

CURRICULUM VITAE

NAME Peemongkon Wattananon
POSITION Lecturer
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EDUCATION

1998-2002 Chulalongkorn University, Bangkok, Thailand
BS, Physical Therapy
2007-2009 Brooklyn College, The City University of New York, New York, NY
MS, Exercise Sciences and Rehabilitation
Concentration: Cardiopulmonary Rehabilitation
2009-2014 Drexel University, Philadelphia, PA
PhD, Physical Therapy and Rehabilitation Sciences
Concentration: Rehabilitation Sciences
Dissertation: Movement coordination impairment in non-specific low back pain: understanding aberrant patterns of movement and our ability to change them

AWARDS

2002 Second-Class Honor Award, Chulalongkorn University
2009 The Zuckerman Family Assistantship for an outstanding Graduate student in the field of Exercise Science and Rehabilitation, Brooklyn College, The City University of New York, New York
2014 The Scholarship Award, Department of Physical Therapy and Rehabilitation Sciences, Drexel University

RESEARCH INTERESTS

Movement coordination impairment in non-specific low back pain
Development of methods to quantify biomechanical properties of human movement

EXPERIENCE/PROFESSIONAL EMPLOYMENT

Academics

Teaching Assistant
Drexel University, Department of Physical Therapy and Rehabilitation Sciences

Courses:

2010 Evidence-based practice
2013 Evaluation of research in physical therapy
2010-2013 Applied biomechanics
2010-2014 Orthopedic physical therapy: Spine
2010-2014 Professional practical lab

Lecturer

Mahidol University, Department of Physical Therapy

Graduate:

2014-Present Advanced biomechanics and kinesiology

2014-Present Advanced statistics in health sciences

2015 Research methodology and statistics

2015 Measurement and evaluation for physical therapy

Undergraduate:

2014-Present Physical therapy in musculoskeletal system

2015 Introduction to research methodology in health science

Guest Lecturer

Conference

2015 Improving in clinical research and clinical practice II
Chulalongkorn University, Department of Physical Therapy

2016 Biomechanical linkage of the upper quadrant region
National physical therapy conference

2016 Sport biomechanics: Trunk
Sport authority of Thailand

Research Assistant

2009-2014 Drexel University, Spine Biomechanics Research Lab
K01 HD053632 (NICHD); Silfies (PI)

Recurrent Low Back Pain: Linking Mechanism to Outcomes

The goal of this project was to develop reliable and responsive methods of measuring trunk neuromuscular control and assessing the efficacy of core stabilization exercises in patients with mechanical low back pain attributed to functional lumbar instability.

Clinical Research Grant Program; Silfies (Co-PI)

Orthopaedic Section, American Physical Therapy Association

Validation of Clinical Observation of Aberrant Movement Patterns in Patients with Mechanical Low Back Pain

The goal of this project was to determine the clinical utility of the observation of aberrant movement patterns in patients with mechanical low back pain, by assessing inter-rater reliability and predictive validity of physical therapist observation and trunk kinematics during clinical examination.

Clinical

2002-2004 Staff Physical Therapist
In-patient clinic, Department of Physical Medicine and Rehabilitation,
Sirikit Hospital, Chonburi, Thailand

2004-2006 Staff Physical Therapist
Out-patient clinic, Department of Physical Medicine and Rehabilitation,
Samitivej Hospital, Bangkok, Thailand

2008-2009 Intern in Clinical Exercise Physiologist
In-patient clinic, Department of Exercise Physiology,
Coler and Goldwater Hospital, NY

2014-Present Staff Physical Therapist
Out-patient clinic, Department of Physical Therapy,
Mahidol University (Salaya campus), Nakhon Pathom, Thailand

RESEARCH GRANTS

- 2014-2016 Talent Management Grant, Mahidol University (PI)
The goal of this project is to develop a custom LabVIEW program to quantify the instantaneous center of rotation of lumbar spine and pelvis movement during active forward bend task in patients with non-specific low back pain.
- 2015-2016 R2R research grant, Faculty of Physical Therapy, Mahidol University (PI)
The goal of this project is to determine the inter-rater reliability and diagnostic accuracy of clinical observation of aberrant movement patterns clinically used to assess patients with non-specific low back pain.
- 2015-2016 TRF grant for new researcher, Thailand Research Fund (PI)
The goal of this project is to determine the extent of differences in deep abdominal and back muscle activity between healthy individuals and patients with movement coordination impairment during active forward bending, and to determine association between muscle activity and movement pattern.

PROFESSIONAL AFFILIATIONS

American Physical Therapy Association (APTA)
American College of Sports Medicine (ACSM)
American Society of Biomechanics (ASB)
Physical Therapy Association of Thailand (PTAT)

PUBLICATION

- Wattananon, P.**, & Thammajaree, C. (2018). Inter-rater reliability and cross-validation of lumbar stability test. *Eur J Physiother.* In press
- Wattananon, P.**, Intawachirarat, N., Sung, W., Cannella, M., & Silfies S.P. (2018). Reduced instantaneous center of rotation movement in patients with low back pain. *Eur Spine J.* 27(1), 154-162. doi:10.1007/s00586-017-5054-2
- Wattananon, P.**, & Klomjai, W. (2017). Effect of lumbar stabilization exercise on lumbar position sense in healthy individuals. *JMTPT.* 29(2), 167-179.
- Wattananon, P.**, Silfies, S.P., Ebaugh, D.D., Biely, S.A., Smith, S.S. & Hicks, G.E. (2017). Kinematic characterization of clinically observed aberrant patterns of movement in patients with non-specific low back pain. *BMC Musculoskelet Disord.* 18(1), 455. doi:10.1186/s12891-017-1820-x
- Sutuntangjai, J., Weeraborirak, J., Weerakul, T., Konkorn, N., Rueangkachon, K., & **Wattananon, P.** (2017). Test-retest reliability of an iPhone application and measurement protocol to investigate lumbar proprioception. *JMTPT.* 28(3), 260-266.
- Chaichakan, T., **Wattananon, P.**, Suwanimit, P., & Charoensuk, W. (2016). Center of pressure movement during sitting on an unstable chair in eye-open and eye-closed conditions in healthy individuals: Pilot study. *2016 9th Biomedical Engineering International Conference (BMEiCON)*, 1-5.
- Spinelli, B., **Wattananon, P.**, Silfies, S.P., Talaty, M., & Ebaugh, D.D. (2015). Using kinematics and a dynamical systems approach to enhance understanding of clinically observed aberrant movement pattern. *Man Ther.* 20(1), 221-226.
- Wattananon, P.**, Sakulsriprasert, P., & Limpasutirachata, K. (2015). Core stabilization exercise and movement system impairment approaches for patients with movement control impairment: A review article. *KKURJ.* 20(4), 480-492.

PEER-REVIEWED ABSTRACTS

Mehta, R., Cannella, M., **Wattananon, P.**, Henry, S., & Silfies, S.P. (2010). *New approach to characterize trunk neuromuscular responses during rapid voluntary extremity movement* (pp. 573-574). Poster session presented at the 7th Interdisciplinary World Congress on Low Back and Pelvic Pain, Los Angeles, CA.

Silfies, S.P., Cannella, M., **Wattananon, P.**, & Mehta, R. (2010). *Dynamic trunk control in unstable sitting* (pp. 583-584). Poster session presented at the 7th Interdisciplinary World Congress on Low Back and Pelvic Pain, Los Angeles, CA.

Biely, S.A., **Wattananon, P.**, Smith, S.S., & Silfies, S.P. (2010). *Clinical utility of observations of aberrant movement during standing forward bend testing: Preliminary analysis* (pp. 581-582). Poster session presented at the 7th Interdisciplinary World Congress on Low Back and Pelvic Pain, Los Angeles, CA.

Wattananon, P., Silfies, S.P., Cannella, M., & Mehta, R. (2010). *Dynamic trunk control in unstable sitting*, Poster session presented at Drexel Research Day, Drexel University, Philadelphia, PA.

Silfies, S.P., Cannella, M., Sung, W., **Wattananon, P.**, & Mehta, R. (2011). *Trunk neuromuscular control is reduced in patients with clinical lumbar instability* (pp. 892-893). Poster session presented at the 35th Conference of the American Society of Biomechanics, Long Beach, CA.

Wattananon, P., Sung, W., Biely, S.A., Cannella, M., & Silfies, S.P. (2011). *Inter-rater reliability of rating kinematic plots of forward bend movement patterns* (pp. 812-813). Poster session presented at the 35th Conference of the American Society of Biomechanics, Long Beach, CA.

Wattananon, P., Sung, W., Biely, S.A., Cannella, M., & Silfies, S.P. (2011). *Inter-rater reliability of rating kinematic plots of movement patterns during forward bend task*, Poster session presented at Drexel Research Day, Drexel University, Philadelphia, PA.

Sung, W., Silfies, S. P., **Wattananon, P.**, Abraham, M., & Plataras, C. (2012). *Trunk neuromuscular control is impaired in patients with mechanical low back pain and improves following a lumbar stabilization program*. Paper presented at the American Academy of Physical Medicine and Rehabilitation, Atlanta, GA.

Wattananon, P., Biely, S. A., Sung, W., Cannella, M., & Silfies, S. P. (2012). *Preliminary study of changes in trunk forward bend aberrant patterns post core stabilization intervention* (pp. 334-335). Poster session presented at the 36th annual meeting of the American Society of Biomechanics, Gainesville, FL.

Biely, S. A., **Wattananon, P.**, Silfies, S. P., Smith, S. S., & Ebaugh, D. (2013). *Trunk aberrant movement patterns: Linking instrumented kinematics to clinical observation*. Paper presented at the American Physical Therapy Association Combined Sections Meeting, San Diego, CA.

Wattananon, P., Sung, W., Spinelli, B., Biely, S.A., & Silfies, S.P. (2013). *Quantification of reversal of lumbopelvic rhythm during active forward bending*. Poster session presented at the 37th annual meeting of the American Society of Biomechanics, Omaha, NE.

Wattananon, P., Sung, W., Spinelli, B., Ebaugh, D., & Silfies, S.P. (2014). *Can kinematic data during active forward bending be used to identify patients with non-specific low back pain?* Poster session presented at the 7th World Congress of Biomechanics, Boston, MA.

Sung, W., **Wattananon, P.**, Spinelli, B. A., & Silfies, S. P. (2014). *Identification of Dynamic Trunk Movement Control Impairments in Patients with Non Specific Low Back Pain Using a Novel Target Acquisition Test*. Paper presented at the 7th World Congress of Biomechanics, Boston, MA.

ARTICLES SUBMITTED FOR PUBLICATION

Wattananon, P., Klomjai, W., & Sung, W., *One-session of lumbar stabilization exercises improves joint position sense assessed by an iPhone application: A randomized controlled trial.*

Wattananon, P., Silfies, S.P., Tretriluxana, J., & Jalayondeja, W., *Muscle activation pattern changes in patients with non-specific low back pain during prone hip extension.*

Wattananon, P., Sinsurin, K., & Somprasong, S., *Association between lumbopelvic motion and muscle activation patterns in patients with non-specific low back pain during forward bending task.*

ARTICLES IN PREPARATION

Biely, S.A., **Wattananon, P.**, Silfies, S.P., Smith, S.S., & Ebaugh, D.D., *Trunk aberrant movement patterns: Linking instrumented kinematics to clinical observation.*