

February 2021

**Amee L. Seitz, PT, PhD, DPT, MS, OCS**

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**EDUCATION & TRAINING**

Ohio University, Athens, Ohio  
BS, Bachelor of Science in Physical Therapy  
PT Class '93 President  
Division I Athlete Mid-American Conference Softball 1988-1990  
8/1988- 6/1993 (Summa cum laude)

MGH Institute of Health Professions, Boston, Massachusetts  
MS, Advanced Master of Science Degree in Physical Therapy-Orthopedic Specialization  
Orthopaedic Residency, Pilot student 1<sup>st</sup> year of program seeking accreditation  
9/1998- 5/2004 (Magna cum laude)

MGH Institute of Health Professions, Boston, Massachusetts  
DPT, Transitional Clinical Doctorate Degree  
5/2004- 8/2006 (Summa cum laude)

Virginia Commonwealth University, Richmond, Virginia  
PhD, Rehabilitation and Movement Science, Neuromusculoskeletal Biomechanics Track  
Dissertation: Mechanisms of Rotator Cuff Disease: Influence of Scapular Kinematics on Subacromial Space  
8/2007- 12/2010 (Summa cum laude)

Post-Doctoral Visiting Scholar, Musculoskeletal Research Laboratory  
University of Kentucky, Lexington, Kentucky  
Department of Rehabilitation Sciences  
11/2010- 6/2011

Post-Doctoral Research Fellow, Shoulder Biomechanics Laboratory  
Massachusetts General Hospital, Harvard Shoulder Service  
Department of Orthopedics  
6/2011-9/2011

**LICENSURE/ CERTIFICATION**

Licensed Physical Therapist, Illinois Dept of Professional Regulation, 070.020591 - current  
Licensed Physical Therapist, Massachusetts Board Allied Health, PT #11036 (Expired)  
Licensed Physical Therapist, Ohio Board Allied Health, PT #006306 (Expired)  
Licensed Physical Therapist, Virginia Dept Health Professions, PT #2305205003 (Expired)  
Licensed Physical Therapist, Kentucky Board of Physical Therapy, PT #005732 (Expired)  
Board Certified Orthopedic Clinical Specialist in Physical Therapy- American Board Physical Therapy  
Specialties *Certified 2001; Re-certified 2011*

## ACADEMIC APPOINTMENTS

Associate Professor- Clinician Educator Track, Musculoskeletal Team Leader  
Principal Investigator, Musculoskeletal Biomotion Research Laboratory  
Department Physical Therapy and Human Movement Sciences  
Northwestern University, Feinberg School of Medicine  
Chicago, IL  
9/2018- current

Assistant Professor- Clinician Educator Track, Musculoskeletal Team Leader  
Principal Investigator, Musculoskeletal Biomotion Research Laboratory  
Department Physical Therapy and Human Movement Sciences  
Northwestern University, Feinberg School of Medicine  
Chicago, IL  
8/2014- 8/2018

Assistant Professor  
Principal Investigator, Musculoskeletal Biomotion Research Laboratory  
Department Physical Therapy and Rehabilitation Movement Sciences  
Northeastern University  
Boston, Massachusetts  
8/2011- 7/2014

Graduate Research Assistant  
Virginia Commonwealth University- Clinical Biomechanics, Orthopedic, and Sports  
Outcomes Research Laboratory  
Principal Investigator: Lori Michener, PhD, PT, ATC, SCS  
Richmond, VA  
9/2007-11/2010

Lecturer  
Tufts University- Boston School of Occupational Therapy  
OT 722/274 Topics in Hand and Upper Extremity Rehabilitation  
Boston, MA  
9/2003-9/2014

Lecturer  
Boston University- Graduate Program in Physical Therapy  
PT 520 Functional Anatomy- Upper extremity Unit  
Boston, MA  
Summer Semester 2007

Lab Instructor  
Massachusetts General Hospital Institute of Health Professions- Post-Graduate Physical Therapy  
Program  
PT623 Anatomical Basis of Kinesiology Cadaver Anatomy  
Boston, MA  
9/1999-9/2002

## **HOSPITAL APPOINTMENTS**

Physical Therapist, Advanced Clinician, Clinical Instructor  
Outpatient Physical Therapy Services and Harvard Shoulder Service  
Massachusetts General Hospital  
Boston, MA  
1998-2007

Physical Therapist  
HealthSouth Orthopedic & Sports Physical Therapy  
Boston, MA  
1996-1997

Physical Therapist  
Visiting Nurses Association  
Athens, OH  
1995-1996

Physical Therapist & Assistant Director  
Sport-Works Physical Therapy Outpatient Orthopedic Clinic  
Lancaster, OH  
1993-1995

## **HONORS AND AWARDS**

### **A. Elected Society Memberships**

Active Member American Society Shoulder Elbow Therapists

### **B. International/ National/ Regional**

- James A Gould Excellence in Teaching Award, Orthopaedic Section, APTA, 2018
- Traveling Research Fellowship Award, APTA Section on Research, October 2015
- Mentor to Best Graduate Student Research Poster Runner-up (DPT students Harris & Becherer) at 25th Annual CDSP Research Workshop. Boston, MA. 2014
- Clinical Research Award, American Physical Therapy Association of Massachusetts, 2013
- Best Paper Award, 4<sup>th</sup> International Congress of Shoulder & Elbow Therapy, Japan 2013
- Top Downloaded Article in 2011: Clinical Biomechanics 2011
- First Prize: Best Research Platform Presentation APTA of Massachusetts, 2011
- International Society of Biomechanics Shoulder Group- PhD Travel Award Recipient, 2010
- Founders Award: American Society of Shoulder & Elbow Therapists, 2009
- Viva J. Ericson Award for Future Academic Leadership Potential: Foundation for PT, 2008
- Florence Kendall Scholarship Recipient: Foundation for Physical Therapy, 2007
- Mid-American Conference All-Academic, 1988-1990

### **C. University**

- John X. Thomas, Jr. Best Teachers of Feinberg Award, 2017
- Partners in Excellence Award Recipient: MGH/Partners Healthcare, 2005
- Massachusetts General Hospital Advanced Clinician: Clinical Recognition Program, 2002
- Partners in Excellence Award Recipient: MGH/Partners Healthcare, 2000

- Marjorie K. Ionta Clinical Excellence Award MGH Institute Health Professions, 1999
- Partners in Excellence Award Recipient; MGH/Partners Healthcare, 1998
- Ohio University Outstanding Clinical Performance Award, 1993

## **INSTITUTIONAL SERVICE**

### University:

Graduate Student Representative Member, Promotion & Tenure Committee, School of Education, Virginia Commonwealth University, 2009- 2010

### School/ College:

#### *Northeastern University, Bouve College*

Northeastern Scholars Bouve College Faculty Mentor, 2013

Open House for Prospective Students, October 2012, 2013

Early Admission Outreach, 2011, 2012, 2013, 2014

Faculty Marshall Undergraduate Commencement, 2012, 2013

### Department:

#### *Northeastern University*

Member, Research Committee, Department of Physical Therapy, 2011- 2014

Member, Graduate Program Committee, Department of Physical Therapy, 2011-12; 2013-14

Member, Search Committee, Department of Physical Therapy, 2012-2013

Member, Outcomes Committee, Department of Physical Therapy, 2012-2013

#### *Northwestern University*

Member, Tutoring Committee, PTHMS 2020- current

Member, Curriculum Committee PTHMS 2016- current

Chair, Search Committee MSK Non Tenure Eligible, PTHMS 2019- 2021

Member, Search Committee MSK NTE and Tenure Tract, PTHMS 2016- 2021

Member, NU-SRALAB Orthopaedic Residency Board of Directors, 2014-2020

Member, Demonstration of Professional Development Committee, PTHMS 2014- 15

## **PARTICIPATION IN PROFESSIONAL SOCIETIES AND EXTRAMURAL ORGANIZATIONS**

### **A. Professional Society Memberships**

- Member, American Physical Therapy Association, 1992-current
  - Orthopedic Section, 1992- current
  - Sports Section, 1998- current
  - Research Section, 2010-current
  - Education Section, 2010- 2011
- Active Member, American Society of Shoulder & Elbow Therapists, 2000-current
- Member, American Academy of Orthopaedic Manual Therapists, 2014-2016
- Member, Biomechanics Special Interest Group- Research Section of APTA, 2010- current
- Active Member, Orthopedic Research Society, 2015-current
- Affiliate Member, National Athletic Trainers Association, 2011-2012

### **B. Leadership and Service**

- Member at Large, American Society of Shoulder & Elbow Therapists, 2019-2021

- APTA nominated & selected representative on American Academy of Orthopaedic Surgeons' (AAOS) Clinical Practice Guidelines on Management of Rotator Cuff Injuries, 2016-17
- Vice-Chair, Research Committee, Orthopaedic Section, APTA, 2/2016-2/2020
- Member, Board Directors International Shoulder and Elbow Therapists Congress, 2016-2019
- Orthopaedic Section Best Research Poster Award Judge, APTA CSM 2014, 2016-2018
- Chair, Education Committee, American Society of Shoulder and Elbow Therapists 2016-2017
- Invited Review Panel, American Academy of Orthopaedic Surgeons Appropriate Use Criteria on Optimizing the Management of Full-Thickness Rotator Cuff Tears 2014
- Moderator, Orthopaedic Section Platforms, APTA Combined Section Meeting 2014-2017
- Research Committee, Orthopaedic Section, American Physical Therapy Association, 2013-2015
- Research Committee, American Society of Shoulder and Elbow Therapists, 2012- present
- Moderator, Free Paper Session, International Congress of Shoulder and Elbow Therapists 2013
- Member, Education Committee, American Society of Shoulder & Elbow Therapists, 2012- present
- Chairperson, Annual Meeting of the American Society of Shoulder & Elbow Therapists, 2011
- President, American Society of Shoulder & Elbow Therapists, 2008-2010
- Member, APTA Orthopedic Section, Shoulder Clinical Practice Guidelines Committee, 2007-current
- Planning Committee, Shoulder Special Interest Group, APTA Sports Section, 2006-2009
- Communications Chair, American Society of Shoulder & Elbow Therapists, 2006-2007
- Member-at-Large, American Society of Shoulder & Elbow Therapists, 2004-2006

## **EDITORIAL AND MANUSCRIPT REVIEW RESPONSIBILITIES**

**Editorial Board Member**, *Journal of Sport Rehabilitation*, 2011- Present

**International Editorial Board Member**, *Journal of Orthopaedic and Sports Physical Therapy*, appointment begins 1/2018

### **Manuscript Reviewer:**

- *Arthritis Care & Research*, 2016-present ad hoc
- *American Journal Physical Medicine & Rehabilitation*- present ad hoc
- *BMC Musculoskeletal Disorders* 2017- present ad hoc
- *Clinical Biomechanics*, 2014 ad hoc
- *Clinical Rheumatology*, 2013-present ad hoc
- *Journal of Bone and Joint Surgery*, 2013- present ad hoc
- *Journal of Pain*, 2013 ad hoc
- *Journal of Electromyography and Kinesiology*, 2013-present ad hoc
- *Archives of Physical Medicine and Rehabilitation*, 2012-present ad hoc
- *Physical Therapy*, 2012-present ad hoc
- *PLoS ONE*, 2012 ad hoc
- *Journal of Shoulder and Elbow Surgery*, 2012-present ad hoc
- *American Journal of Physical Medicine & Rehabilitation*, 2012-present ad hoc
- *Journal of Orthopaedic and Sports Physical Therapy*, 2011-present ad hoc
- *Physiotherapy Theory and Practice*, 2010-present ad hoc
- *Sports Health*, 2010-2012 ad hoc
- *Journal of Athletic Training*, 2010-2011 ad hoc

### **Conference Scientific Abstract Reviewer:**

Combined Sections Meeting- Orthopaedic and Sports Sections APTA, 2012-2017  
3<sup>rd</sup> International Congress Shoulder and Elbow Therapists, 2013, 2016

### **American Academy of Orthopedic Surgeons (AAOS):**

Voting Panel for the *Appropriate Use Criteria on Optimizing the Management of Rotator Cuff Problems*. August 2012 –2013

Writing Panel for the *Appropriate Use Criteria on Optimizing the Management of Full-Thickness Rotator Cuff Tears*. Rosemont, IL, American Academy of Orthopaedic Surgeons, September 2013 and [http://www.aaos.org/research/Appropriate\\_Use/rotatorcuffaucfull.pdf](http://www.aaos.org/research/Appropriate_Use/rotatorcuffaucfull.pdf)

## **GRANT AWARDS**

### **A. Current**

Agency for Healthcare Quality Research

ID#: R01 GRANT12870433 (Kim- PI)

Title: A Cluster-Randomized Trial of the Northwestern Embedded Emergency Department Physical Therapy (NEED-PT) Protocol for Acute Low Back Pain

Role: Co-Investigator

Percent effort: 10%

Direct Costs per Year: \$250,000

Project Period: 09/30/20–07/31/2025

Agency: National Institutes of Health/NICHHD

ID#: 1R01HD098698 - 01 (Slavens-PI)

Title: Quantification of Shoulder Pathology and Manual Wheelchair Propulsion in Children and Adults with Spinal Cord Injury using Advanced Biomechanical Modeling and Diagnostic Imaging

Role: Co-Investigator

Percent Effort: 10% 1.20 calendar

Project Period: 07/01/2019-06/30/2023

Agency: National Institutes of Health/ National Institute of Aging

ID#: 1 F31 AG057137-01A1

Title: Quantifying age-related changes in shoulder muscle coordination in healthy adults

Role: Co-Sponsor; Principal Investigator: Baillargeon, Emma Monroe

Direct Costs per year: \$17,848.

Total Costs for project period: \$92,676

Project period: 6/01/2018- 5/30/2020

Agency: National Institutes of Health/ National Institute of Arthritis and Musculoskeletal and Skin Diseases

ID#: 1F31AR074288-01

Title: Quantifying the Biomechanical and Neural Factors Contributing to Shoulder Instability

Role: Co-Sponsor; Fellowship Recipient: Constantine Nicolozakes

Direct Costs per year: \$17,848

Total Costs for project period: \$129,475

Project period: 9/01/2018- 8/30/2021

Agency: NIH- NSRA Predoctoral F31 Grant, National Institutes of Health/ National Institute of Arthritis and Musculoskeletal and Skin Diseases

ID: F31AR077426-01

Title: Biomechanical and Neuromuscular Factors Contributing to Failures of Total Shoulder Replacements

Role: Co-Sponsor

MD/PhD Applicant: Margaret Coats-Thomas

Total Costs for project period: \$129,475

Project period: 6/1/2020-5/29/2023

## **B. Past**

Agency: Academy of Orthopaedic Physical Therapy, American Physical Therapy Association

Title: Clinical Practice Guidelines for Shoulder Instability

Role: Co- Principal Investigator

Percent Effort: 5% in kind

Direct Costs per year: \$7500

Total Costs per project period: \$15,000

Project Period: 1/1/2018-1/1/2020

Agency: Foundation for Physical Therapy New Investigator Fellowship Training Initiative

Title: Mechanisms of Painful Rotator Cuff Tears: Establishing Scientifically-Based Treatment

Role: Principal Investigator

Percent effort: 50%

Direct costs per year: \$35,000

Total costs for project period: \$78,000

Project period: 9/1/2015- 8/31/2018 (no cost extension)

Agency: Northeastern University TIER 1: Proof of Concept Grant

Title: Development of an Adaptive Clinician-Friendly Virtual Rehabilitation System and its Evaluation in Post-Operative Shoulder Therapy

Role: Co-Principal Investigator

Percent effort: 10%

Direct costs per year: \$50,000

Total costs for project period: \$50,000

Project period: 7/1/2013-6/30/2014

Agency: Foundation for Physical Therapy Promotion of Doctoral Studies I

Title: Mechanisms of Rotator Cuff Disease

Percent effort: 50%

Direct costs per year: \$7,500

Total costs for project period: \$7,500

Project period: 9/30/2008 – 9/29/2009

Agency: Foundation for Physical Therapy Kendall Award

Title: Methods for Shoulder Research

Percent effort: NA

Direct costs per year: \$5,000

Total costs for project period: \$5,000  
Project period: 9/30/2007 – 9/29/2008

Agency: National Institute of Health /National Institute on Drug Abuse  
ID#: H44DA-3-7709  
Title: Virtual Reality-Enhanced Range of Motion System for Treating Joint Pain  
Role: Consultant (PI Kline-Schoder)  
Project Period: 9/30/2002 – 9/29/2004

## INVITED LECTURES

‡ denotes mentored student author; \* denotes senior author

### International

1. Seitz AL. Early Detection of Rare Complications following Arthroplasty. (Invited Speaker). International Comprehensive Shoulder Course - Craiova, Romania. March 6-7, 2020.
2. Seitz AL. Shoulder Arthroplasty Consideration: Assessment and Treatment Strategies. (Invited Speaker). International Comprehensive Shoulder Course - Craiova, Romania. March 6-7, 2020.
3. Seitz AL. Shoulder stability and movement coordination impairment: shoulder instability clinical practice guideline. (Invited Speaker). International Congress Shoulder and Elbow Therapist 2019. Buenos Aires-Argentina. September 17-20, 2019
4. Seitz AL. Shoulder Pain: A diagnosis or symptom- Osteoarthritis. (Invited Speaker). International Congress Shoulder and Elbow Therapist 2019. Buenos Aires- Argentina. September 17-20, 2019
5. Seitz AL. Shoulder Rehabilitation: Assessment and Treatment Strategies. (Invited Speaker). International Comprehensive Shoulder Course - Cluj-Napoca, Romania. April 5-6, 2019.
6. Seitz AL. The role of vascularity in the rotator cuff tendons: implications for rehabilitation. (Invited Speaker). The 5th International Congress of Shoulder and Elbow Therapists (ICSET 2016). Jeju, Korea. May 18 -May 20, 2016.
7. Seitz AL. Subacromial space pain and pathology: rotator cuff disease. (Invited Speaker). *Society of French Physiotherapists and French Society for Rehabilitation of the Shoulder: JFK 2015*. Lille, France. February 5-7, 2015.
8. Seitz AL, Massimini DF, Warner JP. Increased Long Thoracic Nerve Tension with Excessive Scapular Motion: Proof of Concept for Neuropraxia as a Cause of Dyskinesis. *Presentation at the 4<sup>th</sup> International Congress of Shoulder and Elbow Therapists*. Nagoya, Japan. April 10, 2013. **\*Awarded Best Conference Paper**
9. Seitz AL. Evidence to Support an Extrinsic Mechanism for Rotator Cuff Tear. (Invited Speaker). *4<sup>th</sup> International Congress of Shoulder and Elbow Therapists*. Nagoya, Japan. April 10, 2013.
10. Seitz AL, Roy JS, Ginn K. Shoulder Impingement: From Muscle to Brain. *Conference Proceedings (Focused Symposia) at the International Federation of Orthopaedic Manipulative Physical Therapists Meeting*. Quebec City, Canada. October 2, 2012.



11. Seitz AL. Mechanisms for Shoulder Pain and Responses to Treatment. (Invited speaker). *Centre interdisciplinaire de recherche en réadaptation et en intégration sociale (CIRRIIS) Institut de réadaptation en déficiences physique de Québec (IRDPO)*. Quebec City, Canada. December 15, 2011.
12. Seitz AL, Michener LA, Lynch SS, McClure PW, Boardman ND III. Scapular Dyskinesis: Effects of scapular assistance on subacromial space. *3<sup>rd</sup> International Congress of Shoulder and Elbow Therapists*. Edinburgh, Scotland. September 5, 2010.
13. Seitz AL, Thigpen CA, Reinold MM, Gill TJ. Shoulder kinematics: Do chronic adaptations occur as a result of throwing in elite baseball pitchers? *Invited speaker as Travel Award Grant Awardee; International Society of Biomechanics- Shoulder Group Meeting*. Minneapolis, MN. July 26, 2010.
14. Seitz AL. Partial Scapulectomy: Rehabilitation Outcomes. *1st International Congress Shoulder & Elbow Therapists*. Washington D.C. October 2004.

### **National**

15. Seitz AL, Buchler L. Degeneration of the rotator cuff: Operative and Post-operative Rehabilitation Considerations. APTA of MA, Conn, RI. (invited) Virtual Meeting. July 23, 2020.
16. Dibblee PB, Minick K, Seitz AL. Clinical Practice Guideline Implementation: Adhesive Capsulitis. CoHSTAR 2<sup>nd</sup> Annual Implementation Science Institute: Advanced Rehabilitation. Virtual Meeting/ Providence RI. May 21, 2020.
17. Seitz AL. Muscle Degeneration of the Rotator Cuff: Scientific Advances to Guide Surgery and Rehabilitation. The American Physical Therapy Association 2020 Combined Sections Meeting, Orthopedic Section. Denver, Colorado. Feb, 2020.
18. Seitz AL. Shoulder Clinical Practice Guidelines: Adhesive Capsulitis, Mobility Deficit and Irritability Classification. Intermountain Healthcare. (Invited) Salt Lake City UT. July 18, 2019
19. **Seitz AL**, Hegedus E, Michener LA, Uhl TL. Shoulder Instability Clinical Practice Guidelines: Shoulder Stability and Movement Coordination Impairments. The American Physical Therapy Association 2019 Combined Sections Meeting, Orthopedic Section. Washington DC. January 23-26, 2019.
20. **Seitz AL**, Michener LA, Thigpen CA. Spotlight on Research: Shoulder Rehabilitation. The American Physical Therapy Association 2019 Combined Sections Meeting, Orthopedic Section. (Invited) Washington DC. January 23-26, 2019.
21. **Seitz AL**. Value-Based Rehabilitation: Shoulder Rehabilitation Clinical Practice Guidelines. American Physical Therapy Association of Massachusetts 2018 Annual Conference. October 27, 2018.
22. **Seitz AL**. Diagnosis and Rehabilitation Controversies in Patients with Shoulder Instability. With Thigpen and Michener. Orthopaedic Section Educational Symposium. *APTA Combined Sections Meeting. New Orleans, LA February 2018*
23. **Seitz AL**. Muscle Alterations in Various Conditions of Aging: Implications for Rehabilitation. Geriatric Section Educational Symposium. *APTA Combined Sections Meeting. New Orleans, LA February 2018*
24. **Seitz AL**. Factors related to muscle changes in rotator cuff tears and impact on rehabilitation after Rotator Cuff Repair. *University of Southern California Division of Biokinesiology and Physical Therapy. USC Shoulder Update: Diagnosis and Management*. February 3, 2018.

25. Seitz AL. Reverse total shoulder arthroplasty rehabilitation considerations. *University of Southern California Division of Biokinesiology and Physical Therapy. USC Shoulder Update: Diagnosis and Management*. February 3, 2018.
26. Seitz AL. Musculoskeletal Shoulder Pain: Diagnosis and Management Strategies. *Shirley Ryan AbilityLab Academy Live Webinar*. April 24, 2017. Chicago IL.
27. Seitz AL. Shoulder Instability: Non-operative versus operative treatment and other controversies. *Annual Orthopedic Section Meeting: APTA*, April 22, 2017. San Diego CA.
28. Seitz AL. Manual Therapy for Shoulder Pain and Mobility Deficits: Non-operative and Operative Rotator Cuff Disease and Instability Considerations. *Annual Orthopedic Section Meeting: APTA*, April 22, 2017. San Diego CA.
29. Seitz AL. Rehabilitation of Traumatic Instability: non-op and post-op considerations. *University of Pennsylvania Shoulder and Elbow Update 2016*. November 18, 2016. Philadelphia PA.
30. Seitz AL. Subacromial Impingement: Does it exist or matter? What have we learned from Ultrasound Imaging? *University of Pennsylvania Shoulder and Elbow Update 2016*. November 18, 2016. Philadelphia PA.
31. Seitz AL. Using ultrasound imaging in the clinic: learn and practice diagnostic US. *University of Pennsylvania Shoulder and Elbow Update 2016*. November 18, 2016. Philadelphia PA.
32. Seitz AL, Saltzman M, Khanna R, Elliott JM, Blount K, Marra G. Quantifying Variation In Intramuscular Fat Infiltration In Patients With Rotator Cuff Tears. *American Society of Shoulder & Elbow Surgeons' 2016 Annual Meeting*. October 9, 2016. Boston MA.
33. Seitz AL. Rehabilitation Implications of Ultrasound Imaging Findings for Patients with Rotator Cuff Disease. *Biennial ASES/Arthroscopy Association of North America Shoulder and Elbow Course*. Chicago IL. Sept 15, 2016
34. Seitz AL. Alterations in Shoulder Kinematics and EMG: Implications for Rehabilitation of the Shoulder. *Biennial ASES/Arthroscopy Association of North America Shoulder and Elbow Course*. Chicago IL. Sept 15, 2016
35. Seitz AL. Considerations for rehabilitation of reverse Total Shoulder Arthroplasty. *American Society of Shoulder & Elbow Therapists Evidence Based Treatment of Glenohumeral Arthritis Course*. Chicago IL. September 17, 2016
36. Seitz AL. Non-Operative Treatment Considerations: Cuff Tear Arthropathy. *American Society of Shoulder & Elbow Therapists Evidence-Based Treatment of Glenohumeral Arthritis Course*. Chicago IL. September 17, 2016
37. Corkery M, Baxter CJ<sup>‡</sup>, Seitz AL. Clinical reasoning utilizing magnetic resonance imaging in a patient with shoulder pain. *Academy of Orthopaedic Manual Physical Therapy Conference*. San Antonio, TX. October 24, 2014.
38. Seitz AL, Huber M, Leeser M, Sternad D. Factors contributing to variability in accuracy of Microsoft Kinect to measure shoulder joint angles. *American Society of Shoulder and Elbow Therapists Annual Meeting*. Pinehurst, NC October 10, 2014.

39. Seitz AL, Pape T, Cuthbert J. Starting and managing your own research laboratory. (Invited panel speaker). Early Career Course at *the American Congress of Rehabilitation Medicine 2013 Annual Conference*. Orlando, FL. November 13, 2013.
40. Seitz AL. Conducting pilot research with limited funding. (Invited panel speaker with Skidmore B, Kalpakjian C). Early Career Course at *the American Congress of Rehabilitation Medicine 2013 Annual Conference*. Orlando, FL. November 13, 2013.
41. Seitz AL. (Invited panel speaker with Hammond F, Neumann D, Kalpakjian, Kolakowsky-Hayner S, Nitkin R). First Research Faculty Position. Early Career Course at *the American Congress of Rehabilitation Medicine 2013 Annual Conference*. Orlando, FL. November 13, 2013.
42. Seitz AL, Massimini D, Warner JJP. Long Thoracic Nerve Excursion with Abnormal Scapular Motion: Evidence of Neuropraxia as a Cause of Dyskinesia *American Society of Shoulder and Elbow Therapists Annual Meeting*. Las Vegas, NV. October 12, 2013.
43. Phillips BJ, Gaunt BW, McCluskey GM, Seitz AL\*. Does the use of a shoulder continuous passive motion device improve range of motion, level of pain, and self-report of function in the early stage of rehabilitation following rotator cuff repair? *American Society of Shoulder and Elbow Therapists Annual Meeting*. Sea Island, GA. October 13, 2012.
44. Seitz AL. Immediate and Short-term Effects of Therapist Guided versus Written Exercise Instruction on Scapulothoracic Muscle Activity and Retention in Individuals with Shoulder Pain. *The 4<sup>th</sup> Scapular Summit*. Lexington, KY. July 26, 2012
45. Seitz AL. Scapular neuromuscular adaptations with exercise in individuals with shoulder pain. *15<sup>th</sup> Annual Shoulder Center of Kentucky Shoulder Symposium*. Lexington, KY. July 27-28, 2012
46. Seitz AL, Uhl TL. Intra- and Intersession Reliability of Scapulothoracic Neuromuscular Activity. *Research the 20<sup>th</sup> Annual Closed Meeting American Society Shoulder Elbow Therapists*. White Sulphur Springs, WV. Oct 14, 2011
47. Seitz AL. Rotator Cuff Rehabilitation: Clinical Applications Ultrasonography. *Steadman-Hawkins Clinic of the Carolinas, Continuing Education Course*. Greenville, SC. August 2011
48. Seitz AL. Exercise and Instruction Effects on Muscle Activity and Neuromuscular Adaptations. *University of Kentucky, Physiology and Biology Research Seminar Series*. Lexington, KY. March 2011
49. Seitz AL. Rehabilitative Ultrasound Imaging: Applications for Research. *University of Kentucky Research Seminar in Rehabilitation Sciences*. Lexington, KY. February 24, 2011
50. Seitz AL. Shoulder Pain: Classification and Treatment. *University of Rhode Island, College of Health Sciences*. Kingston, RI. November, 2010.
51. Seitz AL, Thigpen CA, Reinold MM, Gill TJ. Three-dimensional scapular kinematics are altered in the throwing shoulder of asymptomatic professional baseball pitchers. *Presentation at the American Orthopedic Society for Sports Medicine Annual Meeting*. Providence, RI. July 18, 2010

52. Seitz AL. Shoulder Pain: Classification, Treatment and Prevention. *Duke University, School of Medicine*. Durham, NC. (Invited Lecture). May 18, 2010
53. Michener LA; Seitz AL; McClure PW; Tate AR. Is scapular dyskinesia relevant in patients with impingement syndrome? *Scapular Summit 2009*. Lexington, KY. July 16, 2009.
54. Seitz AL. Conservative Management Rotator Cuff Disorders: Aging Athlete's Shoulder. American Physical Therapy Association Combined Section Meeting. Sports Section Educational Programming, Las Vegas, NV. February 2009
55. Seitz AL. Rotator Cuff Tear Arthropathy: Rehabilitation of Reverse Total Shoulder Arthroplasty. Management of Rotator Cuff Disease Continuing Education Seminar, Chicago, IL. September 2006
56. Seitz AL. Shoulder Instability and SLAP Lesions. American Physical Therapy Association 2006 Annual Conference. Orlando, FL. May 2006.
57. Seitz AL. Hip Pain in an Elite Runner: A Complicated Case Study. American Physical Therapy Association Combined Section Meeting 2006, Sports Section Educational Program, San Diego, CA. February 2006.
58. Seitz AL, Harris BA, Watkins MP. Rotator cuff dysfunction: classification, treatment, and outcome. *American Society of Shoulder & Elbow Therapists Annual Conference*. West Palm Beach, FL. November 11, 2005.
59. Seitz AL. Complicated Patient Case Study: Shoulder Pain in Recreational Athlete. American Physical Therapy Association Combined Section Meeting, Sports Section Educational Program, New Orleans, LA. February 2005
60. Seitz AL. Anatomy and Biomechanics of the Cervical Spine Related to Shoulder Pain. *American Society of Shoulder and Elbow Therapists Annual Conference*, Dana Point, CA. October 2003
61. Seitz AL. Conservative Management of Rotator Cuff Dysfunction, Continuing Education Course. (Invited speaker) Seattle, WA. October 2002

### **Regional/Local**

‡ denotes mentored DPT or PhD student author; \* denotes senior author

62. Seitz AL. Combating the Opioid Crisis: Strategies to prevent acute to chronic musculoskeletal pain. Feinberg School of Medicine Alumni Weekend. Chicago, IL April 27, 2019
63. Seitz AL. Shoulder Clinical Practice Guidelines: Strengths and Limitations in a Transition to Value Based Medicine. Physical Therapy and Human Movement Sciences Feinberg School of Medicine Alumni Weekend. Chicago, IL. April 26, 2019
64. Seitz AL. Shoulder Dislocation: Effectiveness of Non-Operative Treatment. Chicagoland Shoulder Rehabilitation Special Interest Group. Chicago, IL December 6, 2016.
65. Seitz AL. Rehabilitation: The role of technology to optimize patient outcomes and reduce cost. (Invited Speaker). PT & OT Directors 2015 Annual Conference. Chicago IL. October 24, 2015.

66. Seitz AL. Rotator Cuff Disorders. Beyond Dyskinesia and Impingement Syndrome. (Invited Speaker). Northwestern University Sports Medicine Symposium: A Team Approach. Chicago IL May 8, 2015
67. Seitz AL. Evidence in Scapular Assessment and Rehabilitation. Brown University Medical School, New England Sports and Orthopedic Rehabilitation Summit 2013. Providence, RI. April 6, 2013.
68. Seitz AL. Rehabilitative Ultrasound Imaging of the Shoulder. American Physical Therapy Association of Massachusetts 2013 Combined SIG Meeting. Wellesley, MA. March 16, 2013.
69. Seitz AL. Scapular Dyskinesia or Not: Role of Rehabilitation. Boston Shoulder Institute Symposium. (Invited Speaker). Boston MA, November 17, 2012.
70. Jean RA<sup>‡</sup>, Jones J, Seitz AL<sup>\*</sup>. The Reliability of Rehabilitative Ultrasound Imaging to Assess Scapular Muscle Thickness in Individuals with Scapular Dyskinesia. American Physical Therapy Association of Massachusetts 2012 Annual Meeting. Springfield, MA. November 5, 2012.
71. Judd J<sup>‡</sup>, Gorini N<sup>‡</sup>, Smith T<sup>‡</sup>, Stone R<sup>‡</sup>, Seitz AL<sup>\*</sup>. Variability of Scapular Motion in Overhead Athletes with Dyskinesia: A Pilot Study. American Physical Therapy Association of Massachusetts 2012 Annual Meeting. Springfield, MA. November 5, 2012.
72. Benya K<sup>‡</sup>, Heidebrink L<sup>‡</sup>, Whitney S<sup>‡</sup>, Seitz AL<sup>\*</sup>. In-Vivo Scapular Muscle Morphology in Individuals with Scapular Dyskinesia: American Physical Therapy Association of Massachusetts 2012 Annual Meeting. Springfield, MA. November 5, 2012.
73. Seitz AL. Rehabilitation of Extreme Complex Shoulder Injuries. *MGH Sports Medicine Update: Imaging and Managing Athletic Injuries*. Boston, MA. May 12, 2012
74. Seitz AL. Physical Therapy of Shoulder Disorders in the Master Athlete. *MGH Sports Medicine Update: Imaging and Managing Athletic Injuries*. Boston, MA. May 10, 2012
75. Seitz AL. Rotator Cuff Tendinopathy- Acute to Chronic: Does treatment differ? *American Physical Therapy Association of Massachusetts Specialty Meeting*. Boston, MA. April 28, 2012
76. Seitz AL. Scapular Dyskinesia: Assessment and Interventions. Upper Extremity Symposium. Boston, MA. February 4, 2012
77. Seitz AL. Scapular Kinematics and Clinical Assessment. *Massachusetts General Hospital, Sports Physical Therapy Service, Educational Research Seminar*. Boston, MA. November 8, 2011
78. Seitz AL; Kocher JH; Uhl TL. Neuromuscular Adaptations Following a Strengthening Exercise in Individuals with Shoulder Pain. American Physical Therapy Association of Massachusetts 2011 Annual Meeting. November 5, 2011. Springfield, MA. **\*Awarded Best Research Platform Presentation**
79. Seitz AL. Rehabilitation Research: Shoulder Pain Mechanisms and Outcomes. *Massachusetts General Hospital, Department of Orthopedics, Sports Medicine Division, Educational Research Seminar*. Boston MA. June 21, 2011
80. Seitz AL. Rotator Cuff Tendinopathy: Treatment Decision-Making Based on Subgroups. *Shoulder SIG - Massachusetts Chapter Meeting. American Physical Therapy Association*, Boston, MA. December 9, 2010

81. Seitz AL. Classification and Treatment of Conservative Shoulder Dysfunction. *Harvard Vanguard Physical Therapy Services, Educational Seminar*, Lynn, MA. September 2002
82. Seitz AL. Differential Diagnosis and Treatment Complicated Upper Quarter Patients. *Caregroup Healthcare System*, Boston, MA. November 2000

## PUBLICATIONS

(web of science: RESEARCHER ID J-3258-2012; registered by name in google scholar)

### A. Peer-reviewed Original Investigations

1. Kalra N, Seitz AL, Boardman ND, Michener LA. Effect of Posture on Acromiohumeral Distance with Arm Elevation in Rotator Cuff Disease using Ultrasonography. *Journal of Orthopaedic and Sports Physical Therapy*. 2010; 40(10): 633-640. PMID:20710092. doi: 10.2519/jospt.2010.3155.
2. Seitz AL, Michener LA. Ultrasonographic Measures of Subacromial Space in Patients with Rotator Cuff Disease: A Systematic Review. *Journal of Clinical Ultrasound*. 2011; 39(3):146-54. PMID:21387327. doi: 10.1002/jcu.20783
3. Seitz AL, Michener LA, McClure PW, Lynch SS, McKinney JL. Effects of Scapular Dyskinesia and Scapular Assistance Test on Subacromial Space during Static Arm Elevation. *Journal of Shoulder and Elbow Surgery*. 2012; 21(5):631-40. PMID: 21444218. doi: 10.1016/j.jse.2011.01.008
4. Seitz AL, Reinold, MM, Schneider, RA, Gill, TJ, Thigpen, CA. No Effect of Scapular Position on 3-Dimensional Scapular Motion in the Throwing Shoulder of Healthy Professional Baseball Pitchers. *Journal of Sport Rehabilitation*. 2012; 21:186-93. PMID: 22104491
5. Seitz AL, Michener LA, McClure PW, Finucane S, Ketchum JM, Walsworth MK, Boardman ND. The Scapular Assistance Test Results in Changes in Scapular Position and Subacromial Space but not Rotator Cuff Strength in Subacromial Impingement. *Journal of Orthopaedic and Sports Physical Therapy*. 2012; 42(5):400-12. PMID: 22333409.
6. Timmons MK, Thigpen CA, Seitz AL, Karduna A, Michener LA. Scapular Kinematics and Shoulder Impingement Syndrome: A Meta-Analysis. *Journal of Sport Rehabilitation*. 2012; 21(4):354-70. PMID:22388171
7. Seitz AL, Uhl TL. Reliability and Minimal Detectable Change in Scapulothoracic Neuromuscular Activity. *Journal of Electromyography and Kinesiology*. 2012;22:968-74. PMID: 22683057. doi: 10.1016/j.jelekin.2012.05.003
8. Kardouni J, Seitz AL, Wadsworth MK, Michener LA. Neovascularization Prevalence in the Supraspinatus of Patients with Rotator Cuff Tendinopathy. *Clinical Journal of Sport Medicine*. 2013; 23(6):444-9. PMID:23732364 doi: 10.1097/JSM.0b013e318295ba73
9. Seitz AL, Kocher J<sup>§</sup>, Uhl TL. Immediate effects and short-term retention of multi-modal instruction compared to written only on muscle activity during the prone horizontal abduction exercise in individuals with shoulder pain. *Journal Electromyography and Kinesiology*. 2014; 24(5):666-74. PMID 24993668
10. Michener LA, Subasi Yesilyaprak SS, Seitz AL, Timmons MK, Wadsworth MK. Supraspinatus tendon and subacromial space parameters measured on ultrasonographic imaging in subacromial impingement

syndrome. *Knee Surgery, Sports Traumatology, Arthroscopy*. 2015 Feb;23(2):363-9. PMID: 23736252 doi: 10.1007/s00167-013-2542-8

11. **Seitz AL**, Baxter CJ<sup>‡</sup>, Benya K<sup>‡</sup>. Muscle thickness measurements of the lower trapezius with rehabilitative ultrasound imaging are confounded by scapular dyskinesis. *Manual Therapy*. 2015; Aug;20(4):558-63. PMID: 25657107
12. Huber M, Leeser M, Sternad D, **Seitz AL**. Accuracy of Kinect for Measuring Shoulder Joint Angles in Multiple Planes of Motion. IEEE. International Conference on Virtual Rehabilitation Proceedings (ICVR). 2015; 170-171.
13. Huber M, **Seitz AL**, Leeser M, Sternad D. Validity and reliability of Kinect skeleton for measuring shoulder joint angles. *Physiotherapy*. 2015. Dec;101(4):389-93. PMID: 26050135; PMCID: PMC4600010.
14. **Seitz AL**, McClelland RI<sup>‡</sup>, Jones WJ, Jean RA<sup>‡</sup>, Kardouni JR. Comparison of Change in 3D Scapular Kinematics with Maximal Contractions and Force Production with Scapular Muscles Tests Between Asymptomatic Overhead Athletes with and without Scapular Dyskinesis. *International Journal of Sports Physical Therapy*. 2015; Jun;10(3):309-18. PMID: 2607514610; PMCID: PMC4458918.
15. Earle JE, Katz JN, Higgins LD, Dong Y, Collins J, Bean JF, **Seitz AL**, Jain NB. Association of Strength Measurement with Rotator Cuff Tear in Patients with Shoulder Pain. *American Journal of Physical Medicine & Rehabilitation*. 2016 Jan;95(1):47-56. PMID: 26098921.
16. Kardouni J, McKinnon CJ, **Seitz AL**<sup>\*</sup>. Incidence of Shoulder Dislocations and the Rate of Recurrent Instability In Soldiers. *Medicine Science and Sports Exercise*. 2016 Nov;48(11):2150-2156. PMID: 27327025
17. Pozzi F, **Seitz AL**, Plummer H, Chow K, Bashford G, Michener LA. Supraspinatus tendon micromorphology in individuals with subacromial pain syndrome. *Journal of Hand Therapy*. 2017 30(2):214-220. PMID:28502699
18. Coronado RA, **Seitz AL**, Pelote E, Archer KR, Jain NB. Are psychosocial factors associated with clinical measures in patients with rotator cuff tears? A systematic review. *Clinical Orthopaedics and Related Research*. 2018; 476(4):810-829. PMID:29481342
19. Coats-Thomas M<sup>‡</sup>, Warner JP, Massimini DF, **Seitz AL**<sup>\*</sup>. In Vivo Evaluation of Subacromial and Internal Impingement Risk in Asymptomatic Individuals. *American Journal of Physical Medicine and Rehabilitation*. 2018;97(9):659-665. doi: 10.1007/s00256-018-3090-6 <sup>‡</sup> **denotes PhD student; figure from manuscript selected for journal cover**
20. Micevych PS, Garg A, Buchler LT, Marra G, Saltzman MD, Parrish TB, **Seitz AL**. Optimizing methods to quantify intramuscular fat in rotator cuff tears with normalization. *Skeletal Radiology*, 2019;48(7), 1111-1118. doi: 10.1007/s00256-018-3090-6.
21. **Seitz AL**, Podlecki LA, Melton ER, Uhl TL. Neuromuscular adaptations following a daily strengthening exercise in individuals with rotator cuff related shoulder pain: A pilot case-control study. *International Journal of Sports Physical Therapy*. 2019 Feb;14(1):74-87. PMID: 30746294
22. Grimes JK<sup>‡</sup>, Puentedura E, Cheng MS, **Seitz AL**. The Comparative Effects of Upper Thoracic Spine Thrust Manipulation Techniques in Individuals With Subacromial Pain Syndrome: A Randomized Clinical Trial. *J*

*Orthop Sports Phys Ther.* 2019 Mar 12;1-28. doi: 10.2519/jospt.2019.8484. [Epub ahead of print] PMID: 30862274 ‡ **denotes PhD student**

23. Khanna R, Saltzman MD, Elliott JM, Hoggarth M, Marra GM, Omar I, Parrish TB, **Seitz AL**. Development of 3D Method to Assess Intramuscular Spatial Distribution of Fat Infiltration in Patients with Rotator Cuff Tear: Reliability and Concurrent Validity. *BMC Musculoskelet Disord.* 2019 Jun 21;20(1):295. doi: 10.1186/s12891-019-2631-z. PMID: 31221138. Free PMC article.
24. Baillargeon E‡, Sohn MH, Ludvig D, Nicolozakes C‡, **Seitz AL**, Perreault EJ,. Experimentally quantifying the feasible torque space of the human shoulder. *Journal Electromyography and Kinesiology.* 2019 May 23. pii: S1050-6411(18)30500-5. doi: 10.1016/j.jelekin.2019.05.014. [Epub ahead of print] ‡ **denotes PhD student**
25. Hegedus EJ, Michener LA, **Seitz AL**. Three Key Findings When Diagnosing Shoulder Multidirectional Instability: Patient Report of Instability, Hypermobility, and Specific Shoulder Tests. *J Orthop Sports Phys Ther.* 2020 Feb;50(2):52-54. doi: 10.2519/jospt.2020.0602. PMID: 32005097
26. Kane LT, Lazarus MD, Namdari S, **Seitz AL**, Abboud JA. Comparing expert opinion within the care team regarding postoperative rehabilitation protocol following rotator cuff repair. *J Shoulder Elbow Surg.* 2020 May 5:S1058-2746(20)30171-3. doi: 10.1016/j.jse.2020.01.097. Online ahead of print. PMID: 32386779
27. Grimes JK, Puentedura EJ, Cheng MS, **Seitz AL**. Scapular movement impairments in individuals with subacromial pain syndrome based on scapular assistance test and scapula reposition test outcomes. *Musculoskelet Sci Pract.* 2020 Oct;49:102214. doi: 10.1016/j.msksp.2020.102214. Epub 2020 Jul 11. PMID: 32739653

## **B. Invited Reviews and Commentaries (4)**

28. Fleming JA, **Seitz AL**‡, Ebaugh DE. Exercise Protocol for the Treatment of Rotator Cuff Impingement Syndrome: Evidence-Based Practice. *Journal of Athletic Training.* 2010; 45(5):483-485. PMID:20831395.
29. **Seitz AL**, Michener LA, McClure PW, Boardman ND. Rotator Cuff Tendinopathy, What is the Mechanism, Extrinsic, Intrinsic, or Both? *Clinical Biomechanics.* 2011;26(1):1-12. PMID:20846766.
30. Kelley MJ, Shaffer MA, Kuhn JE, Michener LA, **Seitz AL**, Uhl TL, Godges JJ, McClure PW. Shoulder Pain and Mobility Deficits: Adhesive Capsulitis. (A Clinical Practice Guideline Linked to the International Classification of Functioning, Disability). *Journal of Orthopaedic and Sports Physical Therapy.* 2013;43(5):A1-A31. PMID: 23636125
31. Bailey LB, Beattie PF, Shanley E, **Seitz AL**, Thigpen CA. Current Rehabilitation Applications for Shoulder Ultrasound Imaging. *Journal Orthopaedic and Sports Physical Therapy.* 2015; May;45(5):394-405. PMID: 25627156
32. Hegedus EJ, Michener LA, **Seitz AL**. Three Key Findings When Diagnosing Shoulder Multidirectional Instability: Patient Report of Instability, Hypermobility, and Specific Shoulder Tests. *J Orthop Sports Phys Ther.* 2020 Feb;50(2):52-54. doi: 10.2519/jospt.2020.0602. PMID: 32005097

## **C. Book Chapters**

\*denotes invited senior author



1. **Seitz AL**, Michener LA. Chapter 3: Examination of the Shoulder. In: *Assessing and Rehabilitating Shoulder Instabilities*. 2<sup>nd</sup> Edition. Bonci T, eds., Champaign, IL: Human Kinetics; 2009. ISBN: 978-07-3607947
2. **Seitz AL**, Michener LA. Chapter 2: Classification of Shoulder Instability. In: *Assessing and Rehabilitating Shoulder Instabilities* 2<sup>nd</sup> Edition. Bonci T, eds., Champaign, IL: Human Kinetics; 2009. ISBN: 978-0-736079471
3. Kostuch J, **Seitz AL** \*. *Section III* Chapter 12 : Rehabilitation of Subacromial and Internal Impingement Syndrome. In: *Systematic Approach to Shoulder Rehabilitation*. McClusky G, eds. Atlanta, GA: HPRC, 2012. ISBN: 978-0-9855961-0-1
4. Kostuch J, **Seitz AL** \*. *Section III* Chapter 13 : Rehabilitation of Rotator Cuff Disorders. In: *Systematic Approach to Shoulder Rehabilitation*. McClusky G, eds. Atlanta, GA: HPRC, 2012. ISBN: 978-0-9855961-0-1
5. **Seitz AL**, Petruska A, Gill TG. Chapter 4 : Non-Operative Rehabilitation of SLAP Injuries in the Overhead Athlete. In : *Orthopaedic Rehabilitation of the Athlete: Getting Back in the Game*. Reider B, Provencher M, Davies G eds. Philadelphia, PA: Elsevier, 2015. ISBN: 978-1-455727803
6. **Seitz AL**, Gill TG. Chapter 4 : Post-operative Rehabilitation of SLAP Repairs in the Overhead Athlete. In : *Orthopaedic Rehabilitation of the Athlete: Getting Back in the Game*. Reider B, Provencher M, Davies G eds. New York, NY: Elsevier, 2015. ISBN: 978-1-455727803
7. Hartman J, **Seitz AL**. The Elbow. In : *Joint Structure and Function*. 6th Ed. Levangie P, Norkin C, Lewek M eds. Philadelphia, PA. FA Davis, 2019. ISBN-13: 978-0-8036-5878-3

#### **D. Peer-Reviewed Educational Materials**

1. Deepak K, **Seitz AL**. *Imaging of the Extremities*. In the Clinical Imaging. Orthopaedic Section Independent Study Course Series 27.3. 2017; 1-36.

#### **E. Case Reports, Letters, Editorials**

1. Kelley MJ, Shaffer MA, Kuhn JE, Michener LA, **Seitz AL**, Uhl TL, Godges JJ, McClure PW. Response to letter to editor-in-chief. Shoulder Pain and Mobility Deficits: Adhesive Capsulitis. *Journal of Orthopaedic and Sports Physical Therapy*. 2013;43(12)934-936. PMID: 24289036

#### **F. Practice Guidelines, Standards and Consensus Statements**

1. Writing group member (one of two nominated and selected to represent the American Physical Therapy Association) American Academy of Orthopaedic Surgeons, Management of Rotator Cuff Injuries Clinical Practice Guideline [www.aaos.org/rotatorcuffinjuriescpg](http://www.aaos.org/rotatorcuffinjuriescpg) Published March 11, 2019.
2. Voting member (one of two nominated and selected to represent the American Society of Shoulder & Elbow Therapists) for American Academy of Orthopaedic Surgeons Appropriate Use Criteria for Treatment of Rotator Cuff Tears. 2014

3. Invited Summit Participant for the Clinical implications of scapular dyskinesia in shoulder injury: the 2013 consensus statement from the scapular summit. W Ben Kibler, Paula M Ludewig, Phil W McClure, Lori A Michener, Klaus Bak, Aaron D Sciascia
4. Invited member Shoulder Guideline Group APTA; contributed to published Clinical Practice Guidelines (2013 & current) and minimal dataset shoulder National PT registry APTA 2015

### **G. Refereed Abstracts Published in Journals:**

*\*denotes presenting author; ‡ mentored DPT or PhD student*

1. Kalra N,\* Michener LA, **Seitz AL**, Boardman ND. Effect of posture on acromiohumeral distance with arm elevation in subjects with and without rotator cuff disease using ultrasonography. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2009;39(1)A33. Research Platform Presentation at the *American Physical Therapy Association- Combined Sections Meeting*.
2. Michener LA,\* Kalra N, **Seitz AL**, Boardman ND. Upper quadrant posture effects on subacromial space in subjects with and without rotator cuff disease using ultrasonography. [Abstract] *Journal of Athletic Training*. 2009; 44(3)S78. Research Platform at the *National Athletic Trainers Association Annual Meeting & Clinical Symposia*.
3. McClure PW,\* Michener LA, Tate AR, Thigpen CA, **Seitz AL**, Young IA, Salvatori R. Outcomes of standardized treatment program of exercise and manual therapy for patients with subacromial impingement syndrome: a case series. [Abstract] *Journal of Athletic Training*. 2009;44(3)S40. Research Platform at the *National Athletic Trainers Association Annual Meeting & Clinical Symposia*.
4. Michener LA,\* **Seitz AL**, McClure PW, Tate AR. Is scapular dyskinesia relevant in patients with impingement syndrome? [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2009; 39(11) A11-12. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
5. Thigpen CA,\* Reinold MM, Padua DA, **Seitz AL**, Schneider RE, Gill TJ. Adaptations in 3D scapular kinematics of professional baseball pitchers over one season. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2009; 39(11):A9. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
6. McClure PW,\* Michener LA, Tate AR, **Seitz AL**, Thigpen CA; Young IA; Salvatori R. Outcomes of standardized exercise and manual therapy for subacromial impingement syndrome: a case series. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2010; 40(1):A70-71. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
7. Michener LA,\* **Seitz AL**, McClure PW, Tate AR. Scapular dyskinesia and the scapular reposition test: the relationship to outcome in patients with impingement syndrome. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2010; 40(1):A32. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
8. **Seitz AL**,\* Michener LA; Lynch SS; Zirker CA; Stith TR; Boardman, ND. Effects of scapular assistance test on acromiohumeral distance measured in vivo. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2010; 40(1): A31. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.

9. **Seitz AL**,\* Michener LA; Lynch SS; Zirker CA; Stith TR; Boardman, ND. Anterior versus posterior subacromial space changes with humeral elevation using ultrasonography. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2010; 40(1):A30-31. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
10. **Seitz AL**,\* Michener LA; McClure PW; Tate AR; Thigpen CA. Scapular dyskinesia in sport participants with subacromial impingement: relationship to impairments, pain, function, and rehabilitation outcome. [Abstract] *Journal of Athletic Training*. 2010; 45(3):S11. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
11. **Seitz AL**,\* Michener LA; McClure PW; Finucane, S; Lynch SS; Boardman, ND III. Scapular upward rotation and posterior tilt increases subacromial space, but not muscle performance in subacromial impingement syndrome. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2011; 41(1):A34-35. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
12. Timmons MK,\* Thigpen CA, **Seitz AL**, Karduna AR; Arnold BL; Michener LA. Scapular Kinematics and Subacromial Impingement Syndrome: A Meta-Analysis. [Abstract] *Journal of Athletic Training*. 2011; 46(3):S132. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
13. **Seitz AL**\* Uhl TL. Assessing Minimal Detectable Change in Scapulothoracic Neuromuscular Activity. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2012; 42(1):A84. Poster presented at the *American Physical Therapy Association- Combined Sections Meeting*. \* **Nominated for Best Orthopedic Section Poster Award**
14. **Seitz AL**\* Kocher JH<sup>‡</sup>, Uhl TL. Scapulothoracic Neuromuscular Adaptations Following A Daily Strengthening Exercise in Individuals with Shoulder Pain. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2012; 42(1):A36. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
15. **Seitz AL**\* Baxter CJ<sup>‡</sup>; Jain NB. Posterior Shoulder Tightness: Relationships with Subacromial Space and Tendon Thickness in Subacromial Impingement. [Abstract] *Journal of Orthopaedic and Sports Physical Therapy*. 2013; 43(1):A51. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
16. Kardouni JR,\* **Seitz AL**, Walsworth MK; Michener LA. Neovascularization Prevalence in the Supraspinatus of Patients with Rotator Cuff Tendinopathy. *Journal of Orthopaedic and Sports Physical Therapy*. 2013; 43(1):A23-24. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
17. **Seitz AL**,\* Baxter CJ<sup>‡</sup>, O'Sullivan-Roche A<sup>‡</sup>, Katharine Budra<sup>‡</sup>. Scapular muscle impairments in individuals with scapular dyskinesia: Not isometric strength but motor control? *Journal of Orthopaedic and Sports Physical Therapy*. 2014; 44(1):A27. Research Platform presented at the *American Physical Therapy Association- Combined Sections Meeting*.
18. Huber ME,\* **Seitz AL**, Leeser M, Sternad D. Validity and Reliability of Kinect for Measuring Shoulder Joint Angles. IEEE. 2014. Research Platform presented at the 2014 40<sup>th</sup> Annual Northeast Bioengineering Proceedings.

19. Jones WJ, McClelland RI, Jean RA<sup>‡</sup>, **Seitz AL\***. Scapular Dyskinesia: Strength and change in 3D scapular kinematics with maximal contractions. *Journal of Orthopaedic and Sports Physical Therapy*. 2015; 45(1):A177-178. Poster presented at the *American Physical Therapy Association- Combined Sections Meeting*.
20. Kardouni J,\* McKinnon CJ, **Seitz AL**. Shoulder Dislocation 10-year incidence and chronic injury rate in the U.S. Army: An epidemiologic study. *Medicine and Science in Sports and Exercise*. May 2015; 47(5S)900.
21. Kardouni J, McKinnon CJ, **Seitz AL**. Shoulder Dislocation 10-year incidence and chronic injury rate in the U.S. Army: An epidemiologic study. *Journal Orthopaedic and Sports Physical Therapy*. 2017; 46(1):A1-57. *Research Platform Presentation at the Combined Sections Meeting, American Physical Therapy Association*. Anaheim CA. February 17-20, 2016. \* **Nominated for 2016 Excellence in Research Award**
22. **Seitz AL\***, Nicolozakes C, Khanna R, Marra G, Saltzman M. The Impact of Cardiovascular Risk Factors on Intramuscular Fat Infiltration and Atrophy in Patients with Rotator Cuff Tears: A Preliminary Study. *Journal Orthopaedic and Sports Physical Therapy*. 2017; 47(1):A1-29. *Research Platform Presentation at the Combined Sections Meeting, American Physical Therapy Association*. February 17, 2017
23. Buchler, L.T, Nicolozakes, CP, Khanna, R, Marra, G.M, Saltzman, M.D, **Seitz, A.L..** “The Impact of Cardiovascular Risk Factors on Intramuscular Fat Infiltration and Atrophy in Patients with Rotator Cuff Tears: A Preliminary Study”. Podium presentation at the Mid-America Orthopaedic Association 2017 Annual Meeting. April 22, 2017. Amelia Island, Florida. Abstract published in the proceedings of the 2017 MAOA Annual Meeting.
24. Shaughnessy K<sup>‡</sup>, Mendoza R<sup>‡</sup>, Kurtz A<sup>‡</sup>, Besch B<sup>‡</sup>, Zaremba A<sup>‡</sup>, Kummerer M<sup>‡</sup>, **Seitz AL**. Relationships between intramuscular fat infiltration and pain and function in patients with rotator cuff disease. Accepted *Journal Orthopaedic and Sports Physical Therapy*. 2018; *Research Poster Presentation at the Combined Sections Meeting, American Physical Therapy Association*. February 24, 2018. New Orleans, LA. Accepted September 8, 2017
25. Grimes JK, Cheng MS, Puentedura, EJ, **Seitz AL**. The Immediate Effects of a Seated versus Supine Upper Thoracic Spine Thrust Manipulation Compared to Sham Manipulation in Individuals with Subacromial Pain Syndrome. Accepted *Journal Orthopaedic and Sports Physical Therapy*. 2018; *Accepted Research Platform Presentation at the Combined Sections Meeting, American Physical Therapy Association*. February 21, 2018. New Orleans, LA. Accepted September 8, 2017
26. Coats-Thomas M<sup>‡</sup>, Warner JP, Massimini DF, **Seitz AL**. Internal Impingement, is this more common than expected? Presented *Research Poster Presentation at the American Academy of Orthopedic Surgeons 2018 Annual Meeting*. New Orleans, LA. February, 2018.
27. Micevych PS, Garg, A. Khanna R, Buchler LT, Marra G. Saltzman MD, Parrish TB, **Seitz AL**. Optimizing Methods to Quantify Intramuscular Fat in Rotator Cuff Tears with Normalization. *Presented as Poster presentation at the Orthopaedic Research Society 2018 Annual Meeting*. March 10-12, 2018. New Orleans, LA.
28. Coats-Thomas M<sup>‡</sup>, Warner JP, Massimini DF, **Seitz AL**. In Vivo Evaluation of Subacromial and Internal Impingement Risk in Asymptomatic Individuals. *Presented as Poster presentation at the Orthopaedic Research Society 2018 Annual Meeting*. March 10-12, 2018. New Orleans, LA. Accepted November 8, 2017

29. Garg, A, Micevych PS, Khanna R, Buchler LT, Marra G, Saltzman MD, Parrish TB, **Seitz AL**. Quantifying Intramuscular Fat in Rotator Cuff Tears with Normalization. Presented as a *Research Platform Presentation at the Society of Skeletal Radiology 2018 Annual Conference*. March 25-28, 2018. Austin TX.
30. Baillargeon EM<sup>‡</sup>, Nicolozakes CP<sup>‡</sup>, Ludvig D, **Seitz AL**, Perreault EJ. Three-dimensional assessments of strength for clarifying shoulder capabilities. Submitted to 12th Meeting of the International Shoulder Group (*the technical subgroup of the International Society of Biomechanics*) Mayo Clinic, Rochester, MN, USA, August 12-13, 2018
31. Nicolozakes CP<sup>‡</sup>, Baillargeon EM<sup>‡</sup>, Ludvig D, **Seitz AL**, Perreault EJ. A Quantitative approach to clinical glenohumeral laxity assessment. Submitted to 12th Meeting of the International Shoulder Group (*the technical subgroup of the International Society of Biomechanics*) Mayo Clinic, Rochester, MN, USA, August 12-13, 2018
32. Grimes JK, Cheng SM, Puentedura E, **Seitz AL**. The Effects of an Audible Cavitation Following Thoracic Spine Thrust Manipulation in Individuals with Subacromial Pain Syndrome: A Randomized Clinical Trial was selected for **Platform** presentation at the AAOMPT conference on **Saturday, November 10, 2018**, in Reno, NV.
33. Grimes J<sup>‡</sup>, Cheng MS; Puentedura E; **Seitz AL**. Scapular Movement Impairments in Individuals with Subacromial Pain Syndrome Based on Scapular Assistance Test and Scapula Reposition Test Outcomes. (Abstract )Published in Journal Orthopaedic and Sports Physical Therapy. 49(1):CSM14-15. *Presented as Platform Presentation at the APTA 2019 Combined Sections Meeting in Washington, DC January 23-26, 2019.*
34. Brown H; Schuster M; Kelly C; Carter M; Moore C; Caffee E; **Seitz AL**. Effectiveness of Bracing with Return to Activity and Sport following a shoulder dislocation.(Abstract)Published in Journal Orthopaedic and Sports Physical Therapy. 49(1):CSM77-78. *Presented as poster in Academy of Orthopaedic Physical Therapy at APTA 2019 Combined Sections Meeting in Washington, DC January 23-26, 2019.*
35. Baillargeon EM<sup>‡</sup>, Sohn MH, Nicolozakes CP, Ludvig D, **Seitz AL**, Perreault EJ. Weakness in a Single Rotator Cuff Muscle Reduces Overall 3D Shoulder Strength by up to third. (Abstract) Journal Orthopaedic and Sports Physical Therapy. 49(1):CSM69-70. *Presented as poster at Academy Orthopaedic Physical Therapy, APTA 2019 Combined Sections Meeting in Washington, DC January 23-26, 2019.*
36. Hansen LM, Saltzman M, Khanna R, Garg A, Marra G, **Seitz AL**. Quantitative Rotator Cuff Intramuscular Fat Infiltration Assessment Differs Between Y-View and 3D Methods. Accepted as a poster at the Orthopedic Research Society 2019 Annual Meeting, February 2-4, 2019. Austin Texas.
37. Thayer MD, Massimini DF, Warner JP, Coats-Thomas MS, <sup>‡</sup>**Seitz AL**. Subacromial and Internal Impingement: Relevant In Vivo Glenohumeral Kinematics. Accepted as a poster at the Orthopedic Research Society 2019 Annual Meeting, February 2-4, 2019. Austin Texas
38. Nicolozakes CP, <sup>‡</sup>**Seitz AL**, Chang A, Baillargeon EM, <sup>‡</sup> Ludvig D, Perreault EJ. Active and Passive Anterior Translational Shoulder Impedance Varies Inversely with Perturbation Amplitude. Abstract accepted to XXVII Congress of the International Society of Biomechanics (ISB2019), held in conjunction with the 43rd Annual Meeting of the American Society of Biomechanics (ASB2019). Calgary, Canada

39. Baillargeon EM,<sup>‡</sup> Ludvig D, Sohn H. Nicolozakes CP,<sup>‡</sup> **Seitz AL**, Perreault EJ. Age-related differences in muscle strength alter the feasible torque space of the shoulder in a musculoskeletal model. Abstract accepted to XXVII Congress of the International Society of Biomechanics (ISB2019), held in conjunction with the 43rd Annual Meeting of the American Society of Biomechanics (ASB2019). Calgary, Canada
40. Tucci HT, Seitz AL Wrist orthoses lead to kinematic changes associated with an increased risk of shoulder dysfunction. Poster Presentation at Society for Neuroscience 2019 Conference. October 20, 2019. Chicago, IL
41. Baillargeon EM,<sup>‡</sup> Ludvig D, Nicolozakes BS,<sup>‡</sup> Perreault EJ, **Seitz AL**. The Impact of Age on Three-Dimensional Shoulder Strength. (Abstract) Journal Orthopaedic and Sports Physical Therapy. 50(1). Presented as poster at Academy Orthopaedic Physical Therapy, APTA 2020 Combined Sections Meeting in Denver Colorado, February 14, 2020.
42. Nicolozakes CP,<sup>‡</sup> Uhl TL, Cataldo ED, Perreault EJ, **Seitz AL**. Influence of Clinical Findings on Physical Therapist Diagnosis of Shoulder Instability. (Abstract) Journal Orthopaedic and Sports Physical Therapy. 50(1). Presented as platform at Academy Orthopaedic Physical Therapy, APTA 2020 Combined Sections Meeting in Denver Colorado, February 14, 2020.
43. Avila JL, Kolski MC, Partain DD, Yuen M, **Seitz AL**. Change in Patient Expectations of Treatment Recovery Following a Physical Therapy Evaluation. Journal Orthopaedic and Sports Physical Therapy. 50(1). Presented as poster at Academy Orthopaedic Physical Therapy, APTA 2020 Combined Sections Meeting in Denver Colorado, February 14, 2020.
44. Saum A. FL., Smith EE, Zapotoczny MJ, **Seitz AL**. Effectiveness of Rehabilitation in Middle-Aged and Older Adults Following Anterior Shoulder Dislocation. Journal Orthopaedic and Sports Physical Therapy. 50(1). Presented as poster at Academy Orthopaedic Physical Therapy, APTA 2020 Combined Sections Meeting in Denver Colorado, February 14, 2020.
45. Nicolozakes CP, Ludvig D, Baillargeon EM., **Seitz AL**, Perreault EJ. Posture-dependent changes to the active regulation of shoulder stiffness. Presented as poster at 2020 Annual International Society of Electromyography and Kinesiology Meeting. Chicago IL, August, 2020.
46. Constantine Nicolozakes; Julia Schmulewitz; Daniel Ludvig; Margaret Coats-Thomas; Emma Baillargeon; **Ame L. Seitz**; Eric J. Perreault. Shoulder Muscles With Large Lines Of Action Increase Glenohumeral Stability By Increasing Their Intrinsic Stiffness. Presented as a Poster at ORS 2021 Annual Meeting. February 12-16, 2021.
47. Matthew James Hartwell, Ryan E Harold, Patrick T Sweeney, **Ame L Seitz**, Guido Marra, Matthew D Saltzman. Posterior Rotator Cuff Fatty Infiltration Associated With Increased Posterior Glenoid Wear In Glenohumeral Osteoarthritis: An MRI-Based Study. Presented as a Poster at SECEC Conference 2021 Sept 15-18 Poland.

## TEACHING

### Northwestern University, Department of Physical Therapy & Human Movement Science

2014- 2021 (Courses Taught at least one academic year)

PT536-2

MSK I-III

Faculty, Course Director (90-94 students)

PT548-0	Complex Patients	Faculty
PT570	Synthesis Project 1-5	Faculty Mentor
PT511-1	Kinesiology 1& 2	Faculty for Lab & Lectures (90 students)
	Orthopaedic Residency	Didactic Faculty; Shoulder Unit (3 residents)

### **Northeastern University, Department of Physical Therapy**

2011-2014 (courses taught at least one AY)

PT5133	Kinesiology	Course Director (115 students)
PT5134	Kinesiology Lab	Laboratory Faculty (2 sections 55 students)
PT5229	PT Project I-II	Faculty Mentor (2 students)
PT5505	Musculoskeletal I-2 Lab	Laboratory Faculty (1-2s section 30 students)

### **Virginia Commonwealth University**

Fall 2007-9

PHTY 648	Orthopedic Physical Therapy Lab and Lecture Faculty (65 students)
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## **TRAINEES**

### **Supervision of PhD Student- Research Faculty Mentor**

1/2014- 3/2017

Student: Jay Grimes, PT, DPT, PhD, OCS, FAAOMPT

Role: Expert Content Committee Member

Institution: Sacred Heart University

2016- 2020

Student: Emma Bailargeon, PT, DPT, PhD

Role: Thesis co-advisor (w/Eric Perreault), PT/PhD student

Institution: Northwestern University, PT/PhD program

5/2017-current

Student: Maggie Coats-Thomas, BS

Role: Research Lab Rotation Supervisor; PhD Thesis research advisor (w/Eric Perreault Thesis Chair), MSTP MD/PhD student

Institution: Northwestern University, MD/PhD program

2016- current

Student: Constantine P Nicolozakes

Role: Lab Rotation Supervisor; Thesis co-advisor (w/Eric Perreault), MSTP MD/PhD student

Institution: Northwestern University, MSTP program

2020- current

Student: Anna Spracklin

Role: PhD Thesis research co-advisor, DPT/PhD student

Institution: Northwestern University, PT/PhD program

### **Supervision of MD Students- Research Faculty Mentor**

5/2018-1/2019

Student: Logan Matthew Hanson, (PGY2)

Role: Research Thesis Supervisor;

Institution: Northwestern University, Feinberg School of Medicine, MD program

5/2018-8/2018

Student: Evan Panko (PGY2)

Role: Research Thesis Supervisor;

Institution: Northwestern University, Feinberg School of Medicine, MD program

5/2017-8/2017

Student: Paul Micevych, (PGY2)

Role: Research Thesis Supervisor;

Institution: Northwestern University, Feinberg School of Medicine, MD program

5/2016-8/2017

Student: Raj Kahanna (PGY1)

Role: Research Internship Supervisor

Institution: Loyola University Chicago, Stritch School of Medicine, MD program

### **Supervision of Graduate Student- Research**

2011-2012

Student: Jordan Kocher, MS, ATC

Institution: University of Kentucky

Project: Effect of Exercise Instruction and Retention on Scapular Muscle Activity in Individuals with Shoulder Pain

### **Supervision of Doctor of Physical Students (DPT)- Mentored Research Projects**

2018-2021

Students: Allie Boudreau, Kristin Engelhard, Lauren Devekis, Ali Rafiq

Institution: Northwestern University

Project: Underlying mechanisms of shoulder pain in overhead athletes: does altered nociception relate to reduced participation and disability?

2017-2020

Students: Danilton Clarke, Paulo Sitagata, Lindsey Siegel, Jenny Orie

Institution: Northwestern University

Project: Underlying mechanisms of shoulder pain in overhead athletes: does altered nociception relate to reduced participation and disability?

2016-2019

Students: Christopher Kelly, Hilary Brown, Emily Caffee, Mary Anne Schuster, Colin Moore, Megan Carter

Institution: Northwestern University

Project: What is the effectiveness of rehabilitation on patient pain, function, and quality of life and recurrence in patients with glenohumeral joint instability?

2015-2017

Students: Benjamin Besch, Meghan Kummerer, Allison Kurtz, Abbie Zaremba, Kathleen Shaughnessy, Renzo Mendoza

Institution: Northwestern University

Project: Does muscle degeneration predict pain and function in rotator cuff tears?

2013-2014



Students: Patrick Harris, Kelley Becherer  
Institution: Northeastern University  
Project: Reliability and Validity of Virtual Rehabilitation System to Measure Joint Motion for Post-Operative Shoulder Patients

2012-2013

Students: Catherine Wysin, Lindsey Strucko  
Institution: Northeastern University  
Project: Variability of scapular motion in overhead athletes with dyskinesia

Students: Caralyn Baxter, Katherine Budra, Aisling O'Sullivan Roche, Erica Feitler  
Institution: Northeastern University  
Project: Biomechanical factors associated with scapular dyskinesia

2011-2012

Students: John Judd, Timothy Smith, Nicholas Gorini, Robyn Stone  
Institution: Northeastern University  
Project: Variability of scapular motion in overhead athletes with dyskinesia

Students: Kristen Benya, Lindsay Heidebrink, Sara Whitney  
Institution: Northeastern University  
Project: Scapular muscle morphology in scapular dyskinesia

### **Supervision of Undergraduate Students Mentored Research Projects**

2019

Student: Gustavo Noes  
Institution: San Paulo, Brazil  
Project: Muscle quality in rotator cuff tears: atrophy or fat infiltration?  
Funding: FAPESP (Sao Paulo Research Foundation)

2018 and 2019 Summer

Student: Michael D Thayer  
Institution: Marquette University, Bioengineering  
Project: Glenohumeral kinematics associated Internal and Subacromial Impingement  
Funding: Undergraduate Research Assistant Program

2016 Summer

Student: Alexandra L Johnson  
Institution: Northwestern University, Bioengineering  
Project: Muscle degeneration and strength in patients with rotator cuff tear  
Funding: Northwestern Undergraduate Research Assistant Program