



Medicine & Surgery of the Foot & Ankle

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**Michael S. Nirenberg, D.P.M., B.Sc., B.A., F.A.E.N.S.**

**Clinical and Forensic Podiatrist**

Dr. Nirenberg is a Board-Certified podiatric physician and surgeon with over 32 years of experience in private practice. He's also a forensic podiatrist and has assisted law enforcement in the analysis of footprints, footwear and gait in criminal cases, including homicides. He's served as an invited peer reviewer for scientific journals, including The Lancet, one of the highest rated medical journals.

Dr. Nirenberg is President of the American Society of Forensic Podiatry and a co-editor of the textbook "**Forensic Gait Analysis: Principles and Practice**," Taylor & Francis CRC Press.

Current: **Foot & Ankle Podiatric Physician and Surgeon**: Private Practice (since 1992)

Distinctions: **Fellow**, Association of Extremity Nerve Surgeons, Nov. 2018 – Present.

**Board Certified in Primary Care in Podiatry and Foot & Ankle Surgery**,  
**American Board of Multiple Specialties in Podiatry, 2006 – Present.**

**Editorial Board**, Science & Justice, November 2022 - Present.

**Editorial Board**, Journal of American Podiatric Medical Association  
(forensic podiatry and nerve surgery), September 2022 - Present.

**Certificate of Professional Competence in Forensic Gait Analysis**, The  
Chartered Society of Forensic Sciences, August 2019 - 2022.

**General Forensics Science and Practice Subcommittee**, International  
Association for Identification, 2021 - Present.

**Affiliate**, Video/Imaging Technology and Analysis Subcommittee, **Chair** of the  
Exploratory Task Group on Gait Analysis, Organization of Scientific Area  
Committees (OSAC) for Forensic Science, 2022 - Present.

**Diplomate**, American Board of Forensic Podiatry, April 2017 – Present.

**President**, American Society of Forensic Podiatry, June 2019 – Present.

**President-Elect**, American Society of Forensic Podiatry, February 2016–May 2019.

**Board of Directors**, American Society of Forensic Podiatry, 2006–January 2016.

**Forensic Podiatry Subcommittee**, International Association for Identification, 2008, 2017, 2018.

**Distinguished Podiatric Medical Writing Award**, American Podiatric Medical Writers Association, May 1991.

**First Student Published in the Journal of the American Podiatric Medical Association without a Physician-Coauthor**, May 1989.

### **SELECT PUBLICATIONS**

#### **Podiatric Medicine**

- Nirenberg, M.S., Segura R.P., “**Tarsal Tunnel Syndrome Following a Total Knee Replacement: A Case Report**,” Journal of the American Podiatric Medical Association (accepted 07/17/2024)
- Nirenberg, M.S., Segura, R.P., “**The Utility of the Tinel Sign in the Diagnosis of High Tarsal Tunnel Syndrome**,” Journal of the American Podiatric Medical Association (accepted 05/09/2023)
- Nirenberg, M.S., “**Injection of the Abductor Hallucis Muscle Assists with the Diagnosis and Treatment of Distal Tarsal Tunnel Syndrome**,” Journal of the American Podiatric Medical Association, 2023;113(2):1-8.
- Nirenberg, M.S., Mar Ruiz Herrera, M., “**Foot Manifestations in a COVID-19 Positive Patient: A Case Study**,” Journal of the American Podiatric Medical Association, May 4, 2020 (online); published 2023 March/April:113(2).
- Segura, R.P., Nirenberg, M.S., “**High Tibial Nerve Entrapment: a Common Component of Tarsal Tunnel Syndrome**,” Journal of the American Podiatric Medical Association (accepted 2/16/2023).
- Nirenberg, M.S, Segura, R.P, Segura, A., Schnack, L., Forsthoefel, C., Dachman, C., “**Electrophysiological Evidence of Concomitant Focal Nerve Entrapments in Persons with Rheumatoid Arthritis: a Cross-Sectional Study**,” Journal of the American Podiatric Medical Association (accepted 1/17/2023)
- Segura, R.P., Nirenberg, M.S., “**Prevalence of Obesity in High Tarsal Tunnel Syndrome: A Cross-Sectional Study**,” Journal of the American Podiatric Medical Association, 2023, 113(4):1-8.
- Nirenberg, M.S, “**Hallux Valgus Surgery: A Technique to Assist with Soft-Tissue Correction**” Orthopaedic Journal at Harvard Medical School, 2022, 23 n-a.
- Nirenberg, M.S., Requena C., Garriga C., Smith, G.T., McClain S.A., “**Histopathology of Persistent COVID Toe: A Case Report**,” J of Cutaneous Pathology, 2022:49(9):791-94.

- Nirenberg, M.S. **“Complex Regional Pain Syndrome of the Foot and Ankle: Treatment at the Early Onset with an Anesthetic Ankle Block,”** Pain Medicine Case Reports, 2021, 5(7), 373-77.
- Nirenberg, M.S., Mar Ruiz Herrera, M. **“Foot Manifestations in a Patient with COVID-19 and Epstein-Barr Virus: a Case Study,”** The Foot. 2021:46, 101707.
- Nirenberg, M.S. with Pradeep A. **“Commentary on Chronic Madura foot: mycetoma and/or *Actinomyces* spp or Actinomycosis,”** [by Gannass, A.A., BMJ Case Rep 2018] Foot & Ankle Quarterly. Summer 2021, 32(2), 81-83.
- Nirenberg, M.S. **“Commentary on Pernio-Like Skin Lesions Associated with COVID-19: A Case Series of 318 Patients from Eight Countries,”** [by Freeman, E.E., McMahon, D.E., et al. J Am Acad Dermatol. 2020 Aug;83(2):486-492.] Foot & Ankle Quarterly. Summer 2021, 32(2), 54-56.
- Nirenberg, M.S. **“Complex Regional Pain Syndrome and the Importance of Early Diagnosis,”** Orthopaedic Nursing. July/August 2021, 40(4), 204-208.
- Nirenberg, M.S., Ansert E., **“Saphenous Nerve Denervation for Chronic Pain After Compartment Syndrome of the Foot: A Case Report,”** Journal of the American Podiatric Medical Association Sept 2021;111(5).
- Nirenberg M.S. **“Author's Response to Letter from Drs. Vetrano, Devigili and Nazzi.”** Acta Neurochirurgica (The European Journal of Neurosurgery). August 2020;162(8):1927 (Invited Letter).
- Nirenberg, M.S., **“A Simple Test to Assist with the Diagnosis of Common Fibular Nerve Entrapment and Predict Outcomes of Surgical Decompression”** Acta Neurochirurgica (The European Journal of Neurosurgery), April 23, 2020:162, 1439-1444.
- Nirenberg, M.S., Ansert, E. **“Vascular Assessment of the Foot Surgery Patient”** Orthopaedic Nursing. March/April 2020, 39 (2), 114-118.
- Nirenberg, M.S. **“Black Bone Disease of the Foot: A Case Study of Minocycline-Induced Bone Pigmentation,”** Current Orthopaedic Practice, September/October 2019; 30(5): 487-9.
- Nirenberg, M.S. **“Midfoot Plantar Fascia Tear Mimicking Plantar Fibroma,”** The Journal of the American Podiatric Medical Association, Jan 2019, 109 (1), 87-90.
- Nirenberg M.S., **“Avoiding Missteps With Foot and Ankle Injuries,”** Workers' Compensation, June/July 2015, Vol. 1, No. 3, pp. 38-40.
- Nirenberg, M.S., Carroll M., **“Atypical Gout in the Foot Secondary to Primary Hyperparathyroidism,”** Journal of the American Podiatric Medical Assoc., May 2007.
- Leavitt K.M., Nirenberg, M.S., Wood, B. and Yong, R.M., **“Titanium Hemi-Great Toe**

**Implant: A Preliminary Study of Its Efficacy,”** The Journal of Foot Surgery, May 1991.

### **Forensic Podiatry**

- Nirenberg, M.S., Ansert, E., Minetola, T.J., Esbenson, A.M., Samuel, A.L., Campbell, J. **“Forensic measurement comparison of foot insole impressions,”** Science & Justice, (online) 2024 March.
- Ansert E., Nirenberg M.S., et al., **“Ghosting Phenomenon in Static and Dynamic Footprints in India and the United States,”** Science & Justice, 2023 May, 65(3);406-413.
- Nirenberg M.S., **“Gait: How Video of a Criminal Can Acquit or Convict”** Criminal Justice magazine, American Bar Association, 2023 Spring 38 (01):14-21.
- Nirenberg M.S., Birch I., Cuddyer J. **“An Introduction to Forensic Gait Analysis,”** Identification News, International Association for Identification, 2022, Oct/Nov/Dec;52(4):6.
- Nirenberg M.S., **“Footwear-to-Feet Examination and Analysis: Comparing Worn Footwear to Persons and Human Remains,”** Science & Justice, 2023 Jan 1;63(1):54-60.
- Nirenberg M.S., Ansert E., Reel S., **“Reliability of a two-dimensional sock-clad footprint linear measurement method,”** Science & Justice, 2021 Sep 1;61(5):649-56.
- Mukhra R., Krishan K., Nirenberg M., et al. **“The Contact Area of Static and Dynamic Footprints – Forensic Implications,”** Science & Justice, 2021 Mar 1;61(2):187-92.
- Birch I., Nirenberg M., Vernon W., Birch M., editors, **“Forensic Gait Analysis: Principles and Practice textbook,”** 2020, Taylor & Francis CRC Press, Boca Raton, Florida.
- Nirenberg M.S., Ansert E., Campbell J., Curran M., **“Chasing Ghosts: An Investigation of the Ghosting Phenomenon in Footprints,”** Science & Justice, 2020 Sep;60(5):432-7.
- Nirenberg M.S., Ansert E., Campbell J., Curran M., **“Forensic Implications of Foot Arch Index Comparison between Dynamic Bare Footprints and Shoe Insole Foot Impressions,”** Science & Justice, 2020 Jul;60(4):375-80.
- Mukhra R., Krishan K., Nirenberg M.S., Ansert E., Kanchan T., (2020). **Comparative analysis of static and dynamic bare footprint dimensions in a north Indian population,** Forensic Science International, 2020 Mar 1: 308: p. 110169.
- Nirenberg M., Ansert E., Krishan K., Kanchan T., **“Two-Dimensional Metric Comparisons between Dynamic Bare Footprints and Insole Foot Impressions - Forensic Implications,”** Science & Justice, 2020, 60 (2), pp. 145-150.
- Nirenberg M.S., Saxelby J., Vernon R., Vernon W., **“The Application of Forensic Podiatry to Clinical Practice,”** Journal of the American Podiatric Medical Association. 2020, 110 (2):Article\_9.
- Nirenberg, M.S., Ansert, E., Krishan, K. Kanchan, T., **“Two-dimensional linear analysis of dynamic bare footprints: A comparison of measurement**

**techniques,”** Science & Justice, 2019, Vol. 59, Issue 5, pp. 552-557.

- Nirenberg, M.S., Ansert, E., Krishan, K. and Kanchan, T., **“Two-dimensional metric comparisons between dynamic bare and sock-clad footprints for its forensic implications—A pilot study,”** Science & Justice, 2019, Vol. 59, Issue 1, pp. 46-51.
- Nirenberg M., Vernon W., Birch I., **“A review of the historical use and criticisms of gait analysis evidence,”** Science & Justice, 2018, Vol 58, Issue 4, pp. 292-298
- Nirenberg, M.S., Krishan K., Kanchan T. **“A metric study of insole foot impressions in footwear of identical twins,”** Journal of Forensic and Legal Medicine, 2017; 52:116-121.
- Nirenberg, M.S. **“Frye Test and Daubert Standard”** In DiMaggio J.A. & Vernon W., Forensic Podiatry: Principles and Methods (2<sup>nd</sup> ed.), 2017, Boca Raton: CRC Press.
- Nirenberg M.S., **“Meeting a Forensic Podiatry Admissibility Challenge: A Daubert Case Study,”** Journal of Forensic Sciences, 2016, 61: 833–841.
- Vernon W., Nirenberg, M., **“Letter to Editor: In Defense of Forensic Science,”** Boston Review, February 18, 2016.
- Nirenberg, M.S. **“Gait, Footprints, and Footwear: How Forensic Podiatry Can Identify Criminals,”** Police Chief Magazine 83 (Jan. 2016): web only.
- Nirenberg M.S., **“Book Review: Forensic Podiatry: Principles and Methods,”** Journal of the American Podiatric Medical Association, May 2014.
- Nirenberg, M., **“Author’s Response to Letter: New Method for Examining the Inside of Footwear,”** Journal of Forensic Identification, 2009, Vol. 59, No. 6 (Invited Letter).
- Vernon W, Brodie, DiMaggio, Gunn, Kelly, Nirenberg, Reel, Walker, **“Forensic podiatry: role and scope of practice,”** International Association for Identification, April 2009.
- Nirenberg M.S., **“New Method of Examining the Inside of Footwear,”** Journal of Forensic Identification, June 2008; 58(3), 297-304.
- Nirenberg, M.S., **“Forensic Methods and the Podiatric Physician,”** The Journal of the American Podiatric Medical Association, May 1989; 79(5), 247-252.

#### **INVITED JOURNAL PEER REVIEWER**

- The Foot, April 2024.
- Journal of Forensic Science and Medicine, June 2022, May 2023, Feb. 2024, April 2024.
- Annals of the Brazilian Academy of Sciences, March 2024.
- Journal of Fractures and Sprains, March 2024.
- Current Orthopaedic Practice, Oct. 2019, Mar. 2020, June 2020, Oct. 2020, Dec. 2020,

April 2021, April 2022, Nov. 2023, Feb. 2024.

- SM J of Forensic Research and Criminology, November 2023, April 2024.
- Forensic Sciences International: Reports, October 2023.
- Forensic Sciences Review, August 2023.
- Congenital Anomalies, April 2023.
- The Science of Nature, Jan. 11, 2023; Jan. 28, 2023; April 2023.
- The Journal of Infection in Developing Countries, February 2021, April 2021, June 2021, January 2023.
- Computational and Structural Biotechnology, March 2022.
- Journal of Clinical Tuberculosis and Other Mycobacterial Diseases, May 2021.
- The Lancet, July 2020.
- Forensic Science International, February 2020.
- Science & Justice, July 2019, March 2020.
- Journal of the American Podiatric Medical Association, May 2017, June 2022.

### **LECTURES AND PRESENTATIONS**

#### **Podiatric Medicine**

- Nirenberg, M., **“Diabetic Foot Care: An Important Overview,”** Resident Series (webinar), American College of Podiatric Medicine, August 25, 2024<sup>1</sup> (Invited Speaker).
- Nirenberg, M., **“Podiatric Practice: Pros & Cons of Private Practice,”** Resident Series (webinar), American College of Podiatric Medicine, August 25, 2024<sup>1</sup> (Invited speaker).
- Nirenberg, M.S., **“Tarsal Tunnel Syndrome: An Update on Diagnosis and Treatment,”** (webinar) e-Learning, American College of Podiatric Medicine, August 13, 2024.
- Nirenberg, M.S., **“Myofascial Compression: An Overlooked Pathway to Diagnose and Treat Nerve Entrapments,”** Meet the Author mini-conference (online), American College of Podiatric Medicine, July 27, 2024 (Invited Speaker).
- Nirenberg, M.S., **“Common Foot Problems,”** Northwest Indiana Parkinson’s Annual Educational Symposium, Highland, IN, April 13, 2024.

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<sup>1</sup> acceptance date

- Nirenberg M.S., “**Diabetic Neuropathy: What Patients Can’t Feel Can Hurt Them,**” Midwest Podiatry Conference, ASPMA agenda, Chicago, IL, March 6, 2023 (Invited Speaker).
- Nirenberg M.S., “**Complex Regional Pain Syndrome: Early Intervention Shows Benefit,**” (update) Association of Extremity Nerve Surgeons Annual Symposium, Fort Worth, TX, November 6, 2022.
- Nirenberg M.S., Segura, R.P., “**High Tarsal Tunnel Syndrome: An Association with Obesity,**” (update) Association of Extremity Nerve Surgeons Annual Symposium, Fort Worth, TX, November 6, 2022.
- Nirenberg M.S., “**Achilles Tendon Rupture: Diagnosis and Management,**” Ontario Society Chiropractors 35th Anniversary Conf. (online), Toronto, Canada, May 8, 2021.
- Nirenberg M.S., “**Overlooked Nerve Problems as a Cause of Foot & Ankle Pain,**” Ontario Society of Chiropractors 35th Anniversary Conf. (online), Toronto, Canada, May 8, 2021.
- Nirenberg M.S., “**Management of Lower Extremity Nerve Problems,**” Galilee Medical Center, Nahariya, Israel (online), February 9, 2021.
- Nirenberg M.S., “**A Simple Method to Diagnose & Treat Myofascial-Related Nerve Entrapments,**” Association of Extremity Nerve Surgeons Annual Symposium, Tempe, AZ (online), November 7, 2020.
- Nirenberg M.S., “**Gait Analysis: Clinical & Forensic Applications,**” [video] provided to the American Society of Forensic Podiatry, April 2020.
- Nirenberg M., “**Simple Measures to Reduce Serious Foot and Ankle Complications,**” Indiana Podiatric Medical Association’s 94th Annual Fall Convention, Indianapolis, IN, October 12, 2019 (Invited Speaker).
- Nirenberg M.S., “**Inflight Emergency: A Podiatrist’s Experience Treating an Unresponsive Passenger,**” Indiana Podiatric Medical Association’s 94th Annual Fall Convention, Indianapolis, IN, October 12, 2019 (Invited Speaker).
- Nirenberg M.S., “**Podiatric Medicine in Health and Legal Matters,**” State Farm Insurance, Litigation Counsel, Crown Point, IN, April 24, 2018.
- Nirenberg, M.S., Minhas, H., “**Workplace Foot & Ankle Injuries: Diagnosis, Treatment and Return to Work,**” Indiana Workers Compensation Institute, Merrillville IN, June 2015.
- Nirenberg M.S., “**Foot and Ankle Problems: An Introduction for Salon Professionals,**” Crown College of Cosmetology, Crown Point, April 2010; Don Roberts Cosmetology School, Schererville, August 2010; State of Mind Salon & Day Spa, July 2010; State of Mind Salon & Day Spa (updated) July 2023.
- Nirenberg M., Lacey, M., “**Foot & Ankle Pain,**” Arthritis and You seminar, Arthritis Foundation of Greater Chicago, St. Anthony Medical Center, Crown Point, IN, Oct. 2010.

- Nirenberg M., “**Podiatric Medicine,**” Indiana University Northwest, Nov. 17, 2009.
- Nirenberg M., “**Diabetes and Foot Health,**” Methodist Hospital, Gary, IN, July 2009.
- Nirenberg M., “**Breakthrough Treatments for Arthritis in the Feet,**” Arthritis Foundation of Greater Chicago, May 1, 2008.
- Nirenberg M., “**Foot and Ankle Problems: An Introduction for Salon Professionals,**” Excel Academy of Cosmetology, November 15, 2007.
- Nirenberg M., “**Nerve Problems & Neuropathy of the Foot and Ankle,**” St. Mary Medical Center, Merrillville, IN, June 2006.
- Nirenberg M., “**The Latest Treatments for Foot & Ankle Pain,**” Arthritis Foundation of Chicago, 2005
- Nirenberg M., “**Diagnostic Ultrasound of the Foot & Ankle,**” Podiatric Surgical Residency, Merrillville, IN, September 2004.
- Nirenberg, M., “**New Techniques to Treat Foot & Ankle Pain,**” Arthritis Foundation of Chicago, 2004.
- Nirenberg, M.S., Williams B, “**Pigmented Villonodular Synovitis: A Case Study and Literature Review,**” Indiana Podiatric Medical Association Annual Convention, Indianapolis, IN, October 20, 1992.

### **Forensic Podiatry**

- Nirenberg, M.S, “**Forensic Podiatry: Use Your Knowledge to Help Solve Crimes,**” Resident Series (webinar), American College of Podiatric Medicine, September 1, 2024<sup>1</sup> (Invited Speaker).
- Birch, I., Nirenberg, M.S., “**Introduction to human locomotion and gait,**” (workshop), 108th International Association for Identification Educational Conference, Reno, NV, August 12, 2024.
- Bondi, E., Birch, I., Kaufman, K., Asgeirsdottir, N., Hogen, C., Capell, W., Nirenberg, M., “**Variation in Usual Gait and Its Effect on the Outcomes of Forensic Gait Analysis Utilizing the Sheffield Features of Gait Tool: An Update,**” (Poster), 108th International Association for Identification Educational Conference, Reno, NV, August 12, 2024.
- Nirenberg, M., Reis, G., “**Forensic Gait Analysis: A Roadmap for Video Analysts,**” 108<sup>th</sup> International Association for Identification Educational Conf., Reno, NV, August 13, 2024.
- Kimbrell, M., Nirenberg, M.S., Malone, C., “**OSAC Video/Imaging Technology and Analysis (VITAL) Subcommittee Update 2024,**” 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 13, 2024.
- Birch, I., Nirenberg, M., “**Using gait analysis as evidence,**” (workshop) International Association for Identification Educational Conference, Reno, NV, August 13, 2024.



- Nirenberg, M.S., **“Footprint Analysis: Scientific Foundations, Methodology and Case Study,”** 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 14, 2024.
- Nirenberg, M.S., **“Footwear to Feet: How a Killer’s Feet were Connected to Shoes Found at a Homicide,”** 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 14, 2024.
- Nirenberg, M.S., **“Criminals Caught on Video: Don’t Overlook Their Gait,”** 108<sup>th</sup> International Association for Identification Educational Conf., Reno, NV, August 14, 2024.
- Birch, I., Nirenberg, M.S., **“Forensic gait analysis – professional competency and testing,”** (workshop), 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 14, 2024.<sup>2</sup>
- Nirenberg, M.S., **“Connecting Shoes to Feet by Size: Key Concepts, Confounding Issues and a Case Study,”** 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 15, 2024.
- Nirenberg, M.S., **“Foot-in-Shoe Analysis,”** Sharing Professional Practice workshop, 108<sup>th</sup> International Association for Identification Educational Conference, Reno, NV, August 16, 2024 (Invited Speaker).
- Nirenberg, M.S., **“484 Stab Wounds: How Footprint Research Assisted in Convicting a Killer,”** Meet the Author mini-conference (online), American College of Podiatric Medicine, July 27, 2024 (Invited Speaker).
- Nirenberg, M.S., **“Forensic Podiatry: How Gait, Footwear and Footprints Can Assist in Criminal Justice,”** Forensic Podiatry Club, College of Podiatric Medicine, Samuel Merritt University, Oakland, CA [via web], May 23, 2024.
- Nirenberg, M.S., **“Footprint Analysis: A Forensic Podiatry Approach,”** Thomas College, Waterville, ME [via web], April 17, 2024.
- Nirenberg M.S., **“Bloody Footprints: How Forensic Podiatry Helped Identify a Killer,”** American Society of Forensic Podiatry, [online], March 12, 2024.
- Nirenberg, M.S., **“Forensic Podiatry: How Gait, Footwear and Footprints Can Assist in Criminal Justice,”** Indiana Prosecuting Attorneys Council Winter Conference, December 4, 2023 (Invited Speaker).
- Nirenberg M., **“Forensic Gait Analysis: Real-World Practice and Application,”** (via web) 2023 LEVA Digital Multimedia Evidence Training Symposium, Portland, ME, Oct. 23, 2023.
- Kuntz S., Baker E., Birch I., Nirenberg M.S.\*, **“Forensic Gait Analysis: The Benefits of Interdisciplinary Collaboration,”** (\*speaker; via web) 2023 LEVA Digital Multimedia Evidence Training Symposium, Portland, ME, Oct. 23, 2023.

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<sup>2</sup> workshop modified to provide fundamental concepts

- Nirenberg M.S, “**Forensic Gait Analysis: Scientific Foundations, Limitations and Criticisms,**” 107<sup>th</sup> International Association for Identification Educational Conference, National Harbor, Maryland, August, 2023.
- Nirenberg M.S, “**Forensic Gait Analysis: How Video of a Criminal Walking Can Convict,**” Midwest Security and Police Conference, Illinois Association of Chiefs of Police, Tinley Park, IL, August 10, 2023.
- Nirenberg M.S, “**Gait as Criminal Evidence: Scientific Foundations and Analysis,**” American Society of Forensic Podiatry, [online], June 13, 2023.
- Nirenberg, M.S., “**Forensic Podiatry: An Introduction for Attorneys,**” [online], Los Angeles County District Attorney’s Office, Los Angeles, CA, April 20, 2023.
- Nirenberg, M,\* Krishan K, “**The Analysis of Feet, Footprints, and Gait—How Principles of Forensic Podiatry Assist in Criminal Investigations,**” (\*speaker), American Academy of Forensic Sciences Annual Scientific Conference, Orlando, FL, February 2023.
- Nirenberg M., “**Forensic Gait Analysis: How Video of a Criminal Can Acquit or Convict,**” [online], Office of the State Public Defender, Des Moines, IA, Jan. 27, 2023; 2023 Illinois Public Defender Association Spring Seminar, June 2, 2023.
- Nirenberg M., “**Connecting Feet to Footwear: Scientific Foundations, Analysis and a Case Study,**” 106<sup>th</sup> International Association for Identification Educational Conference, Omaha, NB, August 2022.
- Nirenberg M., “**The Autumn Andy Homicide: A “Feet-to Shoes” Case Study,**” American Society of Forensic Podiatry, [online], March 2022.
- Nirenberg M., “**Interpreting Footprint Evidence: Principles & Case Studies,**” Master Degree in Crime Scene Investigation: Forensic Analysis of Footprints, Higher Center for Criminological Studies, Valladolid, Spain [webinar], February 2022 (Invited Speaker).
- Nirenberg M., “**Forensic Gait Analysis: Scientific Foundations,**” Video/Imaging Technology and Analysis Subcommittee within the Organization of Scientific Area Committees for Forensic Science (OSAC), [online], December 2021.
- Nirenberg M.S., “**Forensic Podiatry: Scientific Foundations & Casework,**” [online] Temple University School of Podiatric Medicine forensic Club, Philadelphia, March 2022, Kent State University College of Podiatric Medicine forensic club, Independence, OH, October 2022.
- Nirenberg M., “**Forensic Gait Analysis: Principles, Analysis and Casework,**” [online] International Lecture Series, Institute of Forensic Science and Criminology, Panjab University, Chandigarh, India, October 2021 (Invited Speaker).
- Nirenberg M., “**Forensic Podiatry: Principles for Tracking Professionals,**” Pacific Crest Trackers Association [online], October 2021.

- Nirenberg M., “**Analysis of Sock-Clad Footprints: Methods and Cautions from Casework and Research,**” American Society of Forensic Podiatry, [online], Sept. 2021.
- Nirenberg M., Vernon W., “**Shoe Wear Analysis: A Case Study Showing the Need for Appropriate Expertise and Evidence-Based Practice,**” International Association for Identification Educational Conference, Nashville, TN, August 2021.
- Vernon W., Nirenberg M., “**Forensic Gait Analysis: A Case Study of Multiple Criminals with Complex and Unusual Gait Issues,**” International Association for Identification Educational Conference, Nashville, TN, August 2021.
- Nirenberg M.S., “**The Forensic Analysis of Gait and Pedal Evidence: Case Studies and Clinical Applications,**” Ontario Society of Chiropractors 35<sup>th</sup> Anniversary Conference (online), Toronto, Canada, May 8, 2021 (Invited Speaker).
- Nirenberg M.S., “**The Forensic Podiatrist: Legal Issues and Challenges,**” American Society of Forensic Podiatry [online], March 2021.
- Krishan K.,\* Nirenberg M.S., “**Forensic Podiatry—An Overlooked Science in the Analysis of Feet, Footprints, Gait, and Tracks,**” (\*speaker), American Academy of Forensic Sciences Annual Meeting, (online) February 2021.
- Nirenberg M.S., “**Forensic Gait Analysis—Scientific Foundations, Applications, and a Case Study,**” American Academy of Forensic Sciences Annual Meeting (online) 2/2021
- Krishan K.,\* DiMaggio J.A., Nirenberg M.S., “**Footprint Analysis: Data From North India Study Suggests New Features for Individualization and Biologic Profiling,**” (\*speaker), American Academy of Forensic Sciences Annual Scientific Meeting, (online), Feb. 2021.
- Nirenberg M.S., “**Forensic Analysis of Footprints: History, Scientific Foundations and Case Examples,**” Master Degree in Crime Scene Investigation: Forensic Analysis of Footprints, Higher Center for Criminological Studies, Valladolid, Spain (webinar) February 2021 (Invited Speaker).
- Nirenberg M.S., “**Forensic Podiatry: An Update on the State of the Specialty,**” 2020 Virtual Midwest Podiatry Conference (on-demand session, 11/6-12/31), October 2020.
- Nirenberg M.S., “**Forensic Podiatry: Examining Gait, Footprint and Footwear Evidence,**” [online] College of Podiatric Medicine, Kent State University, Forensic Club, Independence, OH, January 7, 2021; Temple University School of Podiatric Medicine Forensic Club, Philadelphia, PA, March 4, 2021.
- Nirenberg M.S., “**Forensic Analysis of Gait and Pedal Evidence,**” Barry University School of Podiatric Medicine, Forensic Club [online], Miami Shores, FL, Nov. 17, 2020.
- Nirenberg M.S., “**Foot Impressions: Forensic & Clinical Applications,**” American Society of Forensic Podiatry [online], August 2020.
- Nirenberg M.S., “**Forensic Gait Analysis: The State of the Science and a Case Study,**” American Academy of Forensic Sciences Scientific Meeting, Anaheim, CA, February 2020.

- Nirenberg M.\*, Krishan K., “**Linking Footprints to Feet: Research Advances and a Daubert Case Study**,” (\* speaker), American Academy of Forensic Sciences Annual Scientific Meeting, Anaheim, CA, February 2020.
- Nirenberg M., “**Forensic Podiatry: An Overlooked Practice-Building Opportunity**,” American Academy of Podiatric Practice Management, Daytona, FL, November 2019.
- Nirenberg M.S., “**The Scientific Foundations of Forensic Gait Analysis**,” American Society of Forensic Podiatry [online], October 2019.
- Nirenberg M.S., “**Bare Versus Sock-Clad Footprint Analysis: Lessons Learned from Casework and Research**,” International Association for Identification Educational Conference, Reno NV, August 2019.
- Nirenberg M.S., “**Forensic Gait Analysis: the Basics of Interpreting Gait Evidence**,” International Association for Identification Educational Conference, Reno, NV, August 2019.
- Nirenberg M.S., “**Forensic Podiatry Analysis of Foot and Gait Evidence**,” College of Podiatric Medicine Forensic Club, Kent State (online), Independence, OH, April 2019.
- Nirenberg M.S., “**Principles of Pedal Evidence**,” Temple University School of Podiatric Medicine, Forensics Club [online], Philadelphia, PA, November 27, 2018.
- Nirenberg M., “**Linking Feet to Shoes: Lessons from a Case Study and Adult Twin Research**,” International Association for Identification, San Antonio, TX, August 2018.
- Nirenberg M.S., “**Accuracy in Forensic Gait Analysis: An Illustrative Case Study**,” International Association for Identification Educational Conference, San Antonio, TX, August 2018.
- Birch I., Nirenberg M., “**Forensic Gait Analysis for Video Analysts: Basic Concepts and a Case Study**,” International Association for Identification, San Antonio TX, 2018.
- Birch, I., Nirenberg M.S., “**Forensic Gait Analysis: Questions Raised and Answers Given**,” International Association for Identification Educational Conference, San Antonio, TX, August 2018.
- Nirenberg M., “**Podiatric Analysis of Crime Scene Footprints**,” California College of Podiatric Medicine [online], Oakland, CA, January 26, 2018.
- Nirenberg M., “**Forensic Gait Analysis: What Every Video Analyst Needs to Know**,” Law Enforcement & Emergency Services Video Association’s 28th annual Digital Multimedia Evidence Training Symposium, Clearwater, FL, October 2017.
- Nirenberg M., “**Forensic Examination of Footprints**,” Temple University School of Podiatric Medicine Forensic Club [online], Philadelphia, PA, October 4, 2017
- Nirenberg M., “**Footprints in Court: Meeting a Daubert Challenge**,” International Association for Identification Educational Conference, Atlanta, GA, August 2017.

- Combs, L., Nirenberg, M., Weatherly, L., **“Lower Extremity Injuries and Malpractice: Identifying False or Exaggerated Claims,”** Claims Litigation Management & Business Insurance Workers' Compensation Conference, Chicago, IL, May 24, 2017.
- Nirenberg M., **“Footprint Analysis: A Homicide Case Study,”** American Society of Forensic Podiatry [online], March 28, 2017.
- Nirenberg M., **“Footwear Analysis in Criminal Investigations,”** Barry University School of Podiatric Medicine, Forensic Club [online], Miami Shores, FL, March 14, 2017.
- Krishan K. \*, DiMaggio J., Nirenberg, M., **“Analyzing Bare Footprints in Criminal Cases — Interpreting a Large-Scale Footprint Study in India,”** (\* speaker), American Academy of Forensic Sciences Annual Meeting, New Orleans LA, February 2017.
- Nirenberg M., **“How Podiatry Principles Can Assist in the Forensic Analysis of Gait, Footwear and Footprints,”** [online] Barry University School of Podiatric Medicine, Forensic Club, Miami Shores, FL, May 24, 2016.
- Nirenberg M., **“Forensic Podiatry — How Gait, Footwear, and Footprints Convict Criminals,”** American Academy of Forensic Sciences Annual Scientific Meeting, Las Vegas, NV, February 2016.
- Nirenberg M., **“Forensic Podiatry Analysis of Footprints: A Case Study in Identifying a Killer,”** College of Podiatric Medicine, Rosalind Franklin University of Medicine & Sciences, North Chicago IL, Jan. 2016.
- Nirenberg M., **“Footprint Workshop: Basic Forensic Podiatry Principles of Footprint Interpretation,”** College of Podiatric Medicine, Rosalind Franklin University of Medicine & Sciences, North Chicago, IL, January 2016.
- Nirenberg M., **“Scientific Principles of Using Gait, Shoes & Footprints to Convict Criminals,”** College of Podiatric Medicine, Rosalind Franklin University of Medicine & Sciences, North Chicago, IL, August 2015.
- Nirenberg M., **“Footprint and Footwear Analysis for State Police,”** Indiana State Police, Lowell, IN, April 21, 2015.
- Nirenberg M., **“Principles of Foot-Related Evidence for Attorneys,”** Lake County Prosecutor’s Office, Hobart, IN, April 8, 2015.
- Nirenberg M., **“Footprint Evidence Principles for Crime Scene Technicians,”** Northwest Indiana Law Enforcement Personnel, Munster IN, Feb. 2015.
- Nirenberg M., **“Forensic Podiatry: How Footprints, Footwear and Gait Can Convict Criminals,”** Lincoln-Way High School, Frankfort IL, October 4, 2013.
- Nirenberg M., **“Forensic Podiatry: What Criminal Justice Students Should Know About Foot-Related Evidence,”** Indiana University Northwest, Gary IN, March 2011.

- Nirenberg M., **“Forensic Podiatry: The Basics of Footprint and Shoe Forensics,”** Purdue University, Hammond IN, November 2011.
- Nirenberg M., **“Forensic Podiatry: An Introduction to Footprints, Feet and Footwear for Undergraduate Students,”** Valparaiso University, IN, November 9, 2010.
- Nirenberg M., **“Forensic Podiatry: Footprint & Footwear Analysis for Law Enforcement,”** Northwest Indiana Law Enforcement Academy, Hobart, IN, April 2008.
- Nirenberg M., **“Forensic Podiatry: How Feet Can Convict Criminals,”** Indiana Podiatric Medical Association, Indianapolis, IN, September 20, 2008.
- Nirenberg M., **“Forensic Podiatry: The Newest IAI Discipline,”** International Association for Identification International Educational Conference, Louisville KY, August 2008.
- Nirenberg M., **“The Value of Footwear and Footprints in Forensic Science,”** Footprints & Shoeprints Forensic Seminar, Ohio College of Podiatric Medicine, Independence OH, June 2008. (Invited speaker)
- Nirenberg M., **“Footwear Forensics: Sizing and Fiber Optic Analysis,”** Footprints & Shoeprints Forensics Seminar, Ohio College of Podiatric Medicine, Independence, OH, June 2008 (Invited Speaker).
- Forman M., Vernon W., Wasowicz M., Kennedy R., Nirenberg M., **“Case Applications,”** Footprints & Shoeprints Forensic Seminar, Ohio College of Podiatric Medicine, Independence OH, June 2008 (Invited Speaker).
- Nirenberg M., **“Forensic Podiatry: Essentials of Footprint and Footwear Evidence for Law Enforcement,”** Northwest Indiana Law Enforcement Academy, Hobart, April 2008.
- Nirenberg M., **“CSI Podiatry: What Podiatrists Need to Know to Help Law Enforcement,”** Midwest Podiatry Conference, Chicago IL, March 30, 2008.
- Nirenberg M., **“Forensic Podiatry: Information on Feet, Footprints and Footwear for Law Enforcement,”** The Indiana Intelligence Fusion Center, a division of the Department of Homeland Security, December 11, 2007.
- Nirenberg M.S., **“Forensic Podiatry: What Law Enforcement Should Know About Footprint and Footwear Evidence,”** Lake County Detectives, IN, September 2007.
- Nirenberg M., **“Forensic Podiatry - What Investigators Need To Know About Footwear and Footprints,”** Indiana Division of the International Association for Identification Educational Conference Evansville IN, October 2007, (Featured Speaker).

### **SELECT CONTINUING EDUCATION**

#### **Podiatric Medicine**

- Risk and Safety Issues in Podiatry XII, XIII, XIV, XV, XV1 (yearly), Med-IQ, 2020 thru 2024.

- Ethics in Podiatry (one day program) – 10/2021.
- Infection Control: The Responsibility of Every Provider, Med-IQ, 5/2020.
- Midwest Podiatry Conference – most years.
- Ontario Society of Chiropodists 35th Anniversary Conference – 2021.
- The Association of Extremity Nerve Surgeons Annual Symposium - 2018 thru 2023.
- Indiana Podiatric Medical Association conference - 2009, 2012, 2013, 2019.
- Podiatry Institute and PICA Risk Management - 1992 – 2003.

### **Select Specialized Training**

- **“Substance Use Disorders and Pain Management: MATE Act Training,”** NetCE, December, 31, 2023.
- **“SPR Education Course (SPRINT Percutaneous Nerve Stimulation),”** A. Abd-Elseyed, M. Aman, D. Dickerson, M. Huntoon, Downers Grove, IL, January 21, 2023.
- **“Advance Nerve Repair, Stim Update & Open Dissection,”** Association for Extremity Nerve Surgeons, Fort Worth, TX, November 4, 2022.
- **“Laplasty Advanced Skills Course,”** Laplasty Symposium, Chicago, IL, October 16, 2021. **Laplasty Bioskills Training Course,** Merrillville, IN, July 21, 2023.
- **“Advanced Peripheral Nerve Course,”** Association for Extremity Nerve Surgeons, Kennebunkport, ME, May 3-4, 2019.
- **“Safe and Responsible Treatment of Pain in an Opioid Epidemic”** A. Lahood, Indiana Podiatric Medical Association Convention, October 12, 2019.
- **“Fundamental Peripheral Nerve Surgery Course,”** Association for Extremity Nerve Surgeons, New Orleans, LA, November 7-9, 2018.
- **“GraMedica Didactic & Hands-on Training Course,”** Michael Graham, GraMedica, Macomb, MI, September 13, 2018.
- **“Peripheral Nerve Intro Skills Lab - Diagnostics, Tarsal Tunnel & Nerve Repair,”** Andrew Rader, Association of Extremity Nerve Surgeons, Chicago IL, April 21, 2018.
- **“Opioid Prescribing: Legal & Social Implications, Risks and Rewards,”** St. Mary Medical Center Continuing Medical Education, Hobart IN, April 14, 2018.
- **“Completion of HyProCure Online Physician Training,”** Graham International Implant Institute, Macomb, MI, accessed October 2017.

- **Laser Science & Safety**, American National Standard for the safe use of lasers in Health Care Facilities, Laser Training Institute, Broadwest Specialty Surgical Center, April 2014.
- **Responsible Prescribing – Redefining the Standards of Care** - (webinar), J. Reed, M. Rinebold, Indiana State Medical Association, accessed November 30, 2013.
- **“Walk With Ease” Leader Training**, Arthritis Foundation, Atlanta, accessed Oct. 2013.
- **“Dermal Regeneration Products Physician Training Program,”** Integra LifeSciences, Crown Point, IN, May, 4, 2006.
- **“Lower Extremity Peripheral Nerve Surgery: Advanced Workshop,”** A. Lee Dellon, Institute for Peripheral Nerve Surgery, Baltimore, MD, April 2005.
- **“Neurosensory & Motor Testing Certified Administrator,”** Sensory Management Services, Baltimore, MD, April 2005
- **“Practical Application & Diagnostic Theory in Podiatric Ultrasound,”** D. Lin, Esaote PIE Medical, Indianapolis, IN, August 2004.
- **“OssaTron Physician Training for Plantar Fasciitis,”** Roy Brown, September 6, 2001.
- **“Subtalar Maxwell-Brancheau Arthroereisis Surgical Procedure Training Certification,”** J. Pflieger Galt, KMI, March 31, 2000.
- **“Comprehensive Training Seminar on Vascular Procedures using Cynosure Laser System,”** R.A. Giergerich, Cynosure, February 2000.
- **“Arthroscopy of the Foot and Ankle Course,”** C.W. Kelley, Chicago, IL, April, 1994

### **Select Forensic Training**

- **“Chemical Use to Enhance and Detect Bloodstains Workshop,”** S. Plotkin, International Association for Identification Conference, Omaha, NB, August 2022.
- **“Alternate Light Sources in Forensic Photography and Imaging Workshop,”** D. Doglietto, M. Hullihan, International Association for Identification Conference, Omaha, NB, August, 2022.
- **Tracking Lectures:** Counter-Tracking and Deception, T. Lorange, Joel Hardin Professional Tracking Services (JHTS), 8/29/20; Law Enforcement Tracking, K. Decker, JHTS, 6/17/21; Moving a Line of Sign, T. Rhoads, JHTS, 2/6/21; Recognition and Identification of Sign, C. Portal, JHTS, 6/21/20; Urban Tracking Concepts, M. Lemasters, JHTS, 7/12/21 (accessed online August 2021).
- **“Wear Examination on Shoe Prints Workshop,”** John Vanderkolk, 104<sup>th</sup> International Association for Identification Conference, Reno, NV, Aug. 2019.
- **“Crime Scene Investigation Series: Blood Stain Evidence Workshop,”** T. Wolson, H. Latham, International Assoc. for Ident. Conf., Reno, NV, Aug. 2019.



- **“Photographic Comparison workshop,”** K. Meline and W. Bruehs, 103rd International Association for Identification Conference, August 2018.
- **American Academy of Forensic Sciences Annual Meeting,** 2015, 2020, 2021, 2023.
- **International Association for Identification Conference,** 2015-2019, 2021-2024.
- **“Forensic Gait Analysis workshops,”** I. Birch (2022, 2018), S. Reidy, I. Birch (2017), I. Birch (2016), W. Vernon, I. Birch (2015), International Association for Identification Conference.
- **“Photoshop Forensic Video Analysis Workflow: A Comprehensive Workshop,”** G. Reis, Law Enforcement & Emergency Services Video Assoc., Clearwater, FL, Oct. 2017.
- **“Comparison of Plantar Friction Ridge Impressions workshop,”** J. Stimac, International Association Annual Conference, Atlanta, GA, August 2017.
- **“Introduction to the Human Foot in Forensic Evaluation: Foot structure, function and barefoot analysis workshop,”** David Agoada and Steven Wachter, International Association for Identification Conference, Sacramento, CA, August 2016.
- **“Basic Reverse Projection Photogrammetry workshop,”** K. Meline, W. Bruehs, International Association for Identification Conference, Sacramento, CA, August 2016.
- **“Forensic Imaging Techniques Course,”** George Reis, Law Enforcement & Emergency Services Video Association, Indianapolis, IN, September 2016.
- **“Documentation and Recovery of 2D Footwear Impression Evidence Workshop,”** Jason Cole, International Association for Identification Conference, August 2015.
- **“A Study of the Comparison of Inked Barefoot Impressions to Barefoot Impressions Inside the Shoe,”** L. Hammer, Impression and Pattern Evidence Symposium 2012, accessed online February 2015.
- **“Foot Morphology Standards”** Shelly Massey, Impression and Pattern Evidence Symposium 2012, accessed online February 2015.
- **“Barefoot Comparison and Impressions in Footwear”** Shelly Massey, Impression and Pattern Evidence Symposium 2012, accessed online February 2015.
- **“Forensic Podiatry Instructional Program,”** Podiatry Management, accessed online, Feb., 2015.
- **“Footprints & Shoeprints Forensic Seminar,”** Ohio College of Podiatric Medicine, Cleveland, OH, 2008.
- **“Detection, Recovery & Examination of Footwear Impression Evidence,”** William Bodziak, Bodziak Forensics, Jacksonville, FL, 2007.
- **“Examination & Comparison of Footwear Evidence,”** Dwane Hilderbrand, Ron Smith & Associates, Largo, FL, 2007.

- **“Footwear & Tire Track Evidence,”** Michael Wasowicz, Imprimus Forensic Services, Glenview, IL, 2007.

### **OTHER ROLES**

- **Forensic Gait Analysis Case Verification** (ongoing, yearly) 2020 thru 2024.
- **Invited Research Participant**, The Analysis of Error Rates in Forensic Gait Analysis: A Comparison of Observational and Ground Truth Reference Data, Sabreena Akbari, University of Strathclyde, UK, July 2024.
- **Presentation Moderator**, International Association for Identification’s Educational Conference, 2021, 2022, 2023, 2024.
- **Invited Research Participant**, Development of a method to forensically analyze toe print features within footwear, Nicolas Howsam, University of Huddersfield, UK, Sept. 2023.
- **Invited Research Participant**, study of the overlay method for in-shoe foot impression comparison. Nicolas Howsam, University of Huddersfield, UK, May 2019.
- **Utilization Review Committee**, Pinnacle Hospital, Merrillville, IN, 2018 – 2024.
- **Quality Committee**, Pinnacle Hospital, Merrillville, IN, 2016 - 2024.
- **Infection Control Committee**, Pinnacle Hospital, Merrillville, IN 2016 – 2024.
- **Podiatric Physician Student Mentor**, American Association of Colleges of Podiatric Medicine, 2008–2018.
- **Member, “Seal of Approval” Committee**, American Podiatric Medical Association, 2008 – 2010.
- **Assisted in surgical training of podiatry residents**, St. Mary Medical Center & MHC Surgery Center Podiatric Surgical Residency, 1992 – 2007.

### **EDUCATION**

To request a complete, up-to-date CV please reach out to Dr. Nirenberg at

[DrNirenberg@friendlyfootcare.com](mailto:DrNirenberg@friendlyfootcare.com)

or call (219)663-2273