

Sheila M. Clemens, Ph.D., M.P.T, P.T.

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I. HIGHER EDUCATION

University of Miami, Coral Gables, FL.

Doctor of Philosophy, Physical Therapy. December 2017.

Dissertation title: The development of the Component-Timed-Up-and-Go test to determine basic prosthetic mobility in people with lower limb amputation.

Dissertation Advisor: Robert S. Gailey, P.T., Ph.D.

University of Michigan, Flint, MI.

Masters of Physical Therapy. May 1995.

University of Michigan, Flint, MI.

Bachelor of Science, Health Science. December 1993.

Michigan State University, East Lansing, MI.

Bachelor of Science, Biology. August 1992.

II. TEACHING EXPERIENCE

Academic

- **Adjunct Professor**

Graduate Course: Advanced Pathological Movement Analysis.
Florida International University, DPT Program
(Jan. 2018)

- **Topic Lecturer**

Graduate Courses: 1) Biomechanical Basis of Human Movement 2) Clinical Examination.
University of Miami, Miller School of Medicine, DPT program
(Oct. 2014, Oct. 2015, Nov. 2016, Nov. 2017)

Graduate Courses: 1) Metabolic, Endocrine and Integument Examination in Practice 2) Metabolic, Endocrine and Integument Interventions in Practice.
University of Michigan-Flint, DPT program
(Feb. 2011, June 2011, Feb. 2013, June 2013, Feb. 2015)

- **Graduate Teaching Assistant, Gross Anatomy**
University of Miami, Miller School of Medicine, DPT program
(June 2015)

Professional Seminars

- **Course Instructor**
 - First Stride. Sponsored by Orthotics and Prosthetics Activities Foundation (OPAF). San Antonio, TX. June 2017.
 - Prosthetic Outcomes for Physical Therapists. Össur Academy, Orlando, FL. February 2017, April 2016, Oct. 2015, April 2015.
 - Advanced Prosthetic Rehabilitation Elective. University of Michigan-Flint, DPT program. Oct. 2016.
 - First Things First/First Stride. Sponsored by Orthotics and Prosthetics Activities Foundation (OPAF). Kansas City, MO. Oct. 2016.
 - Advances in Amputee Rehabilitation and Prosthetic Technology Elective. University of Miami, DPT program. Sept. 2016.
 - Comprehensive Rehabilitation of the Lower Extremity Amputee. St. John-Providence Health System, Warren, MI. May 2011.
- **Conference Session Speaker**
 - Early Post-Surgical Intervention for the Patient with Lower Limb Loss. Federal Advanced Amputation Skills Training (FAAST) Conference. Washington, D.C. July 2017.
 - The Use of Mobile Technology to Improve Physical Therapy Outcomes. Education session of the Research/Health Policy and Administration Section of the APTA. APTA Combined Sections Meeting 2017.
 - Acute Rehabilitation of the Person with Lower Limb Amputation. Education session of the Acute Care Section of the APTA. Combined Sections Meeting 2017.

III. PUBLICATIONS

Books and monographs:

1. Gailey, Robert S., **Clemens, Sheila M.** Chapter 2: Historical Overview of Lower Limb Prosthetic Devices. In: Full Stride: The Past, Present and Future of Lower Extremity Gait Systems. Springer Publishing Company. Sept. 2017.

Juried articles:

1. **Clemens SM**, Gailey RS, Bennett CL, Kirk-Sanchez NJ, Pasquina PF, Gaunaurd IA. The Component Timed-Up-and-Go test: the utility and psychometric properties of using a mobile application to determine prosthetic mobility in people with lower limb amputations. Clin Rehabil. 2017 Aug 1.

Conference presentations, publications, abstracts:

1. **Clemens S**, Lucarevic J, Gaunaurd I, Kirk-Sanchez N, Bennett C, Gailey R. Establishing the reliability and validity of the Component Timed Up and Go test (cTUG) to evaluate basic prosthetic mobility in people with lower limb amputation. Combined Sections Meeting of the APTA. New Orleans, LA. Feb. 2018.
2. **Clemens S**, Gaunaurd I, Lucarevic J, Bennett C, Gailey R. Utilizing Mobile Technology to Evaluate Prosthetic Mobility in People with Lower Limb Amputation. 94th American College of Rehabilitation Medicine (ACRM) Annual Conference. Atlanta, GA. Oct. 2017.
3. **Clemens S**, Gaunaurd I, Lucarevic J, Agrawal V, Gailey R. Assessment of Prosthetic Mobility and its Relationship to Fall History in People with Lower Limb Amputation. Prosthetic Free Paper Session. AOPA 2017 World Congress. Las Vegas, NV. Sept. 2017.
4. **Clemens SM**, Gaunaurd IA, Lucarevic JL, Bennett C, Gailey RS. Using the Component Timed-Up-and-Go Test (cTUG) for Fall Risk Assessment in People with Lower Limb Loss. International Society of Prosthetics and Orthotics (ISPO) World Congress 2017. Cape Town, South Africa. Paper Number 451, page 300-301.
5. Lucarevic J, Gailey R, Muderis M, Kim K, Agrawal V, Bennett C, **Clemens S**, Isaacson B, Pasquina P, Gaunaurd I. Comparison of Postural Control Parameters in Amputees with an Osseointegrated versus Traditional Socket Prosthesis. ISPO World Congress 2017. Cape town, South Africa. Paper Number 453, page 550-551.
6. Ortiz A, Gaunaurd I, Bennett C, Viggiano D, Lucarevic J, **Clemens S**, Kristal A, Gailey R. Validation of Temporal-Spatial Algorithms for the Detection of Gait Deviations in Lower Limb Amputees using Wireless IMU Sensors. ISPO World Congress 2017. Cape town, South Africa. Paper Number 458, page 310-311.
7. Gailey R, Lucarevic J, **Clemens S**, Agrawal V, Bennett C, Muderis A, Isaacson B, Pasquina P, Gaunaurd I. A Comparison of Prosthetic Mobility in Amputees with Osseointegration version Traditional Amputation and Socket. ISPO World Congress 2017. Cape town, South Africa. Paper Number 457, page 308-309.

8. Lucarevic J, **Clemens S**, Belsky P, Summerton L, Walkup M, Wallace S, Yokomizo L, Schubert M, Gaunaurd I, Pasquina P, Gailey R. The Contribution of Vestibular Sensory Integration to Mobility in Unilateral Lower Limb Amputees. Best Free Paper Prize in the Category “Advanced Clinical Treatment”. ISPO World Congress 2017. Cape town, South Africa. Paper Number 454, page 302-303.
9. Agrawal V, Bennett C, Gaunaurd I, Lucarevic J, **Qualls S**, Finnieston A, Fothergill I, Symsack A, Applegate B, Gailey R. Application of Auditory Biofeedback for Gait Training of Unilateral Transfemoral Amputees in the Community. ISPO World Congress 2017. Cape town, South Africa. Paper Number 454, page 302-303.
10. **Clemens SM**, Gaunaurd IA, Lucarevic JL, Agrawal V, Viggiano D, Gailey RS. Predicting fall risk in people with unilateral lower limb loss using a component timed-up-and-go test (cTUG). American Academy of Orthotists and Prosthetists (AAOP) 43rd Annual Meeting and Scientific Symposium 2017, Chicago, IL.
11. Gailey RS, Lucarevic JL, **Clemens SM**, Agrawal V, Bennett C, Muderis MA, Gaunaurd IA. A Comparison of Prosthetic Mobility in Amputees with Osseointegration versus Traditional Amputation and Socket. Free Papers-Prosthetics-Osseointegration. AAOP 43rd Academy Annual Meeting and Scientific Symposium Journal of Proceeding. Chicago, IL. March 3, 2017.
12. Lucarevic JL, **Clemens SM**, Belsky PR, Summerton LJ, Walkup ML, Wallace SP, Yokomizo LM, Gaunaurd IA, Gailey RS. The contribution of vestibular sensory integration to mobility in people with unilateral transtibial amputation. Thranhardt Lecture award winner. AAOP 43rd Annual Meeting and Scientific Symposium 2017, Chicago, IL.
13. **Clemens S**, Gaunaurd I, Lucarevic J, Agrawal V, Viggiano D, Bennett C, Gailey R. Variables predicting fall risk in unilateral lower limb amputees as measured by the component timed-up-and-go test (cTUG). Combined Sections Meeting of the APTA 2017, San Antonio, TX.
14. Lucarevic JL, **Clemens SM**, Belsky PR, Summerton LJ, Walkup ML, Wallace SP, Yokomizo LM, Gaunaurd IA, Gailey RS. The relationship between vestibular sensory integration and mobility in people with transtibial amputation. CSM 2017, San Antonio, TX.

15. **Clemens S**, Gaunaurd I, Lucarevic J, Bennett C, Gailey R. The development of the component timed-up-and-go test (cTUG) in unilateral lower limb amputees. National VA Research Week 2016, Miami, FL.

16. Lucarevic J, Gaunaurd I, **Clemens S**, Agarwal V, Gailey R. The contribution of the vestibular system to balance confidence and mobility in unilateral lower limb amputees. National VA Research Week 2016, Miami, FL.

17. **Clemens S**, Interpretation of the Components of the timed-up-and-go test in people with unilateral transtibial and transfemoral amputations. Combined Sections Meeting 2016. Anaheim, CA.

18. **Clemens S**, Agrawal V, Gaunaurd I, Kim K, Gailey R. Identifying the complexity of the timed-up-and-go test in unilateral lower limb amputees during specific intervals and mobility improvement. *Prosthet Orthot Int* June 2015 39: 2-608, doi:10.1177/0309364615591101.

19. **Clemens S**, Agrawal V, Gaunaurd I, Kim K, Gailey R. Identifying the complexity of the Timed-Up-and-Go test in unilateral lower limb amputees during specific intervals and mobility improvement. International Society of Prosthetics and Orthotics World Congress 2015. Lyon, France.

20. **Clemens S**, Agrawal V, Lucarevic J, Gaunaurd I, Finnieston A, Gailey R. Determining functional limitation of unilateral lower limb amputees using the timed-up-and-go test. American Orthotic and Prosthetic Association (AOPA) National Assembly 2014. Las Vegas, NV.

IV. RESEARCH EXPERIENCE

Funded Research Activity:

1. Title: Utilizing an innovative Timed-up-and-Go Test for Fall Risk Detection in People with Unilateral Lower Limb Loss

Role: Primary author, Research Physical Therapist

Study Period: July 1, 2017-June 30, 2018.

2. Title: DoD-VA Mobile Device Outcomes-based Rehabilitation Program (MDORP)

Role: Research Physical Therapist

Study Period: December 13, 2013 – October 20, 2017.

3. Title: Efficacy of Bionic Prosthetic Components and Multimodal Feedback in Minimizing Gait Deviations of Unilateral Lower Limb Amputees During Functional Activities

Role: Research Physical Therapist

Study Period: May 1, 2008-August 31, 2016.

4. Title: Determining efficacy of Dynamic response feet in K-level-3 unilateral

lower limb amputees using self-report, and biomechanical outcome measures grant.

Role: Research Physical Therapist

Study Period: August 1, 2013-January 31, 2015.

Editorial Responsibilities:

- Manuscript Reviewer
 - Gait & Posture. Sept. 2016.
 - Clinical Rehabilitation. July 2017.
 - IEEE Transactions on Neural Systems and Rehabilitation Engineering. Dec. 2017.

V. WORK EXPERIENCE

- **Össur Americas**, Orlando, FL (April 2015-present)
Educational Consultant
Develop and instruct continuing education courses on amputee rehabilitation for clinicians and practitioners.
- **Department of Veterans Affairs, Miami Veterans Health Administration System**, Miami, FL (January 2014-present)
Physical Therapy Researcher (WOC)
Assist in development and implementation of mobile technology for data collection and analysis on U.S. military veterans.
- **St. Mary's Medical Center**, West Palm Beach, FL (August 2011-August 2015)
Clinical Physical Therapist
Evaluation and treatment of orthopedic and neurological populations in an outpatient setting.
- **St. John-Providence Health System**, Southfield, MI. (July 1997-August 2011)
Clinical Physical Therapist
Evaluation and treatment of orthopedic and neurological populations in an outpatient setting.
- **Sinai Hospital**, Detroit, MI. (November 1995-July 1997)
Clinical Physical Therapist
Evaluation and treatment of orthopedic and neurological populations in an inpatient rehabilitation setting, and chronic pain patients in an outpatient program setting.

VI. RELEVANT SKILLS AND TRAINING

- Proficient in SAS and SPSS statistical analysis software.
- Proficient in biomechanical data collection and analysis using the Zenohat sensorized walkway and PKMAS software.
- Experience in performing biomechanical data collection and analysis using:

- Vicon motion capture system
- Vicon Nexus software
- Tekscan walkway and software
- F-Scan System

VII. HONORS AND AWARDS

- Marilyn Gossman Graduate Student Research Seminar award winner. CSM 2018. New Orleans, LA.
- (Inaugural) Women in O & P Research Award, The American Academy of Orthotists & Prosthetists, March 2017. Chicago, IL.
- 10 Years of Service Award, St. John-Providence Health System, July 2007
- 5 Years of Service Award, Providence Hospital, July 2002

VIII. PROFESSIONAL AFFILIATIONS

Organizational and Advisory Boards

- Amputation Care Special Interest Group (SIG), Federal Section of the APTA. *Co-chair of Practice.* (Feb. 2016-present)
- Athletes with Disabilities Network, *Board of Directors*, (2010-2015)
- Athletes with Disabilities Network, *Co-chair of Athlete Outreach Committee.* (2010-2015)
- Extremity Games Planning Committee. (2007-2014)

Professional Organizations

- Member, Florida Physical Therapy Association. (2014-present)
- Member, Amputee Care Focus Group of the Acute Care Section of the APTA. (Feb. 2015-present)
- Member, American Academy of Orthotists and Prosthetists. (2010-present)
- Member, American Physical Therapy Association. (1992-present)
 - Federal Section Member
 - Geriatric Section Member
 - Orthopedic Section Member
 - Research Section Member

IX. LICENSURE AND CERTIFICATIONS

- Physical Therapist
 - Florida, PT# 26427 (2011-present)
 - Michigan, License ID # 5501008007 (2006-present)
- American Heart association CPR/AED certification BLS for health care providers. (1995-present)

X. PROFESSIONAL AND COMMUNITY SERVICE

- Presenter at ACCelerate Creativity and Innovation Festival 2017. Smithsonian Institution National Museum of American History. Washington, D.C. (Oct. 13-15, 2017)

- British Broadcasting Company (BBC) One. Interviewee on the topic of history of prosthetic technology. Invictus Games, Orlando, FL. (May 12, 2016)
- Project Medishare. Medical relief, Port-Au-Prince, Haiti. (May 2010)
- Established monthly interdisciplinary prosthetic clinics.
 - St. Mary's Medical Center, West Palm Beach, FL. (Jan. 2012)
 - St. John-Providence Hospital, Southfield, MI. (Jan. 2009)

REFERENCES

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