

Paul A. Borsa, PhD, ATC, FACSM

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EDUCATION

- Doctor of Philosophy University of Pittsburgh, Pittsburgh, PA
Major Area: Exercise Physiology
Area of Concentration: Sports Medicine
Awarded: August 1994
- Master of Science University of Pittsburgh, Pittsburgh, PA
Major Area: Exercise Physiology
Area of Concentration: Sports Medicine
Awarded: May 1992
- Bachelor of Science University of Pittsburgh, Pittsburgh, PA
Major Area: Movement Science
Area of Concentration: Athletic Training
Awarded: December 1988

PROFESSIONAL APPOINTMENTS AND EXPERIENCE

Academic appointments and experience:

- Adjunct Faculty Santa Fe College, 2006 – present
Health Sciences Department
- Associate Professor University of Florida, August 2003 – present
Department of Applied Physiology/Kinesiology
Director, Sports Medicine Research Laboratory
- Assistant Professor University of Michigan, July 1999 – June 2003
Division of Kinesiology
Director, Shoulder Kinematics Laboratory
- Assistant Professor Oregon State University, 1994 – 1999
Director, Sports Medicine Research Laboratory
College of Health and Human Performance
Department of Exercise & Sport Science

Medical Coordinator National Youth Sports Program
Medical Coordinator, July 5 - August 6, 1993.
University of Pittsburgh, Pittsburgh, PA

Teaching experience:

University of Pittsburgh: (1990 – 1994)

HPRED 1162 - Athletic Training Laboratory
HPRED 1164 - Injury Evaluation & Assessment 1 (Assisted)
HPRED 1165 - Injury Evaluation & Assessment 2 (Assisted)
HPRED 1192 - Practicum II clinical supervisor
HPRED 1163 - Strength & Conditioning (Assisted)
HPRED 1171 - Orthopedic Problems (Assisted)
HPRED 2169 - Anatomical Basis of Sports Medicine (Assisted)
HPRED 2267 – Adv. Ortho. Assessment and Treatment (Assisted)
HPRED 2268 - Seminar in Sports Medicine (Assisted)

Oregon State University: (1994 – 1999)

EXSS 324 Exercise Physiology
EXSS 325 Fitness Assessment and Exercise Prescription
EXSS 356 - Care & Prevention of Athletic Injuries
EXSS 357 - Athletic Training Practicum I
EXSS 358 - Athletic Training Practicum II
EXSS 359 - Athletic Training Practicum III
EXSS 365 - Emergency Management of Sports Trauma
EXSS 434/534 - Physiology of Strength Development
EXSS 443 - Therapeutic Modalities
EXSS 533 Advanced Exercise Physiology

University of Michigan: (1999 – 2003)

AT 260 – Introduction to Athletic Training
AT 360 – Prevention & Care of Athletic Injuries
AT 451 – Clinical Experiences in Athletic Training E
AT 462 – Therapeutic Modalities
AT 461 – Clinical Experiences in Athletic Training

University of Florida: (2003 – present)

APK 2300 – Prevention & Care of Athletic Injuries
PET 4625 – Topics in Sports Medicine
APK 6106 – Clinical Anatomy for the Exercise Sciences

APK 6314 – Physical Assessment of Athletic Injuries
APK 6130 – Human Pathophysiology for the Exercise Sciences
PET 6933 – Seminar in Sports Medicine

Santa Fe College (2006 – present)
BSC 2085 – Anatomy & Physiology I

***Student evaluations of teaching performance are available upon request.

ADVISING AND MENTORING

Doctoral Level:

Role	Student	Research Topic	Institution	Complete Date
Chair/Co-Chair, 6 Ph.D. Dissertation Committees	Larkin, Kelly	Infrared light exposure and micro-circulatory changes in skeletal muscle	University of Florida	2011
	Parr, Jeffrey	Immediate and long-term effects of laser therapy on musculoskeletal impairment in the shoulder	University of Florida	2010
	Naugle, Keith	Perceptions of wellness and burnout among certified athletic trainers: contributions of the wellness domains	University of Florida	2009
	Wikstrom, Erik	Movement patterns after lateral ankle sprains: An exploratory investigation of a potential cause of ankle instability	University of Florida	2007
	Yarrow, Joshua (Co-Chair)	Neuroendocrine and performance responses to eccentric-enhanced resistance exercise	University of Florida	2007
	Dover, Geoffrey	Multiple daily TENS treatments for the shoulder after exercise-induced injury	University of Florida	2005
	Sauers, Eric	Characterization of glenohumeral joint laxity and stiffness using instrumented arthrometry	Oregon State University	2000

Master's Level:

Advise/Co-advise 20 – 25 (non-thesis) Master's Students per annum in the Graduate Athletic Training Education Program, Department of Applied Physiology & Kinesiology, College of Health & Human Performance, University of Florida, 2003 – Present

REFEREED RESEARCH PUBLICATIONS

Peer-Reviewed Journal Publications

1. Parr JJ, Yarrow JF, Garbo CM, Borsa PA. Symptomatic and functional responses to concentric/eccentric isokinetic versus eccentric-only isotonic exercise. *J Athl Train* 44(5): 462-468, 2009.
2. Wikstrom EA, Tillman MD, Chmielewski TL, Cauraugh JH, Naugle KE, Borsa PA. Dynamic postural control but not mechanical stability differs among those with and without chronic ankle instability. *Scand J Med Sci Sports* 2009 [Epub ahead of print]
3. Wikstrom EA, Tillman MD, Chmielewski TL, Cauraugh JH, Naugle KE, Borsa PA. Self-assessed disability and functional performance in individuals with and without ankle instability: a case control study. *J Orthop Sports Phys Ther* 39(6): 458-467, 2009.
4. Yarrow JF, Borsa PA, Borst SE, Sitren HS, Stevens BR, White LJ. Early-phase neuroendocrine responses and strength adaptations following eccentric-enhanced resistance training. *J Strength Cond Res* 22(4):1205-1214, 2008.
5. Wikstrom EA, Tillman MD, Schenker S, Borsa PA. Failed jump landing trials: deficits in neuromuscular control. *Scand J Med Sci Sports* 18(1): 55-61, 2008.
6. Wikstrom E, Tillman M, Schenker S, Borsa P. Jump landing direction influences dynamic postural stability scores. *J Sci Med Sport* 11(2): 106-111, 2008.
7. Borsa PA, Laudner KG, Sauers EL. Mobility and stability adaptations in the shoulder of the overhead athlete: A theoretical and evidence-based perspective. *Sports Med* 38(1): 17-36, 2008.
8. Yarrow JF, Parr JJ, White LJ, Borsa PA, and Stevens BR. The effects of short-term alpha-ketoisocaproic acid supplementation on exercise performance: a randomized controlled trial. *J Int Soc Sports Nutr* 4(1):2, 2007
9. Yarrow, JF, Borsa PA, Borst SE, Sitren HS, Stevens BR, and White LJ. Neuroendocrine responses to an acute bout of eccentric-enhanced resistance exercise. *Med Sci Sports Exerc* 39(6): 941-947, 2007
10. Wikstrom EA, Tillman MD, Chmielewski TL, Cauraugh JH, Borsa PA. Dynamic postural stability deficits in subjects with self-reported ankle instability. *Med Sci Sports Exerc* 39(3): 397-402, 2007

11. Wikstrom E, Arrigenna M, Tillman M, Borsa P. Dynamic postural stability in subjects with braced, functionally unstable ankles. *J Athl Train* 41(3): 245-250, 2006.
12. Wikstrom EA, Tillman MD, Kline KJ, Borsa PA. Gender and limb differences in dynamic postural stability during landing. *Clin J Sport Med* 16(4): 311-315, 2006.
13. Wikstrom E, Tillman M, Chmielewski T, Borsa P. Measurement and evaluation of dynamic joint stability of the knee and ankle after injury. *Sports Med* 36(5): 393-410, 2006.
14. Borsa PA, Dover GC, Wilk KE, Reinold MM. Glenohumeral range-of-motion and stiffness in professional baseball pitchers. *Med Sci Sports Exerc* 38(1): 21-26, 2006.
15. Wikstrom E, Tillman M, Smith A, Borsa P. A New Force-Plate Technology Measure of Dynamic Postural Stability: The Dynamic Postural Stability Index. *J Athl Train* 40(4): 305-309, 2005.
16. Borsa PA, Wilk KE, Jacobson JA, Scibek JS, Dover GC, Reinold MM, Andrews JR. Correlation of range-of-motion and glenohumeral translation in professional baseball pitchers. *Am J Sports Med* 33(9): 1392-1399, 2005.
17. Borsa PA, Scibek JS, Jacobson JA, Meister K. Sonographic stress measurement of glenohumeral joint laxity in collegiate swimmers and age-matched controls. *Am J Sports Med* 33(7): 1077-1084, 2005.
18. Borsa PA, Jacobson JA, Scibek JS, Dover GC. Comparison of dynamic sonography to stress radiography for assessing glenohumeral laxity in asymptomatic shoulders. *Am J Sports Med* 33(5), 734-741, 2005.
19. Wikstrom EA, Tillman MD, Borsa PA. Detection of dynamic stability deficits in subjects with functional ankle instability. *Med Sci Sports Exerc* 37(2): 169-175, 2005.
20. Dover GC, Borsa PA, McDonald D. Cold urticaria following an ice application: A case study. *Clin J Sport Med* 14(6): 362-364, 2004.
21. Dover GC, Borsa PA: Reliability of clinical assessment techniques. *Athl Ther Today* 9(5): 64-67, 2004.
22. Borsa PA, Timmons MK, Sauers EL: Patterns of scapular positioning during humeral elevation in unimpaired shoulders. *J Athl Train* 38(1): 12-17, 2003.

23. Borsa PA, Sauers EL, Herling DE, Manzour WF: Glenohumeral stiffness response between men and women for anterior, posterior, and inferior translation. *J Athl Train* 37(3): 240-245, 2002.
24. Safran MR, Borsa PA, Lephart SM, Fu FH, Warner JJ: Shoulder proprioception in baseball pitchers. *J Shoulder Elbow Surg* 10(5): 438-444, 2001.
25. Borsa PA, Sauers EL, Herling DE, Manzour WF: In vivo quantification of capsular end-point in the healthy glenohumeral joint using an instrumented measurement system. *J Orthop Sports Phys Ther* 31(8): 419-431, 2001.
26. Sauers EL, Borsa PA, Herling DE, Stanley RD: Instrumented measurement of glenohumeral joint laxity and its relationship to passive range of motion and generalized joint laxity. *Am J Sports Med* 29(2):143-150, 2001.
27. Sauers EL, Borsa PA, Herling DE: Instrumented measurement of glenohumeral joint laxity: reliability and normative data. *Knee Surg Sports Traumatol Art.* 9(1): 34-41, 2001.
28. Borsa PA, Sauers EL, Herling DE: Patterns of glenohumeral joint laxity and stiffness in healthy men and women. *Med Sci Sports Exerc* 32(10):1685-1690, 2000.
29. Borsa PA, Sauers EL: The importance of gender on myokinetic deficits before and after micro-injury. *Med Sci Sports Exerc* 32(5): 891-896, 2000.
30. Borsa PA, Sauers EL, Lephart SM: Functional training for the restoration of dynamic stability in the posterior cruciate ligament-injured knee. *J Sport Rehabil* 8(4): 362-378, 1999.
31. Safran MR, Harner CD, Giraldo JL, Lephart SM, Borsa PA, Fu FH: Effects of injury and reconstruction of the posterior cruciate ligament on proprioception and neuromuscular control. *J Sport Rehabil* 8(4): 304-321, 1999.
32. Borsa PA, Sauers EL, Herling DE: In vivo assessment of AP laxity in healthy shoulders. *J Sport Rehabil* 8(3):157-170, 1999.
33. Borsa PA, Lephart SM, Irrgang JJ: Comparison of patient-reported and performance-based measures of function in anterior cruciate ligament deficient individuals. *J Orthop Sports Phys Ther* 28(6):392-399, 1998.
34. Borsa PA, Liggett CL. Flexible static magnets are not effective in decreasing pain perception and recovery time following muscle microinjury. *J Athl Train* 33(2): 150-155, 1998.

35. Borsa PA, Lephart SM, Irrgang JJ. Sport-specificity of knee scoring systems to assess disability in anterior cruciate ligament deficient athletes. *J Sport Rehabil* 7(1):44-60, 1998.
36. Borsa PA, Lephart SM, Irrgang JJ, Safran M, and Fu FH: The effects of joint position and direction of joint motion on proprioceptive sensibility in anterior cruciate ligament deficient individuals. *Am J Sport Med* 25(3): 336-340, 1997.
37. Utter A, Goss F, DaSilva S, Kang J, Suminski, Borsa P, et al. Development of a wrestling specific performance test. *J Strength Cond Res* 11(2): 88-91, 1997.
38. Lephart SM, Giraldo JL, Borsa PB, Fu FH. Knee joint proprioception: A comparison between female intercollegiate gymnasts and normals. *Knee Surg Sports Traumatol Art* 4: 121-124, 1996.
39. Simmons SC, Lephart SM, Rubash HE, Borsa PA, Barrack RL. Proprioception following total knee arthroplasty with and without the posterior cruciate ligament. *J Arthroplasty* 11(7): 763-768, 1996.
40. Lephart SM, Warner JP, Borsa PA, Fu FH. Proprioception of the shoulder joint in healthy, unstable, and surgically repaired shoulders. *J Shoulder Elbow Surg* 3: 371-380, 1994.
41. Borsa PA, Lephart SM, Kocher MS, Lephart SM. Functional assessment and rehabilitation of shoulder proprioception for glenohumeral instability. *J Sport Rehabil* 3: 84-104, 1994.
42. Borsa PA, Lephart SM, Fu FH. Muscular and functional performance characteristics of individuals wearing prophylactic knee braces, *Athl Train, JNATA* 28(4): 336-344, 1993.
43. Lephart SM, Kocher MS, Fu FH, Borsa PA, Harner CD. Proprioception following anterior cruciate ligament reconstruction. *J Sport Rehabil* 1:188-196, 1992.

Peer-Reviewed Journal Publications (In Review)

Wikstrom EA, Tillman MD, Borsa PA. Sex-differences in neuromuscular control alter dynamic postural stability. *J Athl Train*

Non-Peer-Reviewed

Borsa PA. Leadership in the academy: junior faculty as program directors. *J Athl Train* 40(4):256-257, 2005.

SOLICITED CHAPTERS IN BOOKS

Borsa PA, Lephart SM: "Conditioning and Training". Chapter in Sports Injuries: Mechanisms, Prevention, and Treatment, (2nd ed.) Lippincott Williams and Wilkins, Philadelphia, PA. 2001: 22-48.

Lephart SM, Fu FH, Borsa PA: "Proprioception in Sports". Chapter in Advances in Orthopaedics, Vol II, Mosby Year Book, Inc., Chicago, IL. 1994: 77-91.

Lephart SM, Borsa PA: "Functional Training". Chapter in Knee Surgery, Williams & Wilkins, Baltimore, MD. 1994: 527-539.

INVITED LECTURES AND SYMPOSIA

National

"Clinical Assessment of Shoulder Instability", *National Athletic Trainers' Association's 58th Annual Meeting and Clinical Symposia*, June 29, 2007, Anaheim, CA.

"Rehabilitation Concerns for Clavicular Injuries", *National Athletic Trainers' Association's 56th Annual Meeting and Clinical Symposia*, June 14, 2005, Indianapolis, IN.

"Laxity Testing of the Shoulder Joint in Professional Baseball Players", *23rd Annual Injuries in Baseball Course*, presented by the American Sports Medicine Institute, January 14, 2005, Scottsdale, AZ.

"Magnetic Therapy for Musculoskeletal Disorders". *National Athletic Trainers' Association's 55th Annual Meeting and Clinical Symposia*, June 17, 2004. Baltimore, MD.

"Special Interest Group: Shoulder - Glenohumeral Instability". *National Athletic Trainers' Association's 55th Annual Meeting and Clinical Symposia*, June 18, 2004. Baltimore, MD.

"Arthrokinematic and Mechanical Behavior of the Glenohumeral Joint"
National Athletic Trainers' Association 51st Annual Meeting and Clinical Symposia, Nashville, TN, June 30, 2000.

"Rehabilitation Strategies for Sports Medicine: Neurological Basis of Rehabilitation"
46th Annual Meeting of the American College of Sports Medicine, Indianapolis, IN., May 31, 2000.

"Restoration of Stability in the PCL Deficient Knee"

National Athletic Trainers' Association 50th Annual Meeting and Clinical Symposia, Kansas City, MO, June 18, 1999.

"Management Strategies for the Posterior Cruciate Ligament Deficient Athlete: Current Concepts in PCL Rehabilitation", *National Athletic Trainers' Association's 49th Annual Meeting and Clinical Symposia*, Baltimore, MD, June, 1998.

"The Status of Sports Health Care in Secondary Schools"
44th Annual Meeting of the American College of Sports Medicine, Orlando, FL., June, 1998.

Regional

"Laser Therapy for Athletic Trainers", *Southeastern Athletic Trainers' Association District IX Annual Meeting*, Bay Point Marriott, March 22, 2009, Panama City Beach, FL.

"Common Shoulder Injuries in the Athlete"
American Academy of Physical Medicine and Rehabilitation Resident Physician Council Midwest Regional Conference, Topics in the Rehabilitation of the Athlete, Ann Arbor, MI, August 26, 2000.

"Arthrokinematic and Mechanical Behavior of the Glenohumeral Joint"
Department of Kinesiology Graduate Student Colloquium. Penn State University, University Park, PA, November 11th, 1999.

"Cross-Training for the Rowing Athlete", *1992 US Rowing National Convention* Pittsburgh, PA, October, 1992.

"Recognition & Management of Athletic Injuries" *Exercise Specialist Workshop*, *American College of Sports Medicine*, University of Pittsburgh, Pittsburgh, PA July 1992, 1993, and 1994.

Local

"Prevention & Treatment of Heat-related Illness in Sports", *Sports Medicine Jamboree*, Hilton University of Florida Conference Center, August 29, 2009, Gainesville, FL.

"Aging, Musculoskeletal Injury and Functional Recovery", *Primetime Institute Research Forum*, Santa Fe Community College, March 27, 2008, Gainesville, FL.

"Instrumented Arthrometry for the Shoulder: From Feel to Real"
The Distinguished Lecture Series in Sports Medicine
Hope College, Department of Athletic Training, Holland, MI
September 26, 2002

"Mechanical Behavior of the Glenohumeral Joint"
Center for Ergonomics Seminar Series, College of Engineering, University of Michigan, Ann Arbor, MI, October 10th, 2000.

“Patterns of Glenohumeral Joint Laxity and Stiffness in Healthy Males and Females”
Orthopaedic Research Laboratory Seminar Series. University of Michigan, Ann Arbor,
MI, November 5th, 1999.

“Training Schedules, Injury Prevention and Recovery”
Rediscovery of Performance - Forum on Adult Athletic Performance
Oregon State University, College of Health and Human Performance
Corvallis, OR, January 24, 1997.

“Selected Topics in Sports Medicine”
Adolescent Health: News You Can Use
Children's Hospital of Pittsburgh
Pittsburgh, PA, October, 1993.

“Career Opportunities for the Athletic Trainer”
District of Franklin Regional Junior High School
Murrysville, PA. April, 1989.

GRANTS AND CONTRACTS

Funded Externally:

Active:

Title: Biopsychosocial Influence on Shoulder Pain
Effective Dates: 7/01/2008 – 4/30/2013
Funding Agency: NIH/NIAMS (1 R01 AR055899-01)
Role: Co-Investigator (15% effort)
Total Award: \$2,150,000

Title: Claude D. Pepper Older Americans Independence Center (OAIC)
Effective Dates: 4/01/2007 – 3/31/2012
Funding Agency: NIH/NIA (5 P30 AG028740-03) (PI, Pahor)
Role: Co-Investigator (2.5% effort)
Total Award: \$4,326,840

Completed:

Title: A Single Site Double Blind Placebo Controlled Study of the Effects of a Dietary
Supplement on Muscle Recovery Following Exercise-Induced Muscle Damage
Effective Dates: 8/01/2006 – 7/31/2007
Funding Agency: Iovate Health Sciences Research, Inc.
Role: Principal Investigator (20% effort)
Total Award: \$72,500

Title: Comparison of Shoulder and Elbow Joint Position Sense Using a Vibration Stimulus

Effective Dates: 6/30/2003 – 6/30/2004

Funding Agency: NATA Research and Education Foundation

Role: Co-Principal Investigator

Total Award: \$2,096

Title: Arthrometric Evaluation of Glenohumeral Joint Laxity and Stiffness in Patients with Documented Shoulder Instabilities

Effective Dates: 1999-2000

Funding Agency: Good Samaritan Hospital Foundation, John C. Erkkila M.D., Endowment for Health and Human Performance.

Role: Co-Investigator

Total Award: \$12,610.00

Title: Arthrometric Evaluation of Shoulder Laxity Using a 3-D Spatial Tracking System

Effective Dates: 1998-1999

Funding Agency: Good Samaritan Hospital Foundation, John C. Erkkila M.D., Endowment for Health and Human Performance

Role: Principal Investigator

Total Award: \$14, 673

Title: The Use of an Instrumented Arthrometer Prototype to Assess Ligamentous Laxity of the Glenohumeral Joint

Effective Dates: 1997-1998

Funding Agency: Good Samaritan Hospital Foundation, John C. Erkkila M.D., Endowment for Health and Human Performance.

Role: Principal Investigator

Total Award: \$10,815

Title: Proprioception Following Total Knee Arthroplasty With and Without the PCL

Effective Dates: 1993-1994

Funding Agency: Zimmer, Inc.

Role: Co-Investigator

Total Award: \$16,600

Title: Effects of Pro-neoprene Sleeves on Knee Proprioception

Effective Dates: 1991-1992

Funding Agency: Pro-Orthopedic Device, Inc.

Role: Co-Investigator

Total Award: \$1,300.00

Funded Internally:

Completed:

Title: Movement patterns after lateral ankle sprains: an exploratory investigation of a potential cause of ankle instability

Effective Dates: 2005 – 2006

Funding Agency: College of Health and Human Performance Research Opportunity Fund

Role: Principal Investigator

Total Award: \$5,560

Title: Ankle Mechanics after lateral ankle sprains: An exploratory investigation of a potential cause of ankle instability

Effective Dates: 2004 – 2005

Funding Agency: College of Health and Human Performance Research Opportunity Fund

Role: Principal Investigator

Total Award: \$5,280

Title: In Vivo Characterization of Glenohumeral Kinematics in Healthy and Pathologic Shoulders

Effective Dates: 2000-2001

Funding Agency: Office of the Vice President for Research, University of Michigan

Role: Principal Investigator

Total Award: \$41,867

Title: In vivo characterization of glenohumeral kinematics in clinically unstable shoulders before and after surgical repair

Effective Dates: 2000

Funding Agency: Spring/Summer Research Grants Program, Rackham Graduate School and the Office of the Vice President for Research, University of Michigan

Role: Principal Investigator

Total Award: \$6,000

Title: Characterization of Glenohumeral Joint Laxity and Stiffness in Patients With Clinically Documented Instabilities

Effective Dates: 1999-2000

Funding Agency: Rackham Graduate School, University of Michigan

Role: Principal Investigator

Total Award: \$14,980

Title: The Use of an Instrumented Arthrometer Prototype to Assess Ligamentous Laxity of the Glenohumeral Joint

Effective Dates: 1997

Funding Agency: Research Office – Oregon State University

Role: Principal Investigator

Total Award: \$6,985.00

Title: The Use of an Instrumented Unstable Platform for Assessing Proprioception Deficits in Anterior Cruciate Ligament-Deficient Individuals
Effective Dates: 1994
Funding Agency: University of Pittsburgh Student Research Fund, School of Education
Role: Principal Investigator
Total Award: \$1,500

Submitted, Pending Decision:

Title: Supplementation Strategies to Augment Skeletal Muscle Regeneration
Date Submitted: July, 2009
Funding Agency: Ajinomoto Amino Acid Research Program
Role: Co-Principal Investigator
Total Award: \$125,000

Title: Infrared Light, Nitric Oxide Signaling and Skeletal Muscle Regeneration
Date Submitted: May, 2009
Funding Agency: NFL Charities Medical Research Grant
Role: Co-Principal Investigator
Total Award: \$124,587

Title: Dose-response assessment of phototherapy for modulating acute inflammation
Date Submitted: June, 2008
Funding Agency: NIH/NCCAM
Role of Nominee: Principal Investigator
Total Award: \$557,170
*Priority Score = 163

Submitted, But Not Funded:

Title: Photobiomodulation of muscle inflammation and repair
Date Submitted: April, 2009
Funding Agency: NIH/NIAMS (1RC1AG028317-01)
Role of Nominee: Principal Investigator
Total Award: \$1,000,000

Title: Laser therapy and skeletal muscle recovery from atrophy
Date Submitted: January, 2009
Funding Agency: UF Research Opportunity Incentive Seed Fund
Role of Nominee: Co-Principal Investigator
Total Award: \$80,587

Title: Low-energy laser irradiation and skeletal muscle recovery from atrophy
Date Submitted: December, 2008
Funding Agency: UF Pepper Center Pilot Program
Role of Nominee: Co-Principal Investigator
Total Award: \$41,021

Title: Laser therapy for modulating inflammation, attenuating secondary cell damage and improving recovery following muscle strain injury
Date Submitted: September, 2008
Funding Agency: UF Clinical & Translational Science Institute Major Initiatives Proposal
Role: Principal Investigator
Total Award: \$63,350

Title: Supplementation strategies to augment skeletal muscle regeneration
Date Submitted: June, 2008
Funding Agency: NIH/NCCAM (1R21 AT005103-01)
Role: Co-Investigator
Total Award: \$393,609
*Priority Score = 232, resubmission in 2009/2010

Title: Laser therapy treatment for attenuating secondary cell damage following muscle strain injury
Date Submitted: May, 2008
Funding Agency: NFL Charities Medical Research Grant
Role: Principal Investigator
Total Award: \$89,080

Title: Enhanced eccentric strength training for the hamstrings
Date Submitted: May, 2007
Funding Agency: NFL Charities Medical Research Grant
Role: Principal Investigator
Total Award: \$99,000

Title: Mechanisms of apoptosis in the development of sarcopenia and frailty in old age
Date Submitted: January, 2007
Funding Agency: UF Research Opportunity Fund
Role: Co-Investigator
Total Award: \$125,000

Title: Laser Therapy for Treating Musculoskeletal Injuries
Date Submitted: May, 2006
Funding Agency: NFL Charities Medical Research Grant (PI, Borsa)
Role: Principal Investigator
Total Award: \$124,098.70

Title: Aspirin supplementation to attenuate systemic inflammation: A network-based analysis
Date Submitted: February, 2006
Funding Agency: AHA Grant-in-Aid Award Program
Role: Principal Investigator
Total Award: \$264,000

Title: Aging, muscle inflammation and recovery
Date Submitted: September, 2005
Funding Agency: NIH/NIA (1R21 AG028317-01)
Role: Principal Investigator
Total Award: \$394,163

Title: CAM therapies for musculoskeletal injury
Date Submitted: May, 2005
Funding Agency: NIH/NCCAM (1R21 AT003394-01)
Role: Principal Investigator
Total Award: \$563,747
*Priority Score = 209 Resubmitted July, 2006

Title: Low-Level Laser Therapy to Treat Musculoskeletal Pain and Dysfunction
Date Submitted: February, 2005
Funding Agency: NATA Research and Education Foundation
Role: Principal Investigator
Total Award: \$124,191

Title: Pre-operative instrumented stress measurement for predicting ligamentous insufficiency in shoulder injured patients
Date Submitted: January, 2005
Funding Agency: UF Research Opportunity Fund
Role: Principal Investigator
Total Award: \$34,300.00

Title: Instrumented stress testing for shoulder injuries
Date Submitted: December, 2004
Funding Agency: NIH/NIAMS (1R41 AR052951-01)
Role of Nominee: Principal Investigator
Total Award: \$113,978

Title: Effects of ACL Reconstruction Using Patellar Tendon and Hamstring Autografts on Knee Extension Mechanics
Date Submitted: March, 2004
Funding Agency: The Aircast Foundation, Inc.
Role: Co-Investigator
Total Award: \$99,941

SCIENTIFIC PRESENTATIONS

International – Refereed Scientific Presentations

Wikstrom E, Tillman M, Schenker S, Kline K, Borsa P. Neuromuscular control differences between successful and failed jump landing trials. *Canadian Athletic Therapists Association Conference.* Ottawa, Canada, May 2006.

Lephart SM, Kocher MS, Warner JJP, Fu FH, Borsa PA: Proprioception in subjects with shoulder instability. 1993 Combined Congress of the *International Arthroscopy Association and the International Society of the Knee*, June, Copenhagen, Denmark.

Lephart SM, Fu FH, Warner JJP, Kocher MS, Borsa PA: Normal Shoulder Joint Kinesthesia in college age individuals. 1992 *International Meeting of Shoulder Surgery*, May, Paris, France.

National – Refereed Scientific Presentations

Naugle K, Borsa P, Dodd V, Tillman M, Behar-Horenstein L, Garvan C. Perceptions of Wellness and Burnout in the Southeastern Athletic Trainers Association NATA district (9) *National Athletic Trainers' Association Annual Meeting*. San Antonio, TX, June, 2009.

Fournier K, Borsa P, Wikstrom E. Postural instability during single limb stance for individuals with previous ankle injury. *56th Annual Meeting of the American College of Sports Medicine*. Seattle, WA, June, 2009.

Borsa PA, Parr JJ, Yarrow JF, Garbo CM. Symptomatic and functional responses to isokinetic versus isotonic eccentric exercise. *55th Annual Meeting of the American College of Sports Medicine*. Nashville, TN, June, 2008.

Naugle K, Wikstrom E, Borsa P, Tillman M, Chmielewski T, Cauraugh J. Ankle instability status affects symptomatic response but not functional performance. *National Athletic Trainers' Association Annual Meeting*. St. Louis, MO, June, 2008.

Tillman M, Wikstrom E, Chmiewlewski T, Cauraugh J, Borsa P. Dynamic postural stability in copers and individuals with chronic ankle instability. *55th Annual Meeting of the American College of Sports Medicine*, Nashville, TN, June, 2008.

Naugle K, Wikstrom E, Tillman M, Schenker S, Borsa P. Jump Protocol Direction Does Not Effect Dynamic Postural Stability of EMG in Healthy Subjects. *National Athletic Trainers' Association 57th Annual Meeting & Clinical Symposia*, Atlanta, GA, June, 2006.

Wikstrom E, Tillman M, Kline K, Borsa P. Gender and limb differences in dynamic stability and energy absorption during landing. *National Athletic Trainers' Association 56th Annual Meeting and Clinical Symposium*. Indianapolis, IN, June, 2005.

Dover G, Conrad B, Tillman M, Wikstrom E, Borsa P. Comparison of shoulder and elbow joint position sense using a vibration stimulus. *National Athletic Trainers' Association 56th Annual Meeting and Clinical Symposium*. Indianapolis, IN, June, 2005.

Yarrow JF, Stevens BR, Parr JJ, Borsa PA, White LJ. The effects of ketoisocaproic acid alone on muscular endurance. *52nd Annual Meeting of the American College of Sports Medicine*, Nashville, TN, June, 2005.

Borsa PA, Scibek J, Jacobson J, Wilk K, Reinold M, Andrews J. Glenohumeral laxity in professional baseball pitchers. *51st Annual Meeting of the American College of Sports Medicine*, Indianapolis, IN, June, 2004.

Scibek JS, Borsa PA, Swimming practice significantly reduces scapular upward rotation, *NATA Annual Meeting & Clinical Symposia*, St. Louis, MO, June, 2003.

Godek AJ, Hendrickson CD, Borsa PA. Axillary pain in a collegiate football player. *NATA Annual Meeting & Clinical Symposia*, St. Louis, MO, June 28, 2003.

Borsa PA, Sauers EL, Herling DE. In vivo force-displacement response of the healthy glenohumeral joint. *48th Annual Meeting of the American College of Sports Medicine*, Baltimore, MD, May, 2001.

Sauers EL, Herling DE, Borsa PA. Validity of an instrumented measurement technique for quantifying glenohumeral joint laxity and stiffness. *National Athletic Trainers Association 52nd Annual Meeting & Clinical Symposia*, Los Angeles, CA, June, 2001.

Timmons M, Borsa P, Sauers E, Patterns of scapular positioning during humeral elevation healthy shoulders, *National Athletic Trainers Association 52nd Annual Meeting & Clinical Symposia*, Los Angeles, CA, June, 2001.

Borsa PA, Sauers EL, Herling DE. Glenohumeral joint laxity and stiffness in healthy shoulders. *47th Annual Meeting of the American College of Sports Medicine*. May 31-June 3, 2000, Indianapolis, IN.

Sauers EL, Borsa PA, Herling DE, Stanley RD: Gender differences in AP laxity and stiffness of the glenohumeral joint. *American Academy of Orthopaedic Surgeons 67th Annual Meeting*. March 15-19, 2000, Orlando, FL.

Sauers EL, Borsa PA, Herling DE: Instrumented arthrometry reveals increased sagittal plane glenohumeral laxity in females. *National Athletic Trainer's Association 50th Annual Meeting and Clinical Symposia*. June 16-19, 1999, Kansas City, MO.

Borsa PA, Sauers EL, Herling DE, Harter RA: Arthrometric assessment of sagittal plane laxity in healthy shoulders. *46th Annual Meeting of the American College of Sports Medicine*. June 2-5, 1999, Seattle, WA.

Borsa PA, Lephart SM, Irrgang JJ: A model for predicting functional outcome using selected patient-reported and performance-based measures of knee function. *75th Annual Meeting of the American Congress of Rehabilitation Medicine*. November 8, 1998, Seattle, WA.

Sidner AB, Borsa PA: Effects of high resistances on anaerobic power and capacity in elite power-trained females. *45th Annual Meeting of the American College of Sports Medicine*. June 4, 1998, Orlando, FL.

Borsa PA, Lephart SM, Irrgang JJ, Safran M: The effects of joint position and direction of joint motion on proprioceptive sensibility in anterior cruciate ligament deficient individuals. *National Athletic Trainer's Association 48th Annual Meeting and Clinical Symposia*. June 19, 1997, Salt Lake City, UT.

Bowen KM, Borsa PA, Harter RA: Intradevice reproducibility and interdevice comparison of the CA-4000 knee motion analyzer and KT-2000 knee ligament arthrometer in healthy individuals. *National Athletic Trainer's Association 48th Annual Meeting and Clinical Symposia*. June 19, 1997, Salt Lake City, UT.

Mende GN, Borsa PA, Wood TM, Wilcox AR: A comparison of the effects of stretch duration and repetitions on hamstring extensibility. *44th Annual Meeting of the American College of Sports Medicine*. May, 1997, Denver, CO.

Borsa PA, Lephart SM, Irrgang JJ, Safran M, and Fu FH: A comparison of four knee scoring systems used to assess functional disability in anterior cruciate ligament deficient individuals. *1996 2nd World Congress on Sports Trauma/American Orthopaedic Society for Sports Medicine Specialty Day Meeting*, June 20, Lake Buena Vista, FL.

Caldwell GL, Safran MR, Lephart SM, Borsa PB, et al: Intra-articular afferent contribution to shoulder proprioception. *1996 2nd World Congress on Sports Trauma/American Orthopaedic Society for Sports Medicine Specialty Day Meeting*, June 20, Lake Buena Vista, FL.

Safran MR, Allen AA, Lephart SM, Borsa PA, Giraldo J, Fu FH, and Harner CD. Contribution of posterior cruciate ligament mechanoreceptors to knee proprioception, *1996 American Academy of Orthopaedic Surgeons Annual and American Orthopaedic Society For Sports Medicine Specialty Day Meeting*, February, Atlanta, GA.

Safran MR, Lephart SM, Caldwell GL, Borsa PA, Fu FH. Shoulder proprioception in baseball pitchers. *1995 American Academy of Orthopaedic Surgeons Annual Meeting*, February, Orlando, Florida.

Simmons SC, Lephart SM, Rubash HE, Borsa PA, Barrack RL. Proprioception following total knee arthroplasty with and without the posterior cruciate ligament. *1995 American Academy of Orthopaedic Surgeons Annual Meeting*, February, Orlando, Florida.

Borsa PA, Lephart SM, Irrgang JJ, and Safran M: Relationship between selected proprioceptive and functional characteristics in anterior cruciate ligament deficient individuals. *1995 American College of Sports Medicine Annual Meeting*, June, Minneapolis, MN.

Lephart SM, Warner JJP, Borsa PA, Reddy JG, Fu FH: Proprioception following capsulolabral reconstruction of the shoulder. *1994 American Orthopaedic Society for Sports Medicine Annual Meeting*, June, Palm Desert, CA.

Borsa PA, Lephart SM, Warner JP, Fu FH. Proprioception of the shoulder joint in normal, unstable, and postcapsulolabral reconstruction, *1994 National Athletic Training Association Annual Meeting*, June, Dallas, TX.

Lephart SM, Warner JJP, Borsa PA, Fu FH: Proprioception of the shoulder in normal, unstable, and post-surgical individuals. 1994 American Shoulder and Elbow Surgeons Society Specialty Meeting. *1994 American Academy of Orthopaedic Surgeons Annual Meeting*, February, New Orleans, LA.

Winner of the Charles S. Neer Award for Outstanding Basic Science Research.

Lephart SM, Fu FH, Harner CD, Kocher MS, Borsa PA: Proprioception following anterior cruciate ligament reconstruction. *1993 American Academy of Orthopaedic Surgeons Annual Meeting*, February, San Francisco, CA.

Kocher MS, Lephart SM, Warner JJP, Fu FH, Borsa PA: Proprioception in patients with shoulder instability. *1993 Orthopaedic Research Society Meeting*, February, San Francisco, CA.

Lephart SM, Kocher MS, Fu FH, Borsa PA, Harner CD: Proprioception following anterior cruciate ligament reconstruction. *1993 American Academy of Orthopaedic Surgeons Annual Meeting*, February, San Francisco, CA.

Lephart SM, Kocher MS, Fu FH, Harner CD, Borsa PA: Quadriceps strength following patellar tendon autograft and allograft anterior cruciate ligament reconstruction. *1993 American Academy of Orthopaedic Surgeons Annual Meeting*, February, San Francisco, CA.

Lephart SM, Fu FH, Warner JP, Borsa PA. Proprioception in athletic individuals with unilateral shoulder instability. *1993 American College of Sports Medicine Annual Meeting*, June Seattle, WA.

Lephart SM, Borsa PA, Warner JJP, Reddy JG, Fu FH: Proprioception and kinesthesia in individuals with unstable shoulders. *1993 American Orthopaedic Society for Sports Medicine*, July, Sun Valley, Idaho.

Lephart SM, Fu FH, Borsa PA, Kocher MS: Proprioception following anterior cruciate ligament disruption. *1992 American College of Sports Medicine Annual Meeting*, May, Dallas TX.

Lephart SM, Fu FH, Warner JJP, Borsa PA: Normal shoulder proprioception measurements in college age individuals. *1992 American Orthopaedic Society for Sports Medicine Annual Meeting*, July, San Diego, CA.

Lephart SM, Conners C, Fu FH, Irrgang JJ, Borsa PA: Proprioceptive characteristics of trained and untrained college females. *1991 American College of Sports Medicine Annual Meeting*, May, Orlando, FL.

Borsa PA, Lephart SM, Fu FH, Utter A, Michael T: The Relationship Between Selected Anthropometric Measurements and Muscular Strength Characteristics of Intercollegiate Wrestlers During a Competitive Season. *1991 National Athletic Training Association Annual Meeting*, June, New Orleans, LA.

Borsa, PA, Lephart SM, Fu, F: Muscular and Functional Performance Characteristics of Individuals Wearing Prophylactic Lateral Knee Braces. *1989 National Athletic Training Association Annual Meeting*, June, Dallas, TX.

Regional – Refereed Scientific Presentations

Parr JJ, Larkin KA, Borsa PA. Laser therapy's effect on strength and pain in musculo-skeletal impairments. *2009 SouthEastern American Society of Biomechanics Annual Meeting*. Gainesville, FL, May, 2009.

Fournier K, Borsa P, Wikstrom E. Postural instability during single limb stance for individuals with previous ankle injury. *2009 SouthEastern American Society of Biomechanics Annual Meeting*, Gainesville, FL, May, 2009.

Naugle K, Borsa P, Dodd V, Tillman M, Behar-Horenstein L, Garvan C. Perceptions of Wellness and Burnout Among Certified Athletic Trainers: Contributions of the Wellness Domains *2009 Southeastern Athletic Trainers Association Annual Meeting and Clinical Symposium*, Panama City Beach, FL, March 21, 2009.

Naugle K, Wikstrom E, Borsa P, Tillman M, Chmielewski T, Cauraugh J. Ankle Instability Status Affects Symptomatic Response but Not Functional Performance. *2008 Annual Meeting of the Southeast Chapter of American College of Sports Medicine*. Birmingham, AL, February, 2008

Naugle K, Wikstrom E, Tillman M, Chmielewski T, Cauraugh J, Borsa P. Dynamic Postural Stability Index shows Deficits in Individuals with Functional Ankle Instability. *2006 South Eastern Athletic Trainers' Association Annual Meeting and Clinical Symposium*, Atlanta, GA. April 2006.

Wikstrom E, Tillman M, Schenker S, Kline K, Borsa, P. Neuromuscular control differences between Successful and Failed Jump Landing Trials. *South Eastern Athletic Trainers' Association Annual Meeting and Symposium*. Atlanta, GA. April 2006.

Wikstrom E, Tillman M, Kline K, Borsa P. Gender and Limb Differences in Dynamic Stability and Energy Absorption During Landing. *Southeastern Athletic Trainers' Association Annual Meeting and Symposium*. Atlanta, GA, April, 2005.

Arrigenna M, Wikstrom E, Tillman M, Borsa P. Prophylactic ankle stabilizers do not alter dynamic stability in the functionally unstable ankle. *Southeastern Athletic Trainers' Association Annual Meeting and Clinical Symposium*. Atlanta, GA, April, 2005.

Dover GC, Borsa PA, McDonald D. Cold urticaria following an ice application: A case study. *South Eastern Athletic Trainers Association Annual Meeting*, Atlanta, GA, 2004.

Wikstrom E, Tillman M, Smith A, Borsa P. Reliability and validity of a new measure of dynamic stability: the dynamic stability index. *Second International Ankle Symposium*. Newark, DE, October, 2004.

Borsa PA. The role of prophylactic knee and ankle bracing in preventing the incidence and severity of ligamentous injuries. *Annual Meeting of the Western College Physical Education Society*, October 10, 1996, Reno, NV.

SCIENTIFIC EXHIBITS

Lephart SM, Borsa PA, Warner JJP, Safran MR, Harner CD, Fu FH: Proprioception of the knee and shoulder joint in normal, athletic, capsuloligamentous injured, and post-reconstructed individuals. *1994 American Academy of Orthopaedic Surgeons Annual Meeting*, February, New Orleans, LA.

PROFESSIONAL HONORS AND AWARDS

Herling DE, Borsa PA, Sauers EL: Inventors
United States Patent # 6,551,258 Granted, April 22, 2003
Title: *Methods and Apparatus of Joint Laxity Measurements*
Assignee: The State of Oregon Acting by and through the State Board of Higher Education (Corvallis, OR)

Fellow, American College of Sports Medicine, Awarded April, 2001.

1st Place Award for Best Scientific Poster Presentation: Borsa PA, Lephart SM, Irrgang JJ: A model for predicting functional outcome using selected patient-reported and performance-based measures of knee function. *75th Annual Meeting of the American Congress of Rehabilitation Medicine*. November 8, 1998, Seattle, WA.

1st Place Award for Best Poster Presentation, Co-author, Bowen KM, Borsa PA, Harter RA: Intradevice reproducibility and interdevice comparison of the CA-4000 knee motion analyzer and KT-2000 knee ligament arthrometer in healthy individuals. *National Athletic Trainer's Association 48th Annual Meeting and Clinical Symposia*. June 19, 1997, Salt Lake City, UT.

Recipient of the G. Arthur Broten Young Scholar Award. Presented by the *Western College Physical Education Society*, October, 1996.

Recipient of the 1994 Charles S. Neer Award for Outstanding Basic Science Research. Lephart SM, Warner JP, Borsa PA, Fu FH. Proprioception of the shoulder joint in healthy, unstable, and surgically repaired shoulders. *J Shoulder Elbow Surg* 3: 371-380, 1994. **Presented by the American Shoulder and Elbow Surgeons.**

PROFESSIONAL SERVICE

Committee Membership:

National Athletic Trainers' Association
Convention Committee, Term: January 2000 to June 2003.

Program Chair, Minicourses, 52nd Annual Meeting and Clinical Symposia, Los Angeles, CA, June 2001.

Program Chair, Symposia Sessions, 53rd Annual Meeting and Clinical Symposia, Dallas, TX, June 2002.

Program Chair, Workshops, 54th Annual Meeting and Clinical Symposia, St. Louis, MO, June 2003.

Reviewer for Grant Proposals & Abstracts:

1996 – present National Athletic Trainers' Association Research and Education Foundation

2005 – present Southeastern Athletic Trainer's Association Research and Education Foundation

Editorial Board Membership:

Journal of Athletic Training
Board member, 1999 to 2007
Section Editor, Examination, Treatment and Rehabilitation, 2007 to present
Official Journal of the National Athletic Trainers' Association

Journal of Sport Rehabilitation,
Board member, 1996 to 1999
Human Kinetics Publishers

Guest Editor:

Journal of Sports Rehabilitation
Special Issue: Management Strategies for PCL Injured Athletes
November Issue – Vol. 8, No. 4, 1999.

Ad Hoc Reviewer:

2005 – present *American Journal of Sports Medicine* (2 – 4 papers/yr)
2002 – present *Medicine & Science in Sport and Exercise* (2 – 4 papers/yr)
1999 – present *Journal of Sport Rehabilitation* (1 – 2 papers/yr)

2006 – present *BMC Musculoskeletal Disorders* (1 paper/yr)

PROFESSIONAL AFFILIATIONS

National Athletic Trainers' Association (Member #871981 & Certification #02-1679),
1987 – present

Southeastern Athletic Trainer's Association (District IX Region of National Athletic
Trainer's Association), 2003 – present

American College of Sports Medicine (Member #511990), 1990 – present

Active Member of the *Institute on Aging*, affiliated with the Department of Aging and
Geriatric Research, College of Medicine, University of Florida, 2007 – present

UNIVERSITY GOVERNANCE AND SERVICE

University of Florida (2003 – present)

University Level

N/A

College Level

2008-2009 Member, Scholarship Committee
2007-2008 Member, Teacher/Adviser of the Year Committee
2004-2005 Member, Petitions Committee

Department Level

2008-2009 Member, Faculty Evaluation Committee
2008-2009 Member, Graduate Faculty Committee
2007-2008 Member, Faculty Evaluation Committee
2007-2008 Member, Graduate Curriculum Committee
2006-2007 Member, Graduate Faculty Committee
2006-2007 Member, Graduate Curriculum Committee
2006-2007 Member, Grade Appeals/Petitions Committee
2005-2006 Member, Graduate Faculty Committee
2005-2006 Member, Graduate Curriculum Committee
2005-2006 Member, Grade Appeals/Petitions Committee
2004-2005 Chair, Grade Appeals/Petitions Committee
2004-2005 Member, Graduate Curriculum Committee
2004-2005 Member, Graduate Faculty Committee
2003-2004 Graduate Coordinator, Department of Exercise & Sport Sciences
2003-2004 Chair, Graduate Curriculum Committee
2003-2004 Chair, Graduate Faculty Committee