

Samantha N. Andrews, PhD, ATC

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Education

2012 - 2016

Doctor of Philosophy

University of Hawaii, Manoa

Department of Education

Kinesiology and Rehabilitation Science

Cognate: Biomechanics

Dissertation: Methodological Considerations for the Biomechanical Assessment of Frontal Plane Mid-Flexion Instability Following Total Knee Arthroplasty

2006 - 2008

Master of Science

University of Kentucky

Kinesiology and Health Promotion

Emphasis: Athletic Training

Thesis: Hip Musculature Activation during Functional Exercises: the Lunge, Single-Leg Squat, and Step-Up and Over

2003 - 2006

Bachelor of Science

Charleston Southern University

Department of Kinesiology

Major: Athletic Training

Minor: Psychology

Professional Experiences

November 2019 – Present

Assistant Professor – Adjunct

John A. Burns School of Medicine, Department of Surgery

- Research mentor for medical students, residency and fellows

August 2018 – Present

Research and Innovation Coordinator

Bone and Joint Clinic, Straub Medical Center

- Design and conduct orthopedic clinical research
- Publish and present pertinent data
- Oversee research curriculum for summer and yearly research students

October 2016 – July 2018

Independent Clinical Research Coordinator

Ortho Development Corporation

- Design and conduct post market clinical research for knee and hip implants

August 2012 – August 2016

Doctoral Research Assistant

University of Hawaii

Straub Medical Center

- Design, conduct, and publish research
- Mentor Post-Professional Athletic Training Students

August 2010 – July 2012

Clinical Coordinator - Instructor

Athletic Training Education Program

Charleston Southern University

- Supervise and coordinate clinical education of Athletic Training Students
- Instructor within the Kinesiology and Athletic Training Education Program
- Approved Clinical Instructor Educator

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| August 2009 - July 2010 | <p>Assistant Athletic Trainer – Instructor
Charleston Southern University</p> <ul style="list-style-type: none"> - Provide athletic training services to baseball, women’s tennis, men’s/women’s golf - Served as Approved Clinical Instructor for undergraduate Athletic Training Students - Instructed no less than 6 credit hours per semester |
| August 2008- July 2009 | <p>Assistant Athletic Trainer
College of the Holy Cross</p> <ul style="list-style-type: none"> - Provide athletic training services to women’s basketball, men’s soccer, and football - Coordinate physician clinics weekly for 27 varsity sports |
| July 2006 – July 2008 | <p>Graduate Assistant Athletic Trainer
University of Kentucky</p> <ul style="list-style-type: none"> - Provide athletic training services to men’s/women’s tennis and cheerleading - Served as Approved Clinical Instructor for undergraduate Athletic Training Students from Eastern Kentucky University - Coordinated weekly massage therapy clinics for all varsity sports |

Research Projects

Industry Sponsored

Survivorship and Patient Outcomes of Knee Revisions with the Balanced Knee® Revision System
 2019- Contractual Proceedings
 Sponsor: Ortho Development
 Role: Study Coordinator

Retrospective / Prospective Multicenter Study of Commercially Available Zimmer Biomet Knee Implants
 K.CR.I.AM.16.41
 2019 - Contractual Proceedings
 Sponsor: Zimmer Biomet
 Role: Study Coordinator

Five year follow up after total hip arthroplasty utilizing the Ovation® Tribute femoral stem
 Clinical Trial #NCT03986918
 2019 - Present
 Sponsor: Ortho Development
 Role: Study Coordinator

Two year survivorship analysis of the Ovation® Tribute femoral stem and Escalade® acetabular cup
 2019 - Completed
 Sponsor: Ortho Development
 Role: Study Coordinator

Persona TM Tibia Clinical Outcomes Study
 K.CR.I.G.16.33
 2018 to Present
 Sponsor: Zimmer Biomet
 Role: Study Coordinator

Investigator Initiated

Pre-operative musculoskeletal ultrasound to determine anterior cruciate ligament competency in the unicompartmental knee arthroplasty candidate: a pilot study with intra-operative correlation

2019 - Ongoing

Principal Investigator: Cass Nakasone, MD

Sub-Investigators: Kenji Yamazaki, MD; Justin Young, MD; Samantha Andrews, PhD

Role: Study Coordinator

Incidence of abnormal EKG findings in asymptomatic Division I athletes

SSRP – 2019

Principal Investigator: Justin Young, MD

Role: Study Coordinator

Mortality rates and outcomes after hip fracture at Hawai'i Pacific Health

SSRP – 2019

Principal Investigator: Sian Yik Lim, MD

Role: Study Coordinator

Outcome of revision total knee replacement January 2015 to December 2018

SSRP – 2019

Principal Investigator: Cass Nakasone, MD

Role: Study Coordinator

Two year radiographic follow up on the Ovation® Tribute hip stem

2019 – Ongoing

Principal Investigator: Cass Nakasone, MD

Sub-Investigator: Rosalyn Cheng, MD; Lee Mitsumori, MD; Samantha Andrews, PhD

Role: Study Coordinator

Biomechanics

Biomechanical evaluation of hip and knee arthroplasty patients – comprehensive evaluation

2019 – IRB submission

Sponsor: University of Hawai'i

Role: Study Coordinator

Multi-radius vs single radius knee implants – biomechanical functional assessment

2013 to 2016

Sponsor: University of Hawai'i and Ortho Development

Role: Principal Investigator

Total hip and total knee arthroplasty – biomechanical gait analysis

2012 to 2013

Sponsor: University of Hawai'i

Role: Lab Coordinator and Co-Principal Investigator

Dynamic foot orthosis in limb salvage soldiers – biomechanical walking and running analysis

2012 to 2013

Sponsor: University of Hawai'i and Tripler Army Medical Center

Role: Lab Technician

Rehabilitative exercise following total hip arthroplasty – biomechanical and EMG assessment

2006 to 2008

Sponsor: University of Kentucky

Role: Graduate Assistant

Publications

Peer-Reviewed Articles – In Review

- Nakasone, C, Combs, D, Buchner, B, **Andrews, S**. Day of surgery discharge success after implementation of a rapid discharge protocol following unilateral unicompartmental knee arthroplasty. *The Knee*. Submitted October 2019.
- Nakasone, C, **Andrews, S**, Hasegawa, I, Unebasami, E. Accuracy of component placement following direct anterior approach total hip arthroplasty using a portable digital radiographic processing system. *Clinical Orthopaedics and Related Research*. Submitted November 2019.
- Andrews, S**, Harbison, G, Hasegawa, I, Unebasami, E, Nakasone, C. Perioperative fracture risk and two year survivorship of a short tapered femoral stem following direct anterior approach cementless total hip arthroplasty with a fracture table. *Clinical Orthopaedics and Related Research*. Submitted November 2019.

Peer-Reviewed Articles

- Andrews, S**, Weldon, W, Stickley, C, Nakasone, C. Post total knee arthroplasty alignment of 347 consecutive obese patients receiving a fixed distal femoral cut of 6° valgus. *Journal of Orthopedics*. Accepted October 2019.
- Hasegawa, I, **Andrews, S**, Wright, A, Unebasami, E, Nakasone, C. Hip offset and leg length equalization in direct anterior approach total hip arthroplasty without preoperative templating. *The Hawai'i Journal of Health & Social Welfare*, 78(11):26-30, 2019.
- Parke, E, Nakasone, C, **Andrews, S**, Wright, A, Stickley, C. The effect of patellar thickness on gait biomechanics following total knee arthroplasty. *The Knee*. Accepted September 2019.
- Opanova, M, Hasegawa, I, Unebasami, E, Nakasone, C, **Andrews, S**. Comparison of wound complications between two closing techniques following total hip arthroplasty via the direct anterior approach. *Journal of Hip Surgery*. Accepted July 2019.
- Harbison, G, **Andrews, S**, Nakasone, C. Safety of single-stage bilateral direct anterior approach total hip arthroplasty performed in all eligible patients: The Straub Experience. *The Hawai'i Journal of Health & Social Welfare*. Accepted July 2019.
- Attenello, J, Chan, S, Naito, K, Saruwatari, M, Saito, S, Nakasone, C, **Andrews, S**. Early perioperative complication rates and subsidence with the Tribute short cementless, tapered stem in primary total hip arthroplasty. *Journal of Orthopedics*. 16(2):118-122, 2019.
- Attenello, J, Opanova, M, Wright, A, Saruwatari, M, Naito, K, Saito, S, Chan, S, **Andrews, S**, Nakasone, C. Retrospective comparison of perioperative complications following one-stage bilateral and unilateral total hip arthroplasty performed via the minimally invasive direct anterior approach. *Reconstructive Review*. 8(2):41-45, 2018.
- Andrews, S**, Beeler, D, Parke, E, Nakasone, C, Stickley, C. Fixed Distal Femoral Cut of Six Degrees Valgus in Total Knee Arthroplasty: A Radiographic Review of 788 Consecutive Cases. *Journal of Arthroplasty*. 34:755-759, 2019.
- Stickley, CD, **Andrews, SN**, Parke, EA, Hetzler, RK. The Effectiveness of Scaling Procedures for Comparing Ground Reaction Forces. *Journal of Biomechanics*. 77:55-61, 2018.
- Stickley, CD, Wages, JJ, Hetzler, RK, **Andrews, SN**, Nakasone, CK. Standard Radiographs Are Not Sufficient for Assessing Knee Mechanical Axis in Patients with Advanced Osteoarthritis. *Journal of Arthroplasty*. 32(3):1013-1017, 2016.
- Powell DW, **Andrews S**, Stickley C, Williams DS. High- compared to low-arched athletes exhibit smaller knee abduction moments in walking and running. *Human Movement Science*. 50:47-53, 2016.
- Boudreau, S.N.**, Dwyer M.K., Mattacola C.G., Lattermann, C., Uhl T.L., Medina McKeon, J. Hip-Muscle

Activation during the Lunge, Single-Leg Squat, and Step-Up and Over Exercises. *Journal of Sport Rehabilitation*. 18: 91-103, 2009.

Dwyer M.K., **Boudreau, S.N.**, Mattacola C.G., Uhl T.L., Lattermann, C. Comparison of Lower Extremity Kinematics and Hip Muscle Activation during Rehabilitation Tasks between Genders. *Journal of Athletic Training*. 45(2): 181-90, 2010.

Peer-Reviewed Abstracts

Hasegawa, I, **Andrews, SN**, Nakasone, C. Direct Anterior Approach Total Hip Arthroplasty with Preoperative Templating – Challenging the Dogma of Preoperative Templating – Rapid Fire Presentation, Western Orthopedic Association, August 2019

Thorne, T, **Andrews, SN**, Combs, D, Nakasone, C. Prevalence of obesity in patients undergoing unicompartmental knee arthroplasty: The Straub Medical Center Experience. Annual Biomedical Sciences & Health Disparities Symposium, 2019.

Baker, P, **Andrews, SN**, Combs, D, Nakasone, C. Safety of unilateral and single staged bilateral total hip arthroplasty via the direct anterior approach in overweight and obese patients: The Straub Experience. Annual Biomedical Sciences & Health Disparities Symposium, 2019.

Hasegawa, I, **Andrews, SN**, Nakasone, CK. Anterior Hemiarthroplasty with the Hana Table – Incidence and Risk Factors for Intraoperative Femur Fractures. Hawai'i Orthopedic Association, April 2019.

Wright, AR, Parke EA, Nakasone, CK, **Andrews, SN**, Stickley, CD. Effect of patellar thickness on gait biomechanics following knee arthroplasty. Western Orthopedic Association, August 2018

Parke, EA, **Andrews SN**, Stickley, CD. The effect of walking velocity on frontal plane gait variables associated with knee pathologies. Far West Athletic Trainers' Association, April 2018

Wright, AR, Parke EA, Nakasone, CK, **Andrews, SN**, Stickley, CD. Effect of patellar thickness on gait biomechanics following knee arthroplasty. Hawaii Orthopedic Association Annual Combined Symposium, March 2018; First Place: Richardson Award

Nakasone, CK, Stickley, CD, **Andrews, SN**. A Retrospective Evaluation of the Relationship Between the Tibiofemoral Angle and the Mechanical Axis. Japan Orthopaedics Association, May 2014

Brown, M, **Boudreau, SN**. Wolf-Parkinson White Syndrome. Mid-Atlantic Athletic Trainers' Association Annual Meeting, Virginia Beach, VA May 2011

Professional Presentations

Oral Presentations

Cadaver Lab: Anatomical and Biomechanical Principles of Knee Joint Function – Human Anatomy and Physiology Society Annual Meeting, Columbus, Ohio, May 2018.

Evaluation and Treatment of Overuse Knee Injuries: Evidence Based Practice - Hawaii Athletic Trainers Association Meeting, Oahu, June 2017.

Biomechanical comparison of single- and multi- radius knee implants during stair ascent - International Congress for Joint Reconstruction, August 2016

Knee Mechanics across the Lifespan: Implications for Prevention and Care of Pathologies – Far West Athletic Trainers' Association Annual Conference, Feature Presentation, July 2016

Tropical Illness: Dengue Fever, Leptospirosis, and Chikungunya – Hawaii Athletic Trainers' Association CEU event, January 2016

Progression of Knee Adduction Moment After Total Knee Arthroplasty – Hawaii Orthopedic Association Annual Meeting, May 2013

The Relationship Between Mechanical Axis and Tibiofemoral Angle – Hawaii Orthopedic Association Annual Meeting, May 2013

Intra-articular Hip Pathologies and Evaluation - South Carolina Athletic Trainers' Association Annual Meeting, July 2010

Implications of Long Thoracic Nerve Injuries - College of the Holy Cross, December 2008

Foot Pain in a Male Collegiate Tennis Player: A Case Study - University of Kentucky Orthopedic Surgeon/Physician and Athletic Training Symposium, March 2008

Hip Musculature Activation During Functional Activities: the Lunge, the Single-Leg Squat, and the Step-Up and Over - Southeastern Athletic Trainers' Association Annual Meeting and Symposium, March 2008

Ankle and Lower Leg Anatomy, Pathologies and Treatment - University of Kentucky Student Athletic Training Workshop: June 2007

Cadaver Anatomy Lab: Brief Overview of Gross Anatomy - University of Kentucky Student Athletic Training Workshop, June 2007

Implications of Long Thoracic Nerve Injuries - Mid-Atlantic Athletic Trainers' Association Annual Meeting and Symposium, May 2005

Poster/Free Communications Presentations

Andrews, SN, Parke, EA, Stickley, CD. Statistical Evaluation of Walking Velocity and Knee Adduction Moment: Allometric Scaling – Poster Presentation, American Society of Biomechanics, August 2017

Andrews, SN, Parke, EA, Stickley, CD. Allometric Scaling to Control for Walking Velocity on Knee Adduction Moment – American Society of Biomechanics, Thematic Poster Presentation, August 2016

Parke, EA, **Andrews, SN, Stickley, CD.** The Effect of Scaling Procedures of Identification of Iliotibial Band Syndrome Risk Factors. Poster Presentation, American Society of Biomechanics, August 2016

Andrews, SN, Parke, EA, Tamura, K, Hetzler, RK, Stickley, CD. The Relationship between Frontal Plane Kinematics and Knee Adduction Moment - Poster Presentation, Far West Athletic Trainers Association, June 2016

Jones, MG, **Andrews, SN, Camara J, Tamura, K, Kimura, IK, Stickley, CD.** A Comparison of Loading Characteristics During the TUG Test Pre- and Post-Total Knee Arthroplasty in Osteoarthritic Patients. Poster Presentation, Far West Athletic Trainers Association, 2014

Nakasone, CK, Stickley, CD, **Andrews, SN.** The Effect of Lower Extremity Alignment on Knee Adduction Moment After Total Knee Arthroplasty. Poster Presentation, Japanese Orthopedic Association, May 2014

Chesnut, D, **Boudreau, SN, Coco, K, ATC.** Splenic Injury in a High School Wrestler. Poster Presentation, Southeastern Athletic Trainers' Association Annual Meeting, Atlanta, GA March 2011

Industry Funding Pursuits

- Survivorship and Patient Outcomes of Knee Revisions with the Balanced Knee® Revision System (2019), Straub Medical Center; Submitted to Ortho Development Corporation Private Funding – Proposed \$37,000
- Retrospective / Prospective Multicenter Study of Commercially Available Zimmer Biomet Knee Implants (2019), Straub Medical Center; Submitted to Zimmer Corporation Private Funding – FUNDED: \$16,950

- Five year follow up after total hip arthroplasty utilizing the Ovation® Tribute femoral stem (2019), Straub Medical Center; Submitted to Ortho Development Corporation Private Funding – FUNDED: \$46,475.00
- Two year survivorship analysis of the Ovation® Tribute femoral stem and Escalade® acetabular cup (2019), Straub Medical Center; Submitted to Ortho Development Corporation Private Funding – FUNDED: \$1,982.50
- Persona TM Tibia Clinical Outcomes Study, K.C.R.I.G.16.33 (2018), Straub Medical Center; Submitted to Zimmer Corporation Private Funding – FUNDED: \$32,550.00
- Effect of asymmetric tibial baseplate design on biomechanical gait variables (2013), Stickley, CD, **Andrews, SA**; Submitted to Zimmer Corporation Private Funding – NOT FUNDED: \$208,951
- Mid-Flexion instability between multi- and single-radius femoral implants (2013), Stickley, CD, **Andrews, SA**; Submitted to Ortho Development Corporation Private Funding – FUNDED: \$205,160

Grant Funding

- Clinical, Radiological and Biomechanical Evaluation of Asian/Pacific Islander Patients Prior to and Following Total Hip or Knee Arthroplasty. Orthopaedic Research and Education Foundation, Total Joint Replacement Research Grant. Award: \$300,000; Letter of Intent Submitted October 2019.
- Pre-Operative Musculoskeletal Ultrasound to Determine Anterior Cruciate Ligament Competency in the Unicompartamental Knee Arthroplasty Candidate. Orthopaedic Research and Education Foundation, Goldberg Arthritis Research Grant. Award: \$50,000; Deadline December 13, 2019

Collaborative Research Partners

Zimmer Biomet, United States

University of Hawai'i, Department of Kinesiology and Rehabilitation Science, Honolulu, HI

University of Hawai'i, Department of Engineering, Honolulu, HI

University of Las Vegas Nevada, Las Vegas, Nevada

Straub Medical Center, Bone and Joint Clinic, Honolulu, HI

Campbell University, Buies Creek, NC

Stryker Orthopaedics, Mahwah, NJ

Ortho Development Corporation, Draper, UT

Journal Reviewer

Journal of Orthopaedics

Journal of Strength and Conditioning

Journal of Sports Rehabilitation

Clinical Biomechanics

American Journal of Physical Medicine and Rehabilitation

Book Reviewer

Brunnstrom's Clinical Kinesiology, Houglum, PA, Bertoti, DB, 6th edition

Professional Memberships / Certifications

- National Athletic Trainers' Association
- Hawaii Athletic Trainers' Association
- Far West Athletic Trainers' Association
- Athletic Trainers' Osteoarthritis Consortium – Professional Member