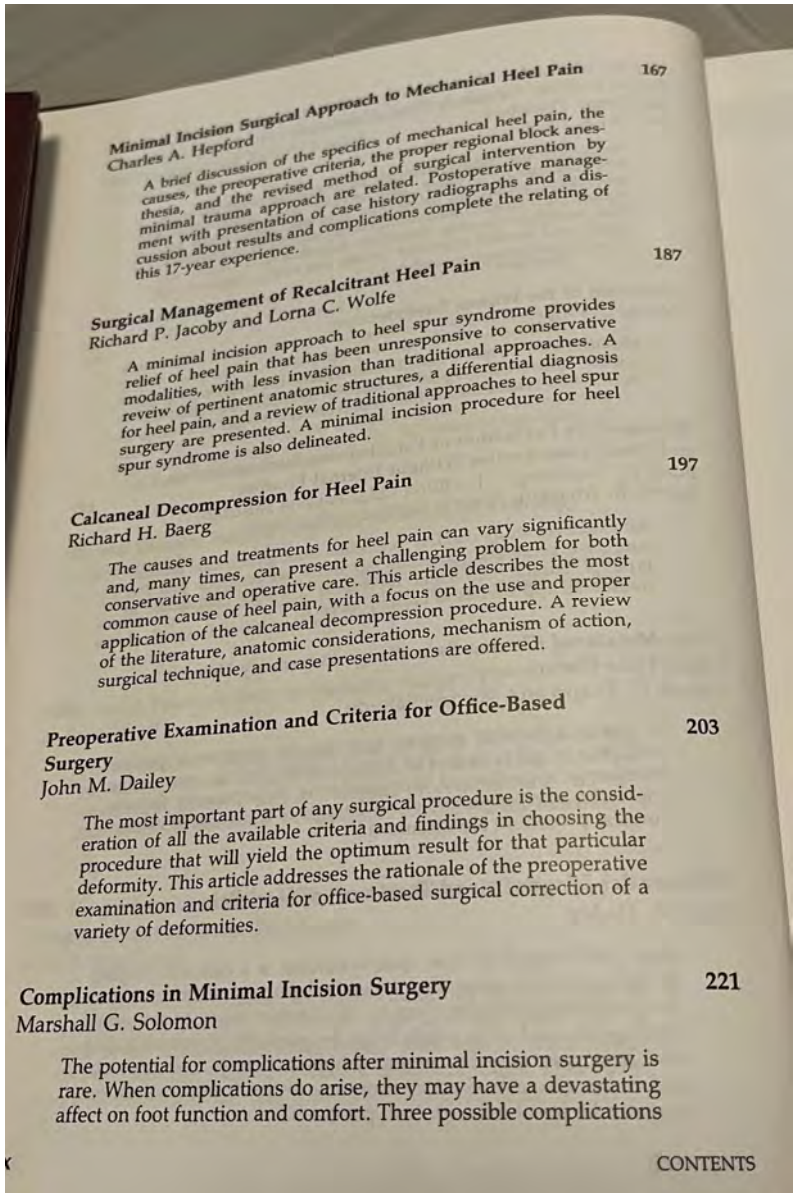
First Metatarsal Closing Base Wedge Osteotomy Using Real-Time Fluoroscopy 137
Frank C. Toepp and Michael Salcedo

A minimal incision surgery approach to metatarsus primus adductus is presented. The percutaneous closing base wedge osteotomy is performed using real-time intraoperative fluoroscopy. The advantages and disadvantages of this minimal incision surgical procedure are discussed.

Differential Diagnosis and Treatment of Heel Pain 153
John M. Dailey

Heel pain caused by heel spur syndrome is a common finding in the podiatric community. It can be baffling and frustrating to the podiatric physician when its rectification becomes conservatively prolonged. This article helps the podiatric physician realize that heel pain may be present whether there is a spur or not and helps give a basic understanding of the systemic disorders that can be involved with heel pain.

Lawrence J Kales, DPM



Minimal Incision Surgical Approach to Mechanical Heel Pain 167
Charles A. Hepford

A brief discussion of the specifics of mechanical heel pain, the causes, the preoperative criteria, the proper regional block anesthesia, and the revised method of surgical intervention by minimal trauma approach are related. Postoperative management with presentation of case history radiographs and a discussion about results and complications complete the relating of this 17-year experience.

Surgical Management of Recalcitrant Heel Pain 187
Richard P. Jacoby and Lorna C. Wolfe

A minimal incision approach to heel spur syndrome provides relief of heel pain that has been unresponsive to conservative modalities, with less invasion than traditional approaches. A reveiw of pertinent anatomic structures, a differential diagnosis for heel pain, and a review of traditional approaches to heel spur surgery are presented. A minimal incision procedure for heel spur syndrome is also delineated.

Calcaneal Decompression for Heel Pain 197
Richard H. Baerg

The causes and treatments for heel pain can vary significantly and, many times, can present a challenging problem for both conservative and operative care. This article describes the most common cause of heel pain, with a focus on the use and proper application of the calcaneal decompression procedure. A review of the literature, anatomic considerations, mechanism of action, surgical technique, and case presentations are offered.

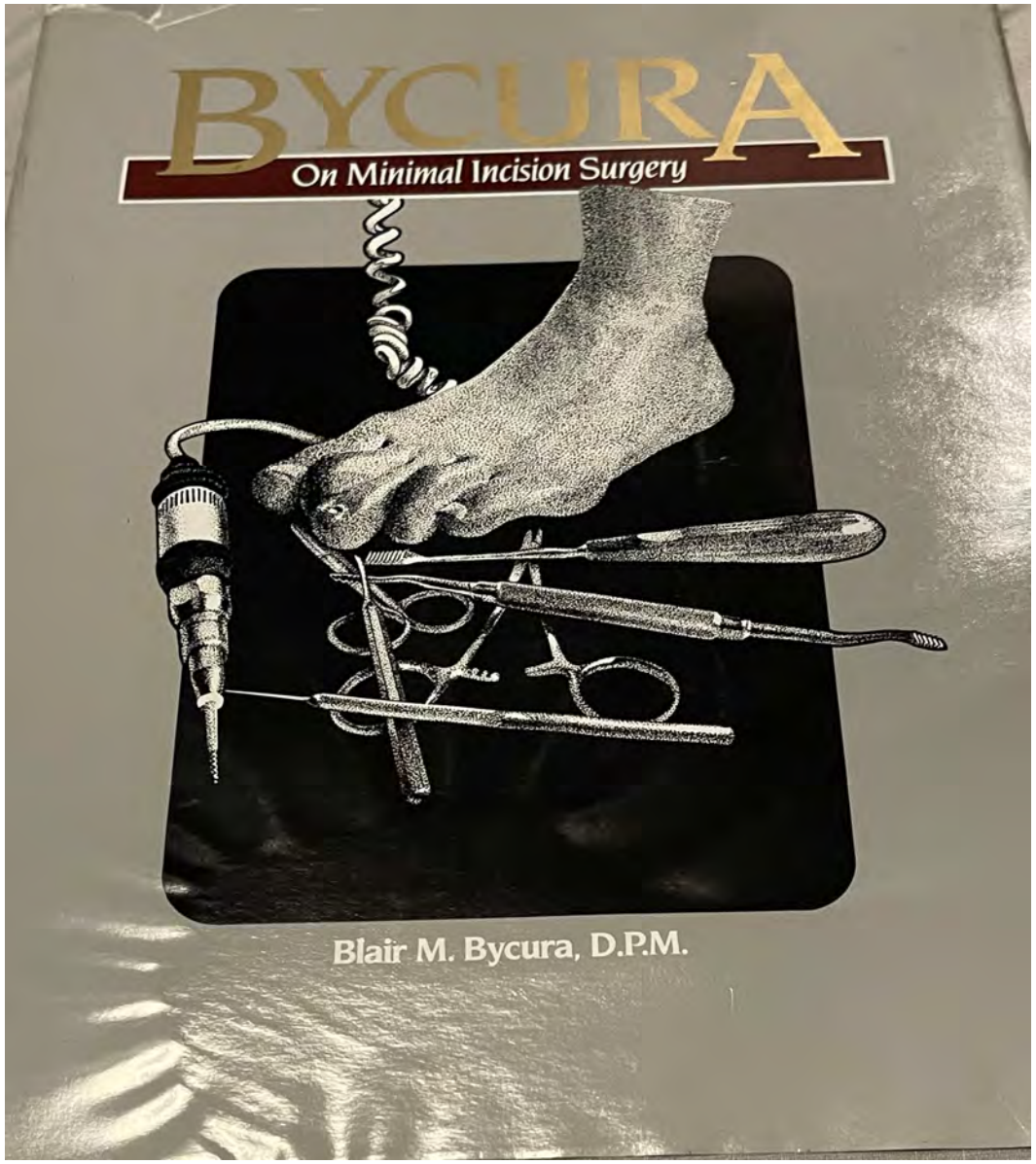
Preoperative Examination and Criteria for Office-Based Surgery 203
John M. Dailey

The most important part of any surgical procedure is the consideration of all the available criteria and findings in choosing the procedure that will yield the optimum result for that particular deformity. This article addresses the rationale of the preoperative examination and criteria for office-based surgical correction of a variety of deformities.

Complications in Minimal Incision Surgery 221
Marshall G. Solomon

The potential for complications after minimal incision surgery is rare. When complications do arise, they may have a devastating affect on foot function and comfort. Three possible complications

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Index

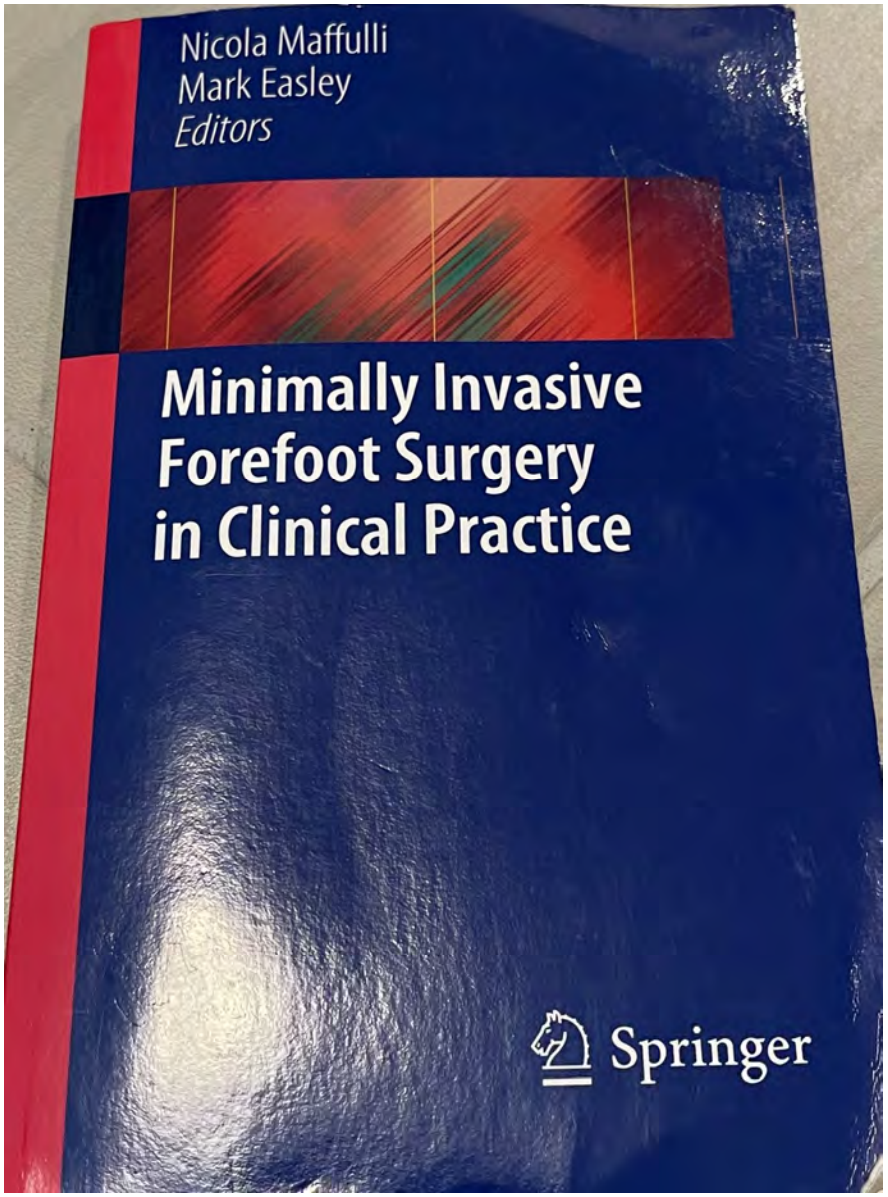
1. Partial nail avulsion with matrixectomy. (Figure 1)
2. Total nail avulsion with matrixectomy. (Figure 2)
3. Extensor tenotomy and capsulotomy of the dorsal surface of the foot. (Figure 3)
4. Tendon lengthening or Z-plasty of the extensor digitorium longus tendon. (Figure 4)
5. Capsulotomy DIPJ or PIPJ with flexor tenotomy—lateral approach. (Figure 5)
6. Capsulotomy DIPJ or PIPJ with flexor tenotomy—plantar approach. (Figure 6)
7. Tendon lengthening or Z-plasty of the extensor hallucis longus tendon. (Figure 7)
8. Tenotomy of the extensor tendon and capsulotomy of the medial and dorsal capsule. (Figure 8)
9. Adductor tenotomy and capsulotomy 1st metatarsal phalangeal joint. (Figure 9)
10. Partial ostectomy of the dorsal lateral aspect of the head of the proximal phalanx and base of the middle phalanx 5th toe. (Figure 10)
11. Partial ostectomy medial head, proximal phalanx 5th toe; partial ostectomy lateral side base of the proximal phalanx 4th toe. (Figure 11)
12. Arthroplasty of the head of the proximal phalanx 5th toe. (Figure 12)
13. Arthroplasty of the head of the proximal phalanx 5th toe. (Figure 13)
14. Arthroplasty of the head of the proximal phalanx 5th toe. (Figure 14)
15. Partial ostectomy of the lateral or medial aspect of the head of the proximal phalanx and base of the middle phalanx of toes 2-3-4. (Figure 15)
16. Partial ostectomy on the lateral aspect of the base of the distal phalanx. (Figure 16)
17. Partial ostecomy on the medial aspect of the base of the distal phalanx. (Figure 17)
18. Partial ostectomy of the base of the distal phalanx medial side and the head on the proximal phalanx medial side 1st toe. (Figure 18)
19. Partial ostectomy of the distal aspect of the distal phalanx. (Figure 19)
20. Arthroplasty of the head of the middle phalanx toes 2-3-4. (Figure 20)

Lawrence J Kales, DPM

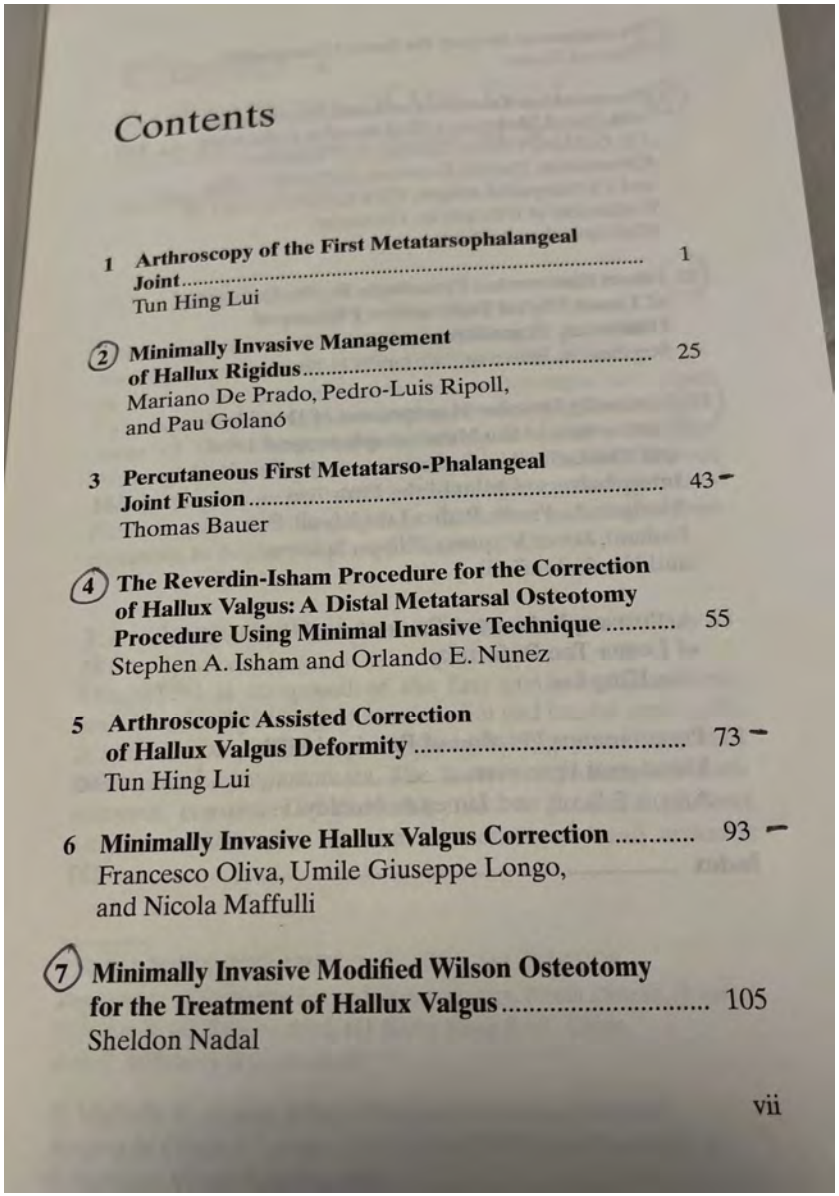
47. Plantar fasciotomy—medial approach. (Figure 47)
48. Plantar fasciotomy—plantar approach. (Figure 48)
49. Excision of plantar calcaneal spur with plantar fasciotomy. (Figure 49)
50. Partial ostectomy posterior aspect of the calcaneus. (Figure 50)
51. Decompression osteotomy of the calcaneus. (Figure 51)

Surgical Treatment of the Diabetic Foot

52. Osteotomy proximal phalanx hallux. (Figure 52)
53. Tibia sesamoidectomy. (Figure 53)
54. Snap osteotomy of the 1st metatarsal. (Figure 54)
55. V osteotomy of the 1st metatarsal. (Figure 55)
56. V osteotomy of metatarsal head. (Figure 56)
57. Transverse osteotomy of the metatarsal. (Figure 57)
58. Angulated osteotomy of the 5th metatarsal head. (Figure 58)
59. Partial ostectomy of the lateral side head of proximal 1st phalanx and base of the distal 1st phalanx and partial ostectomy medial side head of proximal second phalanx and base of 2nd middle phalanx. (Figure 59)



Lawrence J Kales, DPM



Contents

1 **Arthroscopy of the First Metatarsophalangeal Joint** 1
Tun Hing Lui

2 **Minimally Invasive Management of Hallux Rigidus** 25
Mariano De Prado, Pedro-Luis Ripoll, and Pau Golanó

3 **Percutaneous First Metatarso-Phalangeal Joint Fusion** 43
Thomas Bauer

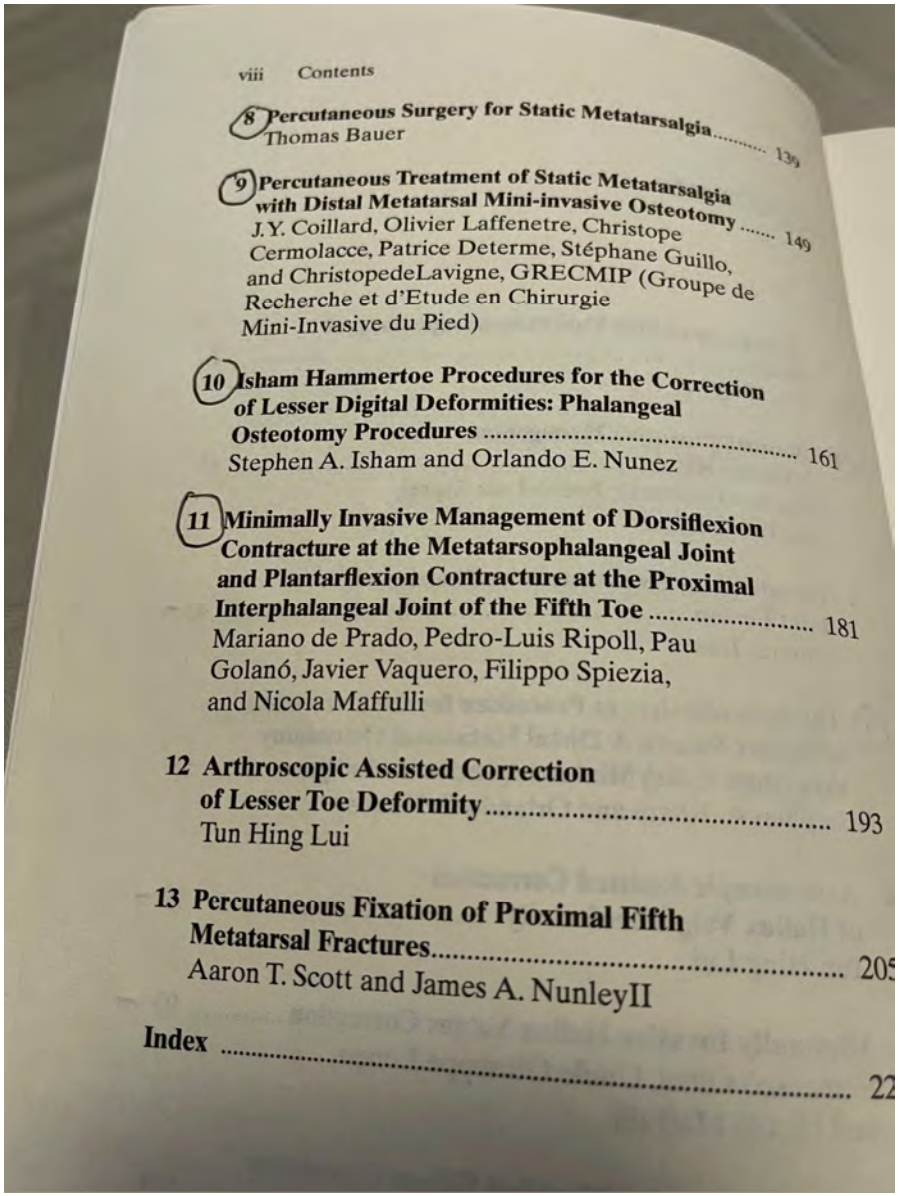
4 **The Reverdin-Isham Procedure for the Correction of Hallux Valgus: A Distal Metatarsal Osteotomy Procedure Using Minimal Invasive Technique** 55
Stephen A. Isham and Orlando E. Nunez

5 **Arthroscopic Assisted Correction of Hallux Valgus Deformity** 73
Tun Hing Lui

6 **Minimally Invasive Hallux Valgus Correction** 93
Francesco Oliva, Umile Giuseppe Longo, and Nicola Maffulli

7 **Minimally Invasive Modified Wilson Osteotomy for the Treatment of Hallux Valgus** 105
Sheldon Nadal

Lawrence J Kales, DPM



viii Contents

8 **Percutaneous Surgery for Static Metatarsalgia** 139
Thomas Bauer

9 **Percutaneous Treatment of Static Metatarsalgia with Distal Metatarsal Mini-invasive Osteotomy** 149
J.Y. Coillard, Olivier Laffenetre, Christope Cermolacce, Patrice Determe, Stéphane Guillo, and ChristopedeLavigne, GRECMIP (Groupe de Recherche et d'Etude en Chirurgie Mini-Invasive du Pied)

10 **Isham Hammertoe Procedures for the Correction of Lesser Digital Deformities: Phalangeal Osteotomy Procedures** 161
Stephen A. Isham and Orlando E. Nunez

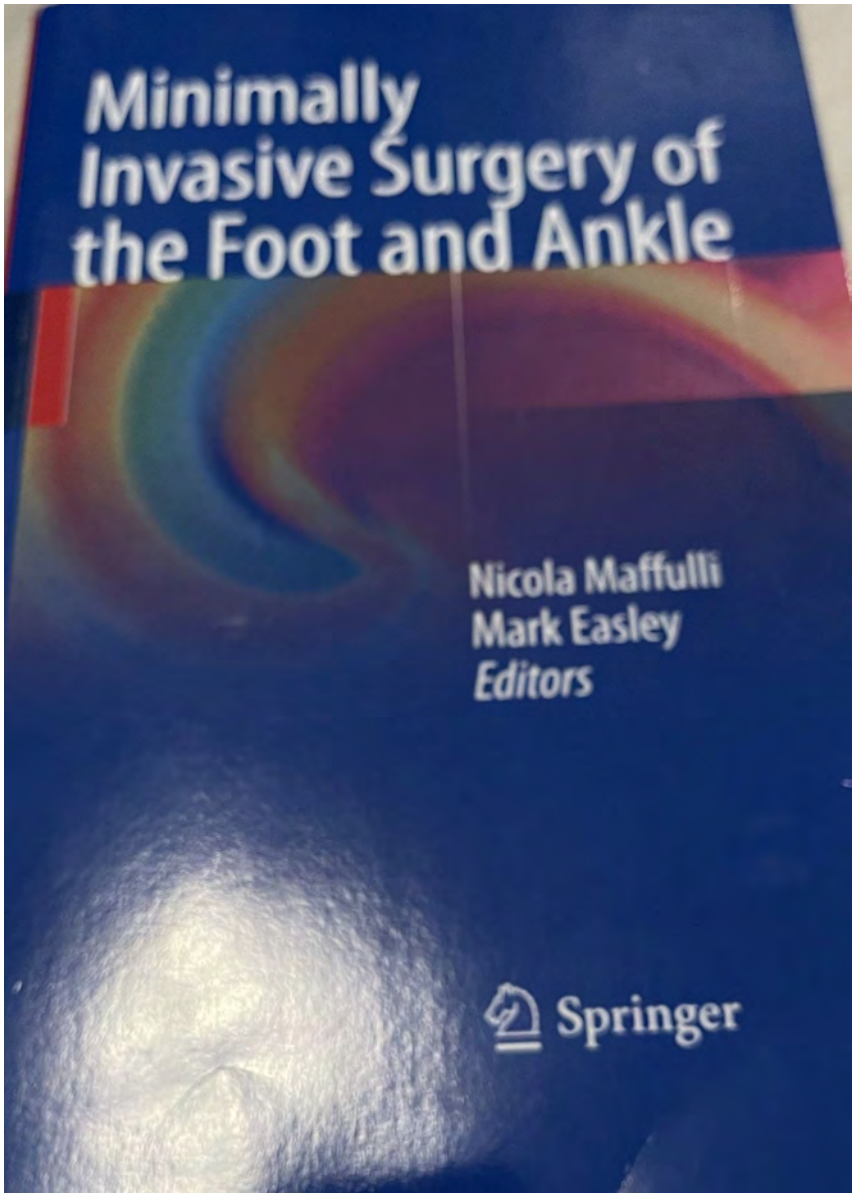
11 **Minimally Invasive Management of Dorsiflexion Contracture at the Metatarsophalangeal Joint and Plantarflexion Contracture at the Proximal Interphalangeal Joint of the Fifth Toe** 181
Mariano de Prado, Pedro-Luis Ripoll, Pau Golanó, Javier Vaquero, Filippo Spiezia, and Nicola Maffulli

12 **Arthroscopic Assisted Correction of Lesser Toe Deformity** 193
Tun Hing Lui

13 **Percutaneous Fixation of Proximal Fifth Metatarsal Fractures** 205
Aaron T. Scott and James A. NunleyII

Index 22

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Part I Generalities

1 **Minimally Invasive Foot Surgery: A Paradigm Shift** 3
Mariano de Prado

2 **Computer-Assisted Surgery (CAS) in Foot and Ankle Surgery** 13
Martinus Richter

3 **Tendoscopy** 35
Maayke Nadine van Sterkenburg, Peter Albert Johannes de Leeuw, and Cornelis Nicolaas van Dijk

Part II Hallux

4 **Arthroscopy of the First Metatarsophalangeal Joint** 57
Tun Hing Lui

5 **Minimally Invasive Management of Hallux Rigidus** 75
Mariano de Prado, Pedro-Luis Ripoll, and Pau Golanó

6 **Percutaneous First Metatarso-Phalangeal Joint Fusion** 89
Thomas Bauer

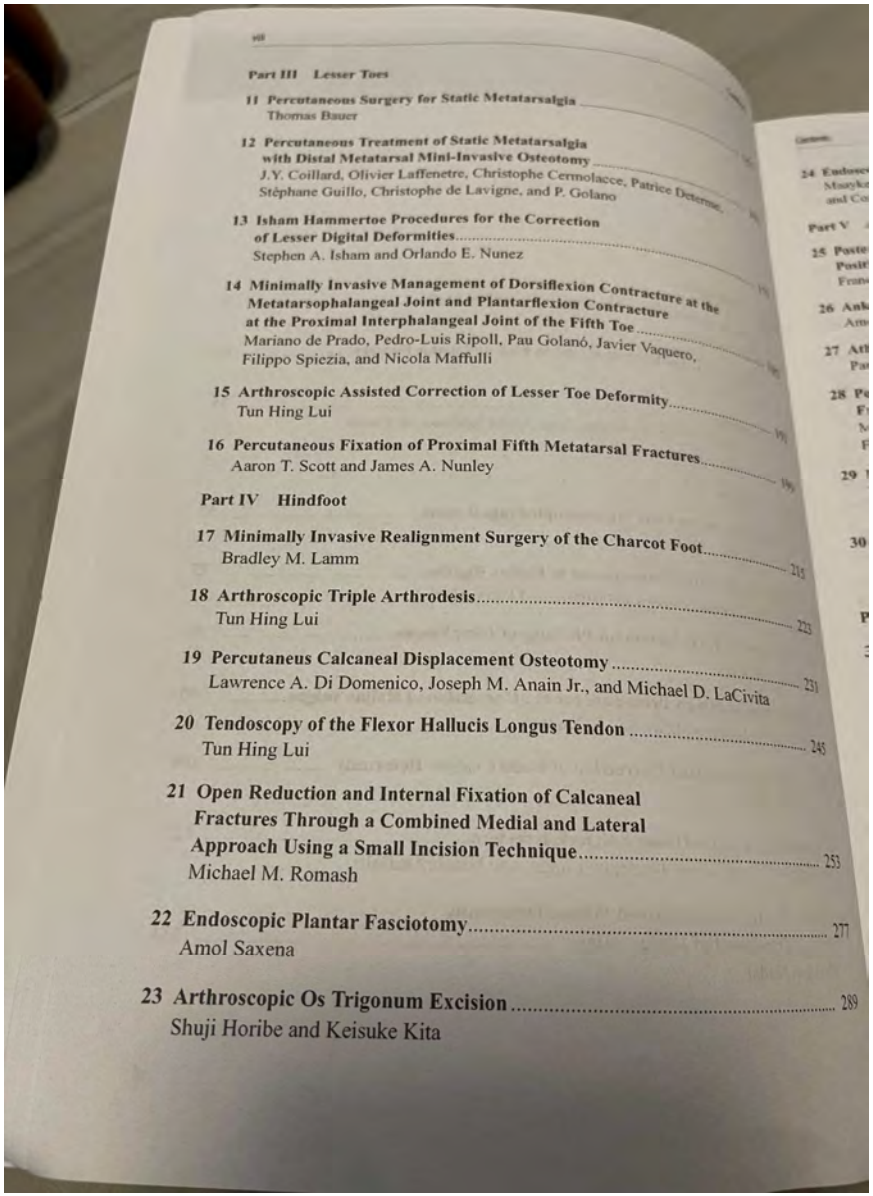
7 **The Reverdin-Isham Procedure for the Correction of Hallux valgus** 97
Stephen A. Isham and Orlando E. Nunez

8 **Arthroscopic Assisted Correction of Hallux valgus Deformity** 109
Tun Hing Lui

9 **Minimally Invasive Hallux valgus Correction** 123
Francesco Oliva, Umile Giuseppe Longo, and Nicola Maffulli

10 **Minimally Invasive Modified Wilson Osteotomy for the Treatment of Hallux valgus** 133
Sheldon Nadal

Lawrence J Kales, DPM



viii

Part III Lesser Toes

11 Percutaneous Surgery for Static Metatarsalgia
Thomas Bauer

12 Percutaneous Treatment of Static Metatarsalgia with Distal Metatarsal Mini-Invasive Osteotomy
J.Y. Coillard, Olivier Laffenetre, Christophe Cermolacce, Patrice Determe, Stéphane Guillo, Christophe de Lavigne, and P. Golano

13 Isham Hammertoe Procedures for the Correction of Lesser Digital Deformities
Stephen A. Isham and Orlando E. Nunez

14 Minimally Invasive Management of Dorsiflexion Contracture at the Metatarsophalangeal Joint and Plantarflexion Contracture at the Proximal Interphalangeal Joint of the Fifth Toe
Mariano de Prado, Pedro-Luis Ripoll, Pau Golanó, Javier Vaquero, Filippo Spiezia, and Nicola Maffulli

15 Arthroscopic Assisted Correction of Lesser Toe Deformity
Tun Hing Lui

16 Percutaneous Fixation of Proximal Fifth Metatarsal Fractures
Aaron T. Scott and James A. Nunley

Part IV Hindfoot

17 Minimally Invasive Realignment Surgery of the Charcot Foot
Bradley M. Lamm

18 Arthroscopic Triple Arthrodesis
Tun Hing Lui

19 Percutaneus Calcaneal Displacement Osteotomy
Lawrence A. Di Domenico, Joseph M. Anain Jr., and Michael D. LaCivita

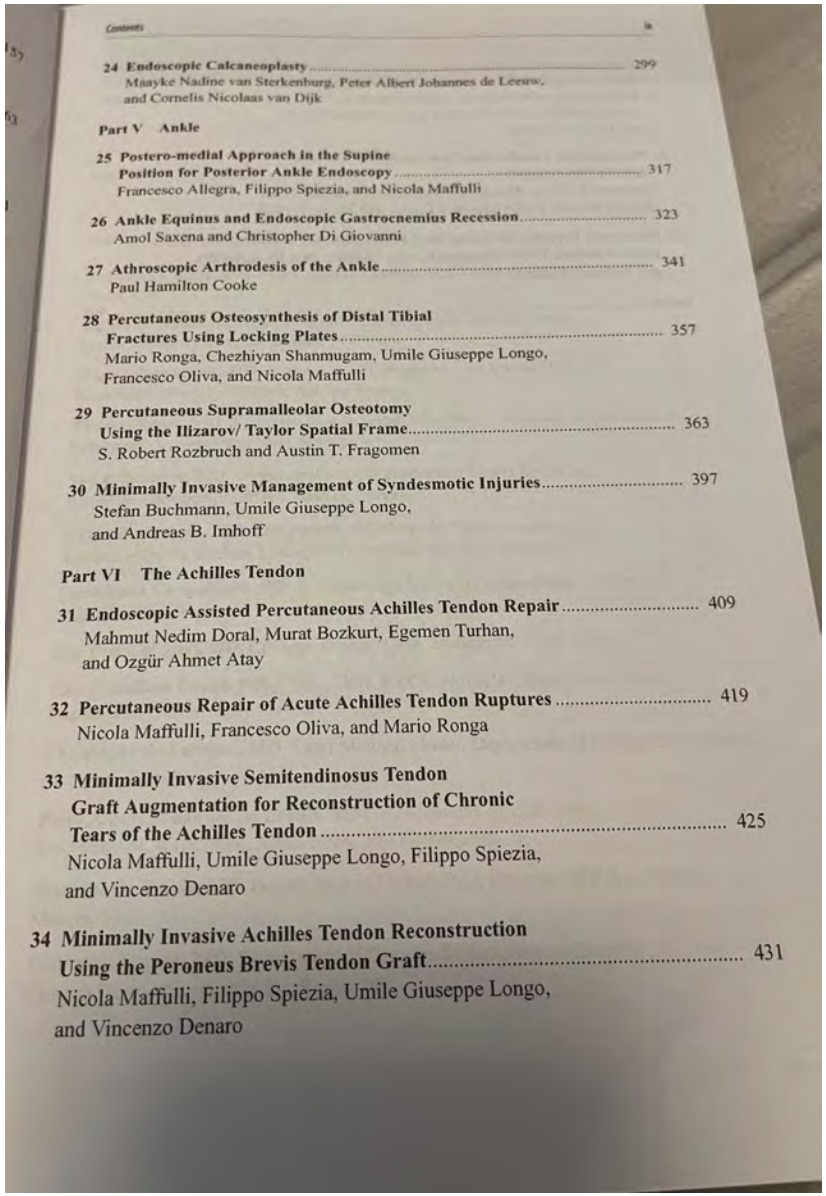
20 Tendoscopy of the Flexor Hallucis Longus Tendon
Tun Hing Lui

21 Open Reduction and Internal Fixation of Calcaneal Fractures Through a Combined Medial and Lateral Approach Using a Small Incision Technique
Michael M. Romash

22 Endoscopic Plantar Fasciotomy
Amol Saxena

23 Arthroscopic Os Trigonum Excision
Shuji Horibe and Keisuke Kita

Lawrence J Kales, DPM



Contents ix

24 Endoscopic Calcaneoplasty 299
Maayke Nadine van Sterkenburg, Peter Albert Johannes de Leeuw, and Cornelis Nicolaas van Dijk

Part V Ankle

25 Postero-medial Approach in the Supine Position for Posterior Ankle Endoscopy 317
Francesco Allegra, Filippo Spiezia, and Nicola Maffulli

26 Ankle Equinus and Endoscopic Gastrocnemius Recession 323
Amol Saxena and Christopher Di Giovanni

27 Athroscopic Arthrodesis of the Ankle 341
Paul Hamilton Cooke

28 Percutaneous Osteosynthesis of Distal Tibial Fractures Using Locking Plates 357
Mario Ronga, Chezhiyan Shanmugam, Umile Giuseppe Longo, Francesco Oliva, and Nicola Maffulli

29 Percutaneous Supramalleolar Osteotomy Using the Ilizarov/ Taylor Spatial Frame 363
S. Robert Rozbruch and Austin T. Fragomen

30 Minimally Invasive Management of Syndesmotic Injuries 397
Stefan Buchmann, Umile Giuseppe Longo, and Andreas B. Imhoff

Part VI The Achilles Tendon

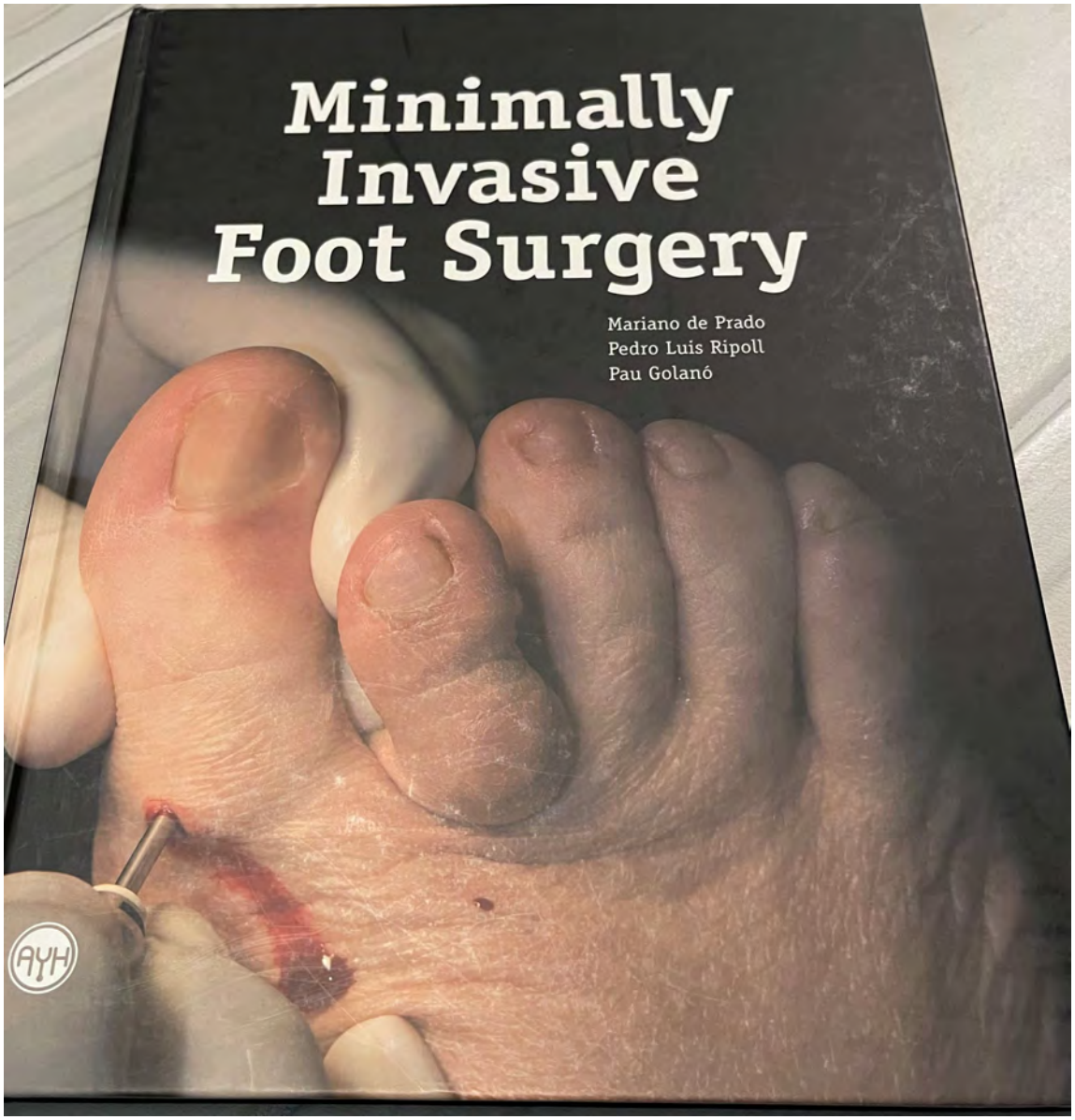
31 Endoscopic Assisted Percutaneous Achilles Tendon Repair 409
Mahmut Nedim Doral, Murat Bozkurt, Egemen Turhan, and Ozgür Ahmet Atay

32 Percutaneous Repair of Acute Achilles Tendon Ruptures 419
Nicola Maffulli, Francesco Oliva, and Mario Ronga

33 Minimally Invasive Semitendinosus Tendon Graft Augmentation for Reconstruction of Chronic Tears of the Achilles Tendon 425
Nicola Maffulli, Umile Giuseppe Longo, Filippo Spiezia, and Vincenzo Denaro

34 Minimally Invasive Achilles Tendon Reconstruction Using the Peroneus Brevis Tendon Graft 431
Nicola Maffulli, Filippo Spiezia, Umile Giuseppe Longo, and Vincenzo Denaro

Lawrence J Kales, DPM



Lawrence J Kales, DPM

Contents

PART I - Introduction 1

CHAPTER 1
Introduction and general principles 3
General principles of percutaneous surgery of the foot 7
Planning the surgical technique 7
Percutaneous soft tissue surgery 9
Percutaneous bone surgery 13

CHAPTER 2
Preoperative evaluation. Complementary studies 17
Preoperative considerations 17
Preoperative evaluation 18
Clinical history 19
Physical examination 20
Complementary studies 26

CHAPTER 3
Anesthesia 35
Local infiltration technique 36
Infiltration technique 39

CHAPTER 4
Instruments. Patient preparation and positioning 45
Instruments for percutaneous surgery of the foot 46
Basic instruments 46
Power-driven instruments 54
Radiologic guidance instruments 58
Patient preparation and positioning 59

PART II - First ray 61

CHAPTER 5
Hallux valgus 63
Introduction 63
Pathogenesis 64
Clinical manifestations 66
Radiography and complementary studies 67
Treatment 71
Percutaneous surgical procedures 77
Postoperative care 100
Surgical indications 106
Case descriptions 106

CHAPTER 6
Hallux rigidus 111
Introduction 111
Pathogenesis 112
Clinical manifestations 113
Radiography and complementary studies 114
Treatment 114
Percutaneous surgical procedures 117
Postoperative care 121
Surgical indications 122
Case descriptions 122

CHAPTER 7
Sesamoid bones. Hallux interphalangeus extensus 125
Sesamoid bones 125
Introduction 125
Pathogenesis 126
Clinical manifestations 127
Radiography and complementary studies 128
Treatment 129
Percutaneous surgical procedures 129
Postoperative care 133
Complications 133
Case description 133
Hallux interphalangeus extensus 134
Introduction 134
Pathogenesis 134
Clinical manifestations 134
Treatment 134
Percutaneous surgical procedures 135
Postoperative care 137
Case description 13

Lawrence J Kales, DPM

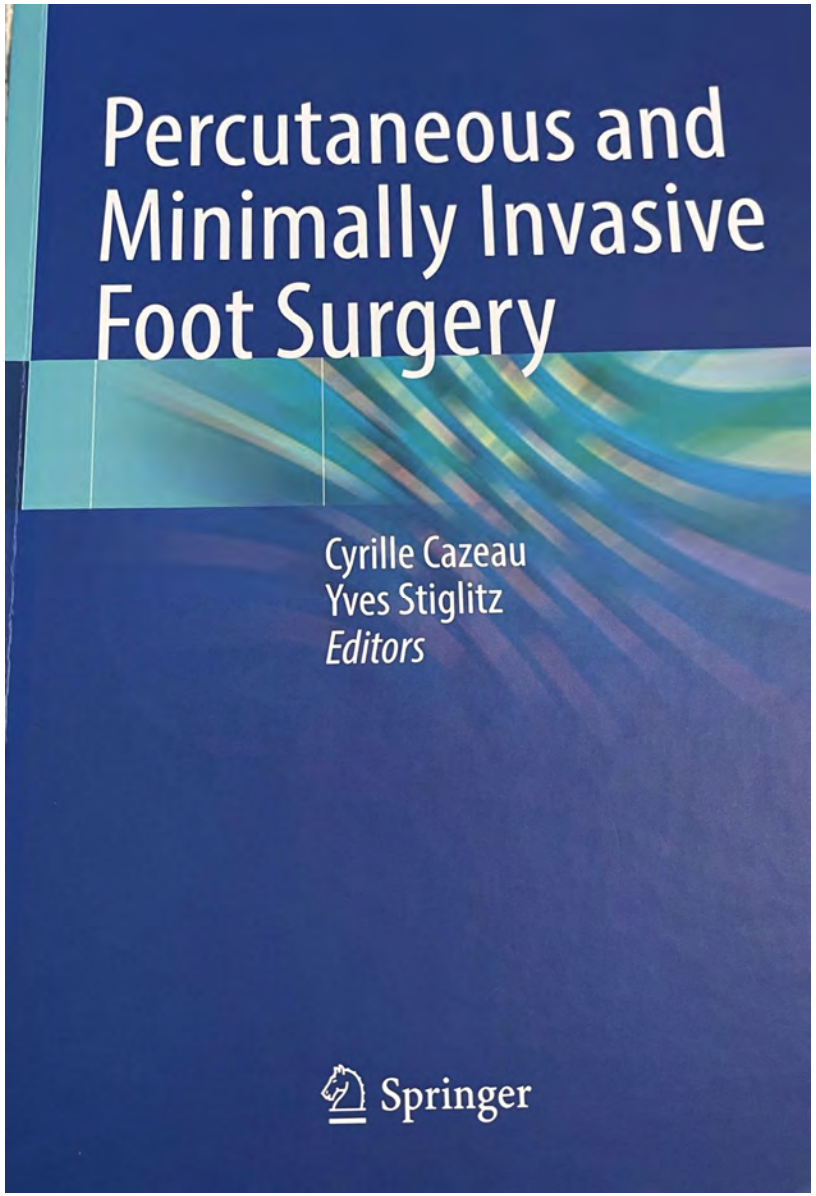
CHAPTER 14
Clinodactyly. Digital exostosis 241
Clinodactyly 241
Introduction 241
Pathogenesis 241
Clinical manifestations 242
Radiography and complementary studies 242
Treatment 243
Percutaneous surgical procedures 243
Case description 246
Digital exostosis 248
Introduction 248
Pathogenesis 248
Clinical manifestations 249
Radiography and complementary studies 250
Treatment 251
Percutaneous surgical procedures 252
Case description 255

PART V - Hindfoot 257

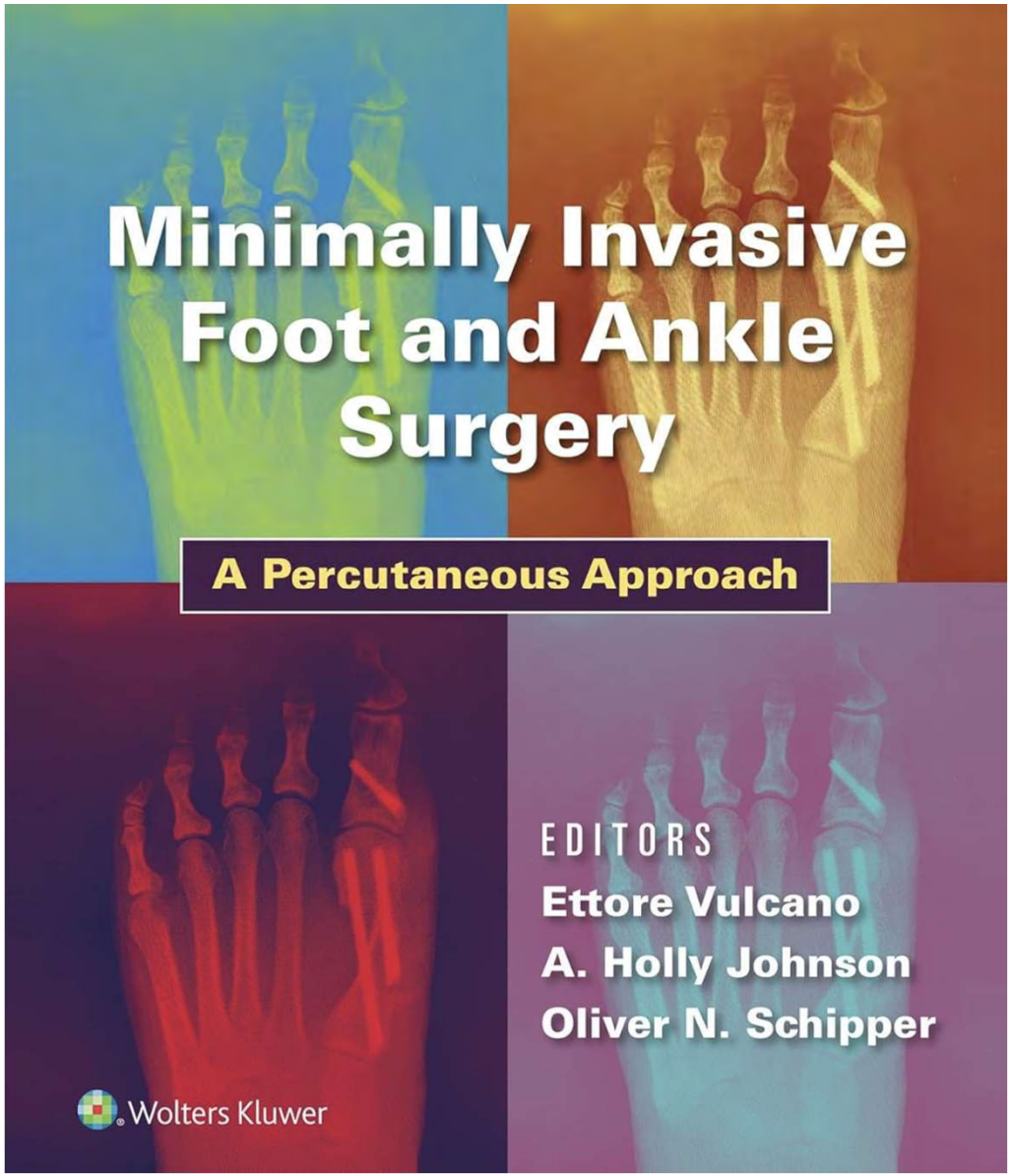
CHAPTER 15
Plantar fasciitis and heel spur 259
Introduction 259
Pathogenesis 259
Clinical manifestations 259
Radiography and complementary studies 260
Treatment 260
Percutaneous surgical procedures 261
Case description 267

CHAPTER 16
Haglund deformity 269
Introduction 269
Pathogenesis 269
Clinical manifestations 270
Radiography and complementary studies 271
Treatment 271
Percutaneous surgical procedures 272
Case description 274

Lawrence J Kales, DPM



Lawrence J Kales, DPM



Lawrence J Kales, DPM


Edwin Probber, DPM
Lawrence J Kales, DPM

Thank You!

This presentation was created by *Debra Roth* for
Pasco Hernando Foot and Ankle
01/2024

Lawrence J Kales, DPM