

CURRICULUM VITAE

Umur Aydoğan



Dr. Umur Aydoğan has received his Medical Degree in Hacettepe University Faculty of Medicine, Ankara in 1995, completed his residency in Orthopaedics in Baskent University Hospital, Department of Orthopaedics, Ankara in 1997 and Ege University Hospital, Department of Orthopedics, Izmir in 2002 and fellowship on Orthopaedics in Duke University Medical Center, Durham, NC in 2003.

I'm currently working as a junior faculty member in the department of orthopedics in Penn State Hershey Medical Center and in charge of foot and ankle division's research and education. I have ongoing 11 IRB approved projects involving biomechanical, anatomical and clinical research. I'm collaborating with the department of radiology and OB/GYN in research projects. I'm trying to expand my research perspective with involving in basic research to expand our division's research perspective and increase its national reputation.

After my fellowship I have worked in the private practice in Turkey for 9 years, which created a lag in my research carrier. Although I was not working in a teaching institution, which affected my publication and research power, I was actively involved in education of the orthopedic surgeons and became a founding board member of Turkish Foot and Ankle Surgery Society. I also organized the foot and ankle surgery courses in Turkey and invited several authors from USA.

This time interval also increased my current motivation for research. My current research interests are stem cell therapy, and disease and treatment biomechanics of foot and ankle problems. I think that these two research areas are the most important aspects of foot and ankle research, as they will help us to find a cure for the pathogenic basis of the diseases and thus, a conservative/nonsurgical way of treatment which will increase the patient outcomes at the end.

1. Pace G, Dellenbaugh S, Stapinski B, Aydogan U, Bustillo J, Juliano P. Antibiotic Use and Kirschner Wire Fixation in Forefoot Surgery: A National Survey. Orthopedics. 2017 Jul 1;40(4):e594-e597. PubMed PMID: [28399322](#).
2. Aydogan U, Roush EP, Moore BE, Andrews SH, Lewis GS. Biomechanical consequences of adding plantar fascia release to metatarsal osteotomies: Changes in forefoot plantar pressures. J Orthop Res. 2017 Apr;35(4):800-804. PubMed PMID: [27279527](#).

B. Positions and Honors

Positions and Employment

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|-------------|---|
| 2003 - 2005 | Staff Orthopaedic Surgeon, Kent Hospital, Izmir |
| 2005 - 2012 | Director, ECEM Foot and Ankle Clinic, Izmir |
| 2012 - 2016 | Assistant Professor, Penn State Hershey Bone and Joint Institute, Hershey, PA |
| 2016 - | Associate Professor, Penn State Hershey Bone and Joint Institute, Hershey, PA |

Other Experience and Professional Memberships

- 2005 - 2012 Founding Member, Turkish Foot and Ankle Society
- 2012 - Member, American Orthopaedic Foot and Ankle Society
- 2012 - Member, Piedmont Orthopaedic Society
- 2012 - Member, Orthopaedic Research Society
- 2012 - Member, European Foot and Ankle Society (EFAS)
- 2013 - Member, AOFAS Post Graduate Education and Training Committee
- 2015 - Scientific Program Reviewer, AOFAS meetings for foot and ankle manuscripts.
- 2015 - Scientific Reviewer, Foot and Ankle Specialist
- 2015 - Candidate Member, American Association of Orthopaedic Surgeons (AAOS)
- 2015 - Scientific Program Reviewer, ORS meetings for foot and ankle manuscripts
- 2016 - Associate Member, American Association of Orthopaedic Surgeons (AAOS)

Honors

- 2012 American Foot and Ankle Society Travelling Fellowship Award, AOFAS
- 2014 Semifinalist for IFFAS President's July 9, 2014 Award (Dr. Kinoshita, President) for the abstract "Biomechanical Comparison of Various 2nd Metatarsal Osteotomies on Peak Forefoot Pressures", IFFAS
- 2015 Semifinalist for J. Leonard Goldner Award April 6, 2015 for the abstract "Characterization of tendon stem cells derived from tendinopathic posterior tibial tendon and a novel method for tenocyte differentiation", AOFAS
- 2017 HCAHPS Inpatient Dean's List Extraordinary Patient Satisfaction in Recognition of scoring in or above the 99th percentile among providers nationwide , HCAHPS

C. Contribution to Science

1. In foot and ankle patients, the use of Kirschner wires is common, and the population in the typical foot and ankle practice has higher rates of comorbidities associated with infection. This study assessed national trends regarding the use of postoperative prophylactic antibiotic therapy in patients undergoing foot and ankle surgery treated with percutaneous Kirschner wires.
 - a. Pace G, Dellenbaugh S, Stapinski B, Aydogan U, Bustillo J, Juliano P. Antibiotic Use and Kirschner Wire Fixation in Forefoot Surgery: A National Survey. Orthopedics. 2017 Jul 1;40(4):e594-e597. PubMed PMID: [28399322](#).
 - b. Aydogan U, Dellenbaugh SG. An unusual case of chronic lateral foot pain following ankle inversion injury: osteoid osteoma of the tarsal cuboid bone. Foot Ankle Spec. 2014 Apr;7(2):152-4. PubMed PMID: [24572213](#).
2. Tibialis anterior tendon (TAT) rupture is an uncommon injury, however, it can cause substantial deficit. Diagnosis is often delayed due to lack of initial symptoms; yet loss of function over time typically causes the patient to present for treatment. This delay usually ends up with major defects creating a great technical challenge for the operating surgeon. We present a novel technique and operative algorithm for the management of chronic TAT ruptures with a major gap after a delayed diagnosis not otherwise correctable

with currently described techniques in the literature. This technique has been performed in several cases without any complications with fairly successful functional outcomes.

- a. Burton A, Aydogan U. Repair of Chronic Tibialis Anterior Tendon Rupture With a Major Defect Using Gracilis Allograft. *Foot Ankle Spec.* 2016 Aug;9(4):345-50. PubMed PMID: [26743874](#).
 - b. Grunfeld R, Aydogan U, Juliano P. Ankle arthritis: review of diagnosis and operative management. *Med Clin North Am.* 2014 Mar;98(2):267-89. PubMed PMID: [24559874](#).
 - c. Aktuglu K, Aydogan U. The functional outcome of displaced intra-articular calcaneal fractures: a comparison between isolated cases and polytrauma patients. *Foot Ankle Int.* 2002 Apr;23(4):314-8. PubMed PMID: [11991476](#).
3. Destruction of the normal metatarsal arch by a long metatarsal is often a cause for metatarsalgia. When surgery is warranted, distal oblique, or proximal dorsiflexion osteotomies of the long metatarsal bones are commonly used. The plantar fascia has anatomical connection to all metatarsal heads. There is controversial scientific evidence on the effect of plantar fascia release on forefoot biomechanics. In this cadaveric biomechanical study, we hypothesized that plantar fascia release would augment the plantar metatarsal pressure decreasing effects of two common second metatarsal osteotomy techniques. Six matched pairs of foot and ankle specimens were mounted on a pressure mat loading platform. Two randomly assigned surgery groups, which had received either distal oblique, or proximal dorsiflexion osteotomy of the second metatarsal, were evaluated before and after plantar fasciectomy. Specimens were loaded up to a ground reaction force of 400 N at varying Achilles tendon forces. Average pressures, peak pressures, and contact areas were analyzed. Supporting our hypothesis, average pressures under the second metatarsal during 600 N Achilles load were decreased by plantar fascia release following proximal osteotomy ($p < 0.05$). However contrary to our hypothesis, peak pressures under the second metatarsal were significantly increased by plantar fascia release following modified distal osteotomy, under multiple Achilles loading conditions ($p < 0.05$). Plantar fasciotomy should not be added to distal metatarsal osteotomy in the treatment of metatarsalgia. If proximal dorsiflexion osteotomy would be preferred, plantar fasciotomy should be approached cautiously not to disturb the forefoot biomechanics.
- a. Aydogan U, Roush EP, Moore BE, Andrews SH, Lewis GS. Biomechanical consequences of adding plantar fascia release to metatarsal osteotomies: Changes in forefoot plantar pressures. *J Orthop Res.* 2017 Apr;35(4):800-804. PubMed PMID: [27279527](#).

Complete List of Published Work in My Bibliography:

<https://www.ncbi.nlm.nih.gov/myncbi/umur.aydogan.1/bibliography/52511529/public/>