

## CURRICULUM VITAE

### ERIC L. SAUERS, PhD, ATC

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#### **EDUCATION**

##### **Doctor of Philosophy - 2000**

###### ***Sports Medicine***

Department of Exercise & Sport Science, College of Health & Human Performance  
Oregon State University, Corvallis, OR

Major Area: Health & Human Performance Minor Area: Education

Areas of Concentration: Sports Medicine / Athletic Training and Adult / University Education

Dissertation Title: *Characterization of glenohumeral joint laxity and stiffness using instrumented arthrometry*

##### **Master of Science - 1997**

###### ***Sports Health Care\****

Department of Sports Health Care, Arizona School of Health Sciences (ASHS), A. T. Still  
University of Health Sciences, Phoenix, AZ

*\*NATA Accredited Post-Certification Graduate Athletic Training Education Program*

##### **Bachelor of Science - 1995**

###### ***Exercise Science***

Department of Physical Education & Exercise Science, Seattle Pacific University, Seattle, WA

#### **CERTIFICATIONS / LICENSURES**

##### **Certified Athletic Trainer (ATC)**

National Athletic Trainers' Association Board of Certification, Certification #: 049602488

##### **Licensed Athletic Trainer**

State of Arizona Board of Athletic Training, License # 0056

##### **Certified Strength and Conditioning Specialist (CSCS)**

National Strength and Conditioning Association, Certification #: 965973

##### **Basic Life Support for Healthcare Providers**

American Heart Association

## **CURRENT ACADEMIC APPOINTMENTS**

**Chair**, Department of Interdisciplinary Health Sciences  
**Director**, Post-Professional Athletic Training Program  
**Associate Professor**, Athletic Training / Interdisciplinary Health Sciences  
Arizona School of Health Sciences  
A. T. Still University

## **PROFESSIONAL EXPERIENCE**

**Chair**, Department of Interdisciplinary Health Sciences, Arizona School of Health Sciences,  
A. T. Still University of Health Sciences,  
July 2005 – Present

- Coordinate all departmental personnel, activities, and programs, with budgetary responsibility in excess of \$2.5 million annually
- Lead the design, development, and implementation of a new distance learning Doctor of Health Sciences (DHSc) degree program
- Lead the design, development, and implementation of a new distance learning Master of Science degree program in Human Movement program
- Conduct initial planning and feasibility study for a residential Doctor of Philosophy (PhD) in Health Sciences
- Coordinate core health sciences course offerings including anatomy, pathology, information technology, and research
- Oversight and budgetary responsibility for the Mesa Campus Interdisciplinary Research Lab
- Assist in the planning and implementation of a school wide research agenda
- Supervise ten full-time interdisciplinary health sciences faculty and assist in the development of their professional goals and conduct annual performance evaluations
- Plan and manage department and three program operational budgets
- Work closely with school and university administration to maintain a viable long-range institutional plan

**Director**, Athletic Training Program (fka, Sports Health Care), an NATA Accredited Post-Professional Graduate Athletic Training Education Program, Arizona School of Health Sciences,  
A. T. Still University of Health Sciences,  
July 2000 - Present

- Oversee all aspects of the NATA Accredited Post-Professional Graduate Athletic Training Education Program
- Oversee all aspects of the advanced Sports Health Care graduate program for allied health care professionals (Program restricted to only athletic trainers in 2006)
- Manage continual program evaluation and self-study process to ensure continued compliance with program accreditation standards and guidelines
- Coordinate curriculum offerings

**Associate Professor**, Athletic Training Program, Department of Interdisciplinary Health Sciences, Arizona School of Health Sciences, A. T. Still University of Health Sciences,  
May 2005 - Present

- Graduate faculty member responsible for teaching, research, & service

**Chair**, Department of Sports Health Care, Arizona School of Health Sciences, A. T. Still University of Health Sciences,  
July 2000 – June 2005 (Department evolved into Department of Interdisciplinary Health Sciences in July, 2006)

- Coordinate all departmental personnel, activities, and programs
- Plan and manage operational budget for the Department of Sports Health Care
- Supervise four full-time faculty and assist in the development of their professional goals and conduct annual performance evaluations
- Work closely with school and university administration to maintain a viable long-range institutional plan

**Co-Owner, Achieve Orthopaedic and Sports Therapy, P.C.**, Phoenix, AZ  
January 2006 – July 2007

- Co-developed business plan for a new outpatient physical therapy clinic
- Directed implementation of state-of-the art electronic health records system with all supporting IT infrastructure
- Managed the design-build process of a 2,000 sq ft leased space remodel
- Manage clinic budgeting, accounting, and financial reporting

**Executive Director, Dwight Patterson Sports Academy**, Mesa, AZ  
January 2003 – January 2007

- Provide leadership to a community based non-profit association with the mission of enhancing the quality of America's youth sports through by promoting health, safety, and wellness through education and research for the benefit of coaches, parents, and athletes
- Maintain a viable long-range plan in cooperation with the board of directors
- Oversee the design, development, and implementation of a youth sports safety coaches curriculum
- Secure research and program grant funding to support the mission of the organization

**Assistant Professor**, Sports Health Care Program, Department of Sports Health Care, Arizona School of Health Sciences, A. T. Still University of Health Sciences,  
July 2000 – May 2005

**Coordinator, Clinical Athletic Training**, Oregon State University, Student Health Services and Department of Recreational Sports, Fall 1997 – Spring 2000

- Clinician Responsible for Injury Assessment, Treatment, Rehabilitation, and Referral of Musculoskeletal Injuries
- Affiliated Clinical Instructor within the CAAHEP Accredited Entry-Level Athletic Training Education Program

**Coordinator, Sports Medicine Research Laboratory**, Department of Exercise & Sport Science, College of Health & Human Performance, Oregon State University, Summer 1998 to Fall 1999

- Coordinate laboratory research schedule

**Research Assistant**, Orthopaedic Biomechanics Research Laboratory, Department of Orthopaedics and Rehabilitation, Oregon Health Sciences University, Portland, OR, October 1999 to June 2000

- Collect instrumented measures of shoulder laxity and stiffness using cadaveric specimens

**Research Assistant**, Bone Research Laboratory, Department of Exercise & Sport Science, College of Health & Human Performance, Oregon State University, June to September 1999

- Primary Tester for NIH funded Osteoporosis Prevention Side Fall Risk Study

**Research Assistant**, Sports Medicine Research Laboratory, Department of Exercise & Sport Science, College of Health & Human Performance, Oregon State University June 1998 to August 1998

- Assist with development and testing of instrumented shoulder arthrometer prototype

**Research Assistant**, Bone Research Laboratory, Department of Exercise & Sport Science, College of Health & Human Performance, Oregon State University, June 1998 to October 1998

- Implement phase 1 of National Institutes of Health (NIH) Side Fall Risk Study
- Develop standard operating procedures for lab tests
- Oversee testing and data collection

**Head Athletic Trainer**, Deer Valley High School, Glendale, AZ August 1995 - May 1997

- Medical Care For a 5-A High School With 18 Sports
- Athletic injury prevention, assessment, and rehabilitation
- Develop and implement standing orders with team physician
- Supervision of student athletic trainers

**Adjunct Faculty**, Grand Canyon University, Phoenix, AZ, 1995/96 Academic Year

- Lab Assistant, Human Physiology Lab Section

**Clinical Affiliations**, Department of Sports Health Care, Arizona School of Health Science, Phoenix, AZ, 1995 - 1997

HEALTHSOUTH Sports Medicine & Rehabilitation Center

Rich Elsner, PT, ATC,

- Post-Surgical Rehabilitation and Isokinetic Testing

New Pioneer Medical Associates

Christopher R. Carlson, PA-C, ATC

- Family Practice, Clinical Observation and Practice

Arizona Foot Health, P.C.

Michael J. Kates, D.P.M. - Sports Medicine Podiatry

- Surgical and Clinical Observation

Arizona Orthopaedic and Sports Medicine Specialists

Donald C. Sheridan, M.D. - Orthopaedic Surgeon / Hand Specialist

- Surgical and Clinical Observation

HEALTHSOUTH Sports Medicine & Rehabilitation Center

Brett Fischer, PT, ATC, CSCS

- Rehabilitation Program Implementation
- Therapeutic Exercise and Modality Application

Orthopaedic Surgery, Sports Medicine, Arthroscopy

Robert J. Meislin, M.D. - Orthopaedic Surgeon

- Surgical and Clinical Observation

**Student Athletic Trainer**, Seattle Pacific University, Seattle, WA, January, 1993 to June, 1995

- Assigned to Men's Soccer and Women's Basketball
- Assisted with Women's Gymnastics

## **TEACHING ACTIVITY**

### **Arizona School of Health Sciences, Athletic Training Program**

- 2005 - present SH 625: Instructional Design and Technology (4 Quarter Hours)  
• *Co-Instructor*
- 2003 - present SH 635: Surgical Aspects of Sports Health Care (3 Quarter Hours)  
• *New Course Development*
- 2000 - present SH 614: Foundations of Sports Injury Rehabilitation (4 Quarter Hours)  
2000 - 2004 SH 615: Instructional Systems Design (2 Quarter Hour)  
• *New Course Development*
- 2000 and 2001 SH 624: Management of Sports Health Care Programs (3 Quarter Hours)  
2000 - 2003 SH 617,627, & 637: Research Based Sports Rehabilitation Project I, II, & III (1 Quarter Hour Each)  
• *New Course Development*
- 2000 - 2003 SH 547/647: Research-Directed Study I & II (3 & 7 Quarter Hours)  
• *New Course Development*
- 2000 - 2002 SH 635: Instructional Methods II

### **Arizona School of Health Sciences, Health Sciences Core**

- 2001 HS 522: Research Methods and Design (3 QH, core course taken by PT, OT, and AT students)  
• *New Course Development*

### **Oregon State University, Department of Exercise and Sport Science**

- 1999 EXSS 365: Emergency Management of Sports Trauma, Lab Section

### **Grand Canyon University, College of Science**

- 1995 - 1996 Human Physiology, Lab Section – Fall, Winter, Spring

## **RESEARCH INTERESTS**

Clinical outcomes following rehabilitative interventions in patients with shoulder disorders

Assessment of health-related quality of life in adolescents and adults with sport-related injuries

Outcomes research in orthopaedic musculoskeletal rehabilitation

Characterization of glenohumeral joint laxity and stiffness using instrumented arthrometry

Acute and chronic adaptations of scapular and glenohumeral kinematics in the overhead athlete

Post-professional healthcare education with emphasis on residencies and specialty certification

## PEER-REVIEWED PUBLICATIONS

1. Borsa PA, Laudner K, **Sauers EL**. Mobility and stability adaptations in the shoulder of the overhead athlete: a theoretical and evidence-based perspective. *Sports Medicine*. 2007 (In Press)
2. Snyder AR, Valovich McLeod TC, **Sauers EL**. Defining, valuing, and teaching clinical outcomes assessment in professional and post-professional athletic training education programs. *Athletic Training Education Journal*. 2007;2(2):31-41.
3. Dick R, **Sauers EL**, Agel J, Marshall SW, Keuter G, McCarty K, McFarland EG. Descriptive epidemiology of collegiate men's baseball injuries: national collegiate athletic association injury surveillance system, 1988 – 1989 through 2003 – 2004. 2007. *Journal of Athletic Training*. 2007;42(2):183-193.
4. Tweed EM, **Sauers EL**, Valovich McLeod TC. Evidence based practice in athletic training. (Section of: Review of Evidence Based Practice in Nursing and Allied Health Professions, Ed: Kronenfeld M, Stephenson P, Nail-Chiwetalu B.) *Journal of the Medical Librarians Association*. [In Press]
5. Bahk M, Keyurapan E, Tasaki A, **Sauers EL**, and McFarland EG. Laxity testing of the shoulder: a review. *American Journal of Sports Medicine*. 2007;35(1): 131-144.
6. **Sauers EL**, August A, Snyder AR. The acute effects of Fauls' modified passive stretching routine on shoulder range of motion in collegiate baseball players. *Journal of Sport Rehabilitation*. 2007;16:1-13.
7. **Sauers EL**. Clinical evaluation of scapular dysfunction. *Athletic Therapy Today*. 2006;11(5):10-14.
8. Crawford SD, **Sauers EL**. Glenohumeral joint laxity and stiffness in the functional throwing position of high school baseball pitchers. *Journal of Athletic Training*. 2006;41(1):36-43.
9. Witwer AB, **Sauers EL**. Clinical measures of shoulder mobility in the collegiate water polo player. *Journal of Sport Rehabilitation*. 2006;15:45-57.
10. **Sauers EL**. Effectiveness of rehabilitation for patients with subacromial impingement syndrome. *Journal of Athletic Training*. 2005;40(3):45-47.
11. Downar JM, **Sauers EL**. Clinical measures of shoulder mobility in the professional baseball player. *Journal of Athletic Training*. 2005;40(1):23-29.
12. Borsa PA, Timmons MK, **Sauers EL**. Scapular-positioning patterns during humeral elevation in unimpaired shoulders. *Journal of Athletic Training*. 2003;38(1):12-17.
13. Kotelnicki JJ, McFarland EG, **Sauers EL**, Nunn S, Dawson CA. Shoulder Instability: An overview of arthroscopic shoulder thermal capsulorrhaphy for the treatment of shoulder instability. *Surgical Physician Assistant*. 2003;9(2):11-20.

14. Borsa PA, **Sauers EL**, Herling DE, Manzour WF: Glenohumeral stiffness response between men and women for anterior, posterior, and inferior translation. *Journal of Athletic Training*. 2002;37(3): 240-245.  
\*Second Runner-Up for the 2002 Journal of Athletic Training Kenneth L. Knight Award for the Outstanding Research Manuscript
15. **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. *American Journal of Sports Medicine*. 2001;29(2):143-150.
16. **Sauers EL**, Borsa PA, Herling DE, Stanley RD. Instrumented measurement of glenohumeral joint laxity: Reliability and normative data. *Knee Surgery, Sports Traumatology and Arthroscopy*. 2001;9(1):34-41.
17. Borsa PA, **Sauers EL**, Herling DE, Manzour WF. In vivo quantification of capsular endpoint in the healthy glenohumeral joint using an instrumented measurement system. *Journal of Orthopaedic and Sports Physical Therapy*. 2001;31:419-431.
18. Borsa PA, **Sauers EL**, Herling DE. Patterns of glenohumeral joint laxity and stiffness in healthy males and females. *Medicine and Science in Sports and Exercise*. 2000;32(10):1685-1690.
19. Borsa PA, & **Sauers EL**. The importance of gender on myokinetic deficits before and after microinjury. *Medicine and Science in Sports and Exercise*. 2000;32(5):891-896.
20. Borsa PA, **Sauers EL**, Herling DE. In vivo assessment of AP laxity in healthy shoulders using an instrumented arthrometer. *Journal of Sport Rehabilitation*. 1999;8:157-170.
21. **Sauers EL**. Theories on throwing injuries diverge from book of Jobe. *BioMechanics*. 2001;8(11):62-70.
22. Borsa PA, **Sauers EL**, Lephart SM. Functional training for the restoration of dynamic stability in the PCL-injured knee. *Journal of Sport Rehabilitation*. 1999;8:363-378.
23. **Sauers, EL**, & Harter, RA: Efficacy of prophylactic knee braces. Current research perspectives. *Athletic Therapy Today* 3(4):14-20, 1998.

### **PUBLICATIONS CURRENTLY UNDER PEER-REVIEW**

Snyder AR, Valovich McLeod TC, Parsons JT, Bay RC, **Sauers EL**. Utilizing disablement models and clinical outcomes assessment to enable evidence-based athletic training practice: Part I – disablement models. *Journal of Athletic Training* (In Review)

Valovich McLeod TC, Snyder AR, Parsons JT, Bay RC, **Sauers EL**. Utilizing disablement models and clinical outcomes assessment to enable evidence-based athletic training practice: Part II – clinical outcomes assessment. *Journal of Athletic Training* (In Review)

## **MANUSCRIPTS IN PROGRESS**

**Sauers EL**, Mourtasos SL. Adolescent baseball players exhibit differences in shoulder mobility between the throwing and non-throwing shoulder and between divisions of play. *Journal of Athletic Training* (In progress)

**Sauers EL**, Koh J, Keuter G, Johnson MP. Clinical measures of shoulder motion in professional baseball players: A comparison of the dominant and non-dominant shoulders in pitchers and position players. *Clinical Journal of Sports Medicine* (In progress)

Johnson MP, **Sauers EL**. Reliability of a classification protocol for the assessment of scapular motion in patients with shoulder pathology. *Journal of Orthopedic and Sport Physical Therapy*. (In progress)

**Sauers EL**, Goldman B, Johnson MP, Snyder AR. The acute effectiveness of PNF stretching and joint mobilizations for increasing posterior shoulder mobility of the professional baseball player. *Journal of Orthopedic and Sport Physical Therapy*. (In progress)

**Sauers EL**, Johnson MP, Falsone S, Keuter G, Koh J. The relationship between hip and shoulder range of motion in healthy professional baseball players. *Journal of Sport Rehabilitation*. (In progress)

**Sauers EL**, Johnson MP, Keuter G, Koh J A Comparison Between Passive Shoulder Complex and Isolated Glenohumeral Joint Rotation Range of Motion in Professional Baseball Pitchers. *Archives of Physical Medicine & Rehabilitation*. (In progress)

## **INVITED NON-PEER-REVIEWED PUBLICATIONS**

**Sauers EL**, Parsons J. Health professions vs academic education models: considerations for athletic training education. *Journal of Athletic Training Education*, 2006 (In preparation).

**Sauers EL**. Health professions recommendations: Considerations for athletic training education & practice. *NATA News*, December 2005, 40-41.

**Sauers EL**. Educational isolation: where are our peers? (Editorial). *Athletic Therapy Today*. 2005;10(3).

## **PUBLISHED PROCEEDINGS**

**Sauers EL**. *The Future of Post-Professional Education in Athletic Training*. In: Proceedings of the National Athletic Trainers' Association 2007 Educators Conference; January 12 – 14, 2007, Montgomery, TX.

**Sauers EL**. *Clinical Evaluation of the Scapula*. In: Proceedings of the National Athletic Trainers' Association 55<sup>th</sup> Annual Meeting and Clinical Symposia; June 15-19, 2004, Baltimore, MD.

**Sauers EL.** *Glenohumeral Joint Kinematics in the Overhead Athlete*: In: Proceedings of the National Athletic Trainers' Association 53<sup>rd</sup> Annual Meeting and Clinical Symposia; June 14-18, 2002, Dallas, TX.

**Sauers EL.** *Micro-Instability in the Overhead Throwing Athlete*. In: Proceedings of the National Athletic Trainers' Association 52<sup>rd</sup> Annual Meeting and Clinical Symposia; June 19-23, 2001, Los Angeles, CA.

**Sauers EL.** *Functional Adaptations of Ligament to Mechanical Stress*. In: Proceedings of the First International Symposium on Rehabilitation and Physical Therapy in Veterinary Medicine; August 7-11, 1999; Corvallis, OR.

### **BOOKS / BOOK CHAPTERS**

Contributing Author: "Examination of the Shoulder: The Complete Guide." Theime Medical Publishers, New York, New York. E. G. McFarland (Ed). 2006.

### **PEER-REVIEWED RESEARCH ABSTRACTS**

1. **Sauers EL**, Johnson MP, Tafoya J, Boquiren M. The acute and chronic effects of throwing on shoulder mobility in collegiate baseball pitchers. *Journal of Athletic Training*. 2007;42(2):S-23.
2. Simmons E, **Sauers EL**, Kronenfeld M, Bay RC. A systematic review of the effectiveness of interventions for atraumatic shoulder instability in overhead athletes. *Journal of Athletic Training*. 2007;42(2):S-128.
3. Malone C, **Sauers EL**, Valovich McLeod TC. The effects of a lateral prophylactic knee brace on valgus knee laxity and stiffness in collegiate football athletes. *Journal of Athletic Training*. 2006;41(2):S-90.
4. **Sauers EL**, Crawford SD, Valovich McLeod TM. Reliability of the LigMaster™ computerized-stress device for measuring glenohumeral joint laxity and stiffness in baseball pitchers. *Journal of Athletic Training*. 2005;40(2):S-21.
5. Crawford SD, **Sauers EL**. High school baseball pitchers demonstrate side-to-side symmetry in glenohumeral joint laxity and stiffness. *Journal of Athletic Training*. 2005;40(2):S-21.
6. Johnson MP, van den Heuvel VA, **Sauers EL**. Reliability of a classification protocol for the assessment of scapular motion in patients with shoulder pathology. *1<sup>st</sup> International Congress of Shoulder Therapists*, May 2-5, 2004, Washington, DC.
7. **Sauers EL**, Koh JL, Keuter G. Scapular and glenohumeral motion in professional baseball players: effects of position and arm dominance. *Arthroscopy Association of North America 2004 Annual Meeting*, April, 22-25, Orlando, FL, E-80.

8. **Sauers EL**, Johnson MP, Ketuer G, Schafer MF, Koh KL. The relationship between hip and shoulder range of motion in healthy professional baseball players. *Journal of Athletic Training*. 2004;39(2):S-44.
9. Goldman BR, **Sauers EL**. The acute effectiveness of PNF stretching and joint mobilizations for increasing posterior shoulder mobility of the professional baseball player. *Journal of Athletic Training*. 2004;39(2):S-64.
10. August AM, **Sauers EL**. The acute effect of faults' modified passive stretching routine on shoulder range of motion in collegiate baseball players. *Journal of Athletic Training*. 2004;39(2):S-63.
11. **Sauers EL**, Keuter G, Schafer MF, Koh KL. A comparison between passive shoulder complex and isolated glenohumeral joint range of motion in professional baseball pitchers. *Journal of Athletic Training*. 2003;38(2):S-72.
12. Mourtacos S, Downar J, **Sauers EL**. Adolescent baseball players exhibit differences in shoulder mobility between the throwing and non-throwing shoulder and between divisions of play. *Journal of Athletic Training*. 2003;38(2):S-72.
13. Howell SK, Medina J, Kingma J, Tyry TM, **Sauers EL**, Valovich TC. Neuromuscular preactivity of the quadriceps and hamstrings prior to landing in high school male athletes, female athletes, and female non-athletes. *Journal of Athletic Training*. 2003;38(2):S-16.
14. **Sauers EL**, Borsa PA, Manzour FW, Herling DE. Sagittal translational area of the glenohumeral joint with special reference to the individual contributions from anterior, posterior, and inferior laxity. *Journal of Athletic Training*. 2002;37(2):S-67.
15. Downar JM, **Sauers EL**, Mourtacos SL. Chronic adaptations in the throwing shoulder of professional baseball players. *Journal of Athletic Training*. 2002;37(2):S-17.
16. Manzour WF, **Sauers EL**, Borsa PA, Herling DE. Determination of glenohumeral translational area using manual and force-displacement measurements: A cadaveric study. In: *Proceedings of the American Academy of Orthopaedic Surgeons 68<sup>th</sup> Annual Meeting*; February 27-March 4, 2001, San Francisco, CA. PE 224, pg. 446.
17. **Sauers EL**, Borsa PA, Herling DE, Manzour WF, Stanley RD. Validity of an instrumented measurement technique for quantifying glenohumeral joint laxity and stiffness. *Journal of Athletic Training*. 2001;36(2):S-40.
18. Borsa PA, **Sauers EL**, Herling DE. In vivo force-displacement response of the healthy glenohumeral joint. *Medicine and Science in Sports and Exercise*. 2001;33(5):S-53.
19. Timmons MK, Borsa PA, **Sauers EL**. Patterns of scapular positioning during humeral elevation in healthy shoulders. *Journal of Athletic Training*. 2001;36(2):S-53.
20. Myers C, Messey K, **Sauers EL**, Maddox DM. Radial head subluxation in a collegiate football player: A case study. *Journal of Athletic Training*. 2001;36(2):S-28.

21. **Sauers EL**, Borsa PA, Herling DE, Stanley R. Gender differences in AP laxity and stiffness of the glenohumeral joint. In: *Proceedings of the American Academy of Orthopaedic Surgeons 67<sup>th</sup> Annual Meeting*; March 15-19, 2000, Orlando, FL. PE 261, pg. 404.
22. Borsa PA, **Sauers EL**, Herling DE. Glenohumeral joint laxity and stiffness in healthy shoulders. *Medicine and Science in Sports and Exercise*. 2000; 32(5):S-123.
23. Sauers EL, Borsa PA, Herling DE. Instrumented arthrometry reveals increased sagittal plane glenohumeral joint laxity in females. *Journal of Athletic Training*. 1999;34(2):S-82.
24. Borsa PA, **Sauers EL**, Herling DE, Harter RA. Arthrometric assessment of sagittal plane laxity in healthy shoulders *Medicine and Science in Sports and Exercise*. 1999;31(5):S-236.
25. White KN, **Sauers EL**, Fattor JA, Macdonald SA, Hayes WC, Snow CM. Performance during clinical mobility tests relates to leg power and lateral stepping velocity. *Medicine and Science in Sports and Exercise*. 1999;31(5):S-82.

### **RESEARCH GRANTS / PROGRAM GRANTS / PATENTS**

Snyder AR and Romer ME, Co-Principal Investigators;

Bay RC, **Sauers EL**, Co-Investigators

Title: *A Comparison of Self-Report and Proxy Assessment of General and Oral Health-Related Quality of Life in Adult Dental Patients with Special Needs*

Funding Agency: A. T. Still University Strategic Research Initiative

Budget Requested: \$41,205                      Status: In Review

The purpose of this study was to determine if proxy reports of health-related quality of life and oral health-related quality of life in adult dental patients with special needs: 1) can be meaningfully substituted for self-report, 2) can be used only in a complimentary sense, or 3) should not be used at all.

Snyder AR and Valovich McLeod TC, Co-Principal Investigators;

Parsons JT, Bay RC, Sauers EL, Co-Investigators

Title: *Health-Related Quality of Life in Adolescents with Sport-Related Musculoskeletal Injury*

Funding Agency: A. T. Still University Strategic Research Initiative

Budget Requested: \$62,794                      Status: Approved for \$24,214

The purpose of this study was to design, develop, implement, and evaluate a technology-based process for collecting and analyzing health-related quality of life data in adolescents from remote sites and to evaluate the effects of sport-related musculoskeletal injury and subsequent return to sport participation on health-related quality of life.

Simons E, Principal Investigator; **Sauers EL**, Bay C, & Kronenfeld M. Co-Investigators

Title: *Conservative vs. operative intervention for atraumatic glenohumeral instability in the overhead athlete: A systematic review*

Funding Agency: NATA – Research and Education Foundation Osternig Masters Grant

Budget Requested: \$620                      Status: Approved for full funding

The purpose of this systematic review was to evaluate the current evidence regarding the effectiveness of conservative and surgical interventions for the treatment of atraumatic glenohumeral joint instability in overhead athletes.

**Sauers EL** and Valovich T, Co-Project Directors

Title: *Implementation, Evaluation, and Refinement of the Dwight Patterson Sports Academy P.L.A.Y.S. Curriculum to Promote Health, Safety, and Wellness in America's Youth Sports*

Funding Agency: Mesa Ho Ho Kam Foundation

Budget Requested: \$20,000                      Status: Approved for \$15,000

The purpose of this project was to implement, evaluate, and refine the Dwight Patterson Sports Academy P.L.A.Y.S. Curriculum for youth sports coaches and parents in an effort to promote health, safety, and wellness in America's youth sports.

Baltmanis SA, Principal Investigator; **Sauers EL** and Johnson MP, Co-Investigators

Title: *A comparison of scapular and glenohumeral kinematics in aquatic athletes with moderate and severe shoulder impingement*

Funding Agency: NATA – Research and Education Foundation Osternig Masters Grant

Budget Requested: \$1,000                      Status: Not funded

**Sauers EL**, Principal Investigator; Johnson MP, Co-Investigator; Koh JL, Orthopaedic Consultant; and Turner RM, Statistical Consultant

Title: *Acute and chronic adaptations in the throwing shoulder of professional baseball pitchers with implications concerning injury*

Funding Agency: NATA – Research and Education Foundation

Budget Requested: \$40,330                      Status: Approved for full funding

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)

**Sauers EL** and Valovich T, Co-Investigators

Title: *Design and Development of the Dwight Patterson Sports Academy P.L.A.Y.S. Curriculum to Promote Health, Safety, and Wellness in America's Youth Sports*

Funding Agency: Mesa Ho Ho Kam Foundation

Budget Requested: \$25,000                      Status: Approved for \$20,000

The purpose of this project was to design and develop the Dwight Patterson Sports Academy P.L.A.Y.S. Curriculum for youth sports coaches and parents in an effort to promote health, safety, and wellness in America's youth sports

van den Heuvel VA, Principal Investigator; **Sauers EL** and Johnson MP, Co-Investigators

Title: *Reliability of a New Dynamic Scapular Classification Protocol for the Assessment of Normal and Abnormal Scapular Motion in Patients with Shoulder Pathology*

Funding Agency: NATA – Research and Education Foundation Osternig Masters Grant

Budget Requested: \$1,000                      Status: Not funded

**Sauers EL** and Johnson MP, Co-Investigators

Title: *Kinematics of the shoulder complex in the professional baseball pitcher at rest and following five throwing intervals.*

Funding Agency: University of the Sciences in Philadelphia College of Graduate Studies Scholarly Activity Fund

Budget Requested: \$4,948                      Status: Approved for full funding

The purpose of this study was to evaluate kinematics of the glenohumeral and scapulothoracic joints of collegiate baseball pitchers at rest and over a typical pitching sequence using newly reported measurement techniques to establish normative kinematic data and evaluate the chronic and acute effects of throwing on these variables.

**Sauers EL**, Principal Investigator

Title: *Acute and chronic adaptations in the throwing shoulder of collegiate baseball pitchers with implications concerning injury*

Funding Agency: Warner / Fermaturo and KCOM Board of Trustees Research Fund

Budget Requested: \$3,932                      Status: Approved for full funding

The purpose of this study was to evaluate kinematic measures of the glenohumeral and scapulothoracic joints of collegiate baseball pitchers at rest and over a typical pitching sequence using newly reported measurement techniques to establish normative data and evaluate the acute and chronic effects of throwing on these variables.

**Sauers EL**, Principal Investigator

Title: *Development of an Instrumented Shoulder Arthrometer for Objective Diagnostic and Outcomes Assessment of the Unstable Shoulder*

Funding Agency: Merrill Lynch Innovation Grants Competition

Budget Requested: Competitive Monetary Prizes from \$50,000 to \$5,000    Status: Not funded

**Sauers EL**, Principal Investigator

Title: *Ex vivo determination of a cutaneous-to-bone transform function for characterizing glenohumeral joint translation relative to applied force*

Funding Agency: OSU College of Health and Human Performance Deans Grant

Budget Requested: \$250                      Status: Approved for full funding

The purpose of this study was to develop a cutaneous-to-bone transform function using cutaneous and bone-pin measures of glenohumeral (GH) joint translation at five loads (67 N, 89 N, 111 N, 134 N, and manual maximum) in the anterior (A), posterior (P), and inferior (I) directions of 30 fresh thawed cadaver shoulder specimens.

Herling DE, Principal Investigator; **Sauers EL**, Co-Investigator

Title: *Arthrometric evaluation of glenohumeral joint laxity and stiffness in patients with documented shoulder instability.*

Funding Agency: John C. Erkkila, MD, Endowment for Health and Human Performance

Budget Requested: \$19,946                      Status: Approved for partial funding \$12,610

The purpose of this study was to compare glenohumeral joint laxity and stiffness values between subject's unstable (experimental) shoulder and their contralateral healthy (control) shoulder to determine side-to-side differences within subjects.

Herling DE, Principal Investigator; **Sauers EL**, Borsa PA, Co-Investigators

Title: *Arthrometric Evaluation of In Vivo Glenohumeral Joint Kinematics in Healthy and Capsulo-ligamentous Injured Shoulders*

Funding Agency: Whittaker Biomedical Engineering Foundation

Budget Requested: \$239,226                      Status: Not funded

**Sauers EL**, Principal Investigator; Borsa PA, Herling DE, Co-Investigators

Title: *Ex vivo determination of a cutaneous-to-bone transform function for characterizing*

*glenohumeral joint translation relative to applied force*

Funding Agency: National Athletic Trainers Association Research & Education Foundation;  
Doctoral Research Grant

Budget Requested: \$2,496                      Status: Not funded

The purpose of this study was to develop a cutaneous-to-bone transform function using cutaneous and bone-pin measures of glenohumeral (GH) joint translation at five loads (67 N, 89 N, 111 N, 134 N, and manual maximum) in the anterior (A), posterior (P), and inferior (I) directions of 30 fresh thawed cadaver shoulder specimens.

Borsa PA, Herling DE; Co- Principal Investigators; **Sauers EL**; Co-Investigator

Title: *Arthrometric evaluation of shoulder laxity using a 3-D spatial tracking system*

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

Budget Requested: \$19,238.00                      Status: Approved for partial funding \$14,673.00

### **FUNDED CONTRACTS / SECURED GIFTS**

Graduate Assistantship Contract

Location: Central Arizona College

Positions: Two Funded Graduate Assistantship Athletic Trainers

Funding: \$11,200 / position                      Funding Cycle: 08/04 to 06/05

Sauers EL, Contractor

Professional Services Contract with Maricopa County Community College District

Services: Complete a youth sports safety, skills, and training manual for coaches and design and develop a website for the Dwight Patterson Sports Academy.

Contract Funding: \$15,000                      Funding Cycle: 06/03 to 10/03

Graduate Assistantship Contract

Location: Arizona State University

Positions: Three Funded Graduate Assistantship Athletic Trainers

Funding: \$3,200 / position                      Funding Cycle: 01/04 to 08/04

Graduate Assistantship Contract

Location: Grand Canyon University

Positions: Two Funded Graduate Assistantship Athletic Trainers

Funding: \$5,500 / position                      Funding Cycle: 09/03 to 06/03

Graduate Assistantship Contract

Location: Queen Creek High School

Position: Funded Graduate Assistantship Athletic Trainer

Funding: \$9,000                      Funding Cycle: 09/03 to 06/03

Graduate Assistantship Contract

Location: Higley High School

Position: Funded Graduate Assistantship Athletic Trainer

Funding: \$9,000                      Funding Cycle: 09/03 to 06/03

Graduate Assistantship Contract  
Location: Phoenix College  
Position: Two Funded Graduate Assistantship Athletic Trainer  
Funding: \$8,000 / position Funding Cycle: 09/03 to 06/03

Graduate Assistantship Contract  
Location: Foothills Sports Medicine  
Position: Funded Graduate Assistantship Athletic Trainer  
Funding: \$15,000 Funding Cycle: 09/03 to 06/03

Sauers EL, Donation Recipient  
Received donation from Patterson Incorporated to start the Dwight Patterson Sports Health Care Student Scholarship Fund  
Donation Amount: \$10,000 Donation Date: 6/03

Sauers EL, Donation Recipient  
Received donation from the Chicago Cubs Baseball Organization on behalf of the Arizona School of Health Sciences for a Cybex 330 isokinetic dynamometer  
Donation Value: Approximately \$20,000 Donation Date: 6/02

## **GRADUATE RESEARCH ADVISING**

### **Primary Thesis Advisor**

Crowley EM. Examining the validity of the LigMaster instrumented shoulder arthrometer for quantifying glenohumeral joint laxity and stiffness. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2006-2008.

Thomas S. Reliability of the functional movement screen in competitive baseball players. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2006-2008.

Ellery T. The Design and Development of the Functional Arm Scale For Throwers<sup>®</sup> (FAST<sup>®</sup>). Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2005-2007.

Dykstra D. The Effects of Pitching on Health-Related Quality of Life in High School and College Female Softball Pitchers Assessed with Two Self-Report Region Specific Arm Scales. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2005-2007.

Moran C. Environmental Analysis of Professional Athletic Training Education Programs: A Comparison of Traditional Academic Settings and Health Professions Settings. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2005-2007.

Cesari M. Reliability of the LigMaster Computerized Stress-Arthrometer for Assessment of Valgus Elbow Laxity and Stiffness. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2004-2006.

Simmons E. Conservative vs. operative intervention for atraumatic glenohumeral instability in the overhead athlete: A systematic review. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2004-2006.

Tafoya J. The acute effects of pitching on glenohumeral joint laxity and stiffness in collegiate baseball pitchers. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2004-2006.

Varnell M. The effects of an 8 week scapular stabilization and postural exercise program on scapular kinematics in collegiate swimmers. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2004-2006.

Camhi R. The relationship between hip and shoulder range of motion in competitive baseball players with active shoulder or elbow pathology. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2003-2005.

Baltmanis S. The acute effects of repetitive throwing on shoulder mobility in the high school baseball pitcher. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2002-2004.

Crawford SD. High school baseball pitchers demonstrate side-to-side symmetry in glenohumeral joint laxity and stiffness. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2002-2004.

Hartman A. The horizontal adduction stretch and the prone internal rotation stretch fail to produce acute gains in posterior shoulder mobility in professional baseball players. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2002-2004.

Robinson K. Evaluation of scapular motion in patients with clinically diagnosed glenohumeral joint instability and subacromial impingement. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2002-2004.

Witwer A. Clinical measures of shoulder mobility in the collegiate water polo player. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2002-2004.

August A. The acute effects of Fauls' modified passive stretching routine on shoulder range of motion in collegiate baseball players. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2001-2003.

Goldman B. The acute effectiveness of PNF stretching and joint mobilizations for increasing posterior shoulder mobility of the professional baseball player. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2001-2003.

Medina J, . The acute effectiveness of PNF stretching and joint mobilizations for increasing posterior shoulder mobility of the professional baseball player. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2001-2003.

van den Heuvel V. Reliability of a classification protocol for the assessment of scapular motion in patients with shoulder pathology. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2001-2003.

Downar J. Chronic adaptations in the throwing shoulder of professional baseball players. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2000-2002.

Mourtacos S. Clinical measures of shoulder mobility in the adolescent baseball player. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2000-2002.

### **Thesis Committee Member**

Ortega E. The diagnostic value of special tests for the detection of SLAP lesions in the shoulder: a systematic review. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2005-2007.

Fried A. A critical analysis of specialty certification in medical and allied health professions. Athletic Training Program Master's Thesis, Arizona School of Health Sciences; 2005-2007..

Boquiren ML. An evaluation of youth sport coaching knowledge after participation in the P.L.A.Y.S Youth Sport Safety Curriculum. Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2004-2006.

Malone C. The effect of lateral prophylactic knee bracing on valgus translation and stiffness. Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2003-2005.

Howell SK, Medina J. Neuromuscular preactivity of the quadriceps and hamstrings prior to landing in high school male athletes, female athletes, and female non-athletes. Department of Sports Health Care Master's Thesis, Arizona School of Health Sciences; 2000-2002.

### **Terminal Project Committee Member**

Kotelnicki JJ. Shoulder instability: an overview of arthroscopic shoulder thermal capsulorrhaphy for the treatment of shoulder instability. Department of Physician Assistant Studies Terminal Project, Arizona School of Health Sciences; 2001-2003.

### **Professional Doctorate Committee Member**

Boettiger B, Herrick A. Challenges to determination of reliability of grade III mobilization of the glenohumeral joint using musculoskeletal ultrasonography. Physical Therapy Doctoral Thesis, Arizona School of Health Sciences; 2001-2004.

## **INVITED SPEAKER**

“The Role of Post-Professional Education in Healthcare”

Scheduled for presentation at the NATA 58th Annual Meeting and Clinical Symposia, Los Angeles, CA, June 2007

“Adaptations in Shoulder Mobility from Overhead Sport Across the Lifespan”

Scheduled for presentation at the NATA 58th Annual Meeting and Clinical Symposia in session entitled, “Shoulder Injuries in Overhead Athletes Across the Lifespan”, Los Angeles, CA, June 2007

“The Future of Post-Professional Athletic Training Education”

Scheduled for presentation at the at the 2007 Athletic Training Educators Conference, Dallas, TX, January, 2007

“Flexibility and Strength Assessment of the Shoulder and Scapula”

Presented at the NATA 57th Annual Meeting and Clinical Symposia in Advanced Track entitled, “Scapular Dyskinesia, what is it? How do you assess and treat it”, Atlanta, GA, June 2006

“Pathophysiology of Shoulder Instability”

Presented at the AzATA Summer Meeting entitled, “Current Concepts of Surgical and Rehabilitative Management of the Shoulder: Instability, SLAP Lesions, & Scapular Dyskinesia”, Flagstaff, AZ, July 2005

“Tissue Healing Considerations and Post-Operative Precautions Following Instability & SLAP Surgeries”

Presented at the AzATA Summer Meeting entitled, “Current Concepts of Surgical and Rehabilitative Management of the Shoulder: Instability, SLAP Lesions, & Scapular Dyskinesia”, Flagstaff, AZ, July 2005

“Clinical Evaluation of the Scapula”

Presented at the AzATA Summer Meeting entitled, “Current Concepts of Surgical and Rehabilitative Management of the Shoulder: Instability, SLAP Lesions, & Scapular Dyskinesia”, Flagstaff, AZ, July 2005

“Current Theories of Shoulder Dysfunction in the Throwing Athlete”

Presented at the AzATA Summer Meeting entitled, “Current Concepts of Surgical and Rehabilitative Management of the Shoulder: Instability, SLAP Lesions, & Scapular Dyskinesia”, Flagstaff, AZ, July 2005

“Clinical Evaluation of the Scapula”

Workshop Presented at the National Athletic Trainers’ Association 56<sup>th</sup> Annual Meeting and Clinical Symposia, Indianapolis, IN, June 2005

“Graduate Athletic Training Education: Health Professions vs Academic Education Models”

Presented at the 2005 Athletic Training Educators Conference, Montgomery, TX, January, 2005

“Shoulder Special Interest Group: Glenohumeral Joint Instability”

Co-Discussant with Dr. Paul Borsa, NATA 54<sup>th</sup> Annual Meeting and Clinical Symposia,

Baltimore, MD, June 17, 2004.

“Clinical Assessment of Scapular Dysfunction”

Presented at the NATA 55<sup>th</sup> Annual Meeting and Clinical Symposia in symposium entitled, “Scapular Dysfunction: Evidence-Based Assessment and Rehabilitation Considerations”, Baltimore, MD, June 18, 2004.

“Shoulder Injuries in the Overhead Athlete”

Presented at the University of Virginia, Department of Sports Medicine / Athletic Training 2004 Arts and Sciences Conference, Charlottesville, VA, June 10, 2004.

Free Communications Moderator

Rocky Mountain Athletic Trainers Association / District 7 Annual Symposium  
Broomfield, CO, March 27, 2004.

“Scapular Stabilization: Assessment and Rehabilitation Considerations”

Workshop at the National Athletic Trainers’ Association 54<sup>th</sup> Annual Meeting and Clinical Symposia, St. Louis, MO, June 28, 2003

“Shoulder Special Interest Group”

Co-Discussant with Dr. Tim Uhl, Inaugural Shoulder Special Interest Group Meeting, NATA 53<sup>rd</sup> Annual Meeting and Clinical Symposia, Dallas, Texas, June, 2002

“Glenohumeral Joint Kinematics in the Overhead Athlete”

Presented at the NATA 53<sup>rd</sup> Annual Meeting and Clinical Symposia in symposium entitled, “Shoulder Dysfunction in the Overhead Athlete: From Theory to Science”, Dallas, TX, June, 2002

“Tissue Healing Considerations and Post-Operative Immobilization of the Unstable Shoulder”

Presented at the NATA 53<sup>rd</sup> Annual Meeting and Clinical Symposia in Advanced Track entitled, “Surgical Management and Post-Operative Rehabilitation of the Unstable Shoulder: Tissue Healing and Outcomes Based Considerations”, Dallas, TX, June, 2002

“Overview of Shoulder Instability”

Presented at the NATA 53<sup>rd</sup> Annual Meeting and Clinical Symposia in Advanced Track entitled, “Surgical Management and Post-Operative Rehabilitation of the Unstable Shoulder: Tissue Healing and Outcomes Based Considerations”, Dallas, TX, June, 2002

“Validity of an instrumented measurement technique of quantifying glenohumeral joint laxity and stiffness”

American Society of Shoulder and Elbow Therapists 2001 Annual Conference  
Napa, California, October 24-27, 2001

“Micro-Instability in the Overhead Throwing Athlete”

Symposium at the National Athletic Trainers’ Association 52<sup>nd</sup> Annual Meeting and Clinical Symposia  
Los Angeles, California, June 19-23, 2001

“Scapular Stability in the Overhead Athlete”

Rocky Mountain Athletic Trainers' Association District Meeting  
Tucson, Arizona, March 23-25, 2001

“Shoulder Instability vs. Impingement: Differential Assessment and Management”  
Workshop at the National Athletic Trainers' Association 51<sup>st</sup> Annual Meeting and Clinical  
Symposia  
Nashville, Tennessee, July 02, 2000

“Subtle Instability and Expanded Spectrum of Impingement Syndrome in the Overhead Athlete”  
Arizona Athletic Trainers Association Winter Symposium  
Phoenix, Arizona, February 06, 2000

“Research Update at the Shoulder: Characterization of Glenohumeral Joint Laxity and Stiffness”  
Arizona Athletic Trainers Association Winter Symposium  
Phoenix, Arizona, February 06, 2000

“Instability vs. Impingement: Differential Assessment and Management”  
Arizona School of Health Sciences, Sports Health Care Program  
Phoenix, Arizona, February 03, 2000

“In Vivo Characterization of Glenohumeral Joint Laxity and Stiffness”  
Arizona School of Health Sciences, Sports Health Care Program  
Phoenix, Arizona, February 03, 2000

“Functional Adaptations of Ligament to Mechanical Stress”  
First International Symposium on Rehabilitation and Physical Therapy in Veterinary Medicine  
Oregon State University, Corvallis, OR, August 8, 1999

“Glenohumeral Joint Stability: Functional Anatomy and Current Laxity Research”  
Oregon Athletic Trainers' Society Summer Symposium  
Corvallis, OR, June 26, 1999

“Subtle Instability and Secondary Impingement in the Overhead Athlete: Assessment and  
Rehabilitation Implications”  
McKenzie-Willamette Hospital, Outpatient Physical Therapy Department  
Eugene, OR, May 20, 1999

“Current Concepts of the Shoulder: Instability and Impingement”  
Oregon Athletic Trainers Society Summer Symposium  
Eugene, OR, June 27, 1998

## **RESEARCH PRESENTATIONS**

“The acute and chronic effects of throwing on shoulder mobility in collegiate baseball pitchers”  
National Athletic Trainers’ Association 58<sup>th</sup> Annual Meeting and Clinical Symposia, Anaheim, CA, June 28, 2007.

“Reliability of the LigMaster™ computerized-stress device for measuring glenohumeral joint laxity and stiffness in baseball pitchers”  
National Athletic Trainers’ Association 56<sup>th</sup> Annual Meeting and Clinical Symposia, Indianapolis, IN, June 2005

“High School Baseball Pitchers Demonstrate Side-to-Side Symmetry in Glenohumeral Joint Laxity and Stiffness”  
Rocky Mountain Athletic Trainers Association  
Phoenix, AZ, April 22, 2005

“High School Baseball Pitchers Demonstrate Side-to-Side Symmetry in Glenohumeral Joint Laxity and Stiffness”  
American Society of Shoulder and Elbow Therapists  
New York, NY, September 29 – October 2, 2004

“The Relationship Between Hip and Shoulder Range of Motion in Healthy Professional Baseball Players”  
National Athletic Trainers’ Association 55<sup>th</sup> Annual Meeting and Clinical Symposia, St. Louis, MO, June 18, 2004.

“Scapular and Glenohumeral Motion in Professional Baseball Players: Effects of Position and Arm Dominance”  
Arthroscopy Association of North America 2004 Annual Meeting, April, 22-25, Orlando, FL.

“The Relationship Between Hip and Shoulder Range of Motion in Healthy Professional Baseball Players”  
Rocky Mountain Athletic Trainers Association  
Broomfield, CO, March 26-28, 2004

“Acute Changes in Posterior Shoulder Mobility of Professional Baseball Players Following Hold-Relax PNF Internal Rotation Stretching or Posterior Glenohumeral Joint Mobilization”  
American Society of Shoulder and Elbow Therapists Annual Conference  
Dana Point, California, October 8-11, 2003

“A comparison between isolated glenohumeral joint and shoulder rotation range of motion in professional baseball pitchers”  
National Athletic Trainers’ Association 54<sup>th</sup> Annual Meeting and Clinical Symposia, St. Louis, MO, June 28, 2003

“Acute and chronic adaptations in the throwing shoulder of professional baseball players”  
American Society of Shoulder and Elbow Therapists Annual Conference  
Seattle, Washington, September 19 – 21, 2002

“Sagittal translational area of the glenohumeral joint with special reference to the individual contributions from anterior, posterior, and inferior laxity”  
National Athletic Trainers’ Association 53<sup>rd</sup> Annual Meeting and Clinical Symposium  
Dallas, Texas, June 14, 2002

“Validity of an instrumented measurement technique of quantifying glenohumeral joint laxity and stiffness”  
National Athletic Trainers’ Association 52<sup>nd</sup> Annual Meeting and Clinical Symposium  
Los Angeles, California, June 23, 2001

“Determination of glenohumeral translational area using manual and force-displacement measurements: A cadaveric study.”  
American Academy of Orthopaedic Surgeons 68<sup>th</sup> Annual Meeting  
San Francisco, California, February 28 – March 04, 2001

“Gender Differences in Anterior-Posterior Laxity and Stiffness of the Glenohumeral Joint”  
American Academy of Orthopaedic Surgeons 67<sup>th</sup> Annual Meeting  
Orlando, Florida, March 15-19, 2000

“Quantitative In Vivo Assessment of Glenohumeral Joint Laxity and Stiffness”  
OSU, Graduate Student Conference, April 5, 2000

“Gender Differences in Anterior-Posterior Laxity and Stiffness of the Glenohumeral Joint”  
OSU, Graduate Student Conference, April 5, 2000

“Instrumented Arthrometry Reveals Increased Sagittal Plane Laxity in Females”  
National Athletic Trainers’ Association 50<sup>th</sup> Annual Meeting and Clinical Symposium  
Kansas City, Missouri, June 18, 1999

“Instrumented Arthrometry Reveals Increased Sagittal Plane Laxity in Females”  
OSU, Graduate Student Conference, April 27, 1999

## **CLINICAL PRESENTATIONS**

“Utilizing Upper Extremity Self-Report Forms to Assess Health-Related Outcomes”  
Workshop accepted for presentation at the National Athletic Trainers’ Association 58<sup>th</sup> Annual Meeting and Clinical Symposia, Los Angeles, CA, June, 2007

“Utilizing Disablement Models and Clinical Outcomes Assessment to Enable Evidence-Based Practice”  
Co-Presenter with Dr. Tamara McLeod  
Rocky Mountain Athletic Trainers’ Association / NATA District Seven Annual Meeting  
Salt Lake City, Utah, April 22, 2006

“Examination Techniques for Diagnosing Common Shoulder Problems”  
OSU, Student Health Services, Sports Medicine Rounds, February, 2000

“Bracing for Common Orthopaedic and Sports Medicine Injuries”

OSU, Student Health Services, Sports Medicine Rounds, November 1999

“Clinical Assessment and Management of Acute Shoulder Injuries”  
OSU, Student Health Services, Sports Medicine Rounds June 02, 1999

“The Health & Fitness Connection: A Collaborative Clinic of Recreational Sports and Student Health Services”  
Pacific Coast College Health Association, 62 Annual Conference, Las Vegas, NV, November 1998

“Orthopaedic Shoulder Assessment: Atraumatic Instability and Impingement”  
OSU, Student Health Services, Sports Medicine Rounds, May, 1998

“The Role of the Certified Athletic Trainer”  
OSU, Student Health Services, Sports Medicine Rounds, November, 1997

“Initial Management of Sports Injuries”  
OSU, Sport Club Directors/Coaches Annual Meeting, November, 1997

“Orthopaedic Physical Assessment of the Knee”  
OSU, Physical Therapy Department, In-Service, December, 1997

“Return to Play Decisions: From Head to Toe”  
Arizona Athletic Trainers’ Association Symposium for Advanced Students, Phoenix, AZ, February, 1997

“Orthopaedic Physical Examination Techniques for the Knee”  
Primary Laboratory Assistant. Arizona Physicians Assistant Annual Meeting, Scottsdale, AZ, October, 1996

“Lower Extremity Anatomy, Cadaver Laboratory”  
Arizona Athletic Trainers’ Association Winter Symposium, Student Section, Phoenix, AZ, February, 1996

## **PROFESSIONAL SERVICE**

Chief Evaluation Team Officer, National Athletic Trainers’ Association Post-Professional Graduate Review Committee  
University of Hawaii at Manoa Graduate Athletic Training Education Program, March 4 - 6, 2007

Guest Manuscript Reviewer – *Journal of Sport Rehabilitation*, Winter 2006 to present

Executive Committee, Member-at-Large, Membership Committee, American Society of Shoulder and Elbow Therapists, Fall 2006 to present

Member - National Athletic Trainers’ Association Strategic Implementation Team, Summer 2006 to present

Chief Evaluation Team Officer, National Athletic Trainers' Association Post-Professional Graduate Review Committee

Indiana University Graduate Athletic Training Education Program, February 20-22, 2006

Chair – Post-Professional Education Committee (f.k.a. Graduate Education Committee)

National Athletic Trainers' Association, Spring 2005 to present

Member – Inaugural Editorial Board

*Athletic Training Education Journal*, Spring 2005 to present

Member – Education Council Executive Committee

National Athletic Trainers' Association, Spring 2005 to present

Vice Chair – Graduate Education Committee

National Athletic Trainers' Association, Fall 2004 to Spring 2005

Member – Editorial Board

*Journal of Athletic Training*, Spring 2004 to present

Member – Review Board

*The Internet Journal of Allied Health Sciences and Practice*, Spring 2005 to present

Invited Reviewer – Elsevier Publishing Orthopaedic Books Program

*Handbook of Orthopaedic Rehabilitation* by Brent Brotzman, MD

Member – Research Committee

American Society of Shoulder and Elbow Therapists, Fall 2003 to present

Member – Pronouncements Committee

National Athletic Trainers' Association, Spring 2003 to present

Member – Graduate Education Committee

National Athletic Trainers' Association, Winter 2003 to present

Assistant Evaluation Team Officer, National Athletic Trainers' Association Graduate Review Committee

Indiana University Graduate Athletic Training Education Program, March 9-11, 2003

Guest Manuscript Reviewer – *Journal of Athletic Training*, Fall 2002 to Spring 2004

University Contact for Arizona School of Health Sciences

American College of Sports Medicine, Spring 2002 to present

Host – AzATA Winter Meeting

Arizona Athletic Trainers' Association, Winter 2002, 2003, 2004, 2005

Test Site Host – NATABOC Certification Examination

National Athletic Trainers' Association Board of Certification, April 2002, August 2002, April 2003, August 2003

Oregon State Liaison to the NATA Reimbursement Advisory Group  
Oregon Athletic Trainers' Society, February 1998 to March 2000

Data Collection Site Manager  
NATA Athletic Training Outcomes Assessment  
The Health & Fitness Connection, Oregon State University, Fall 1998 to Winter 1999

### **UNIVERSITY SERVICE**

Member – Student Learning and Effective Teaching Task Force, ATSU Higher Learning Commission North Central Association Accreditation, Spring 2007 to present

Member – Research Committee, Arizona School of Dentistry & Oral Health, Fall 2006 to present

Member – Assistant/Associate Dean for Distance Learning Search Committee  
Arizona School of Health Sciences, Summer 2006 to Fall 2006

Member – ATSU Interdisciplinary Research Committee, Fall 2005 to present

Member – Advancement and Planning Committee, Standing Committee of the ASHS Faculty Assembly, Fall 2004 to present

Member – Faculty Affairs Committee, Standing Committee of the ASHS Faculty Assembly, Fall 2004 to present

Chair –Dean Search Committee  
Arizona School of Health Sciences, Fall to Spring 2003-2004

Member – Faculty Handbook Committee  
Arizona School of Health Sciences, Summer 2003 to Winter 2004

Faculty Representative to the Board of Trustees  
Arizona School of Health Sciences, Winter 2002 to Fall 2004

- *Elected to this position by ASHS faculty*

Member – Promotion and Tenure Committee  
Arizona School of Health Sciences, Fall 2000 to present

Member – Research Committee  
Arizona School of Health Sciences, Fall 2000 to Fall 2004

Chair – Department of Occupational Therapy Chair Search Committee  
Arizona School of Health Sciences, Spring 2001

Chair – Academic Promotion Board  
Arizona School of Health Sciences, Fall 2000, Winter 2003

Member – Search Committee for Clinical Athletic Training Coordinator  
Student Health Services / Recreational Sports, Oregon State University, Spring, 2000

Member – Search Committee Office Assistant: Level 1  
Department of Recreational Sports, Oregon State University, Winter, 1999

Member – Search Committee Orthopaedic Surgeon Consultant  
Student Health Services, Oregon State University, Spring, 1998

Member – CAAHEP Continuing Accreditation Self-Study Committee  
CAAHEP Accredited Undergraduate Athletic Training Education Program, Oregon State University, Winter 1998 to Spring 1999

Member – Physical Therapy Best Practices Analysis Team  
Student Health Services, Oregon State University, Fall 1998 to Spring 2000

Member – Disabilities Consideration Committee  
Department of Recreational Sports, Oregon State University, Winter 1998 to Spring 2000

### **COMMUNITY SERVICE**

Volunteer Member of Elite Racing's Medical Team, Triage Captain Coordinator, P. F. Chang's Rock 'n' Roll Arizona Marathon and 1/2 Marathon, January 15, 2006

Member – Scientific Advisory Board: Medicine and Rehabilitation  
SportsTech Documentary Film Series, Fall 2004 to present

Judge – Inaugural John Wooden Cup Finalists  
Athletes for a Better World, Fall 2004

Volunteer – Musculoskeletal Screener for Xavier College Preparatory Pre-Season Physical Examinations, April 18, 2004

Nominating Committee – Camelback Mountain View Estates Homeowners Association, Spring 2004 to present

Volunteer Member of Elite Racing's Medical Team, Triage Captain, Inaugural P. F. Chang's Rock 'n' Roll Arizona Marathon and 1/2 Marathon, January 11, 2004

ASHS Participant – Light the Night Walk, Leukemia and Lymphoma Society, Tempe, AZ, 2003

### **CONTINUING EDUCATION**

National Athletic Trainers Association 58<sup>th</sup> Annual Meeting and Clinical Symposia

Anaheim, CA, June 26 – 30, 2007  
 NATA Athletic Training Educators' Conference  
 Montgomery, TX, January 10 – 14, 2007  
 National Athletic Trainers Association 57<sup>th</sup> Annual Meeting and Clinical Symposia  
 Atlanta, GA, June 14 – 18, 2006  
 American Society of Shoulder and Elbow Therapists Annual Conference  
 West Palm Beach, FL November 9-12, 2005  
 National Athletic Trainers Association 56<sup>th</sup> Annual Meeting and Clinical Symposia  
 Indianapolis, IN, June 12 – 16, 2005  
 Rocky Mountain Athletic Trainers' Association / NATA District 7 Annual Meeting  
 Phoenix, AZ, March, 2005  
 Leading and Managing Academic Departments: A Primer for Department Chairs  
 Audio Conference, March 2, 2005  
 NATA Athletic Training Educators' Conference: Outcomes Assessment in Athletic Training  
 Education  
 Montgomery, TX, January 21 – 23, 2005  
 American Society of Shoulder and Elbow Therapists Annual Conference  
 New York, NY, September 29 – October 02, 2004  
 National Athletic Trainers Association 55<sup>th</sup> Annual Meeting and Clinical Symposia  
 Baltimore, MD, June 14 – 19, 2004  
 Rocky Mountain Athletic Trainers' Association / NATA District 7 Annual Meeting  
 Broomfield, CO, March, 2004  
 American Society of Shoulder and Elbow Therapists Annual Conference  
 Dana Point, CA, October 8 – 11, 2003  
 National Athletic Trainers Association 54<sup>th</sup> Annual Meeting and Clinical Symposia  
 St. Louis, MO, June 24 – 28, 2003  
 2003 Athletic Training Educators Conference  
 Montgomery, Texas, January 10 – 12, 2003  
 American Society of Shoulder and Elbow Therapists Annual Conference  
 Seattle, Washington, September 19 – 21, 2002  
 National Athletic Trainers Association 53<sup>rd</sup> Annual Meeting and Clinical Symposia  
 Dallas, Texas, June 14-18, 2002  
 American Society of Shoulder and Elbow Therapists 2001 Annual Conference  
 Napa, CA, October 24-17, 2001  
 National Athletic Trainers Association 52<sup>nd</sup> Annual Meeting and Clinical Symposium  
 Los Angeles, CA, June 19-23, 2001  
 Rocky Mountain Athletic Trainers' Association / NATA District 7 Annual Meeting  
 Tucson, AZ, March 23-25, 2001  
 American Academy of Orthopaedic Surgeons 68<sup>th</sup> Annual Meeting  
 San Francisco, CA, February 27-March 04, 2001.  
 2001 Athletic Training Educators Conference  
 Fort Worth, Texas, January 19-21, 2001  
 National Athletic Trainers' Association 51<sup>st</sup> Annual Meeting and Clinical Symposia  
 Nashville, Tennessee, June 28-July 02, 2000  
 American Academy of Orthopaedic Surgeons 67<sup>th</sup> Annual Meeting  
 Orlando, FL, March 15-19, 2000  
 Biomechanical Evaluation of the Foot and Orthotic Prescription Update  
 Ted Forcum, DC, DACBSP, and Langer Biomechanical Group  
 George Fox University, Newberg, OR, October 11, 1999

Oregon Athletic Trainers' Society Summer Symposium  
 Corvallis, OR, June 26, 1999

American College of Sports Medicine 46<sup>th</sup> Annual Meeting  
 Seattle, WA, June 2-5, 1999

National Athletic Trainers' Association 50<sup>th</sup> Annual Meeting and Clinical Symposia  
 Kansas City, Missouri, June 16-19, 1999

Pacific Coast College Health Association, 62<sup>nd</sup> Annual Conference  
 Las Vegas, NV, November 1-4, 1998

Oregon Athletic Trainers Society Summer Symposium  
 Eugene, OR, June 26-27, 1998

Northwest Athletic Trainers Association Annual Meeting  
 Tacoma, WA, March 20-22, 1998

American College of Sports Medicine 44<sup>th</sup> Annual Meeting  
 Denver, CO, May 28 - 31, 1997

Arizona Athletic Trainers' Association - Winter Symposium  
 Phoenix, AZ, February, 1997

National Athletic Trainers' Association – 47th Annual Meeting  
 Orlando, FL, June 12 - 15, 1996

American College of Sports Medicine - 43rd Annual Meeting  
 Cincinnati, Ohio, May 29 - June 01, 1996

International Academy of Physio Therapeutics - Electrotherapy, Shortwave & Ultrasound  
 Update, Phoenix, AZ, February 10 - 11, 1996

Arizona Athletic Trainers' Association - Winter Symposium  
 Phoenix, AZ, February, 1996

Northwest Athletic Trainers' Association Annual Meeting,  
 Portland, OR, March 24 - 26, 1995

American College of Sports Medicine Northwest Region Annual Conference  
 Lake Washington, WA, February 24 - 25, 1995

Emergency Medical Technician Preparation for Licensure  
 North Seattle Community College, Seattle, WA  
 \*Eight Credit Course, Completed: March, 1993

## **HONORS AND RECOGNITION**

Scholar of the Year Award, Arizona School of Health Sciences, A. T. Still University, 2006

Nominated, 2004 New Investigator Award, National Athletic Trainers' Association Research and Education Foundation

Co-Discussant with Dr. Paul Borsa, 3<sup>rd</sup> Annual Shoulder Special Interest Group Meeting, NATA 55<sup>th</sup> Annual Meeting and Clinical Symposia, Baltimore, MD, June 7, 2004

Nominated, 2003 New Investigator Award, National Athletic Trainers' Association Research and Education Foundation

Second Runner-Up for the 2002 *Journal of Athletic Training* Kenneth L. Knight Award for the Outstanding Research Manuscript

*Borsa PA, Sauer EL, Herling DE, Manzour WF: Glenohumeral stiffness response*

*between men and women for anterior, posterior, and inferior translation. Journal of Athletic Training. 2002;37(3): 240-245.*

Co-Discussant with Dr. Tim Uhl, Inaugural Shoulder Special Interest Group Meeting, NATA 53<sup>rd</sup> Annual Meeting and Clinical Symposia, Dallas, Texas, June 16, 2002

Best Poster Presentation, College of Health & Human Performance, Graduate Student Conference, Oregon State University, Corvallis, OR, April 15, 2000

Sigma Xi Best Overall Poster Presentation, Honorable Mention, Graduate Student Conference, Oregon State University, Corvallis, OR. April 7, 1999

Best Oral Presentation: Second Place, College of Health & Human Performance, Graduate Student Conference, Oregon State University, Corvallis, OR. April 7, 1999

Team Leader, Human Performance, Project RAVEN, Seattle, WA, December, 1994 12/94 - 6/95

Academic Excellence Award, Seattle Pacific University, Seattle, WA, Autumn Quarter, 1993, and Spring Quarter, 1994

Academic Achievement Scholarship, Seattle Pacific University Fall, 1993 through Spring, 1995

NWAACC Scholar Athlete Award, Skagit Valley Community College Men's Soccer Team, Mt. Vernon, WA, Winter Quarter, 1992

### **PROFESSIONAL MEMBERSHIPS**

- National Athletic Trainers' Association
- American Society of Shoulder and Elbow Therapists – Active Member (2004 to present)
- American Society of Shoulder and Elbow Therapists – Affiliate Member (2002 – 2004)
- American College of Sports Medicine
- National Strength and Conditioning Association
- Rocky Mountain Athletic Trainers Association (District 7)
- Arizona Athletic Trainers Association
- Southwest Chapter-American College of Sports Medicine

### **PROFESSIONAL REFERENCES**

Available Upon Request