
Kourosh Barati

ORTHOTICS & PROSTHETICS



Objective

I focused on the development of new orthotic devices for disabled individuals to improve their mobility and quality of life.

Education

2015-2020

Iran University of Medical Science
PhD Orthotics and Prosthetics

Thesis: "Comparison of the Efficacy of an Unloading Knee Brace Equipped with Vibration Stimulation Vs Conventional Unloading Knee Brace on Physical Function, External Knee Adduction Moment, and Activation Level of Lateral Knee Muscles, in Individuals with Knee Osteoarthritis"

Advisor: Prof. Ismail Ebrahimi Takamjani, Dr. Mojtaba Kamyab

2013-2015

Iran University of Medical Science
MSc Orthotics and Prosthetics

Thesis: "Comparison of the Quality of Life in Individuals with Spinal Cord Injury Wearing either Reciprocating Gait Orthosis or Hip Knee Ankle Foot Orthosis: A Cross-Sectional Study"

Advisor: Dr. Mojtaba Kamyab

2009-2013

University of Social Welfare and Rehabilitation
BSc Orthotics and Prosthetics

Academic profile

ORC ID: <https://orcid.org/0000-0001-6015-0623>

Researcher ID: P-2602-2018

Scopus Author ID: 57194601034

Teaching experience

2020-2023

Shiraz University of Medical Science, Shiraz, Iran

School of Rehabilitation Science

- Computer Aided Design, an undergraduate course averaging 20 students per semester, covering the following topics: Part design in SolidWorks, Assembly design in Solid works.
- Design and fabrication of lower limb orthoses, an undergraduate course averaging 20 students per semester, covering the following topics: Design and fabricating orthoses for neuromusculoskeletal disorders like: quadriceps and tibialis anterior paralysis, knee osteoarthritis, and spinal cord injury.
- Physical examination, an undergraduate course averaging 20 students per semester, covering the following topics: Physical examination of lower limb, Physical examination of upper limb, Physical examination of spine.
- Normal and pathologic gait, an undergraduate course averaging 20 students per semester, covering the following topics: Normal gait, Gait pathologies related to ankle joint, Gait pathologies related to knee joint, Gait pathologies related to the hip joint.

2023-Now

Mashhad University of Medical Science, Mashhad, Iran

School of Rehabilitation and Paramedicine Science

- Orthopedic diseases, an undergraduate course averaging 30 students per semester, covering the following topics: Joint diseases, Bone diseases, Fractures.
- Computer, an undergraduate course averaging 25 students per semester, covering the following topics: Microsoft office, Microsoft PowerPoint, SPSS. Highlight important projects, duties, skills, and responsibilities following a consistent grammatical style

Publications

Journal publications

Karimi MT, Ashraf A, Vafaei MA, Barati K, Shamsi F. Kinetic and Kinematic Gait Changes in Patients Suffering from Foot Drop Disorder. Journal of Rehabilitation Sciences & Research. 2024 Sep 1;11(3):161-7.

Bidari S, Ghorbani F, Barati K, Jalaleddini A, Pourahmadi M. The Role of Non-rigid Pelvic Belts in Managing Pregnancy-related Pelvic Girdle Pain and Low Back Pain: A Systematic Review. Iranian Rehabilitation Journal. 2024 Jun 10;22(2):151-66.

Barati K, Kamyab M, Takamjani E, Parnianpour M, Hosseini N, Bidari S. Evaluating the effect of equipping an unloading knee orthosis with local muscle vibrators on clinical parameters, muscular activation level, and medial contact force in patients with medial knee osteoarthritis: A randomized trial. Prosthetics and Orthotics International. 2023 Jun 15.

Alaee SJ, Barati K, Hajiaghahi B, Ghomian B, Moradi S, Poorpirali M. Immediate effect of textured insoles on the balance in patients with diabetic neuropathy. Journal of Diabetes Investigation. 2023 Mar;14(3):435-40.

Barati K, Kamyab M, Takamjani IE, Bidari S, Parnianpour M. Effect of equipping an unloader knee orthosis with vibrators on pain, function, stiffness, and knee adduction moment in people with knee osteoarthritis: A pilot randomized trial.

Gait & Posture. 2023 Jan 1; 99:83-9.

Barati K, Ebrahimi Takamjani I, Shamsoddini A, Ejraei Dolatabad H. A comparison of the biomechanical and clinical effects of a biaxial ankle-foot orthosis and lateral wedge insole in individuals with medial knee osteoarthritis. Disability and Rehabilitation. 2022 Jan 10;1-8.

Barati K, Esfandiari E, Kamyab M, Ebrahimi Takamjani I, Atlasi R, Parnianpour M, Yazdi H, Shahali S, Bidari S (2021). The effect of local muscle vibration on clinical and biomechanical parameters in people with knee osteoarthritis: A systematic review. Medical Journal of The Islamic Republic of Iran (MJIRI);35(1):927-35.

Barati, K., Kamyab, M., & Kamali, M. (2020). Comparison of the quality of life in individuals with spinal cord injury wearing either reciprocating gait orthosis or hip knee ankle foot orthosis: a cross-sectional study. Disability and Rehabilitation: Assistive Technology, 1-5.

Barati, K., Saeedi, H., Hajiaghahi, B., Jalali, M., & Curran, S. (2019). The effect of hydrodynamic insole on foot kinematics in individuals with flexible flatfoot: Case series using a single-subject design. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 233(4), 407-413.

Barati, K., Arazpour, M., Vameghi, R., Abdoli, A., & Farmani, F. (2017). The effect of soft and rigid cervical collars on head and neck immobilization in healthy subjects. Asian spine journal, 11(3), 390.

Patents

- 2022 [Vibratory unloading knee brace for knee osteoarthritis \(US\)](#)
 - 2022 [Orthokinetic garment for people with anterior cruciate ligament reconstruction \(IR\)](#)
 - 2020 [Unloading Knee Brace Equipped with Vibrators \(IR\)](#)
 - 2020 [Orthotic Knee Joint with Variable Flexion/ Extension Resistance & stance lock \(IR\)](#)
 - 2019 [Ankle Foot Orthosis for Knee Osteoarthritis \(IR\)](#)
 - 2019 [Mucus clearance vibration device \(IR\)](#)
 - 2019 [Prosthetic Quick-Change Piece \(IR\)](#)
 - 2014 [Hydro-Dynamic Insole \(IR\)](#)
 - 2014 [Orthopedic Shoe with Dynamic Arch \(IR\)](#)
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Presentations and invited lectures

2021

Oral Presentation

"Efficacy of a new ankle foot orthosis on knee adduction moment and clinical parameters in individuals with medial knee osteoarthritis", ISPO 18th WORLD CONGRESS.

"Effect of equipping an unloading knee orthosis with vibrators on biomechanical and clinical parameters in people with medial knee osteoarthritis", ISPO 18th WORLD CONGRESS.

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| 2024 | Workshop "Orthotic intervention for management of diabetic foot", Management of diabetic foot, Mashhad, Iran. |
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Professional affiliations

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| 2024-Present | Mashhad University of Medical Science Research Assistant |
| 2021-2024 | Shiraz University of Medical Science Research Assistant |
| 2013-2021 | Iran University of Medical Science MSc and PhD student |

Languages

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| Persian | Native language |
| Azari | Native language |
| English | Intermediate Listener, Intermediate Speaker, Advanced Reading and Writing |

Computer skills

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| Programming | Arduino (Intermediate), MATLAB (Intermediate) |
| Software | Solid Works (Advanced), Open Sim (Advanced, SPSS (Advanced), Microsoft Office (Advanced) |

References

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| Prof. Ismail Ebrahimi Takamjani | Department of Physical Therapy, Iran University of Medical Science i.ebrahimi.takamjani@gmail.com |
| Dr. Amin Komeili | Associate Professor, University of Calgary, Alberta, CA Amin.komeili@ucalgari.ca |
| Dr. Mojtaba Kamyab | Faculty Member, California State University Dominguez Hills, US mkamyab@csudh.edu |
