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ACADEMIC EDUCATION

2009-2014 Ph.D., Orthotics&Prosthetics, university of social welfare and rehabilitation sciences, Tehran, Iran

Thesis: “The Effects of a functional knee brace on the muscle activity and kinematics of the knee in ACL deficient subjects using electromyography and imaging techniques”, Supervisor: Prof. F. Farahmand

1999-2002....MSc., Orthotics&Prosthetics, university of social welfare and rehabilitation sciences, Tehran, Iran

Thesis: “Temperature sensory system in hand prostheses; Design and implementation “ Supervisor: Dr Sattar Mirzakouchaki

1994-1998 Bsc., Orthotics&Prosthetics, Iran university of medical sciences and rehabilitation sciences, Faculty of rehabilitation, Tehran, Iran

RESEARCH INTERESTS

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- Orthotics and Prosthetics biomechanics
 - Biomechanics of human movements
 - Footwear & Foot Orthoses
 - O & P education promotion
 - Geriatrics
 - 3D printing in orthotics and prosthetics field
 - Customized orthotic design software development

PROFESSIONAL and RESEARCH EXPERIENCES

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- Associate professor, June 2015-now. Orthotics & Prosthetics dept.; Faculty of Rehabilitation, Iran University of Medical Sciences, Tehran, Iran.
 - Lecturer, Sep. 2003-2015, Iran Helal institute of applied sciences, affiliated to the Red Crescent Society of Iran (Executive coordinator of the department, consultant and course

advisor of undergraduate students, Supervisor of more than 70 undergraduate final projects)

TAUGHT COURSES

- Orthotics theory (lower limb, upper limb and spine)-undergraduate level
- Foot orthoses-undergraduate level
- Kinesiology and biomechanics (lower and upper extremity)-undergraduate level
- Pathologic gait-postgraduate level
- Pathomechanics of musculoskeletal system-postgraduate level
- Orthotics & prosthetics-PM&R and orthopedic surgeon residents
- Application of orthoses in geriatrics-postgraduate level

THESES SUPERVISED

- The effect of structural factors and orthotic therapy of Hallux valgus on complexity of ground reaction force using non-linear analysis (PhD thesis/Co-supervisor)- in progress
- The effect of hybrid knee brace on coping ability and neuromuscular parameters after acute anterior cruciate ligament tear (PhD thesis/Co-supervisor)- in progress
- Comparison of the effect of lateral wedge insole, modified insole and sandal with lateral wedge on knee adduction moment in patients with knee osteoarthritis (Master thesis/Supervisor)
- The influence of the corrective spinal braces on pelvic and vertebral rotation in adolescents with idiopathic scoliosis (Master thesis/Supervisor)
- Evaluation of fit and other characteristics of footwear in Iranian older people (Master thesis/Supervisor)
- Design and development of a smart insole measurement system for evaluating human gait parameters (Master thesis/Advisor)
- The effect of lateral wedge insole on static balance in mild to moderate osteoarthritis of the knee medial compartment (Master thesis/Supervisor)
- Cross-cultural adaptation and psychometric evaluation of Brace Questionnaire in adolescents with idiopathic scoliosis (Master thesis/Supervisor)
- Comparison of plantar pressure distribution patterns in CAD-CAM foot orthoses and prefabricated insoles in flexible flat feet (Master thesis/Advisor)

RESEARCH PROJECTS

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- Foot problems in elderly (principal researcher)
 - Footwear characteristics and fit problems in elderly (principal researcher)
 - Translation and cross-cultural adaptation of Manchester Foot Pain Disability questionnaire into Farsi; a validity and reliability study (principal researcher)
 - Design and manufacturing of Hallux valgus shoes (co-investigator)
 - The current status of students' assessment system in affiliated schools of Iran university of medical sciences (co-investigator)

TRAINING COURSES

- Short course of orthotics management in children with cerebral palsy, Oct 2018
- Biomechanical assessment of foot pathologies, design and manufacture of orthotic solution, The Biomechanics Institute of Valencia (IBV), March-June 2015, online course
- Motion analysis system and data processing; an introductory workshop. university of social welfare and rehabilitation sciences, Tehran, Iran, Feb 2015
- Foot pathologies and functional orthoses (with focus on leprosy), Ministry of health and medical education, Tehran, Iran, Nov 2013
- Writing and publishing scientific papers, conducted by Springer, Edanz and Scientica Iranica at Sharif university of technology, Tehran, Iran, Feb 2013
- International Mobilization and preparation for Action workshop, International federation of Red Cross, International Committee of Red Cross Tehran, Iran, Nov 2012
- International Short Training Course on Rehabilitation of Lower Limb Amputation, held by ISPO (International Society for Orthotics and Prosthetics), Tehran, Iran, Nov 2011
- An introduction to surface EMG; Rehabilitation Research Center; Tehran University of Medical Sciences and Services; 2011.
- Teaching skills workshop, university of social welfare and rehabilitation sciences, Tehran, Iran, 2011
- Myoelectric Upperlimb Prosthesis; Janbazan Medical and Engineering Research Center (JMERC); 2006.
- Scientific Writing (2 levels); Tehran University of Medical Sciences and Services; 2005.

PUBLICATIONS

Book

- Lower limb orthoses (in Persian), 2010

- Physiology and anatomy (in Persian), 6th and 7th chapters (structure and function of skeletal and muscular systems), 2015
- Common physical disorders of elderly (in Persian), 5 chapters, 2015
- Ankle and foot clinical examination (in Persian), 2018

Journal Papers

S Shahabi, H Shabaninejad, M Kamali, **M Jalali**, A Ahmadi Teymurlouy. The effects of ankle-foot orthoses on walking speed in patients with stroke: a systematic review and meta-analysis of randomized controlled trials, *Clinical Rehabilitation*, 2019. 0269215519887784, doi: 10.1177/0269215519887784. [Epub ahead of print]

Y Khoshhal, **M Jalali**, T Babae, H Ghandhari, JL Gum. The Effect of Bracing on Spinopelvic Rotation and Psychosocial Parameters in Adolescents with Idiopathic Scoliosis. *Asian spine journal* 2019;13 (6), 1028

Sedighe Rezaee, **Maryam Jalali**, Taher Babae, Mohammad Kamali. Reliability and concurrent validity of a culturally adapted Persian version of Brace Questionnaire in adolescents with idiopathic scoliosis. *Journal of spine deformity*, 2019;7 (4), 553-558.

Rezaeian, T., **Jalali, M.**, Mojgani, P., Messenger, N., Strauss, D. Balance and mobility during daily activities, low back pain, amputated and intact side pain in Iranian lower limb amputees. *Journal of Military Medicine*, 21(3), pp. 262-271.

Jalali M, Farahmand F, Esfandiarpour F, et al. The effect of functional bracing on the arthrokinematics of anterior cruciate ligament injured knees during lunge exercise. *Gait & Posture* 63 (2018) 52–57.

Farzadi M, Nemati Z, **Jalali M**, et al. Effects of unstable footwear on gait characteristic: A systematic review. *The Foot* 31 (2017) 72–76.

Khodaei B, Saeedi H, **Jalali M**, Frzadi M, Norozi E. Comparison of plantar pressure distribution in CAD-CAM and prefabricated foot orthoses in patients with flexible flatfeet. *The Foot* 2017;33 76-80.
<http://dx.doi.org/doi:10.1016/j.foot.2017.07.002>

Hajaghaei B, Ebrahimi I, Kamyab , Saeedi H, **Jalali M**. A comparison between the dimensions of positive transtibial residual limb molds prepared by air pressure casting and weight-bearing casting methods. *Med J Isalm repub Iran* 2016 (8 march). Vol 30:341.

Jalali M, Farahmand F, et al. Fluoroscopic Analysis of Tibial Translation in Anterior Cruciate Ligament Injured Knees With and Without Bracing during Forward Lunge, *Iranian Journal of Radiology* (07/2015; 12(3). DOI: 10.5812/iranjradiol.17832v2)

Jalali M, Farahmand F, et al. EMG analysis of anterior cruciate deficient knees with and without functional bracing during lunge exercise. *Prosthetics & Orthotics International*, December 2014

DOI: 10.1177/0309364614560940 poi.sagepub.com

Conference Papers

- 1- F. Farahmand, R. Narimani, P. Hejazi Dinan, P. NazarAli, A. Yadollahi, A. Abadpour, T. Rezaeian, **M. Jalali**, Measurement and biomechanical analysis of sports- Gymnastic (in Persian), 1st Gymnastic National Congress, Feb. 2002
- 2- **Jalali M.**, Mirzakouchaki S. Temperature sensory system in hand prostheses (Oral), 7th national congress of orthosis & prosthesis. May 2005, Isfahan, Iran.
- 3- **Jalali M**, Rezaeian T., A review of the efficacy of hip abduction braces on the prevention of recurrent hip dislocation after THA. May 2005, Isfahan, Iran.
- 4- T. Rezaeian, **M. Jalali**, Motion analysis application in orthosis and prosthesis assessment (in Persian), 7th International Congress of Orthotics and Prosthetics, Isfahan, 2005
- 5- **Jalali M.**, Mojgani P., Prehospital spinal immobilization in disaster (Oral), 1st national congress of Rehabilitation in disaster, Tehran, Iran, Feb 2008
- 6- **Jalali M.**, Mojgani P., King and Lenke classifications in adolescent scoliosis assessment (Poster). 15th annual congress of Iranian society of physical medicine, rehabilitation and electrodiagnosis, Tehran, Iran, Dec 2011.
- 7- **Jalali M.**, Mojgani P., Orthotic treatment options in adolescent idiopathic scoliosis (AIS), (Poster) 15th annual congress of Iranian society of physical medicine, rehabilitation and electrodiagnosis, Tehran, Iran, Dec 2011
- 8- Mojgani P. **Jalali M.** Phantom pain, 15th annual congress of Iranian society of physical medicine, rehabilitation and electrodiagnosis, Tehran, Iran, Dec 2011
- 9- **Jalali M**, Farahmand F, et al. Effect of functional knee bracing on anterior tibial translation (Oral) 17th annual congress of Iranian society of physical medicine, rehabilitation and electrodiagnosis, Tehran, Iran, Dec 2013
- 10- **Jalali M.**, Farahmand F., et al., Effect of a functional custom-molded knee brace on ACLD knee joint kinematics: a 2D-3D registration study (Poster), 3D-AHM 2014, International symposium on Analysis of human movement, Lausanne, Switzerland, July 2014
- 11- **Jalali M.**, Farahmand F., et al., Effect of a custom-molded shell type functional knee brace on ACLD knee joint kinematics: a 2D-3D registration study (Poster), The 3rd biennial of international congress of ISKAST, Kish, Iran, Feb 2014
- 12- **Jalali M.**, Farahmand F., et al., Effect of a custom-molded shell type functional knee brace on muscle activity of ACLDs (EMG analysis) (Oral), The first national clinical movement science congress, Ahvaz, Iran, Feb 2015.

Memberships

International society for prosthetics and orthotics
Iranian scientific association for orthotics and prosthetics
