P&O Day 2021

Dr Saeed Forghany, Orthotist

I wanted to be a physician for many years but hadn't considered a career in P&O until secondary school. At that point, I was accepted for a P&O course at the national entrance exam for universities in Iran. Soon after, I found that I loved this course as I am a people person, and I also wanted a dynamic and varied job with real impact to help people to improve their health, wellbeing and quality of life. Prosthetics and Orthotics offer such features.

I have a PhD, MSc and BSc in P&O. I was a Professor of P&O at the Isfahan University of Medical Sciences (IUMS), Islamic Republic of Iran. I have moved to the UK under the UK Royal Academy of Engineering scheme for "Exceptional Talent" in the field of Orthotics and I am now a HCPC registered prosthetist/orthotist.

I am currently a research fellow at the University of Salford, developing an instrumented insole system incorporating shear sensors to monitor real-time risk of ulceration. I am also a research fellow working on a project called LOMIS, which is a 3-year project funded by the National Institute for Health Research Invention for Innovation (i4i) programme. This project combines multidisciplinary expertise from the University of Southampton and University of Salford, supported by a Clinical Advisory Group, Public, Patient Involvement and Engagement panel to ensure a comprehensive user-centred design and development.

My main field of practice is foot orthoses and gait and posture analysis (3D, 2D, Observational). I use the latest and the most advanced technology in the field of biomechanical examination of gait and foot to accurately assess and diagnose the problems and complications that cause pain or other issues in the lower limb and foot and prepare the most effective foot orthotic and footwear program(s) for each client. I use advanced equipment such as 2D and 3D foot scanners, plantar pressure measurement, and thermal scans to correctly diagnose foot disorders and order appropriate shoes or insoles according to each client's type of complication and age. Evidence-based orthotic management of diabetic foot is one of the main areas of my private practice. Biomechanical assessment, pressure-relieving orthoses and post-operative relieving orthoses are part of my routine practice.

Shape sensing technologies and techniques such as simple and advanced 3D scanners and additive manufacturing in P&O have always been one of the main fields of my research and practice, and I am now proficient in shape capture processes and CAD-CAM technology. My other patent is "Manufacture of a new perforated prosthetic socket using low-cost 3D scanning and printing for below-knee amputations". This broad spectrum of engineering and technology innovations highlights my contribution in the engineering aspects of P&O.