



Todd A. Irwin, MD

Bio

- Dr. Irwin returned to Charlotte in 2017 after spending the previous seven years as an Assistant Professor at the University of Michigan Department of Orthopaedic Surgery, where he served as the Assistant Program Director for Skills.
- Dr. Irwin is actively involved in teaching Orthopaedic Surgery residents and fellows and has lectured nationally on numerous topics pertaining to Foot and Ankle Orthopaedic Surgery.
- Dr. Irwin's research has been published in leading international Orthopaedic Surgery journals including the Journal of Bone and Joint Surgery, Journal of the American Academy of Orthopaedic Surgeons, and Foot and Ankle International.
- Research Advisory Committee member – OrthoCarolina Research Institute (OCRI)
- Quality Improvement Committee member - OrthoCarolina
- Board Certified - American Board of Orthopaedic Surgery
- Fellowship Director, OrthoCarolina Foot and Ankle Fellowship

Dr. Irwin enjoys spending time with his family, including playing tennis and watching his daughter compete in tennis. He also enjoys reading, listening to vinyl records, and exercising including yoga.

Education

EDUCATION

- 1997 - University of Michigan Ann Arbor, MI | BA, Bachelor of Science, Cellular and Molecular Biology
- 2002 - Wayne State University School of Medicine Detroit, MI | MD, Medicine Degree

POSTDOCTORAL TRAINING

P: 704.323.3668

Patient Rating:

4.7 out of 5 Stars

LOCATIONS

- Foot & Ankle Institute
- Pineville

CLINICAL SPECIALTIES

- Foot & Ankle

- 2002-2007 - Residency, (Orthopaedic Surgery) | William Beaumont Hospital Royal Oak, MI
- 2007-2008 - Fellowship, (Orthopaedic Foot and Ankle Surgery) | OrthoCarolina Foot and Ankle Institute Charlotte, NC

PROFESSIONAL LICENSURE

- 2007 - present State of North Carolina, Medical License
- 2007 - present DEA Registration
- 2008-2017 - State of Illinois, Medical License
- 2010-present State of Michigan, Medical License

SPECIALTY CERTIFICATION

- 07/2010-12/2030 - American Board of Orthopaedic Surgery - Orthopaedic Surgery

Practice

Clinical Interests:

- Arthritis management of the foot and ankle
 - Ankle replacement
 - Ankle fusion
 - Midfoot/Hindfoot fusions
- Trauma
 - Post-traumatic foot/ankle reconstruction
 - Trauma and acute fracture care of foot/ankle
 - Avascular necrosis (AVN)
 - Post-traumatic foot/ankle arthritis treatment
 - Stress fracture foot/ankle treatment
- Sports
 - Foot/ankle sports medicine/arthroscopy
 - Athletic injuries to foot/ankle
 - Cartilage preservation
 - OCD treatment
 - Ligament repair
 - Achilles tendonitis and injury
 - Ankle instability
- Arch conditions
 - Flatfoot correction
 - High-arched feet (cavovarus) correction

- Foot/ankle and lower extremity (tibia) deformity correction
 - Limb Salvage
 - Limb Lengthening
 - Spatial Frame (Ilizarov)
- Neuromuscular conditions
 - Charcot-Marie-Tooth
 - Foot Drop
 - Stroke-related Foot and Ankle Disorders
 - Spastic Disorders
 - Tendon Transfers
- Paralytic conditions/drop foot/deformity
 - Tendon transfers
 - Reconstruction
- Forefoot reconstruction
 - Hallux rigidus
 - Bunion correction, including minimally invasive techniques (MIS)
 - Hammertoe correction
 - Rheumatoid forefoot correction
- Congenital foot/ankle correction
- Charcot foot/ankle treatment

Memberships in Professional Societies:

- Fellow, American Academy of Orthopaedic Surgeons
- Member, American Orthopaedic Foot and Ankle Society

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Journal Reviewer:

- 2012-2017 Techniques in Foot and Ankle Surgery (Ad Hoc)
- 2014-2023 Foot and Ankle International (Ad Hoc)

Academic Appointments

University of Michigan

- 2010-2017 Clinical Assistant Professor, Department of Orthopaedic Surgery
- 2012-2017 Assistant Residency Program Director, Skills Curriculum, Department of Orthopaedic Surgery

Carolinas Medical Center

- 2017-present Associate Professor, Department of Orthopaedic Surgery

Professional Experience

- 2008-2010 Staff Physician, Hinsdale Orthopaedics, Hinsdale, IL

ADMINISTRATIVE SERVICE

Carolinas Medical Center

- 2017-present Director of Research, Orthopaedic Surgery

EXTRAMURAL APPOINTMENTS AND SERVICE

Journal Reviewer

- Techniques in Foot and Ankle Surgery, Ad Hoc, 2012-2017
- Foot and Ankle International, Ad Hoc, 2014-present

PROFESSIONAL MEMBERSHIPS AND SERVICE

- 2009-2010 Edward Hospital Physician I/T Advisory Council Member
- 2011-2012 University of Michigan Health System Musculoskeletal Strategy #3 Team, Member
- 2011-2012 University of Michigan Marketing Committee, Department of Orthopaedic Surgery, Member
- 2011-2017 Michigan Orthopaedic Society Board Member
- 2011-2017 University of Michigan, Program Evaluation (Education) Committee, Department of Orthopaedic Surgery, Member
- 2011-2017 University of Michigan Website Committee, Department of Orthopaedic Surgery, Chairman
- 2011-present Limb Lengthening and Reconstruction Society Member
- 2012-2014 Michigan Orthopaedic Society Board Membership Chair
- 2012-present American Academy of Orthopaedic Surgeons Fellow
- 2012-present American Orthopaedic Foot and Ankle Society Member
- 2013-2017 American Orthopaedic Foot & Ankle Society Education Committee, Member
- 2013-2017 Department of Orthopaedic Surgery Residency Program Assistant Program Director for Skills Curriculum
- 2014-present Limb Lengthening and Reconstruction Society LLRS Traveling Fellowship Advisory Council
- 2015-2017 Michigan Orthopaedic Society Board Treasurer
- 2015-2018 American Orthopaedic Foot and Ankle Society Post-Graduate Education Committee, Member
- 2016 American Orthopaedic Foot and Ankle Society Complete Foot Care Course, Co-Chair
- 2017-present American Orthopaedic Foot and Ankle Society Physician Resource Committee, Member

- 2017-present OrthoCarolina Research Institute, Research Advisory Committee, Member
- 2017-present OrthoCarolina, Quality Improvement/Value Based Care Committee, Member
- 2018-2020 American Orthopaedic Foot and Ankle Society Post-Graduate Education Committee, Vice-Chair
- 2019 – 2021 Atrium Health Metro Ortho Quality and Improvement Committee
- 2020-present American Orthopaedic Foot and Ankle Society Post-Graduate Education Committee, Chair

Awards

- **Named a 2023 Top Doctor by Charlotte Magazine**
- **2022** [North Carolina's Top Doctors](#), Charlotte Region, SouthPark Magazine
- Named a 2021 Top Doctor by Charlotte Magazine
- 2016 - University of Michigan Department of Orthopaedic Surgery Waldemar M. Roeser Golden Scalpel Award
- 2015 - Semifinalist, 2015 AOFAS Roger A. Mann award, for "A Novel Algorithm for Isolated Weber B Ankle Fractures: A Retrospective Review of 51 Nonoperatively Treated Patients"
- 2014 - First Place Award Recipient, "Gait and Balance in Total Ankle Arthroplasty versus Ankle Arthrodesis at 12 to 36 months after surgery," Michigan Orthopaedic Society (MOS) Annual Scientific Meeting, Mackinac Island, MI
- 2013 - Current Trends in Prophylactic Antibiotic Use Following Elective Outpatient Foot and Ankle Surgery, Foot and Ankle Guided Poster Tour Selection, AAOS Annual Meeting, Chicago, IL
- 2007 - Edward D. Henderson, M.D. Physician in Training Award, "Cellular Mechanisms of Staple Epiphysiodesis and Recovery", Mid-America Orthopaedic Association 25th Annual Meeting
- 2007 - Third Place Award Recipient, "Cellular Mechanisms of Staple Epiphysiodesis and Recovery," William Beaumont Hospital 37th Annual Residents' and Fellows' Research Forum
- 2007 - First Place Basic Science Award Recipient, "Cellular Mechanisms of Staple Epiphysiodesis and Recovery", OREF Midwest Orthopaedic Resident Research Symposium
- 2007 - Second Place Award Recipient, "Cellular Mechanisms of Staple Epiphysiodesis and Recovery," Detroit Academy of Orthopaedic Surgeons
- 2001 - Alpha Omega Alpha, Wayne State University School of Medicine

- 1998 - The Cleveland Clinic Foundation Award, "Bcl-2 and N-Myc co-operate to enhance the transformed phenotype of neuroblastoma cells", Midwest Society for Pediatric Research
- 1997 - James B. Angell Scholar, University of Michigan

GRANT FUNDING

Past Grant History

- American Board of Orthopaedic, Evaluating Techniques of Internal Fixation Using Surgical Simulation- 14-PAF04988 (Irwin, Todd Andrew, PI) 07/2014-06/2016 (\$24,865)
- MICHR Pilot Grand Program Seed Grant, 2UL1TR000433: Comparing Gait, Balance and Daily Activity in Total Ankle Arthroplasty Versus Ankle Arthrodesis (Todd A. Irwin, PI) 07/2012-06/2014 (\$4,049)

Research

Peer-Reviewed Publications

1. Jasty R, Lu J, **Irwin T**, Suchard S, Clarke MF, Castle VP: Role of p53 in the regulation of irradiation-induced apoptosis in neuroblastoma cells. Molecular genetics and metabolism 65(2): 155-64, 1998. PMID:9787107
2. Nuthakki S, Fessell D, Lal N, Shirkhoda A, **Irwin T**, Irwin R: Epithelioid hemangioendothelioma mimicking a nerve sheath tumor clinically and on MR imaging Skeletal Radiol. 36(SUPPL. 1): 58-62, 2007. PMID:17077984
3. **Irwin TA**, Kou JX, Fortin PT: Classification and treatment of severe ankle articular segment deficits:osteochondral allograft reconstruction. Foot Ankle Clin 12(1): 41-55, 2007. PMID:17350510
4. **Irwin TA**: Current concepts review: insertional achilles tendinopathy. Foot Ankle Int 31(10): 933-939, 2010. PMID:20964977
5. **Irwin TA**, Anderson RB, Davis WH, Cohen BE: Effect of ankle arthritis on clinical outcome of lateral ankle ligament reconstruction in cavovarus feet. Foot Ankle Int 31(11): 941-948, 2010. PMID:21189185
6. Murphy JM, Kadakia AR, **Irwin TA**: Variability in radiographic medial clear space measurement of the normal weight-bearing ankle. Foot Ankle Int 33(11): 956-963, 2012. PMID:23131441
7. **Irwin TA**, Lien J, Kadakia AR: Posterior malleolus fracture. J Am Acad Orthop Surg 21(1): 32-40, 2013. PMID:23281469
8. Chang JB, Kung TA, Levi B, **Irwin T**, Kadakia A, Cederna PS: Surgical management of burn flexion and extension contractures of the toes J Burn

- Care Res 35(1): 93-101, 2014. PMID:24390110
9. Lovisetti G, **Irwin TA**: Posterior malleolus fracture. J Am Acad Orthop Surg 22(2): 67-, 2014. PMID:24486752
 10. Murphy JM, Kadakia AR, Schilling PL, **Irwin TA**: Relationship among radiographic ankle medial clear space, sex, and height Orthopedics 37(5): e449-e454, 2014. PMID:24810821
 11. Oak NR, Sabb BJ, Kadakia AR, **Irwin TA**: Isolated adult Tillaux fracture: a report of two cases. The Journal of Foot and Ankle Surgery: official publication of the American College of Foot and Ankle Surgeons 53(4):489-92, 2014. PMID:24795204
 12. King BW, Ruta DJ, **Irwin TA**: Spastic foot and ankle deformities: Evaluation and treatment Foot Ankle Clin 19(1): 97-111, 2014. PMID:24548513
 13. Ruta DJ, Kadakia AR, **Irwin TA**: What are the patterns of prophylactic postoperative oral antibiotic use after foot and ankle surgery? Clinical Orthopaedics and Related Research 472(10):3204-13, 2014. PMID:24942966
 14. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih A, Holmes JR: Comparison of Cortical Bone Drilling Induced Heat Production Among Common Drilling Tools. Journal of orthopaedic trauma 29(5): 188-93, 2015. PMID:25233167
 15. Tai BL, Palmisano AC, Belmont B, **Irwin TA**, Holmes J, Shih AJ: Numerical evaluation of sequential bone drilling strategies based on thermal damage. Med Eng Phys 37(9): 855-61, 2015. PMID:26163230
 16. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih A, Holmes JR: Heat accumulation during sequential cortical bone drilling. J Orthop Res: 2015. PMID:26334198
 17. Acker WB 2nd, Tai BL, Belmont B, Shih AJ, **Irwin TA**, Holmes JR: Two-Finger Tightness: What Is It? Measuring torque and reproducibility in a simulated model. J Orthop Trauma: 2015. PMID:26655518
 18. Seeley MA, Kazarian E, King B, Biermann JS, Carpenter JE, Caird MS, **Irwin TA**: Core Concepts: Orthopedic Intern Curriculum Boot Camp. Orthopedics 39(1): e62-7, 2016. PMID:26730688
 19. Cowan JB, Seeley MA, **Irwin TA**, Caird MS: Computer-Simulated Arthroscopic Knee Surgery: Effects of Distraction on Resident Performance. Orthopedics 39(2): e240-5, 2016. PMID:26811955
 20. Holmes JR, Acker WB, Murphy JM, McKinney A, Kadakia AR, **Irwin TA**: A Novel Algorithm for Isolated Weber B Ankle Fractures: A Retrospective Review of 51 Nonsurgically Treated Patients. J Am Acad Orthop Surg

- 24(9):645-52, 2016. PMID:27509039
21. Burns GT, King BW, Holmes JR, **Irwin TA**: Evaluating Internal Fixation Skills Using Surgical Stimulation. *J Bone Joint Surg Am* 99(5):e21, 2017. PMID:28244920
 22. Weisman MHS, Holmes JR, **Irwin TA**, Talusan PG: Venous Thromboembolic Prophylaxis in Foot and Ankle Surgery: A Review of Current Literature and Practice. *Foot Ankle Spec* 10(4):343-51, 2017. PMID:28719780
 23. **Irwin TA**: Overcorrected Flatfoot Reconstruction. *Foot Ankle Clin* 22(3):597-611, 2017. PMID: 28779810
 24. Ruta DJ, Morris MS, Pigott MT, Biermann JS, **Irwin TA**, Holmes JR: Implementation of a Service-Specific Template Integrating Objective Structured Clinical Examination and Accreditation Council for Graduate Medical Education Milestones: One Institution's Experience. *J Surg Orthop Adv* 26(4):257-61, 2017. PMID 29461200
 25. **Irwin TA**: Management of Metatarsalgia and Lesser Toe Deformities. (Guest Editor) *Foot Ankle Clin* 23(1):xv-xvi, 2018. PMID: 29362038
 26. Finney FT, Lee S, Scott J, **Irwin TA**, Holmes JR, Talusan PG: Biomechanical Evaluation of Suture Configurations in Lesser Toe Plantar Plate Repairs. *Foot Ankle Int* 39(7):836-42, 2018. PMID: 29460645
 27. Pigott MT, Shah R, Chan J, **Irwin TA**, Holmes JR, Talusan PG: Initial Displacement Does Not Affect Loss of Reduction After Lisfranc Fracture Dislocations. *Foot Ankle Spec* 12(6):535-9, 2019. PMID: 30666884
 28. Behrens SB, **Irwin TA**, Bemenderfer TB, Schipper ON, Odum SM, Anderson RB, Davis WH: Clinical and Radiographic Outcomes of Revision Total Ankle Arthroplasty Using an Intramedullary-Referencing Implant. *Foot Ankle Int* 41(12):1510-18, 2020. PMID: 32795097
 29. Finney FT, **Irwin TA**: Recognition of Failure Modes of Lateral Ankle Ligament Reconstruction: Revision and Salvage Options. *Foot Ankle Clin* 26(1):137-153, 2021. PMID: 33487237
 30. Vier D, **Irwin TA**. Open Ankle Arthrodesis for Deformity Correction. *Foot Ankle Clin*. 2022 Mar;27(1):199-216. doi: 10.1016/j.fcl.2021.11.009. PMID: 35219366.
 31. Wohler A, Macknet D, Seymour RB, Wally MK, **Irwin TA**, Hsu JR, Beuhler M, Bosse M, Gibbs M, Griggs C, Jarrett S, Karunakar M, Kempton L, Leas D, Odum SM, Phelps K, Roomian T, Runyon M, Saha A, Sims S, Watling B, Wyatt S, Yu Z. Opioid Prescribing Risk Factors in Nonoperative Ankle Fractures: The Impact of a Prospective Clinical Decision Support Intervention. *J Foot Ankle Surg*. 2022 May-Jun;61(3):557-561. doi:

- 10.1053/j.jfas.2021.09.030. Epub 2021 Oct 20. PMID: 34836780.
32. Grimm MPD, **Irwin TA**. Complications of Hallux Rigidus Surgery. *Foot Ankle Clin*. 2022 Jun;27(2):253-269. doi: 10.1016/j.fcl.2021.11.016. Epub 2022 May 11. PMID: 35680287.
 33. Barcel DA, Odum S, Rowe T, Sabatini JB, Ford SE, Davis WH, **Irwin TA**. Mortality and Conversion Rates to Below-Knee or Above-Knee Amputation After Transmetatarsal Amputation. *J Am Acad Orthop Surg*. 2022 Aug 15;30(16):767-779. doi: 10.5435/JAAOS-D-21-00872. Epub 2022 Apr 19. PMID: 35442927.
 34. Conti MS, **Irwin TA**, Ford SE, Jones CP, Anderson RB, Davis WH. Complications, Reoperations, and Patient-Reported Outcomes Following a 2-Stage Revision Total Ankle Arthroplasty for Chronic Periprosthetic Joint Infections. *Foot Ankle Int*. 2022 Dec;43(12):1614-1621. doi: 10.1177/10711007221133398. Epub 2022 Nov 11. PMID: 36367126.
 35. Rooney EM, Odum SM, Hamid N, **Irwin TA**; CORE Study Group. Opioid-Free Forefoot Surgery vs Traditional Perioperative Opiate Regimen: A Randomized Controlled Trial. *Foot Ankle Int*. 2023 Jan;44(1):21-31. doi: 10.1177/10711007221140834. Epub 2022 Dec 20. PMID: 36537761.
 36. Loewy E, Conti MS, Jones CP, Cohen BE, Anderson RB, **Irwin TA**, Davis WH. Midterm Outcomes of the INBONE™ II Total Ankle Arthroplasty. *J Foot Ankle Surg*. 2023 Jul-Aug;62(4):651-656. doi: 10.1053/j.jfas.2023.02.001. Epub 2023 Feb 19. PMID: 36925377.
 37. Hysong AA, Odum SM, Lake NH, Hietpas KT, Michalek CJ, Hamid N, Gaston RG, Loeffler BJ; the CORE Study Group (**Irwin TA**). Opioid-Free Analgesia Provides Pain Control Following Thumb Carpometacarpal Joint Arthroplasty. *J Bone Joint Surg Am*. 2023 Nov 15;105(22):1750-1758. doi: 10.2106/JBJS.22.01278. Epub 2023 Aug 31. PMID: 37651550.
 38. Mastracci JC, Dombrowsky AR, Cohen BE, Ellington JK, Ford SE, Shawen SB, **Irwin TA**, Jones CP. Prospective Clinical and Computed Tomography Evaluation of Calcaneus Fractures Treated Through Sinus Tarsi Approach. *Foot Ankle Orthop*. 2023 Dec 21;8(4):24730114231216985. doi: 10.1177/24730114231216985. PMID: 38145275; PMCID: PMC10748696.

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Books

1. **Irwin TA**, Kadakia AR: Bunions/Bunionettes. Presentation Imaging and Treatment of Common Musculoskeletal Conditions: MRI-Arthroscopy Correlation, Miller MD, Sanders TG Elsevier Publications, Philadelphia, PA,

2012.

2. Kadakia AR, **Irwin TA**: Disorders of the Foot and Ankle. Review of Orthopedics 6th Edition, Miller MD, Thompson SR, Hart JA Elsevier Publications, Philadelphia, PA, 2012.
3. **Irwin TA**, Kadakia AR: Ankle Fractures. Presentation Imaging and Treatment of Common Musculoskeletal Conditions: MRI-ARthroscopy Correlation, Miller MD, Sanders TG Elsevier Publications, 2012.
4. **Irwin TA**: Tendon Injuries of the Foot and Ankle. DeLee & Drez's Orthopaedic Sports Medicine: Principles and Practice, 4th Ed., Miller MD, Thompson SR Elsevier Publications, Philadelphia, PA, 2014.
5. **Todd A. Irwin**, Robert B. Anderson, W. Hodges Davis: Principles of the Physical Examination of the Foot and Ankle. Mann's Surgery of the Foot and Ankle, Michael J. Coughlin, Charles L. Saltzman, Robert B. Anderson Elsevier, 2014. 9th, 2, 37-60
6. **Irwin TA**: Tendon Injuries of the Foot and Ankle. DeLee, Drez, & Miller's Orthopaedic Sports Medicine: Principles and Practice, 5th Ed., Miller MD, Thompson SR Elsevier Publications, Philadelphia, PA, 2020.
7. **Irwin TA**: Revision of the Failed Flatfoot Reconstruction. Revision Surgery of the Foot and Ankle: Surgical Strategies and Techniques, Berkowitz MJ, Clare MP, Fortin PT, Schon LC, Sanders RW. Springer, Switzerland. 2020

PRESENTATIONS AT PROFESSIONAL MEETINGS

1. Jasty R, Lu J, **Irwin T**, Castle VP: Bcl-2 and N-Myc co-operate to enhance the transformed phenotype of neuroblastoma cells, Blood 1997, 90, Suppl. 1, 3595 (193b), 1997.
2. **Irwin TA**, Anderson RB, Davis WH, Cohen BE.: Effect of Ankle Arthritis on Clinical Outcome of Lateral Ankle Ligament Reconstruction in Cavovarus Feet., American Orthopaedic Foot and Ankle Society Annual Meeting, Denver, CO, 2008.
3. **Irwin TA**: "Comparison of Diagnostic accuracy and MRI utilization by general practitioners and foot and ankle orthopaedists", Michigan Orthopaedic Society, Mackinac Island, MI, 2011.
4. **Irwin, TA**: "Isolated tibiotalar arthrodesis utilizing single anterior plate technique", Michigan Orthopaedic Society, Mackinac Island, MI, 2011.

5. **Irwin TA:** Early Reconstruction of Foot Drop with Peroneal Nerve Exploration, Michigan Orthopaedic Society, Mackinac Island, MI, 2011.
6. Murphy JM, Kadakia AR, **Irwin TA:** "Variability in Radiographic Medial Clear Space Measurement of the Normal Weightbearing Ankle", American Orthopaedic Foot & Ankle Society Annual Meeting, San Diego, CA, 2012.
7. Ruta D, **Irwin TA:** "Current Trends Among AOFAS Members in the use of Prophylactic Antibiotics Following Elective Outpatient Foot & Ankle Surgery", Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2012.
8. Murphy JM, Kadakia AR, **Irwin TA:** Variability in Radiographic Medial Clear Space Measurement of the Normal Weightbearing Ankle, Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2012.
9. Caird MS, Cowan JB, Seeley MA, **Irwin TA:** "Computer-Simulated Arthroscopic Knee Surgery: Effects of Distraction", 52nd Carl E. Badgley Day Lectureship University of Michigan Orthopaedic Alumni Society, Ann Arbor, MI, 2013.
10. Ruda D, **Irwin TA**, Kadakia AR: "Current Trends in Prophylactic Antibiotic Use Following Elective Outpatient Foot & Ankle Surgery", AAOS Annual Meeting, Chicago, IL, 2013.
11. Walsh M, **Irwin TA**, Seeley M, Kadakia AR: "Ankle Arthrodesis Using A Single Locking Plate Through an Anterior Approach: A Retrospective Study", American Orthopaedic Foot & Ankle Society Summer Meeting, Hollywood, FL, 2013.
12. Cowan JB, Seeley MA, **Irwin TA**, Rooney D, Caird MS: "Computer-Simulated Arthroscopic Knee Surgery: Effects Of Distraction, Annual Meeting of the Pediatric Orthopaedic Society of North America (POSNA), Hollywood, CA, 2013.
13. King BW, **Irwin TA**, Wrobel J: "Comparing Gait, Balance and Daily Activity in Total Ankle Arthroplasty Versus Ankle Arthrodesis", Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2013.
14. Cowan JB, Seeley MA, **Irwin TA**, Caird MS: "Computer-Simulated Arthroscopic Knee Surgery: Effects of Distraction", Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2013. Palmisano AC, Tai BL, Belmont B, Irwin TA, Holmes JR: Bone Drilling Induced Heat Production
15. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih, A, Holmes JR: Bone Drilling Induced Heat Production, American Society of Mechanical Engineers and International Manufacturing Science and Engineering Annual Conference, Ann Arbor, MI, 2014.

16. Cowan JB, Seeley MA, **Irwin TA**, Rooney D, Caird MS: "Computer-Simulated Arthroscopic Knee Surgery: Effects of Distraction", American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, New Orleans, LA, 2014.
17. Beaman DN, Fortin PT, Kurdziel M, Baker E, **Irwin TA**, Baker K: "Characterization of Subtalar Joint Motion with Taylor Spatial Frame-based Deformity Correction", Limb Lengthening and Reconstruction Society 24th Annual Scientific Meeting, Montreal, CA, 2014.
18. **Irwin TA**, Fortin PT, Beaman DN: "Internal Fixation Following Thin-Wire External Fixation Removal or Modification for Foot and Ankle Pathology", Limb Lengthening and Reconstruction Society 24th Annual Scientific Meeting, Montreal, CA, 2014.
19. **Irwin TA**, Fortin PT, Beaman DN: "Internal Fixation Following Thin-Wire External Fixation Removal or Modification for Foot and Ankle Pathology", Michigan Orthopaedic Society (MOS) Annual Meeting, Mackinac Island, MI, 2014.
20. Beaman DN, Fortin PT, Kurdziel M, Baker E, **Irwin TA**, Baker K: "Characterization of Subtalar Joint Motion with Taylor Spatial Frame-based Deformity Correction", Michigan Orthopaedic Society (MOS) Annual Scientific Meeting, Mackinac Island, MI, 2014.
21. King BW, **Irwin TA**, Wrobel JS, Byron M, Holmes J: "Gait and Balance in Total Ankle Arthroplasty versus Ankle Arthrodesis at 12 to 36 months after surgery", Michigan Orthopaedic Society (MOS) Annual Scientific Meeting, Mackinac Island, MI, 2014.
22. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih A, Holmes Jr: Comparison of Cortical Bone Drilling Induced Heat Production Among Common Drilling Tools, Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2014.
23. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih A, Holmes Jr: Comparison of Cortical Bone Drilling Induced Heat Production Among Common Drilling Tools, Orthopaedic Trauma Association Annual Meeting, Tampa, FL, 2014.
24. Acker WB, **Irwin TA**, McKinney A, Murphy JM, Kadakia AR, Holmes JR: A Novel Algorithm for Isolated Weber B Ankle Fractures: A Retrospective Review of 51 Nonoperatively Treated Patients, AAOS Annual Meeting, Las Vegas, NV, 2015.
25. King BW, Wrobel JS, Holmes JR, **Irwin, TA**: Gait and Balance in Total Ankle Arthroplasty versus Ankle Arthrodesis at 12 to 36 months after surgery, AAOS Annual Meeting, Las Vegas, NV, 2015.

26. Acker WB, **Irwin TA**, McKinney A, Murphy JM, Kadakia AR, Holmes JR: A Novel Algorithm for Isolated Weber B Ankle Fractures: A Retrospective Review of 51 Nonoperatively Treated Patients, AOFAS Annual Meeting, Long Beach, CA, 2015.
27. **Irwin TA**, Fortin PT, Beaman DN: Internal Fixation Following Thin-Wire External Fixation Removal or Modification for Foot and Ankle Pathology, AOFAS Annual Meeting, Long Beach, CA, 2015.
28. Williams BR, Fortin PT, Holmes JR, **Irwin TA**: Radiographic Assessment of Lower Extremity Alignment in Ankle Arthritis Using Preoperative Long-Leg Alignment Views, AOFAS Annual Meeting, Long Beach, CA, 2015.
29. Palmisano AC, Tai BL, Belmont B, **Irwin TA**, Shih A, Holmes Jr: Comparison of Cortical Bone Drilling Induced Heat Production Among Common Drilling Tools, AOFAS Specialty Day, Las Vegas, NV, 2015.
30. Acker WB, **Irwin TA**, McKinney A, Murphy JM, Kadakia AR, Holmes JR: A Novel Algorithm for Isolated Weber B Ankle Fractures: A Retrospective Review of 51 Nonoperatively Treated Patients, AOFAS Specialty Day, Las Vegas, NV, 2015.
31. Beaman DN, **Irwin TA**, Baker EA, Etscheidt J, Saad MA, Baker KC, Fortin PT.: Analysis of Tibial Osteotomy for Conditions of the Foot and Ankle, International Limb Lengthening and Reconstruction Society Annual Meeting, Miami, FL, 2015.
32. Williams BR, Fortin PT, Holmes JR, **Irwin TA**: Radiographic Assessment of Lower Extremity Alignment in Ankle Arthritis Using Preoperative Long-Leg Alignment Views, Michigan Orthopaedic Society Annual Meeting, Mackinac Island, MI, 2015.
33. King BW, Wrobel JS, Holmes JR, **Irwin, TA**: "Gait and Balance in Total Ankle Arthroplasty versus Ankle Arthrodesis at 12 to 36 months after surgery", Mid-America Orthopaedic Association 33rd Annual Meeting, Hilton Head, SC, 2015.
34. Williams BR, Fortin PT, Gagnier J, Holmes JR, **Irwin TA**: Radiographic Assessment of Lower Extremity Alignment in Ankle Arthritis Using Preoperative Long-Leg Alignment Views, AAOS Annual Meeting, American Orthopaedic Foot and Ankle Society Specialty Day, Orlando, FL, 2016.
35. Burns GT, King BW, Holmes JR, **Irwin TA**: Evaluating Internal Fixation Skills Using Surgical Simulation, AOA Council of Orthopaedic Residency Directors, Seattle, WA, 2016.
36. Burns GT, King BW, Holmes JR, **Irwin TA**: Evaluating Internal Fixation Skills Using Surgical Simulation, Mid-America Orthopaedic Association

Annual Meeting, Bonita Springs, FL, 2016.

37. Williams BR, Fortin PT, Gagnier J, Holmes JR, **Irwin TA**: Radiographic Assessment of Lower Extremity Alignment in Ankle Arthritis Using Preoperative Long-Leg Alignment Views, Mid-America Orthopaedic Association Annual Meeting, Bonita Springs, FL, 2016.
38. Finney FT, Scott J, Khoury B, Kozloff K, **Irwin TA**, Holmes JR, Talusan PG: Angiology of the Plantar Plate: A Novel Technique for Imaging of the Plantar Plate Microvasculature, AOFAS Annual Meeting, Seattle, WA, 2017.
39. Finney FT, Lee S, Lindsey BB, Scott J, **Irwin TA**, Holmes JR, Talusan PG: Biomechanical Evaluation of Suture Configurations in Lesser Toe Plantar Plate Repairs, IFFAS Annual Meeting, Lisbon, Portugal, 2017.
40. Ward P, Anderson RB, Cohen BE, Davis WH, Ellington JK, **Irwin TA**, Jones CP, Behrens S: Peroneal Groove Deepening: What are the Clinical and Radiographic Outcomes? AOFAS Annual Meeting, Boston, MA, 2018.
41. Odum S, Curtin BM, Hendrix JG, Casey VF, Krenzel BA, Rush PF, Ellison BS, Burbank SA, Loeffler BA, Van Sikes C, Segebarth PB, O'Neal SB, Piasecki DP, **Irwin TA**, Cox BA, Sheets S, Spector LR: Lessons Learned After Three Years in Bundled Payments: Tales From a Privademic Practice, AAOS Annual Meeting, Las Vegas, NV, 2019.
42. Finney FT, Barcel DA, Kaiser PB, **Irwin TA**, Ellington JK, Cohen BE, Davis WH, Jones CP: Results of Hallux Metatarsophalangeal Joint Arthrodesis with and without Calcaneus Autograft. AOFAS Annual Meeting, 2020 (Virtual)
43. Finney FT, Barcel DA, Kaiser PB, **Irwin TA**, Ellington JK, Cohen BE, Davis WH, Jones CP: Results of Hallux Metatarsophalangeal Joint Arthrodesis with and without Calcaneus Autograft. AAOS Annual Meeting, San Diego, CA 2021.
44. Barcel DA, Odum S, Rowe T, Sabatini JB, Ford SE, Davis WH, **Irwin TA**: Mortality and Conversion Rate to Below Knee or Above Knee Amputation Following Transmetatarsal Amputation. Poster, AAOS Annual Meeting, San Diego, CA 2021.
45. Kaiser PB, **Irwin TA**, Barcel DA, Finney FT, Ellington JK, Cohen BE, Davis WH, Jones CP: Fusion Rates of Ankle Arthrodesis With Anterior Plate Fixation Based on Computerized Tomography and Clinical Outcomes. ePoster, AAOS Annual Meeting, San Diego, CA 2021.
46. Habet NA, Barcel D, Wang S, Anciano V, **Irwin TA**, Jones CP. Strength And Compressive Ability Of Midfoot Fusion Nail Versus Midfoot Fusion

INVITED EXTRAMURAL PRESENTATIONS AND SEMINARS

1. "Athletic Injuries of the Foot and Ankle", ATI Athletic Trainer Lecture Series, November 2008, Bolingbrook, IL
2. "Athletic Injuries of the Foot and Ankle." Grand Rounds, Department of Orthopaedic Surgery and Rehabilitation, Loyola University Medical Center, July 2009, Chicago, IL
3. "Current Techniques and Therapy Protocols in Reconstructive and Sports-Related Foot and Ankle Surgery.", ATI Physical Therapist Lecture Series, August 2009, Bolingbrook, IL
4. "Treatment of Lisfranc Injuries." 10th Annual Foot and Ankle Conference, Department of Orthopaedic Surgery, University of Michigan, September 2010, Ann Arbor, MI
5. "Bone Marrow Aspirate: What is available, what is working, costs.", OrthoCarolina Foot and Ankle Institute Fellows Reunion, October 2010, Pinehurst, NC
6. "Lisfranc and Midfoot Injuries." Resident Review Course, American Orthopaedic Foot and Ankle Society, October 2010, Rosemont, IL
7. "Amputations and Prosthetics." Resident Review Course, American Orthopaedic Foot and Ankle Society, October 2010, Rosemont, IL
8. Moderator – Speed Paper Session 13: Mechanics, American Orthopaedic Foot and Ankle Society, July 2011, Keystone, CO
9. Case Presentation-Navicular Stress Fracture, 50th Carl E. Badgley Day Lectureship, University of Michigan Orthopaedic Alumni Society, September 2011, Ann Arbor, MI
10. Chronic Ankle Instability: Lateral and Medial, 50th Carl E. Badgley Day Lectureship, University of Michigan Orthopaedic Alumni Society, September 2011, Ann Arbor, MI
11. Ankle Arthritis - The Search for the Holy Grail. Distraction Arthroplasty, 11th Annual Michigan Foot & Ankle Course, September 2011, Ann Arbor, MI
12. Fixators in Foot & Ankle Surgery: Who Needs 'Em?, 11th Annual Michigan Foot & Ankle Course, September 2011, Ann Arbor, MI
13. Sports Magic and the Foot - Syndesmotic Injuries, 11th Annual Michigan Foot & Ankle Course, September 2011, Ann Arbor, MI
14. Moderator - Foot and Ankle Session, Michigan Orthopaedic Society, September 2012, Mackinac Island, MI

15. Post-traumatic Lower Extremity Deformity Course, Limb Alignment and Deformity Analysis., William Beaumont Hospital, October 2012, Royal Oak, MI
16. Instructional Course Lecture: Osteotomy and Arthrodesis of the Forefoot and Hindfoot, "Distal Chevron Osteotomy" and "Akin Osteotomy", AAOS Annual Meeting, March 2013, Chicago, IL
17. Does Size Matter? Indications, techniques and controversies surrounding the posterior malleolus., Michigan Orthopaedic Society Annual Orthopaedic Trauma Program, April 2013, Plymouth, MI
18. Syndesmotic Injuries: Evaluation and Treatment, Michigan Orthopaedic Society Annual Scientific Meeting, June 2013, Mackinac Island, MI
19. Paper Session #4 Total Ankle Arthroplasty, Moderator, AOFAS Annual Meeting, July 2013, Hollywood, FL
20. "The Good, The Bad, and The Ugly", Young All-Stars Symposium, November 2013, New York, NY
21. "Distal Chevron Osteotomy", "Akin Osteotomy" Instructional Course Lecture, American Association of Orthopaedic Surgeons (AAOS) Annual Meeting, March 2014, New Orleans, LA
22. Moderator - Ankle Arthritis panel: What Arrows are in the Quiver?, 2014 Michigan Foot and Ankle Course, October 2014, Ann Arbor, MI
23. Talus Fractures, 2014 Michigan Foot & Ankle Course, October 2014, Ann Arbor, MI
24. Instructional Course Lecture: Osteotomy and Arthrodesis of the Forefoot and Hindfoot, "Distal Chevron Osteotomy" and "Akin Osteotomy", AAOS Annual Meeting, March 2015, Las Vegas, NV
25. Ankle Arthritis – an overview, and the effect of lower extremity malalignment, Clinical Research Series in Musculoskeletal Medicine, Dept. of Orthopaedic Surgery and Epidemiology, June 2015, BSRB, Ann Arbor, MI
26. Moderator - Debate Session - Ankle fusion is disabling, old fashioned and should be replaced with total ankle arthroplasty, Michigan Orthopaedic Society Annual Meeting, June 2015, Mackinac Island, MI
27. Talus Fractures, 2014 Michigan Foot & Ankle Course, October 2015, Ann Arbor, MI
28. Moderator - Ankle Arthritis panel, 2015 Michigan Foot and Ankle Course, October 2015, Ann Arbor, MI
29. Moderator - Flatfoot case presentations, 2015 Michigan Foot and Ankle Course, October 2015, Ann Arbor, MI

30. Achilles Tendon Disorders, Posterior Tibial Tendon Dysfunction, AOFAS Resident Review Course, October 2015, Rosemont, IL
31. Posterior Malleolus Fractures: Fix 'em all?, AAOS/AOFAS Virtual CME Course: Foot and Ankle Trauma - How to STAY OUT and GET OUT of Trouble, November 2015, Webinar
32. Posterior Malleolus Fracture case presentation, AAOS/AOFAS Virtual CME Course: Foot and Ankle Trauma - How to STAY OUT and GET OUT of Trouble - Case Discussion Part 3, November 2015, Webinar
33. Visiting Professor, "The "Ankle Bone": Considerations Regarding the Talus", Oakland University William Beaumont School of Medicine Royal Oak, MI, November 2015
34. Moderator - Ankle Arthritis, Combined MAOA & ICJR Pre-course The Foot and Ankle, Current Concepts on Reconstruction, Sports and Trauma, April 2016, Bonita Springs, FL
35. "Moderate Hallux Valgus? Why the Scarf is 'En Vogue'", Combined MAOA & ICJR Pre-course The Foot and Ankle, Current Concepts on Reconstruction, Sports and Trauma, April 2016, Bonita Springs, FL
36. Total Ankle Replacement - The Way of the (Present?) Future, Combined MAOA & ICJR Pre-course The Foot and Ankle, Current Concepts on Reconstruction, Sports and Trauma, April 2016, Bonita Springs, FL
37. Cavovarus case presentation, Resident Session, AOFAS Annual Meeting, July 2016, Toronto, Canada
38. Lower Extremity Pathoanatomy, University of Michigan Orthotics and Prosthetics Course, September 2016, Ann Arbor, MI
39. Realignment Subtalar Arthrodesis, OrthoCarolina Foot and Ankle Fellows Reunion, October 2016, Sonoma, CA
40. Scarf Osteotomy, OrthoCarolina Foot and Ankle Fellows Reunion, October 2016, Sonoma, CA
41. Heel Pain, AOFAS Complete Foot Care Course, October 2016, St. Louis, MO
42. Talus and Calcaneus Fractures, AOFAS Complete Foot Care Course, October 2016, St. Louis, MO
43. Lisfranc Injuries, AOFAS Complete Foot Care Course, October 2016, St. Louis, MO
44. Ankle Arthritis, AOFAS Complete Foot Care Course, October 2016, St. Louis, MO
45. Moderator - Ankle Arthritis and case presentations, 2016 Michigan Foot and Ankle Course, October 2016, Ann Arbor, MI

46. Flatfoot Case Presentations, 2016 Michigan Foot and Ankle Course, October 2016, Ann Arbor, MI
47. Case Presentations, 2016 Michigan Foot and Ankle Course, October 2016, Ann Arbor, MI
48. Chair, Resident Session, AOFAS Annual Meeting, July 2017, Seattle, WA
49. When to Go Higher? Supramalleolar Osteotomies in Varus Hindfoot Deformity, AOFAS Annual Meeting, July 2017, Seattle WA
50. Ankle and Midfoot Arthritis, Extremities in the Carolinas: Arthritis to Arthroplasty, Physician Assistants in Orthopaedic Surgery, May 2018, Charlotte, NC
51. Chair, Resident Review Session, AOFAS Annual Meeting, July 2018, Boston, MA
52. The Evolution of My Foot and Ankle Practice, Badgley Day, University of Michigan Dept. of Orthopaedic Surgery, September 2018, Ann Arbor, MI
53. Case Presentation, Badgley Day, University of Michigan Dept. of Orthopaedic Surgery, September 2018, Ann Arbor, MI
54. Educational Chair, OrthoCarolina Fellowship Reunion Educational Program, October 2018, New Orleans, LA.
55. Faculty, Wright Medical Young All Stars Case Study Symposium: The Good, The Bad, The Ugly. November 2018, New York, NY
56. Visiting Professor, "Neuromuscular Foot and Ankle Disorders – The Role of Tendon Transfers and Beyond". Carolinas Medical Center, Dept. of Physical Medicine and Rehabilitation. Charlotte, NC, November 2018
57. Peroneal and Posterior Tibial Tendinopathy, OrthoCarolina 2019 Sports Medicine Symposium, "Athletic Injuries of the Foot and Ankle", January 2019, Charlotte, NC
58. Hallux and 2nd MTP Injuries, OrthoCarolina 2019 Sports Medicine Symposium, "Athletic Injuries of the Foot and Ankle", January 2019, Charlotte, NC
59. Stable vs. Unstable Ankle Fractures, Extremities in the Carolinas: Trauma for General Orthopedics, Physician Assistants in Orthopaedic Surgery, May 2019, Charlotte, NC
60. Ankle and Hindfoot Disorders – The Role of Orthoses vs. Surgery, North Carolina Chapter American Academy of Orthotists & Prosthetists Annual Meeting, October 2019, Wilmington, NC
61. Moderator – Paper Session 3A: Basic Science, American Orthopaedic Foot and Ankle Society Annual Meeting, September 2019, Chicago, IL
62. Hindfoot Deformity Case Presentations, Paragon 28 Annual Fellows Meeting, October 2019, Englewood, CO

63. Managing the Charcot Midfoot/Hindfoot, Paragon 28 Annual Fellows Meeting, October 2019, Englewood, CO
64. Managing Arthritis of the Ankle, Paragon 28 Annual Fellows Meeting, October 2019, Englewood, CO
65. From Subtle Cavus to CMT – Evaluation of the Cavovarus Foot, 2019 Michigan Foot and Ankle Course, October 2019, Ann Arbor, MI
66. Chronic deltoid insufficiency: Management of stage IV adult acquired flatfoot deformity and/or the arthritic ankle, in Haddad SL, ed *Surgical Insights Ligament Injuries of the Foot and Ankle* [online course]. Rosemont, IL American Academy of Orthopaedic Surgeons, 2020.
67. Visiting Professor, "Neuromuscular Foot and Ankle Disorders – The Role of Tendon Transfers and Beyond". Oakland University William Beaumont School of Medicine. Royal Oak, MI (Virtual), December 2020.
68. Intro to Ankle Fusion Plating and Silverback Technique, Paragon 28 Annual Fellows Meeting, August, 2020 (Virtual).
69. Intro to TTC Fusion Plating and Silverback Technique, Paragon 28 Annual Fellows Meeting, August, 2020 (Virtual).
70. Moderator – Paper Session 5B: Total Ankle II, American Orthopaedic Foot and Ankle Society Annual Meeting, September 2020 (Virtual).
71. Midfoot Fractures and Dislocations, Extremities in the Carolinas: Trauma for General Orthopedics, Physician Assistants in Orthopaedic Surgery, May 2021, Charlotte, NC
72. Sports Cases and Challenges, Foot Innovate 2021 Founder Conference, June 2021, Atlanta, GA.
73. Lower Extremity Deformity Analysis, in AOFAS webinar: Tibial Axis Deformity and Foot and Ankle Disorders, July 2021 (Virtual).

DIDACTIC/SYSTEMATIC INSTRUCTION

- 2010 - University of Michigan, Department of Orthopaedic Surgery Foot & Ankle OITE Review, Resident Lecture Series
- 2010-2014 - University of Michigan, Department of Orthopaedic Surgery "Ankle Fractures," Resident Lecture Series
- 2011 - University of Michigan, Department of Orthopaedic Surgery Proximal Opening Wedge Osteotomy" and "First MTP Fusion," (3 hour lecture) Resident Lecture Series
- 2011 - University of Michigan, General Medicine Clinical Conference "Evaluation and Treatment of Ankle Problems"
- 2011 - University of Michigan, Department of Orthopaedic Surgery "Hallux Valgus," Resident Lecture Series

- 2011-2015 - University of Michigan, Department of Orthopaedic Surgery
"Calcaneus Fractures," Resident Lecture Series
- 2012 - University of Michigan, Department of Orthopaedic Surgery
"Posterior Tibial Tendon Transfer," Resident Lecture Series (3 hour lecture)
- 2012 - University of Michigan, Department of Orthopaedic Surgery
"Osteochondral Lesions," Resident Lecture Series
- 2012-2016 - University of Michigan, Department of Orthopaedic Surgery
"Posterior Tibial Tendon Dysfunction", Resident Lecture Series
- 2012 - University of Michigan, Department of Orthopaedic Surgery Foot &
Ankle OITE Review, Resident Lecture Series
- 2012-2015 - University of Michigan, Foot and Ankle Anatomy, M-4 Anatomy
Elective
- 2013 - University of Michigan, Department of Orthopaedic Surgery
Rheumatoid Foot & Ankle, Resident Lecture Series
- 2013 - University of Michigan, Department of Orthopaedic Surgery "Ankle
Arthritis," Resident Lecture Series
- 2013 - University of Michigan, Department of Orthopaedic Surgery Athletic
Injuries of the Foot & Ankle, Resident Lecture Series
- 2013 - University of Michigan, Department of Orthopaedic Surgery
Ligamentous Injuries of the Foot & Ankle, Resident Lecture Series
- 2013 - University of Michigan, Department of Orthopaedic
Surgery Instructor, "Knot Tying," Intern Skills Curriculum
- 2013 - University of Michigan, Department of Orthopaedic Surgery
Instructor, "Joint Aspiration," Intern Skills Curriculum
- 2013 - University of Michigan, Department of Orthopaedic Surgery
Instructor, "Fluoroscopy," Intern Skills Curriculum
- 2013 - University of Michigan, Department of Orthopaedic Surgery
Osteochondral Lesions of the Talus, Resident Lecture Series
- 2014 - University of Michigan, Department of Orthopaedic Surgery "Talus
Fractures and Subtalar Dislocations", Resident Lecture Series
- 2014 - University of Michigan, Department of Orthopaedic Surgery "Tendon
Transfers-Paralytic", Resident Lecture Series
- 2015 - University of Michigan, Department of Orthopaedic Surgery
Instructor, "External Fixation", Intern Skills Curriculum
- 2015 - University of Michigan, Department of Orthopaedic Surgery, "OITE
results", Resident Lecture Series
- 2015 - University of Michigan, Department of Orthopaedic
Surgery Instructor, "Lower Extremity Anatomy", Intern Skills Curriculum
- 2015 - University of Michigan, Department of Orthopaedic Surgery,
Instructor, "Basics of Internal Fixation I and II", Intern Skills Curriculum

- 2015 - University of Michigan, Department of Orthopaedic Surgery "Foot Osteotomies and Anatomy", Resident Lecture Series (3 hours)
- 2015 - University of Michigan, Department of Orthopaedic Surgery "Great Toe/Sesamoids", Resident Lecture Series
- 2015 - University of Michigan, Department of Orthopaedic Surgery "Diabetic Foot/Charcot", Resident Lecture Series
- 2015 - University of Michigan, Department of Orthopaedic Surgery, Instructor, "Bone Handling – Osteotomy", Intern Skills Curriculum
- 2016 - University of Michigan, Department of Orthopaedic Surgery Ankle Arthritis, Lecture Series
- 2016 - University of Michigan, Department of Orthopaedic Surgery, Foot and Ankle Case presentation (3 hours)
- 2016 - University of Michigan, Department of Orthopaedic Surgery "Tendon Transfers-Paralytic", Resident Lecture Series
- 2016 - University of Michigan, Department of Orthopaedic Surgery, "Physical Exam of the Foot and Ankle", Resident Lecture Series,
- 2017 - Carolinas Medical Center, Department of Orthopaedic Surgery "Cavovarus/Charcot-Marie-Tooth", Resident Lecture Series
- 2018 - Carolinas Medical Center, Department of Orthopaedic Surgery "Stress Fractures of the Foot and Ankle", Resident Lecture Series
- 2018 - Carolinas Medical Center, Department of Orthopaedic Surgery "Case Studies", Resident Lecture Series
- 2018 - Carolinas Medical Center, Department of Orthopaedic Surgery "Lesser Toe Deformities/Metatarsalgia", Resident Lecture Series
- 2019 - Carolinas Medical Center, Department of Orthopaedic Surgery "Hallux Rigidus", Resident Lecture Series
- 2019 - Carolinas Medical Center, Department of Orthopaedic Surgery "Sesamoid Disorders and Turf Toe", Resident Lecture Series
- 2019 - Atrium Health Musculoskeletal Institute, Department of Orthopaedic Surgery ROLE, "Achilles Tendon Injuries", Resident Lecture Series
- 2020 - Atrium Health Musculoskeletal Institute, Department of Orthopaedic Surgery "Case Studies", Resident Lecture Series
- 2020 - Atrium Health Musculoskeletal Institute, Department of Orthopaedic Surgery "Biomechanics/Gait", Resident Lecture Series
- 2020 - Atrium Health Musculoskeletal Institute, Department of Orthopaedic Surgery "Hallux Rigidus", Resident Lecture Series