# *PER GUNNAR BROLINSON, D.O.*

***Fellow, American Osteopathic Academy of Sports Medicine***
***Fellow, American Academy of Family Practice***
***Fellow, American College of Osteopathic Family Practice***


**Academic Office:** Edward Via College of Osteopathic Medicine
2265 Kraft Drive
Blacksburg, VA 24060
**Office Phone:** 540-231-4981
**Office E-mail:** pbrolins@vcom.vt.edu
**Office Fax:** 540-231-5252

**Clinical Address #1:** Virginia Tech – Athletics Department (0502)
Jamerson Center, Room 150
21 Beamer Way
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**Office Phone:** 540-231-7741
**Office Fax:** 540-231-3289
540-231-2001

**Clinical Address #2:** VCOM Sports & Osteopathic Medicine
1691 Innovation Drive, Suite 2100
Blacksburg, VA 24060
**Office Phone:** 540-232-8405
**Office Fax:** 540-232-8429


## Education:

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|---|---|
| Aug 1974- May 1978 | University of Missouri, Columbia, MO<br>Degree: Bachelor of Arts, Major: Biology |
| Aug 1979- May 1983 | Kirksville College of Osteopathic Medicine, Kirksville, MO<br>Degree: Doctor of Osteopathy |
| Summer 1981 & 1982 | Pre-Doctoral Clinical Fellowship in Sports and Preventative Medicine<br>Institute for Human Fitness<br>Texas College of Osteopathic Medicine - Fort Worth, TX |

## Post-Doctoral Training:

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|---|---|
| July 1983- June 1984 | Traditional Internship, Family Medicine<br>Parkview Hospital - Toledo, OH |
| July 2003- June 2005 | Faculty Development Fellowship, Clinical Research; Mentor, Al Pheley PhD<br>Edward Via Virginia College of Osteopathic Medicine - Blacksburg, VA |

## Current Academic Appointments:

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|---|---|
| 2014- | **Vice Provost for Research**<br>Edward Via College of Osteopathic Medicine (four-campus system) |
| 2009- | **Medical Director**<br>Edward Via College of Osteopathic Medicine Impact Biomechanics Lab – Blacksburg, VA |
| 2009- | **Professor of Family Medicine**<br>Edward Via College of Osteopathic Medicine – Blacksburg, VA |
| 2009 - 2019 | **Discipline Chair of Sports Medicine**<br>Edward Via College of Osteopathic Medicine – Blacksburg, VA |
| 2007- 2014 | **Associate Dean for Clinical Research**<br>Edward Via College of Osteopathic Medicine - Blacksburg, VA |
| 2019- | **Primary Care Sports Medicine Fellowship – Emeritus Director**<br>Virginia Tech and Edward Via College of Osteopathic Medicine – Blacksburg, VA |
| 2005- 2019 | **Director of Primary Care Sports Medicine Fellowship**<br>Virginia Tech and Edward Via College of Osteopathic Medicine – Blacksburg, VA |
| 2005- | **Adjunct Professor, Mechanical Engineering**<br>Virginia Polytechnic Institute and State University - Blacksburg, VA |
| 1990- 2002 | **Adjunct Professor, College of Health Promotion and Human Services**<br>University of Toledo, Toledo, OH |
| 1985- 2002 | **Adjunct Clinical Professor of Family Practice**<br>Ohio University College of Osteopathic Medicine - Athens, OH |

## Other Positions Held, Academic Appointments and Related Hospital Clinical Appointments:

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|---|---|
| 2019- 2022 | **Examination Committee**<br>American Osteopathic Board of Family Physicians, Sports Medicine Conjoint Certification Representative |
| 2019- | **Senior Medical Staff / Team Physician**<br>Virginia Polytechnic Institute and State University, Blacksburg, VA |
| 2015- | **Chairman**<br>Institutional Review Board, Edward Via College of Osteopathic Medicine, Blacksburg, VA |
| 2008- 2015 | **Co-Chairman**<br>Institutional Review Board, Edward Via College of Osteopathic Medicine, Blacksburg, VA |
| 2007- 2017 | **Board Member**<br>Center for Innovation in Construction Safety & Health Research, Virginia Tech |
| 2004- 2008 | **Head Team Physician**<br>U.S. Freestyle Ski Team |
| 2002- 2009 | **Associate Professor of Family Practice and Discipline Chair of Sports Medicine**<br>Edward Via College of Osteopathic Medicine - Blacksburg, VA |
| 2002- 2019 | **Head Team Physician**<br>Virginia Polytechnic Institute and State University, Blacksburg, VA |
| 2002- 2004 | **Interim Director of Osteopathic Family Practice Residency Program**<br>Carilion Health System, Roanoke, VA |
| 2001- 2002 | **Attending Physician**<br>Timberstone Family Physicians, General Family Practice and Primary Care Sports |

Medicine, Toledo, OH

1998- 2002 **Co-Chairman**
Institutional Review Board, The Toledo Hospital, Toledo, OH

1996- 1998 **Member**
Institutional Review Board, The Toledo Hospital, Toledo, OH

1996- **Team Physician**
United States Ski and Snowboard Association

1995- 2001 **Attending Physician**
Port Sylvania Family Physicians, General Family Practice and Primary Care Sports Medicine, Toledo, OH

1994- **Volunteer Physician**
United States Olympic Committee

1993- 2002 **Medical Director**
High School Sports Medicine Outreach Program, The Toledo Hospital and ProMedica Health System, Toledo, OH

1993- 2002 **Clinical Assistant Professor**
Department of Orthopedic Surgery, School of Medicine, Medical College of Ohio, Toledo, OH

1993- 2002 **Co-Medical Director**
Primary Care Sports Medicine Fellowship, The Toledo Hospital and ProMedica Health System, Toledo, OH

1993- 2002 **Medical Director**
Welltrack, The Corporate Wellness Program, The Toledo Hospital and ProMedica Health System, Toledo, OH

1992- 1995 **Attending Physician**
Family Practice Associates, General Family Practice and Primary Care Sports Medicine, Toledo, OH

1992- 1994 **Member**
Pharmacy and Therapeutics Committee, Toledo Health Plan, Toledo, OH

1990- 2000 **Member**
Osteopathic Education Committee, St. Vincent Medical Center, Toledo, OH

1990- 1992 **Member**
Quality Assessment and Physician Reimbursement Committee, Paramount Health Care, Toledo, OH

1988- 2002 **Medical Director**
Kinesiotherapy Clinic, Department of Kinesiology, College of Health Promotion and Human Services, University of Toledo, Toledo, OH

1988- 2000 **Summer Preceptor**
Family Practice Department, Medical College of Ohio, Toledo, OH

1988- 1990 **Member**
Compensation Committee, HMO Health Ohio, Toledo, OH

1986- 1993 **Co-Medical Director**
"The Sports Medicine Connection"
W.W. Knight Family Practice Residency, Toledo, OH

1986- 2002 **Co-Head Team Physician**
University of Toledo Rockets, University of Toledo, Toledo, OH

1986- 1989 **Member**

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| | | Board of Directors, Parkview Hospital, Toledo, OH |
| 1984- | 1990 | **Medical Director/Founder**<br>"Sports Check" Sports Medicine Clinic, Parkview Hospital, Toledo, OH |
| 1984- | 1992 | **Attending Physician**<br>The Point Place Medical Clinic, General Family Practice and Primary Care Sports Medicine, Toledo, OH |
| 1984- | 1995 | **Medical Director**<br>"Health Check" Corporate Fitness Program, Parkview Hospital, Toledo, OH |

## Certification/Licensure:

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|---|---|---|
| 2011- | | State of North Carolina, Certificate **#174776** |
| 2010- | 2018 | State of West Virginia, License **#2488** (inactive) |
| 2002- | | Commonwealth of Virginia, License **#0102201326** |
| 1984- | 2003 | State of Ohio, License **#3731** (inactive) |
| 1995- | | Board Certified, Primary Care Sports Medicine (Recertified **January 2016**) |
| 1991- | | Board Certified, American College of Osteopathic Family Physicians (Lifetime Certification) |
| 1984- | | Diplomat of the National Board of Medical Examiners |

## Honors and Awards:

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| 2021 | American Osteopathic Foundation W. Douglas Ward, PhD, Educator of the Year Award |
| 2020 | Academic Keys Who's Who in Engineering Higher Education (WWEHE) |
| 2018 | American Osteopathic Academy of Sports Medicine Mentor of the Year Award |
| 2010 | American Osteopathic Foundation Beehler Research Mentor of the Year Award |
| 2010 | Medical Staff for the Winter Olympic Games, Vancouver, BC |
| 2008 | Named in America's Top Family Physicians, 2008-2009 Edition |
| 2008 | William J. Legg D. O. Distinguished Lecture Award |
| 2006 | Named to the Olympic Sports Medicine Society |
| 2006 | Medical Staff for the Winter Olympic Games, Turin, Italy |
| 2006 | Fellow, American College of Osteopathic Family Practice |
| 2004 | Named in America's Top Family Physicians, 2004-2005 Edition |
| 2001 | Fellow, American Academy of Family Practice |
| 1998 | Family Practice Teaching Award, American Academy of Family Practice |
| 1997 | Outstanding Young Physician, Ohio State Medical Association |
| 1996 | Fellow, American Osteopathic Academy of Sports Medicine |

## Professional Memberships Including Leadership Positions:

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|---|---|---|
| 2019- | 2020 | **Committee Member**<br>Health Expo Committee, American Osteopathic College of Family Physicians |
| 2020- | | **Chairman**<br>American Osteopathic Conjoint Sports Medicine Exam Committee, American Osteopathic Association |
| 2018- | 2020 | **Member, Family Practice Representative**<br>American Osteopathic Conjoint Sports Medicine Exam Committee, American Osteopathic Association |
| 2002- | | Virginia Osteopathic Medical Association |

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| 2002- | | Medical Society of Virginia |
| 2002- | | Southeast Chapter of the American College of Sports Medicine |
| 2000- | 2002 | **Ex-officio Member**<br>Board of Directors, Health, Education, Research Corporation, ProMedica Health System |
| 1998- | 2019 | **Ex-officio Member**<br>Board of Directors, American Osteopathic Academy of Sports Medicine |
| 1998- | 2003 | **Chairman**<br>Sports Medicine Education and Evaluation Committee, American Osteopathic Association |
| 1996- | 2002 | **Member, Board of Directors**<br>Health Enhancement Research Organization |
| 1996- | 2001 | **Sports Medicine Representative**<br>Council on Postdoctoral Training, American Osteopathic Association |
| 1997- | 1998 | **President, Board of Directors**<br>American Osteopathic Academy of Sports Medicine |
| 1993- | 1996 | **Member, Board of Directors**<br>Midwest Chapter, American College of Sports Medicine |
| 1991- | 1994 | **Founding Member**<br>Research Committee, American Medical Society for Sports Medicine |
| 1991- | 1994 | **Inaugural Board of Directors**<br>American Medical Society for Sports Medicine |
| 1984- | | American Osteopathic Association |
| 1984- | 2002 | Ohio Osteopathic Association |
| 1984- | | The American College of Osteopathic Family Practitioners |
| 1984- | | American Academy of Family Physicians |
| 1984- | 2002 | Ohio Academy of Family Physicians |
| 1984- | 2012 | American Medical Association |
| 1984- | 2002 | Ohio State Medical Association |
| 1984- | 2002 | The Toledo Academy of Medicine |
| 1984- | | The American Osteopathic Academy of Sports Medicine |
| 1990- | | **Charter Member**<br>American Medical Society for Sports Medicine |
| 1984- | | The American College of Sports Medicine |
| 1984- | 2002 | Midwest Chapter of the American College of Sports Medicine |
| 2002- | | Southeast Chapter of the American College of Sports Medicine |
| 1984- | 2000 | The Association for Worksite Health Promotion |
| 1984- | | **Professional Member**<br>American Running and Fitness Association |

## Courses Taught, Primary Instructor:

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| 2011- | Sports Medicine Curriculum<br>School of Biomedical Engineering & Sciences Clinical Rotation in Sports Medicine at VCOM/VT, BMES 6064 (Virginia Tech); BMES 706 (Wake Forest) |

**Courses Taught, Supporting/Secondary Faculty:**

Principles of Primary Care
Clinical Case Correlations
Osteopathic Manipulative Medicine
Clinical Athletic Training Seminars
Graduate Mechanical Engineering Seminars
Clinical Research Seminars, VCOM Master of Arts in Biomedical Sciences Program (MABS)
Clinical Training and Didactics, Primary Care Sports Medicine Fellowship

**Continuing Education Course Administration or Director:**

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| Oct 2008 | **Co-Chairman**<br>American Osteopathic Association Research Conference; Las Vegas, NV |
| Jul 2005 | **Co-Chairman**<br>VCOM Summer CME "On the Field Osteopathy-Sports Medicine Series" |
| Jan 2005 | **Co-Chairman**<br>Promedica Health System CME Program, "An Osteopathic Approach" Sports Medicine Series |
| Nov 2004 | **Co-Chairman**<br>48th Annual AOA Research Conference, "Manual Medicine in Special Populations", San Francisco, CA |
| Jul 2004 | **Co-Chairman**<br>VCOM Summer CME Program, "An Osteopathic Approach" Sports Medicine |

**Continuing Education Courses/Seminars/Workshops Taught:**

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| October 2020 | "Pain Across the Ages". AOA OMED Medical Conference and Exposition, Austin, TX; October 2020, Virtual Presentation |
| October 2020 | "Mild Traumatic Brain Injury, Evaluation and Treatment". VOMA 2020 Fall CME Virtual Conference. October 2020 |
| November 2019 | "Research Retreat State of Research at VCOM". The 6th Annual VCOM Research Retreat; Charlotte, NC; November 2019 |
| July 2019 | "Is That Head Injury a Concussion?" ACC and AAC Officials Meeting; Charlotte, NC; July 2019 |
| June 2019 | "VCOM Caribbean and Central American Global Clinical, Research and Education Potential for Collaboration with SOUTHCOM". US Southern Command Meeting; June 2019 |
| March 2019 | "Concussion Clinical Evaluation, Treatment and Research Update" American College of Osteopathic Family Medicine; ACOFP Conference; March 2019 |
| March 2019 | "Concussion OMT Workshop" American College of Osteopathic Family Medicine; ACOFP Conference; March 2019 |
| March 2019 | "*Concussion Research Update: Why OMT is Necessary For Our Athletes*" American Academy of Osteopathy; AAO Conference; March 2019 |
| May 2018 | "*Status Post Concussion: The Impact on Motor Control*" American Osteopathic Academy of Sports Medicine; AOASM Conference; May, 2018 |
| Oct 2017 | "Post-Concussion Research Update and Treatment Options", AOA OMED 2017, Philadelphia, PA |

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| May | 2016 | "Update on Concussion Sensor Technologies" and<br>"Pardon the Sports Medicine Interruption"<br>Annual AOASM Clinical Conference, Tempe AZ |
| Oct | 2015 | "Traumatic Brain Injury"<br>"Return to Play from Traumatic Brain Injury"<br>AOA OMED 2015, Orlando, FL |
| Feb | 2014 | "OMM for Family Practice Board Review", Danville Regional Medical Center Family Medicine Residency |
| Mar | 2014 | "Clinical and Practical Implications of Sports Related Traumatic Brain Injury"<br>AAO Convocation, Colorado Springs, CO |
| Mar | 2014 | "Emerging Trends in Concussion Research" Annual AOASM Clinical Conference, Tampa, FL |
| Jan | 2014 | "Standards of Care in Treating Multiple Concussions", 2nd Annual #C4CT Concussion Awareness Summit, New York, NY |
| Sep | 2013 | "Head Impact Biomechanics in Sport: Clinical and Practical Implications" and<br>"Current Research and Helmet Technology in Concussion" and<br>"Clinical and Practical Implications of Head Accelerations in Youth Football"<br>AOA OMED 2013, Las Vegas, NC |
| June | 2013 | "Equipment and Head Injury Prevention", 3rd Annual Brewer Sports Symposium, Minneapolis, MN |
| April | 2013 | "Traumatic Brain Injury Update", Regional Osteopathic Medical Education (ROME) Southeast Conference, Myrtle Beach, SC |
| Mar | 2013 | "Return to Play After Concussion", 28th Annual AOASM Clinical Conference, Colorado Springs, CO |
| Oct | 2012 | "The Biomechanical Basis of MTBI" and "Head Accelerations in Youth Football"<br>AOA OMED 2012, San Diego, CA |
| Apr | 2012 | "Pre-competition Manipulation and Performance among Virginia Tech Football Players during the 2008-2009 Football Season Pilot Study", Using Manual and Conventional Therapies to Enhance Musculoskeletal Health Conference hosted by The Osteopathic Research Center, Fort Worth, TX |
| Apr | 2012 | "The STAR Helmet Ranking System; Clinical and Practical Implications", 7th Annual VCOM Research Recognition Day, Blacksburg, VA |
| Apr | 2012 | "Exercise and Immune Function" (Keynote Address) &<br>"The STAR Helmet Ranking System"<br>20th Annual KCUMB Research Symposium, Kansas City, MO |
| Feb | 2012 | "Clinical Implications of Youth Football Head Accelerations" and<br>"Biomechanical Basis for Mild Traumatic Brain Injury", MSU Neurology Rehabilitation Grand Rounds, East Lansing, MI |
| Oct | 2011 | "STAR Football Helmet Rating System: Clinical and Practical Implications"<br>AOA/AOASM OMED 2011, Orlando, FL |
| Nov | 2011 | "On-Field Emergencies" and "Concussion Evaluation and Treatment"<br>Halifax Regional Hospital Sports Medicine Symposium, South Boston, VA |
| Feb | 2011 | "OMT for Sports Injury" and "Biomechanical Basis for MTBI"<br>WVSOM Midwinter Osteopathic Seminar, Charleston, WV |
| Oct | 2010 | "Current Research on Concussion and Mild Traumatic Brain Injury"<br>AOA/AOASM Annual Fall Conference, San Francisco, CA |
| Aug | 2010 | "The Biomechanical Basis for Mild Traumatic Brain Injury" |

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| | | Athletic Trainers Society of New Jersey Sports Concussion Summit, Plainsboro, NJ |
| May | 2010 | "Exercise is Medicine"<br>South Boston Exercise & Metabolism Seminar, Halifax Regional Hospital, South Boston, VA |
| Apr | 2010 | "The Athlete and Orthopedic Medicine" (Keynote Address)<br>American Academy of Orthopedic Medicine 27th Annual Conference, Amelia Island, FL |
| Apr | 2010 | "The Biomechanical Basis for Mild Traumatic Brain Injury"<br>NCOMA Convention, Raleigh, NC |
| Mar | 2009 | "The Biomechanical Basis for Mild Traumatic Brain Injury" AOASM Annual Clinical Conference, Snowbird, UT |
| Mar | 2009 | "Traumatic Brain Injury-Understanding and Management Approaches"<br>ACOFP Annual Convention & Exhibition, Washington, DC |
| Oct | 2008 | "The Biomechanics of Achilles Tendon Rupture"<br>AOA Annual Convention and Scientific Seminar, Las Vegas, NV |
| Oct | 2008 | "Pre-Competition Manipulation and Performance"<br>AOA Annual Convention and Scientific Seminar, Las Vegas, NV |
| Oct | 2008 | "Clinical Implications of Head Acceleration and Mild Traumatic Brain Injury"<br>AOA Annual Convention and Scientific Seminar, Las Vegas, NV |
| Sep | 2008 | "Healthy Joints for a Lifetime-Joint and Postural Health"<br>VOMA CME Conference, Roanoke, VA |
| May | 2008 | "Treating Musculoskeletal Injuries with Osteopathic Techniques: A Primer for Non-Osteopathic Practitioners"<br>ACSM 55th Annual Meeting, Indianapolis, IN |
| Apr | 2008 | "Exercise and the Elderly"<br>AOASM 23rd Annual Clinical Conference, Kansas City, MO |
| Mar | 2008 | "Manual Manipulation Techniques, SI Joint, L-Spine, T-Spine"<br>AMSSM Rendezvous II Meeting, Las Vegas, NV |
| Jun | 2007 | "Analysis of Linear Head Accelerations from Collegiate Football Impacts"<br>Eighth Annual Philadelphia Sports Medicine Congress |
| Mar | 2007 | "Managing Head and Neck Trauma" ACSM 54th Annual Meeting Clinical Case Report, New Orleans, LA |
| Mar | 2007 | "Meeting the Needs of Patients with Osteoarthritis: Focusing on the Effectiveness and Safety of Treatment Modalities" Continuing Medical Education, Cincinnati, OH |
| Feb | 2007 | "Meeting the Needs of Patients with Osteoarthritis: Focusing on the Effectiveness and Safety of Treatment Modalities" Continuing Medical Education, Cleveland, OH |
| Feb | 2007 | "Measurement and Prediction of Head Injuries for Helmeted Athletes" 5th Annual Center for Biomechanics Instructional Symposium, Blacksburg, VA |
| Oct | 2006 | "Current Concepts in the Evaluation & Treatment of Concussion"<br>30th Annual Meeting of the American Society of Biomechanics, Blacksburg, VA |
| Jun | 2006 | "Clinical Workshop, Kinetic Chain Evaluation"<br>ACSM 53rd Annual Meeting, Denver, CO |
| Jun | 2006 | "On-the-Field Management of the Spine-Injured Athlete"<br>ACSM 53rd Annual Meeting, Denver, CO |

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| Jun | 2006 | "Inflammation After Acute Musculoskeletal Injuries: Friend or Foe?"<br>ACSM 53rd Annual Meeting, Denver, CO |
| May | 2006 | "View from the Mountain-Olympic Ski Team Coverage."<br>AOASM 21st Annual Clinical Conference, Scottsdale, AZ |
| May | 2006 | "What's New in Concussion Evaluation and Management?"<br>AOASM 21st Annual Clinical Conference, Scottsdale, AZ |
| Apr | 2006 | "Shoulder Exam / Prolotherapy"<br>American Association of Osteopathic Medicine 23rd Annual Conference and Scientific Seminar, Washington, DC |
| Jun | 2005 | "Clinical Workshop, Examination of the Low Back"<br>ACSM 52nd Annual Meeting, Nashville, TN |
| Jun | 2005 | "Clinical Workshop, Examination of the Cervical Spine"<br>ACSM 52nd Annual Meeting, Nashville, TN |
| Jun | 2005 | "Electrocardiographic Interpretation of Cardiac Dysrhythmias for Beginners"<br>ACSM 52nd Annual Meeting, Nashville, TN |
| May | 2005 | "Muscle Energy, "Lower Extremity Techniques"<br>Mid Atlantic Trainers Association Annual Meeting; May 2006. Virginia Beach, VA |
| Apr | 2005 | "Medical Preparedness for Team Travel"<br>AOASM 20th Annual Clinical Conference, St. Louis, MO |
| Apr | 2005 | "Head Injury Update"<br>AOASM 20th Annual Clinical Conference, St. Louis, MO |
| Nov | 2004 | "Sacroiliac Pain Syndromes" and "Workshop: OMT for Sacroiliac Pain"<br>AAO, San Francisco, CA |
| Nov | 2004 | "Working with the Trained Athlete – Pre-competition Manipulation"<br>AAO 48th Annual AOA Research Conference, San Francisco, CA |
| Nov | 2004 | "The Osteopathic Approach to the Athlete: A Hands-On Approach"<br>AAO 48th Annual AOA Research Conference, San Francisco, CA |
| Apr | 2004 | "Pain Management and Sports"<br>Southwestern Virginia Medical Society; Annual Spring Meeting; Blacksburg, VA |
| Apr | 2004 | "Sports Medicine as a Certified Specialty: Roundtable Discussion"<br>Rendezvous 2004: Five Society Sports Medicine Meeting, Vancouver, BC |
| Apr | 2004 | "Clinical Consequences of Head Accelerations in Collegiate Football"<br>Rendezvous 2004: Five Society Sports Medicine Meeting, Vancouver, BC |
| Apr | 2004 | "Sports Prolotherapy"<br>Rendezvous 2004: Five Society Sports Medicine Meeting, Vancouver, BC |
| Apr | 2004 | "Manipulation and Sports Performance"<br>Rendezvous 2004: Five Society Sports Medicine Meeting, Vancouver, BC |
| Apr | 2004 | "Manual Medicine and Sports Workshop"<br>Rendezvous 2004: Five Society Sports Medicine Meeting, Vancouver, BC |
| Apr | 2004 | "Clinical Consequences of Head Accelerations in Collegiate Football"<br>AOASM 19th Annual Clinical Conference, Boston, MA |
| Apr | 2004 | "Program Director's Workshop"<br>AOASM 19th Annual Clinical Conference, Boston, MA |
| Apr | 2004 | "Lower Extremity Manipulative Techniques in Sports Medicine"<br>AOASM 19th Annual Clinical Conference, Boston, MA |
| Apr | 2004 | "Spine Imaging Workshop"<br>AOASM 19th Annual Clinical Conference, Boston, MA |

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| Feb | 2004 | "GI Dysfunction in Athletes"<br>ACSM Team Physician Course, Part I: Las Vegas, NV |
| Feb | 2004 | "Pelvic Dysfunction in Female Athletes"<br>ACSM Team Physician Course, Part I: Las Vegas, NV |
| Feb | 2004 | "Sports Psychology, What Works and Why"<br>ACSM Team Physician Course, Part I: Las Vegas, NV |
| Feb | 2004 | "Gastrointestinal Dysfunction in Athletes"<br>ACSM Team Physician Course, Part I: Las Vegas, NV |
| Feb | 2004 | "Shoulder Workshop"<br>ACSM Team Physician Course, Part I: Las Vegas, NV |
| Jun | 2003 | "The Collapsed Athlete"<br>Session Chair, ACSM; San Francisco, CA |
| Apr | 2003 | "Program Director's Forum"<br>AOASM 18th Annual Clinical Conference, San Diego, CA |
| Apr | 2003 | "Program Inspector's Workshop"<br>AOASM 18th Annual Clinical Conference, San Diego, CA |
| Apr | 2003 | "OMT for the Lower Extremity in Sports"<br>AOASM Annual Clinical Conference, San Diego, CA |
| Apr | 2003 | "Efficient Sideline Medical Documentation"<br>AOASM Annual Clinical Conference, San Diego, CA |
| Apr | 2003 | "Founder's Pearls"<br>AMSSM 12th Annual Clinical Conference, San Diego, CA |
| Apr | 2003 | "Low Back Mobilization Techniques in Sports"<br>AMSSM, San Diego, CA |
| May | 2003 | "SI Dysfunction in Sports"<br>VOMA Annual Spring Conference, Hot Springs, VA |
| May | 2003 | "Sports Medicine Update"<br>Southwestern Virginia Medical Society; Annual Spring Meeting; Blacksburg, VA |
| May | 2003 | "Osteopathic Sports Medicine: Making a Difference"<br>VOMA Annual Spring Conference, Hot Springs, VA |
| Jun | 2002 | "Hits, Heat and Athletic Hearts"<br>Ohio Osteopathic Association 104th Annual Meeting & Scientific Seminar, Cincinnati, OH |
| Jun | 2002 | "Osteopathic Approach to Upper Quadrant Injuries in the Athlete"<br>ACSM Annual Meeting, St. Louis, MO |
| Apr | 2002 | "Strength Training in the Elderly: Can Old Dogs Learn New Tricks?"<br>AOASM 17th Annual Clinical Conference, Washington, DC |
| Apr | 2002 | "Low back Mobilization - Pelvic-Sacroiliac Joint"<br>AMSSM 11th Annual Meeting, Orlando, FL |
| Jul | 2001 | "State of the Art Integrated Manual Medicine in Sports"<br>International Federation of Manual/Musculoskeletal Medicine, Chicago, IL |
| Jul | 2001 | "Sports Medicine Approach to Lower Extremity Diagnosis and Manipulative Treatment"<br>International Federation of Manual/Musculoskeletal Medicine, Chicago, IL |
| May | 2001 | "Osteopathic Approach to the Thoracic Spine and Ribs"<br>Lecture and Workshop at American College of Sports Medicine, Baltimore, MD |
| May | 2001 | "Bugs and Drugs" |

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| | | Toledo Academy of Medicine, The Toledo Zoo, Toledo, OH |
| May | 2001 | "Headaches in Athletes" |
| | | Toledo Academy of Pharmacy, Courtyard at the Navy Bistro, Toledo, OH |
| Apr | 2001 | "The Knee Conundrum" |
| | | Office Orthopedics and Primary Care Sports Medicine for the Practicing Clinician, Continuing Medical Education Association, Scottsdale, AZ |
| Apr | 2001 | "Don't Get Overstressed Treating Overuse Injuries" |
| | | Office Orthopedics and Primary Care Sports Medicine for the Practicing Clinician, Continuing Medical Education Association, Scottsdale, AZ |
| Apr | 2001 | "Essentials in Short Arm Casting Workshop" |
| | | Office Orthopedics and Primary Care Sports Medicine for the Practicing Clinician, Continuing Medical Education Association, Scottsdale, AZ |
| Apr | 2001 | "Lower Extremity Workshop" |
| | | AOASM and AMSSM Medical Conference, San Antonio, TX |
| Apr | 2001 | **Session Chair**, Cycling Symposium |
| | | AOASM and AMSSM Medical Conference, San Antonio, TX |
| Mar | 2001 | "What is a Team Physician?" |
| | | ACOFP Medical Conference, Philadelphia, PA |
| Feb | 2001 | "Injuries and Disorders of the Knee" |
| | | Michigan State University Conference, Lansing, MI |
| Sep | 2000 | "Sports Medicine Update" |
| | | The Millennial Founder's Day Osteopathy for the Ages. A Manipulative Update & Family Practice Reunion, Kirksville, MO |
| Sep | 2000 | "Lower Extremity Manipulative Techniques in Sports" |
| | | The Millennial Founder's Day Osteopathy for the Ages. A Manipulative Update & Family Practice Reunion, Kirksville, MO |
| Jun | 2000 | "Low Back Pain in the Adolescent Athlete" |
| | | Family Health Foundation of Mississippi, First Annual Sports Medicine Conference, Tupelo, MS |
| Jun | 2000 | "The Coach/Physician Interface" |
| | | Family Health Foundation of Mississippi, First Annual Sports Medicine Conference, Tupelo, MS |
| Jun | 2000 | "Clinical Workshop: Osteopathic Approach to the Pelvis" |
| | | ACSM Annual Meeting, Indianapolis, IN |
| Jun | 2000 | "The Clinical Disciplines of Sports Medicine: Future Speculations" |
| | | ACSM Annual Meeting, Indianapolis, IN |
| May | 2000 | "Olympic and Professional Sports Update (Skiing)" |
| | | AOASM 15th Annual Clinical Conference, Williamsburg, VA |
| May | 2000 | "Diagnostic and Imaging Workshop" |
| | | AOASM 15th Annual Clinical Conference, Williamsburg, VA |
| May | 2000 | **Session Chair** for Case Presentations |
| | | AOASM 15th Annual Clinical Conference, Williamsburg, VA |
| May | 2000 | "Team Physician Consensus Statement" |
| | | AOASM 15th Annual Clinical Conference, Williamsburg, VA |
| May | 2000 | "Cervical Spine Trauma: The 1998 Goodwill Games Gymnastic Event" |
| | | AOASM 15th Annual Clinical Conference, Williamsburg, VA |
| Apr | 2000 | "Workshop: Casting Clinic – The Short Arm Cast" |

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| | | Continuing Medical Education Associates (CMEA), The Office Orthopedics and Bone Radiology for the Primary Care Physician Course, Las Vegas, NV |
| Apr | 2000 | "Panel Discussion: Primary Care Sports Medicine in a Managed Care World" AMSSM 9th Annual Meeting, San Diego Hilton Resort. San Diego, CA |
| Apr | 2000 | "Sports Medicine Injuries in the Foot & Ankle: Technologies and Treatment" Northwest Ohio Academy of Podiatric Medicine Retreat, Maumee Bay Resort, Toledo, OH |
| Mar | 2000 | "Workshop: Program Directors/Inspectors" ACOFP 37th Annual Convention and Scientific Seminar, Bally's Hotel, Las Vegas, NV |
| Mar | 2000 | "Workshop: Casting Clinic – The Short Arm Cast" Continuing Medical Education Associates (CMEA), The Office Orthopedics and Bone Radiology for the Primary Care Physician Course, New Orleans, LA |
| Jan | 1999 | "The Twisted Ankle: When an X-Ray is Not Indicated" Continuing Medical Education Associated (CMEA). The Office Orthopedics and Bone Radiology for the Primary Care Physician Course, La Jolla, CA |
| Jan | 2000 | "Essentials of Short Arm Casting" The Office Orthopedics and Bone Radiology Continuing Medical Education Association (CMEA), Las Vegas, NV |
| Oct | 1999 | "Exercise and Its Effect on the Immune System" Annual AOA OMED Meeting, San Francisco, CA |
| Jun | 1999 | "Osteopathic Approach to the Wrist & Elbow" ACSM Annual Meeting, Seattle, WA |
| Jun | 1999 | "Clinical Case Report: Back Pain – Soccer" ACSM Annual Meeting, Seattle, WA |
| May | 1999 | "Essentials of Short Arm Casting" The Office Orthopedics and Bone Radiology Continuing Medical Education Association (CMEA), Las Vegas, NV |
| May | 1999 | "Exercise & Physical Fitness for Women Over 40" WGTE Women's Health Forum. Seagate Center, Toledo, OH |
| Apr | 1999 | "Sports Medicine for the Radiographer" Continuing Medical Education Association (CMEA) Ohio Radiologic Society, Wyndham Hotel, Toledo, OH |
| Jan | 1999 | "Common Foot and Ankle Problems in Athletes" Continuing Medical Education Association (CMEA), San Diego, CA |
| Oct | 1998 | "Lumbar Spine & Lower Extremities: Hands on OMT" Sports Medicine Fellowship CEM Seminar, Toledo, OH |
| Oct | 1998 | "Alternative Medicine in the Nineties" St. John Hospital & Medical Center CME Seminar, Detroit, MI |
| Oct | 1998 | "Pain Management in the Athlete" AOA Annual Conference & Scientific Seminar, New Orleans, LA |
| Mar | 1998 | "Toe Jams, Flat Feet and Aching Arches: The Fore, Mid, and Hind Foot" Continuing Medical Education Associates (CMEA). The Office Orthopedics and Bone Radiology for the Primary Care Physician. Royal Sonesta Hotel, New Orleans, LA |
| Mar | 1998 | "The Twisted Ankle: When an X-Ray is Not Indicated" Continuing Medical Education Associates (CMEA). The Office Orthopedics and |

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| | | Bone Radiology for the Primary Care Physician. Royal Sonesta Hotel, New Orleans, LA |
| Mar | 1998 | "Prevention and Treatment of Running Injuries"<br>Continuing Medical Education Associates (CMEA). The Office Orthopedics and Bone Radiology for the Primary Care Physician, Royal Sonesta Hotel, New Orleans, LA |
| Mar | 1998 | "Workshop: Casting Clinic – The Short Arm Cast"<br>Continuing Medical Education Associates (CMEA). The Office Orthopedics and Bone Radiology for the Primary Care Physician, Royal Sonesta Hotel, New Orleans, LA |
| Oct | 1997 | "DHEA: A Hormone for the Ages"<br>AOA 102nd Annual Convention and Scientific Seminar, San Antonio, TX |
| Sep | 1997 | "Taping and Splinting Workshop"<br>Continuing Medical Education Associates (CMEA). Internal Medicine Fall Program, Loews Resort. San Diego, CA |
| Jul | 1997 | "A Practical Approach to Low Back Pain"<br>Continuing Medical Education Associates (CMEA). The Orlando Primary Care Review Course, Buena Vista Palace Resort and Spa, Walt Disney World Village, FL |
| Apr | 1997 | "Osteopathic Considerations for the Lower Extremity"<br>AMSSM Sixth Annual Meeting, Colorado Springs, CO |
| Apr | 1997 | "Prevention and Treatment of Common Running Injuries"<br>Office Orthopedics and Bone Radiology for the Primary Care Physician, Royal Sonesta Hotel, New Orleans, LA |
| Apr | 1997 | "The Twisted Ankle: When an X-Ray Is Not Indicated."<br>Office Orthopedics and Bone Radiology for the Primary Care Physician, Royal Sonesta Hotel, New Orleans, LA |
| Oct | 1996 | "Cervical Spine Injuries"<br>Ironman Sports Medicine Conference, Kona Surf Resort, Big Island, HI |
| Oct | 1996 | "Common Lower Extremity Injuries in Athletes"<br>Ironman Sports Medicine Conference, Kona Surf Resort, Big Island, HI |
| Sep | 1996 | "Practical Approach to Low Back Pain"<br>Continuing Medical Education Associates (CMEA). Fall Internal Medicine Program. San Diego, CA |
| Sep | 1996 | "Common Injuries in Runners"<br>Continuing Medical Education Associates (CMEA). Office Orthopedics and Bone Radiology for the Primary Care Physician, New Orleans, LA |
| Sep | 1996 | "Common Traumatic Knee Injuries"<br>Continuing Medical Education Associates (CMEA). Fall Internal Medicine Program. New Orleans, LA |
| Sep | 1996 | "Foot and Ankle Injuries"<br>Continuing Medical Education Associates (CMEA). Office Orthopedics and Bone Radiology for the Primary Care Physician, New Orleans, LA |
| Jun | 1996 | "Adolescent Male Athletes' Perceptions of an Experience with Athletic Cup Protection"<br>AMSSM and AOASM (Combined Meeting), Orlando, FL |
| | 1995 | "Ergogenic Aids: Licit and Illicit" |

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| | | Continuing Medical Education Associates (CMEA). Sports and Occupational Medicine in Primary Care, San Diego, CA |
| | 1995 | "Sports Anemia"<br>Continuing Medical Education Associates (CMEA). Sports and Occupational Medicine in Primary Care, San Diego, CA |
| | 1995 | "Casting Seminar"<br>Ohio Academy of Family Physicians 1995 Scientific Assembly, King's Island, Cincinnati, OH |
| | 1995 | "Concussion: When to Return to Play; the Dilemmas"<br>ACSM Midwest Chapter, Pheasant Run, IL |
| | 1995 | "Industrial Medicine and Sports Medicine: Comparisons and Similarities"<br>Western Ohio Occupational Medicine Association Conference, Toledo, OH |
| | 1995 | "Primary Care and Preventive Medicine: Building the Team!"<br>ACSM Midwest Chapter, Wright State University, Dayton, OH |
| | 1995 | "Primary Care and Preventive Medicine: Utilizing the Team Approach to Industrial/Occupational Medicine"<br>AOA Convention and Scientific Seminar, Orlando, FL |
| Oct | 1995 | "Lumbosacral Spine Imaging Workshop"<br>AOASM 21st Century and Solutions in Osteopathic Medicine, Las Vegas, NV |
| Feb | 1994 | "Natural Cell-Mediated Cytotoxicity and Lymphocyte Mitogenesis Following a 24 Hour Road Race"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Feb | 1994 | "Rhabdomyolysis induced acute renal failure in an ultra-endurance athlete presenting as an upper gastrointestinal bleed"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Feb | 1994 | "Psychological and Endocrine Responses to a 24 Hour Road Race"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Feb | 1994 | "The Effects of Excessive Training and Detraining on Testicular Function"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Feb | 1994 | "Cross Training on Indices of Training Stress and Performance"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Apr | 1993 | "Cold Weather Exercise"<br>AOASM Annual Meeting, New Orleans, LA |
| | 1993 | "Cross Training: Indices of Training Stress and Performance"<br>ACSM National Meeting, Indianapolis, IN |
| | 1993 | "Cutting Edge Diagnostic Techniques" **Session Chair**<br>AMSSM Clinical Conference, Sun Valley, ID |
| Apr | 1993 | "Roundtable Discussion: Sports Medicine Certification"<br>AOASM Clinical Conference, New Orleans, LA |
| | 1993 | "Strength Training in Sports"<br>Family Practice Review and Advanced Trauma Life Support Course. Tantara Resort, Lake of the Ozarks, MO |
| | 1993 | "The Thoracolumbar Spine in Sports"<br>The Ohio Athletic Trainers' Association, 9th Annual Symposium. Toledo OH |
| Feb | 1993 | "The Responses of Lymphocyte Subpopulations and Selected Hematological Parameters to a 24-Hour Race"<br>Midwest ACSM Annual Meeting, Boyne Falls, MI |

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| Feb | 1993 | "Lymphocyte Mitogenesis and Natural Cell-Mediated Cytotoxicity Following a 24-Hour Run"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| Feb | 1993 | "Mood State and Subjective Responses to a 24-Hour Race"<br>Midwest ACSM Winter Conference, Boyne Falls, MI |
| | 1992 | "Cycling Injuries: An Old Sport on the Rise"<br>AOASM Clinical Conference, Colorado Springs, CO |
| Feb | 1992 | "Excessive Training and Foot Impact Shock in Competitive Distance Runners"<br>ACSM Annual Meeting, Dallas, TX |
| | 1992 | "Hormonal Responses to Excessive Training: Influence of Cross Training"<br>ACSM Annual Meeting, Dallas, TX |
| | 1992 | "Immune System Responses to Excessive Training: Influence of Cross Training"<br>ACSM Midwest Chapter Winter Meeting, Boyne Falls, MI |
| Nov | 1992 | "Mood State and Subjective Responses to a 24-Hour Race"<br>ACSM Annual Meeting, Dallas TX |
| | 1992 | "Increased Training and Mood States: Influence of Cross Training"<br>ACSM National Meeting, Dallas TX |
| | 1991 | Biomechanical Evaluation and Rehabilitation **Session Chair**<br>"An Approach to Diagnosis and Management of Some Common Running and Jumping Injuries"<br>AOA Convention, Las Vegas, NV |
| | 1989 | **Program Chairman**<br>AOASM Conference, (Held in conjunction with Boston Marathon). Boston, MA |

## Clinical Site Teaching, College and Settings:

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| 2019- | | **Medical Director - Emeritus**<br>Primary Care Sports Medicine Fellowship<br>Edward Via College of Osteopathic Medicine and Virginia Tech, Blacksburg, VA |
| 2009- | | **Professor**<br>Family Practice and Sports Medicine<br>Edward Via College of Osteopathic Medicine, Blacksburg, VA |
| 2005- | | **Adjunct Professor, Mechanical Engineering**<br>Virginia Polytechnic Institute and State University - Blacksburg, VA |
| 2005- | 2019 | **Medical Director**<br>Primary Care Sports Medicine Fellowship<br>Edward Via College of Osteopathic Medicine and Virginia Tech, Blacksburg, VA |
| 2002- | 2009 | **Associate Professor**<br>Family Practice and Sports Medicine<br>Edward Via College of Osteopathic Medicine, Blacksburg, VA |
| 1984- | 2002 | **Adjunct Clinical Professor of Family Practice**<br>Ohio University College of Osteopathic Medicine<br>Ohio University, Athens, OH |
| 1993- | 2002 | **Clinical Assistant Professor**<br>Department of Orthopedic Surgery, School of Medicine<br>Medical College of Ohio, Toledo, OH |
| 1990- | 2002 | **Adjunct Professor**<br>College of Health Promotion and Human Services |

University of Toledo, Toledo, OH

1993- 2002 **Co-Medical Director**
Primary Care Sports Medicine Fellowship
The Toledo Hospital/ProMedica Health System, Toledo, OH

1986- 2002 **Clinical Preceptor for Family Practice and Sports Medicine**
W.W. Knight Family Practice Residency, The Toledo Hospital, Toledo, OH

**Speaker or Lecturer:**

Mar 2021 "Human Performance: Osteopathic Perspectives on Research and Clinical Practice". Keynote Address. Association for Military Osteopathic Physicians and Surgeons; AMOPS, Annual Meeting, Uniformed Services University, March 2021

Apr 2020 "Concussion: Treatment Considerations and Return to Play". Virginia Tech Concussion Seminar. Blacksburg, VA, April 2020

Feb 2020 "Mild Traumatic Brain Injury, Evaluation and Treatment". LewisGale Medical Center Internal Medicine Residency Training Program. Salem, VA, February 2020

Jan 2020 "GI Dysfunction in Athletes". VCOM Sports Med Fellowship Didactics. Blacksburg, VA, January 2020

Nov 2019 "The 6th Annual VCOM 2019 Research Retreat State of Research at VCOM" VCOM Research Retreat; Charlotte, NC: November 2019

Jul 2019 "Is That Head Injury a Concussion". ACC and AAC Officials Meeting. Charlotte, NC, July 2019

Jun 2019 "VCOM Caribbean and Central American Global Clinical, Research and Education Potential for Collaboration with SOUTHCOM" US Southern Command Meeting; June 2019

Feb 2019 "Exercise and the Immune System". VCOM Sports Med Fellowship Didactics. Blacksburg, VA, February 2019

Dec 2018 "VCOM 2018 Research Retreat: State of Research at VCOM"; VCOM Biomedical Research Retreat; Podium Presentation; December 2018

Feb 2018 "Scholarly Activity and Residency Research Overview" Resident Research Symposium Meetings at Grand Strand Medical Center; February 2018

Nov 2017 Grand Rounds University of Miami Miller School of Medicine; Head Impact Biomechanics, Sensors and Concussion Research Update; November 2, 2017

Mar 2017 "Head impact biomechanics, concussion and clinical implications", Rochester Regional Health, Rochester NY

Feb 2017 "Head impact biomechanics, concussion and clinical implications", Liberty University COM, Lynchburg, VA

Sep 2014 "Grand Rounds: Concussion", The Ohio State University, Columbus Ohio

Feb 2014 "OMM FP Board Review", Danville Regional Medical Center, Danville, VA

Sep 2013 "OMM for Upper Extremities", Danville Regional Medical Center, Danville, VA

Mar 2012 "What is Osteopathic Sports Medicine", College-Wide Speaking engagement, College of Charleston, Charleston, SC

Jan 2011 "Exercise is Medicine" AARP Chapter Meeting, Blacksburg, VA

Sep 2009 "Experiences as an Olympic Physician & Helmet Safety", Roanoke Regional Chamber of Commerce, Roanoke, VA

Sep 2009 "The Biomechanical Basis for Mild Traumatic Brain Injury" Southwest Virginia Governor's School

Jul 2008 "The NSAID Debate: Exploring the Risks and Benefits" Lebanon, VA

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| Mar | 2008 | "The NSAID Debate: Exploring the Risks and Benefits" Roanoke, VA |
| Mar | 2008 | "Arthritis Pain and Inflammation in Sports Medicine" Bristol, VA |
| Mar | 2008 | "Arthritis Pain and Inflammation in Sports Medicine" Pulaski, VA |
| Feb | 2008 | "Arthritis Pain and Inflammation in Sports Medicine" Christiansburg, VA |
| Feb | 2008 | "Arthritis Pain and Inflammation in Sports Medicine" Blacksburg, VA |
| Jul | 2007 | "Arthritis Pain and Inflammation in Sports Medicine" Christiansburg, VA |
| Mar | 2007 | "Meeting the Needs of Patients with Osteoarthritis: Focusing on the Effectiveness and Safety of Treatment Modalities" Continuing Medical Education, Dearborn, MI |
| Apr | 2005 | "New Trends in Sports Medicine" Portsmouth Academy of Medicine, Norfolk, VA |
| May | 2004 | "The Osteopathic Approach to the Patient" Roanoke Carilion Medical Center. Roanoke, VA |
| May | 2004 | "Pain Management in Sports" and "Sports Psychology: What Works and Why" Philippine Medical Society Spring Meeting, Hampton Roads, VA |
| Mar | 2004 | "Pain Management in Sports" Hampton Roads, VA |
| Mar | 2004 | "Respiratory Infection Resistance and Rational Therapy" Smyth County Medical Society Meeting, Wytheville, VA |
| Jan | 2004 | "Pain Management in Sports" Lynchburg, VA |
| Jan | 2004 | "Evaluation and Treatment of Respiratory Infections" Bluefield Regional Medical Center, Bluefield, WV |
| Sep | 2003 | "The Pre-participation Sports Physical" Halifax Regional Hospital Medical Staff Meeting, Halifax, VA |
| Sep | 2003 | "Pain Management in Sports" Appomattox, VA |
| Sep | 2003 | "Pain Management in Sports" Danville-Pittsylvania County Medical Society Meeting, Danville, VA |
| Sep | 2003 | "Pain Management in Sports" Mercer County Medical Society Meeting Bluefield Regional Medical Center, Bluefield, WV |
| May | 2003 | "SI Dysfunction in Sports" Carilion Roanoke Memorial Hospital, Roanoke, VA |

## Current Research and Funding:

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| 2021- | 2022 | Role: **Co-Investigator**<br>Agency: Virginia -Maryland College of Veterinary Medicine-IRC<br>Title: Transcriptomic changes induced by eccentric muscle-tendon loading using a murine model of Achilles tendinopathy<br>Total Award: $20,000 |
| 2021- | 2022 | Role: **Co-Principal Investigator**<br>Agency: VCOM Research Eureka Accelerator Program<br>Title: Measuring interstitial fluid flow within the injured brain following Cranial Osteopathic Manipulative Medicine (cOMM)<br>Total Award: $134,300 |
| 2020- | 2021 | Role: **Co-Principal Investigator**<br>Agency: VCOM Research Eureka Accelerator Program<br>Title: Acute Effects of Routine Head Impact Exposure in Sports: Ocular Motor Function and Saliva-Based Biomarkers<br>Total Award: $151,800 |
| 2018- | 2023 | Role: **Faculty Key Personnel** |

Agency: Health Resources and Services Administration T13HP319010100
Title: VCOM Fellowship for Primary Care Transformation Leaders
Total Award: $1,945,406

2018- 2021 Role: **Co-Investigator/VCOM Lead**
Agency: NCAA-DOD Grand Challenge joint initiative
Title: CARE 2.0: Concussion Assessment, Research and Education (CARE) Consortium
Total Award: $356,690

2019- 2021 Role: **Investigator**
Agency: American Osteopathic Association 1915733
Title: Clearance of Brain Metabolic Waste in a Natural Animal Model of Alzheimer's Disease by Cranial Osteopathic Manipulation
Total Award: $124,999

2019- 2021 Role: **Co-Principal Investigator**
Agency: VCOM Center for One Health Grant
Title: A Novel Rehabilitative Loading Approach for Improved Musculotendinous Healing
Total Award: $57,800

2019- 2021 Role: **Co-Principal Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Mechanisms of Mild Traumatic Brain Injury in Snow Sports
Total Award: $149,000

2019- 2021 Role: **Co-Principal Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Development of an Image-Guided Focused Ultrasound System for the Non-invasive Treatment of Injured Tendons
Total Award: $50,000

2015- 2021 Role: **Co-Investigator**
Agency: NIH 1R01NS094410-01A1
Title: Biomechanical Basis of Pediatric MTBI Due to Sports Related Concussion
Total Award: $3,306,869

2011- 2021 Role: **Co-Investigator**
Title: Characterizing Head Impact with Structural and Functional Magnetic Resonance Imaging
Internal Funding: Virginia Tech Carilion Research Institute

**Completed Research Support:**

2014-2018 Role: **Co-Investigator**
Agency: NCAA-DOD Grand Challenge joint initiative
Title: Concussion Assessment, Research and Education (CARE) Consortium
Total Award: $651,513

2018-2019 Role: **Co-Principal Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Innovative Strategies for Fall Prevention using Osteopathic Evaluation and Balance Training
Total Award: $102,898

2018-2019 Role: **Co-Principal Investigator**

Agency: VCOM Research Eureka Accelerator Program
Title: Investigating the Physiological Effects of Cranial Osteopathic Manipulative Medicine on mTBI
Total Award: $118,933

2018-2019 Role: **Co-Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Novel Cranial Mechanisms for Improving Brain Metabolic Waste Clearance in Alzheimer's Disease
Total Award: $49,885

2017-2019 Role: **Principal Investigator**
Agency: American Osteopathic Association 1051715717
Title: Head Impact Biomechanics, Concussion and Osteopathic Structural Diagnosis and Treatment
Total Award: $147,970

2016-2019 Role: **Co-Investigator**
Agency: DJO LLC
Title: Gender Differences in the Performance Response to Brace Wear Following ACL Reconstruction
Total Award: $147,747

2016-2018 Role: **Collaborator**
Agency: NSF 1625163
Title: MRI: Acquisition of a Force-Measuring Treadmill for Biomedical Experimentation and Assistive Device Development
Total Award: $160,000

2017-2018 Role: **Co-Principal Investigator**
Agency: VCOM/VMCVM One Health Center for Research Funding Program
Title: In Vivo Eccentric Loading Therapy to Treat Achilles Tendinopathy
Total Award: $50,000

2017-2018 Role: **Co-Principal Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Gender-Specific Differences in Concussion Tolerance
Total Award: $62,500

2016-2017 Role: **Co-Investigator**
Agency: VCOM Research Eureka Accelerator Program
Title: Ability of Osteopathic Structural Evaluation to Assess Gait Asymmetry
Total Award: $50,450

2016 Role: **Co-Investigator**
Agency: NSF OCI-1124123
Title: Determining Feasibility and Scalability of a Life/Medical Science Hybrid-core Based Platform
Total Award: $90,000

2013-2014 Role: **Site Principal Investigator, Carilion NRV site**
Agency: Banyan Biomarkers, Department of Defense
Title: A Prospective Clinical Evaluation of Biomarkers of Traumatic Brain Injury
Total Award: $248,625, 150 patients (DOD #W81XWH-10-C-0251)

2011-2014 Role: **Co-Investigator**
Title: Head acceleration measurements in Youth Football

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| | Internal Funding: VCOM/Virginia Tech Wake Forest School of Biomedical Engineering |
| 2009-2011 | Role: **Co-Principal Investigator**<br>Agency: Harvey Peters Research Center Foundation / Institute for Critical Technology & Applied Science.<br>Title: Chemosensory Evaluation of Training and Oxidative Stress in Runners<br>Amount of Award: $50,000 |
| 2007-2012 | Role: **Lead Investigator**<br>Agency: Simbex (NIH 1 R01 HD48638)<br>Title of Grant: Biomechanical Basis of Mild Traumatic Brain Injury<br>Amount of Award: Total Award $2.3 million (5 years 3 sites) Annual Award $46,162 |
| 2007-2008 | Role: **Principal Investigator**<br>Agency: Harvey Peters Research Foundation & Foot Levelers, Inc.<br>Title: Orthotics and Dynamic Stability (Award No. 0042007)<br>Amount of Award: $53,315 |
| 2005-2006 | Role: **Co- Principal Investigator**<br>Internal Funding: Virginia Tech Department of Mechanical Engineering<br>Title: The Effects of Football Neck Devices on Neck Loads |
| 2005-2006 | Role: **Co- Principal Investigator**<br>Internal Funding: Harvey Peters Research Foundation<br>Title: Altered Peripheral Cytokine Profiles Associated with Heat Stress in Athletes: Identification of a Circulating Marker for Exercise Induced Endotoxemia |
| 2003-2004 | Role: **Principal Investigator**<br>Internal Funding: Harvey Peters Research Foundation<br>Title: Measuring ankle stability to predict ankle sprains |
| 2003-2005 | Role: **Principal Investigator**<br>Internal Funding: Harvey Peters Research Foundation<br>Title: Pre-competition manipulation pretreatment, injury prevalence and sports performance in college athletes |
| 2003-2004 | Role: **Principal Investigator**<br>Internal Funding: VCOM Interdisciplinary Research Award/VT Mechanical Engineering<br>Title: Head Accelerations and Clinical Implications in Collegiate Football Players<br>Amount of Award: $50,000 |
| 1998-1999 | Role: **Co-Investigator**<br>Internal Funding: The Toledo Hospital Research Grant<br>Title: The seated basketball put: An alternative upper body power test for adolescent males<br>Amount of award: $5,000 |
| 1998-1999 | Role: **Principal Investigator**<br>Agency: ProMedica Investigator Award, ProMedica Foundation<br>Title: Nurses' perceptions of and experiences with alternative/complementary medical therapies<br>Amount of Award: $2,500 |
| 1998-1999 | Role: **Co-Investigator** |

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| | Agency: ProMedica Investigator Award, ProMedica Foundation<br>Title: Weight bearing exercise and bone mineral density in female athletes<br>Amount of award: $5,000 |
| 1998-1999 | Role: **Principal Investigator**<br>Agency: Sponsored by YMCA<br>Title: Effect of Aquatic and Traditional Exercise programs on older men and women |
| 1997-1999 | Role: **Co-Investigator**<br>Internal Funding: The Toledo Hospital Research Grant<br>Title: The risk of spondylolysis in multi-sport athletes<br>Amount of Award: $2,500 |
| 1997-1998 | Role: **Co-Investigator**<br>Internal Funding: The Toledo Hospital Research Grant<br>Title: Effects of a pilot exercise program on fitness and health status, and counseling behavior of health care professionals |
| 1995-1999 | Role: **Principal Investigator**<br>Internal Funding: Toledo Hospital Research Grant<br>Title: Worksite health promotion and prevention project<br>Amount of Award: $2,500 |
| 1995-1997 | Role: **Co-Investigator**<br>Agency: ProMedica Health Care Foundation<br>Title: The effect of acute submaximal exercise on suppressor cell function in normal healthy males<br>Amount of Award: $10,000 |
| 1995-1997 | Role: **Co-Investigator**<br>Agency: AARP-ANDRUS Foundation, Washington, D.C.<br>Title: Resistance training programs for elderly women: Effects on functional capacity and selected indices of immune system function<br>Amount of Award: $62,457 |
| 1995-1997 | Role: **Co-Investigator**<br>Agency: National Osteopathic Research Foundation, Educational Grants<br>Title: The role of Osteopathic Manipulative Medicine in treating sprained ankles<br>Amount of Award: $5,000 |
| 1995-1996 | Role: **Con-Investigator**<br>Agency: AARP & Andrus Foundation<br>Title: Resistance training for elderly women: effects on functional capacities and selected indices of immune system function |
| 1996 | Role: **Principal Investigator**<br>Agency: Toledo Hospital Research Grant<br>Title: Influence of exercise on suppressor cell function<br>Amount of Award: $4,200 |
| 1994 | Role: **Principal Investigator**<br>Agency: Toledo Hospital Research Grant<br>Title: Resistance training and immune system function in elderly women<br>Amount of Award: $8,000 |
| 1991 | Role: **Co-Investigator**<br>Agency: United States Olympic Committee, Sports Medicine Council |

Title: Cross training: Effects on performance and indices of immune system function
Amount of Award: $18,000

1993 Role: **Co-Investigator**
Agency: DeArce Grant for Biomedical Research, University of Toledo
Title: Excessive training and testicular function
Amount of Award: $6,800

1991 Role: **Co-Investigator**
Agency: University Research and Fellowship, University of Toledo
Title: Immune system function: Increased training vs. cross training
Amount of Award: $6,800

1991 Role: **Co-Investigator**
Agency: The Athletics Congress (TAC), Indianapolis, IN
Title: Cross Training: Effects on performance and selected indices of training stress
Amount of Award: $5,000

## Publications, Peer Reviewed:

1. **Brolinson PG.** "Effect of Osteopathic Manipulation on Gait Asymmetry". Journal of Osteopathic Medicine, March 2021, JOM-2021-0046.
2. Rezvani S, Nichols A, Grange R, Dahlgren L, **Brolinson PG,** Wang V. *"A Novel Murine Muscle Loading Model to Investigate Achilles Musculotendinous Adaptation"*. Journal of Applied Physiology, February 2021, JAPPL-00638-2020R2
3. Maerlender A, Smith E, **Brolinson PG**, Crisco J, Urban J, Ajamil A, Rowson S, Campolettano ET, Gellner RA, Bellamkonda S, Kieffer E, Kelley ME, Jones D, Powers A, Beckwith J, Stitzel J, Greenwald RM, Duma S. Neuropsychological Change After a Single Season of Head Impact Exposure in Youth Football. J Int Neuropsychol Soc. 2021 Feb;27(2):113-123. PMID: 32762785
4. Kieffer EE, **Brolinson PG**, Rowson S. "Elevated In-Season Presentation of Concussion-Like Symptoms in the Absence of Diagnosed Concussion". Neurology, Nov 2020, 95 (20 Supplement 1) S3; DOI: 10.1212/01.wnl.0000719884.09273.f0.
5. Allin LI, **Brolinson PG**, Beach BM, Kim S, Nussbaum MA, Roberto KA, Madigan ML. *"Perturbation-based Balance Training Targeting Both Slip- and Trip-Induced Falls Among Older Adults: a Randomized Controlled Trial".* BMC Geriatrics, BGTC-D-20-00249R2, PMID:32532221, June 2020.
6. Maerlender A, Smith E, **Brolinson PG**, Urban J, Rowson S, Ajamil A, Campolettano ET, Gellner RA, Bellamkonda S, Kelley ME, Jones D, Powers A, Beckwith J, Crisco J, Stitzel J, Duma S, Greenwald RM. *"Psychometric properties of the standardized assessment of concussion in youth football: Validity, reliability, and demographic factors"*. Applied Neuropsychology: Child, DOI: 10.1080/21622965.2020.1726746, March 2020; PMID: 32142619.
7. Tobey H, Lucus T, Paul S, Berr SS, Mehrkens B, **Brolinson PG**, Klein BG, Costa BM. *"Mechanoceutics Alters Alzheimer's Disease Phenotypes in Transgenic Rats: A Pilot Study"*. J Alzheimers Disease 2020, Scientific Abstract, 2020-10.3233/JAD-191071, PMID: 32039851, February 2020.
8. Campolettano ET, Gellner RA, Smith EP, Bellamkonda S, Tierney CT, Crisco JJ, Jones DA, Kelley ME, Urban JE, Stitzel JD, Genemaras A, Beckwith JG, Greenwald RM, Maerlender AC, **Brolinson PG**, Duma SM, Rowson S. *"Development of a Concussion Risk Function for a Youth Population Using Head Linear and Rotational Acceleration."* Ann Biomed Eng. 2020, Oct 28; 48(1):92-103. PMID: 31659605.

9. Tripathi A, Dhanju S, Rowson S, Smith E, Goforth M, Rogers M, **Brolinson PG**. "Greater Accuracy in Concussion Diagnosis in Collegiate Athletes Through the Use of Blood Brain Biomarkers". Neurology, 2019, Oct1: 93(14S1). DOI: https://doi.org/10.1212/01.wnl.0000580868.48726.59
10. Tobey H, Lucas T, Bledsoe D, Mykins M, Campbell C, Berr SS, Sasser T, Helm R, **Brolinson PG**, Klein BG, Costa BM. *"Effect of osteopathic cranial manipulative medicine on an aged rat model of Alzheimer disease"*. J Am Osteopath Assoc. 2019 Oct 15 [Epub ahead of print]. PMID: 31613309
11. Fino P, Becker LN, Fino N, Griesemer B, GoForth M, **Brolinson PG.** *"Effects of Recent Concussion and Injury History on Instantaneous Relative Risk of Lower Extremity Injury in Division I Collegiate Athletes"*. Clinical Journal of Sports Medicine, 2019 May. 29(3):218-223; PMID: 31033615.
12. Tobey H, Lucus T, Bledsoe D, Mykins M, Paul S, Berr S, **Brolinson PG**, Klein B, Costa B. "A Novel Mechanoceutics Treatment Strategy for Alzheimer's Disease". Neuroscience 2019, Scientific Abstract, 2019-S-4939-SfN, April 2019.
13. Tooke-Rawlins D, **Brolinson PG**, Garner HR. Why do MDs get more research dollars than Doctors of Osteopathy? Scientific American. 2018 Nov 20.
14. Bazarian JJ, Biberthaler P, Welch RD, Lewis LM, Barzo P, Bogner-Flatz V, **Brolinson PG**, Buki A, Chen JY, Christenson RH, Hack D, Huff JS, Jahar S, Jordan JD, Leidel BA, Lindner T, Ludington E, Okonkwo DO, Ornato J, Peacock WF, Schmidt K, Tyndall JA, Vossough A, Jagoda AS. *"Serum GFAP and UCH-L1 for Prediction of Absence of Intracranial Injuries on Head CT (Alert-TBI): a Multicentre Observational Study"*. The Lancet Neurology, 2018 Sep; 17(9):782-9, 10.1016/S1474-4422(18)30275-8.
15. Beckwith JG, Zhao W, Songbai JI, Ajamil AG, Bolander RP, Chu JJ, McAllister TW, Crisco JJ, Duma SM, Rowson S, Broglio SP, Guskiewicz KM, Mihalik JP, Anderson S, Schnebel B, **Brolinson PG**, Collins MW, Greenwald RM. *"Estimated Brain Tissue Response Following Impacts Associated With and Without Diagnosed Concussion."* Ann Biomed Eng. 2018 Jun; 46(6):819-830. PMID: 29470745.
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## Posters and Abstracts:

1. Maeso AD, Hyland S, Rogers M, **Brolinson PG**. "Acetabular Labral Tears In Division 1 Collegiate Athletes: A Comparative Analysis Of Operative Versus Conservative Management", Abstract presented at the AOASM 2021 Clinical Conference, April 30-May2, 2021.
2. Duma S, Kemper A, **Brolinson PG**. "A Novel Instrumentation Package to Quantify Rib Biomechanics During Osteopathic Manipulation of the Thorax", Abstract presented at the VCOM Virginia Research Recognition Day, Blacksburg, VA: February 26, 2021.
3. Murphy S, **Brolinson PG**, Dickerson M, VandeVord P. "Osteopathy in the Cranial Field as a Method to Enhance Brain Injury Recovery: A preliminary study". Abstract presented at the VCOM Virginia Research Recognition Day, Blacksburg, VA; February 26, 2021.

4. Baddour T, Rezvani SN, Grange RW, Dahlgren LA, **Brolinson PG**, Arena SL, Wang VM, Virginia Tech, Edward Via College of Osteopathic Medicine, Blacksburg, VA. "Hill-Type Muscle-Tendon Modeling of Plantar Flexion in the Mouse Hindlimb". Orthopaedic Research Society (ORS) 2021 Annual Meeting, February 12-16, 2021
5. Rezvani S, Grange R, Dahlgren L, **Brolinson PG,** Wang V. *"Development of a Novel Pre-Clinical Eccentric Muscle Loading Approach for Tendinopathy Treatment"*. Biomedical Engineering Society Annual Meeting, October 2020, Virtual Meeting, Abstract: #36.
6. Keim SB, **Brolinson PG**, Biehl SJ, Wilkens K, Bower G, Begonia M, Rowson S. *"Assessing the Performance of 2015 in Snowsport Helmets Under Varying Impact Surface Friction Conditions"*. Biomedical Engineering Society Annual Meeting. October 2020: Virtual Meeting, Abstract: #343.
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10. Craig M, **Brolinson PG**, Rogers M, Griesmer B, Fino P, Fino N, GoForth M. *"Pre-Competition Manipulation and Injury Risk Among Virginia Tech Football Players During the 2015-2017 Football"*. 35th Annual AOASM Annual Conference. May 2020: Anaheim CA. (2020 Research Poster Award Winner).
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12. Queen R, Hughes-Oliver C, Rogers MB, Romero M, **Brolinson PG**. "The Influence of Osteopathic Structural Evaluation and Treatment on Gait Mechanics". VCOM Virginia Research Recognition Day, February 2020, Blacksburg, VA.
13. Tobey H, Mehrkens B, Lucus T, Bledsoe D, Mykins M, Paul S, Berr SS, **Brolinson PG**, Klein BG, Costa BM. "A Novel Mechanoceutics Treatment Strategy for Alzheimer's Disease". VCOM Virginia Research Recognition Day, February 2020, Blacksburg, VA.
14. **Brolinson PG**, Hyppolite N, Dickerson M, Murphy S, VandeVord P. "Osteopathy in the cranial field as a method to enhance brain injury recovery: A preliminary study". VCOM Virginia Research Recognition Day, February 2020, Blacksburg, VA.
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18. Allin LJ, **Brolinson PG**, Nussbaum MA, Kim S, Beach B, Bannigan C, Roberto K, Madigan ML. "A Pilot Study Investigating the Efficacy of Reactive Balance Training to Reduce Fall Risk of Older

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22. Price A, Hyppolite N, **Brolinson PG**. *"Assessment and management of a non-contact, isolated fibular diaphysis fracture in a Division I athlete"*. Poster presented at the Virginia Campus Via Research Recognition Day. February 2019; Blacksburg, VA
23. Tobey H, Lucas T, Bledsoe D, Mykins M, Campbell C, Berr SS, Sasser T, Molinos C, Helm R, Shan L, **Brolinson PG**, Klein BG, Costa BM. *"A non-pharmacological therapy improves spatial memory, waste clearance and neurotransmission in naturally aged rate model of Alzheimer's disease"*. Poster presented at the Virginia Campus Via Research Recognition Day. February 2019; Blacksburg, VA.
24. Tripathi A, Dhanju S, Rowson S, Smith E, Goforth M, Rogers M, **Brolinson PG**. Greater Accuracy in Concussion Diagnosis in Collegiate Athletes through the use of Blood Brain Biomarkers. Poster presented at the Annual Sports Concussion Conference. July 2019: Indianapolis, IN.
25. **Brolinson PG**, Hyppolite N, Dickerson M, Murphy S, VandeVord P. *"Osteopathy in the cranial field as a method to enhance brain injury recovery: A preliminary study"*. Poster presented at AOA OMED. October 25-28, 2019; Baltimore, MD.
26. Campolettano E, **Brolinson PG**. "*Development of a Concussion Risk Function for a Youth Population Using Head Linear and Rotational Acceleration.*" Poster Present at: Biomedical Engineering Society (BMES) Annual Meeting. Abstract: 2758, Philadelphia, Pa: October 2019.
27. Hyppolite N, **Brolinson PG**, Speicher L. "*Seizure or Somatic Dysfunction: A Case of Long-Term Recovery following Craniotomy for Brain Tumor Resection in a Division I Student Athlete.*" Poster Present at: AAO Convocation 2019. Orlando, FL: March 2019.
28. Tobey H, Bledsoe D, Mykins M, Lucas T, Campbell C, Berr S, Sasser T, Molinos C, Helm R, Shan L, **Brolinson PG,** Klein BG, Costa BM. *"Alzheimer's Disease and Other Dementias: Therapeutic Strategies: Preclinical Animal Models I"*. Neuroscience 2018, San Diego, CA, November 2018.
29. Rezvani S, Grange R, Dahlgren L, **Brolinson PG**, Wang V. *"Development of A Novel Eccentric Muscle Loading Approach to Investigate Achilles Tendon Adaptation"*. Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, October 2018.
30. Eck B, Zabinsky J, Goforth M, Shan L, Rogers M, **Brolinson PG**. *"Trends of caffeine use in an intercollegiate athletic population."* 33rd Annual AOASM Annual Conference. 2018 May 2: Columbus, OH.
31. Leslie L, **Brolinson PG**, Rogers M, LaConte S, Levy K, Goforth M, Griesemer B, Rowson S. *"Comprehensive biomarker-based clinical concussion diagnosis and treatment."* 33rd Annual AOASM Annual Conference. 2018 May 2: Columbus, OH.
32. Rezvani SN, Groen A, **Brolinson PG,** Grange RW, Wang VM, *"Passive Tensile and Viscoelastic Properties of Murine Hindlimb Flexor Muscles".* Orthopaedic Research Society Annual Meeting, New Orleans, March 2018.

33. Tobey H, Bledsoe D, Mykins M, Lucas T, Campbell C, Berr S, Sasser T, Molinos C, Helm R, Shan L, **Brolinson PG,** Klein BG, Costa BM. *"A Non-Pharmacological Therapy Improves Spatial Memory, Waste Clearance and Neurotransmission in Naturally Aged Rat Model of Alzheimer's Disease"*. 13th Annual VCOM Research Recognition Day, Blacksburg VA, February 2018.
34. Fino PC, Nussbaum MA, **Brolinson PG**. Interpreting decreased high-frequency center-of-pressure complexity in recently concussed asymptomatic athletes. Poster present at: The 40th Annual Meeting of the American Society of Biomechanics. 2016 Aug 2-5; Raleigh, NC.
35. **Brolinson PG,** Rogers MBE, Rowson S, Smith E, Weber A, Trpkovski J, Griesemer B, Kruchko D. *"The Reliability of Serum Biomarker S100B as a Diagnostic Tool for Traumatic Brain Injury"*. 10th Annual VCOM Research Recognition Day, Blacksburg VA, February 2016.
36. Albrecht J, Perry L, Russell A, **Brolinson PG**. *"Ferritin and Body Composition in Division I College Athletes; A Retrospective Review".* 10th Annual VCOM Research Recognition Day, Blacksburg VA, February 2016.
37. Ekwueme, E, **Brolinson PG**. *"Proliferative Therapy-Induced Changes in the Cellular Response of Human Tenocytes"*. Biomedical Engineering Society (BMES) Annual Meeting, Tampa FL, October 2015.
38. Fino PC, **Brolinson PG**. *"Local Dynamic Stability in Single and Dual-Task Concussed Gait: Preliminary Results."* Biomedical Engineering Society (BMES) Annual Meeting, Tampa FL, October 2015.
39. Fino PC, **Brolinson PG**, Lockhart TE, Nussbaum MA. *"Preliminary Comparison of Single and Dual-Task Turning in Recently Concussed Athletes and Matched Controls."* 39th Annual Meeting of the American Society of Biomechanics, Columbus OH, August 2015.
40. Fino PC, Weirath MD, Soangra R, Lockhart TE, **Brolinson PG**. *"Balance Measurements of a Smartphone at the Upper Arm Compared to the Balance Error Scoring System*." 39th Annual Meeting of The American Society of Biomechanics, Columbus OH, August 2015.
41. Becker L, Fino PC, **Brolinson PG**, Griesemer B. *"Concussions increase the frequency of lower extremity sprains and strains in the first 90 days post-concussion"*. AOASM 30th Annual Clinical Conference, Philadelphia PA, April 2015.
42. Fino PC, **Brolinson PG**, Lockhart TE, Nussbaum MA. "*Non-straight gait shows greater dual-task cost than straight gait in recently concussed athletes compared to matched controls: A preliminary investigation"* American Society of Biomechanics 2015 Midwest Regional Meeting, Akron OH; February 2015.
43. Jackson J, Ekwueme E, Pekkanen A, **Brolinson PG**, Rylander MN, Freeman JW. *"Single Walled Carbon Nanhorns Modulate Extracellular Matrix Response in Tendons and Ligaments"*. Biomedical Engineering Society (BMES) Annual Meeting, San Antonio TX, October 2014.
44. Weirath MD, McPherron A, Collins SP, Rogers MB, Diaz C, **Brolinson PG**. *"Surgical Repair Of Proximal Hamstring Avulsion In A Collegiate Wrestler".* 9th Annual VCOM Research Recognition Day, Blacksburg VA, February 2014.
45. Beckwith JG, Chu JJ, Greenwald RM, Bolander RP, Crisco JJ, Wilcox BJ, Duma SM, Rowson S, Broglio SP, McAllister TW, Guskiewicz KM, Mihalik JP, Anderson S, Schnebel B, **Brolinson PG**, Collins MW. *"The Role of Cumulative Head Impact Exposure in Differentiating Head Impacts Associated with Diagnosed Concussion"*. 2014 World Congress of Biomechanics, January 2014.
46. Beckwith JG, Bolander RP, Greenwald RM, Songbai J, McAllister TW, Chu JJ, Crisco JJ, Wilcox BJ, Duma SM, Rowson S, Broglio SP, Guskiewicz KM, Mihalik JP, Anderson S, Schnebel B, **Brolinson PG**, Collins MW. *"Estimated Brain Tissue Response Following Impacts Associated With and Without Diagnosed Concussion"*. 6th Int'l Symposium on Safety in Ice Hockey, January 2014.

47. Keating MB, Rawlins J, **Brolinson PG**. *"Medical Coverage of The Greenbrier Classic PGA Tour Event".* AOASM Annual Meeting, Colorado Springs, CO, March 2013.
48. Andrews CK, **Brolinson PG**, Sukpraprut S, Engorn J, Goforth M. *"Hypertension in Division I NCAA Athletes"*. VCOM Research Day 8th Annual VCOM Research Recognition Day, Blacksburg VA, March 2013.
49. Wilhelm A, **Brolinson PG**, Williams RT. *"Platelet-Rich Plasma Treatment for Chronic Posterior Tibial Tendon Dysfunction"*. VCOM Research Day 8th Annual VCOM Research Recognition Day, Blacksburg VA, March 2013.
50. Sparks, NL, **Brolinson PG**, Sukpraprut S, Goforth M. *"A Comparison of the Numbers of Medical Illness and Orthopedic Injury Encounters at an NCAA Division I Athletics Program"*. VCOM Research Day 8th Annual VCOM Research Recognition Day, Blacksburg VA, March 2013.
51. Thomas WD, Sukpraprut S, Thomas M, Kennedy K, Freund F, Brush R, **Brolinson PG**. *"Analysis of a Neurocognitive Assessment of Varsity Division I Athletes at Pre- and Post-Concussion"*. VCOM Research Day 8th Annual VCOM Research Recognition Day, March 2013.
52. Andrews CK, **Brolinson PG**, Sukpraprut S, Engorn J, Goforth M. *"Hypertension in Division I NCAA Athletes"*. AOASM Annual Meeting, Colorado Springs, CO, March 2013.
53. Wilhelm A, **Brolinson PG**, Williams RT. *"Platelet-Rich Plasma Treatment for Chronic Posterior Tibial Tendon Dysfunction"*. AOASM Annual Meeting, Colorado Springs, CO, March 2013.
54. Sparks, NL, **Brolinson PG**, Sukpraprut S, Goforth M. *"A Comparison of the Numbers of Medical Illness and Orthopedic Injury Encounters at an NCAA Division I Athletics Program"*. AOASM Annual Meeting, Colorado Springs, CO, March 2013.
55. **Brolinson PG**, Smolka M. *"Pre-competition Manipulation and Performance among Virginia Tech Football Player during the 2008-20009 Football Season Pilot Study"*. 7th Annual VCOM Research Recognition Day, Blacksburg VA, April 2012.
56. Aldret SN, **Brolinson PG**. *"Effect of Concussion on Balance Using Force Plate Technology"*. 7th Annual VCOM Research Recognition Day, Blacksburg VA, April 2012.
57. McCrady BM, Schafer J, Sukpraprut S, **Brolinson PG**, Hovarth S, Rogers MB. *"Effectiveness of Iron Supplementation and Diet Change on Ferritin Levels Among Female Division I Athletes"*. 7th Annual VCOM Research Recognition Day, Blacksburg VA, April 2012.
58. Waller HH, **Brolinson PG**. *"Neuroma as a Cause of Neuropathy in Runners"*. 7th Annual VCOM Research Recognition Day, Blacksburg VA, April 2012.
59. McCrady BM, Schafer J, Horvarth S, **Brolinson PG**, Sukpraprut S, Rogers MB. *"Effectiveness of Iron Supplementation and Diet Change on Ferritin Levels Among Female Division I Athletes"*. AOASM Annual Meeting, Louisville KY, March 2012.
60. Day DD, **Brolinson PG**, Rogers MB, Goforth M, Dietter D. *"Syncope – A Difficult Return to Play Decision"*. AOASM Annual Meeting, Louisville KY, March 2012.
61. Aldret SN, **Brolinson PG**. *"Effect of Concussion on Postural Stability among NCAA Division I College Athletes using IsoBALANCE 2.0 Force Plate Technology: An Analysis of VT Football Players over the 2009 and 2011 seasons"*. ACOFP Annual Meeting, Kissimmee FL, March 2012.
62. Doolan, AW, **Brolinson PG**, Rogers MB, Collins SP. *"Neck Pain in a Collegiate Wrestler".* ACOFP Annual Meeting, San Antonio, TX, March 2011.
63. Dyer CS, **Brolinson PG**, Wennell R. *"Evaluation of Postural Stability among NCAA Division I College Athletes using IsoBALANCE 2.0 Force Plate Technology: An Analysis of VT Football Players over the 2009 and 2010 Seasons"*. AOASM Annual Meeting, Providence, RI, April 2011.
64. Dyer CS, **Brolinson PG**. *"An Unusual Cause of Shoulder Pain in a Collegiate Football Player"*. AOASM Annual Meeting, Providence RI, April 2011.

65. Prom S, Roger MBE, Farmer J, **Brolinson PG**. *"Elbow Discomfort in a Female Lacrosse Athlete"*. AOASM Annual Meeting, Providence RI, April 2011.
66. Lockhart T, Yeoh H, Songra R, Haynes C, **Brolinson PG**. "*Effects of Orthotics on Dynamic Stability in the Elderly*". Biomedical Engineering Society (BMES) Annual Meeting, Hartford, CT, 2011.
67. Whysong C, Mallikarjunan K, **Brolinson PG**. *"Chemosensory Evaluation of Training and Oxidative Stress in Long Distance Runners"*. 6th Annual VCOM Research Recognition Day, Blacksburg VA, October 2009.
68. Beckwith JG, Chu JJ, Crisco JJ, McAllister TW, Duma SM, **Brolinson PG**, Greenwald RM. "*Severity of head impacts resulting in mild traumatic brain injury*". AOASM, Las Vegas, NV, July 2008
69. Duma S, Rowson, S, Hardy W, **Brolinson PG**. "*Biomechanical Basis of Mild Traumatic Brain Injury*", AOASM, Las Vegas, NV, July 2008
70. **Brolinson PG.** "*Knee Pain – Walk/Jog/Run*". Clinical Case Slide. American College of Sports Medicine Annual Meeting, Indianapolis, IN, May 2008. Medicine & Science in Sports & Exercise: May 2008 - Volume 40 - Issue 5 - p S140 doi: 10.1249/01.mss.0000322067.39200.45
71. **Brolinson PG**. "*Incidence and Rate of Colonization of Community-Acquired Methicillin-Resistant Staphlococcus aureus Colonization for In-Season Collegiate Athletes*". AOASM, April 30-May 3, 2008
72. **Brolinson PG**. "*Head and Neck I".* Clinical Case Slide. American College of Sports Medicine Annual Meeting, New Orleans, LA, May 2007. Medicine & Science in Sports & Exercise: May 2007 - Volume 39 - Issue 5 - p S109 doi: 10.1249/01.mss.0000273351.43146.20
73. Bolin DJ, **Brolinson PG**. "*Exercise Associated Collapse-Softball*". Medicine and Science in Sports & Exercise. 35(5) S1: S209, 2003 May.
74. Snyder AR, McLoughlin TJ, **Brolinson PG**, Pizza FX. "*The Effect of Electrical Muscle Stimulation on Markers of Muscle Injury*". Medicine & Science in Sports & Exercise. 33(5):S196, 2001 May.
75. **Brolinson PG**, Emmons MT. "*Injury - Soccer*". Medicine and Science in Sports & Exercise. 31(5):S351, 1999 May.
76. Gunter MJ, Maccoux DA, **Brolinson PG**, Saddemi S. "*Ankle Pain – Basketball*". Medicine and Science in Sports & Exercise. 29(5): S-185, 1997 May.
77. **Brolinson PG**, Maccoux DA, Gunter MJ. "*Groin Pain: Football*". Medicine and Science in Sports & Exercise. 29(5): S30, 1997 May
78. Maccoux DA, Freman SC, **Brolinson PG**, Gunter MJ. "*Syncope – Football*". Medicine and Science in Sports & Exercise. 29(5) S67-68, 1997 May.
79. Flynn MG, Fahlman M, Braun WA, Lambert CP, Bouillon LE, Jeffrey KM, **Brolinson PG**, Armstrong CA. "*Resistance Training and Immune Function in Elderly*". Medicine & Science in Sports & Exercise. 29(5):256, 1997 May.
80. Stuber LL, Lager MS, Reeves BD, Miller DR, Andres FF, **Brolinson PG**. *"Effect of a Corporate Weight Management Challenge"*. Annual Meeting, The Midwest Regional Chapter of ACSM. Pheasant Run. St. Charles, IL. October 1995
81. *"Fluid and Electrolyte Balance During an International Distance Triathlon"*. ACSM Midwest Regional Chapter Meeting, St. Charles, IL. 1995
82. Weideman CA, Flynn MG, Carroll KK, Brolinson PG, Freeman SD, Faulman M, Jeffery KM, Bouillon LE, Cooper JC. "*Resistance Training and Immune Function in Elderly Women*". Medicine & Science in Sports & Exercise. 27(5):S176, May 1995.
83. Carroll KK, Flynn MG, Bodary PF, Bushman BA, Choi DH, Weideman CA, Brickman TM, Bouillon LE, Brolinson PG. "*Resistance Training and Immune System Function of Young Men*". Medicine & Science in Sports & Exercise. 27(5):S176, May 1995.
84. *"Shoulder Injury in Baseball Players"*. AOASM Annual Meeting, Orlando, FL. 1995

85. *"Heat Illness: Football"*. ACSM National Meeting, Indianapolis, IN. 1994
86. Hall HL, Flynn HG, Carrol KK, **Brolinson PG**, Shapiro S, Kooiker BA. "*The Effects of Excessive Training and Detraining on Testicular Function*". Medicine & Science in Sports & Exercise. 26(5):S181, 1994 May.
87. Carroll KK, Hall HL, Kooiker BA, Weldoman CA, Kasper CM, **Brolinson PG**. "*Cross Training, Indices of Training Stress and Performance*". Medicine & Science in Sports & Exercise. 26(5):S153, 1994 May.
88. Fahlman H, Flynn MG, **Brolinson PG**, Carroll KK, Kooiker BA, Brickman T, Carl DL, Choi DH. "*Psychological and Endocrine Responses to a 24 Hour Road Race*". Medicine & Science in Sports & Exercise. 26(5):S181, 1994 May.
89. Fahlman M, Flynn MG, **Brolinson PG**, Carroll K, Kooiker BA, Brickman T, Carl D, Choi DH. *"Mood State and Subjective Responses to a 24-hour race"*. Midwest ACSM Winter Conference. Boyne Falls, MI. February 1994
90. Carroll KK, Flynn MG, **Brolinson PG**, Hall HL, Weideman C, Fruth L, Kooiker BA. "*Lymphocyte Mitogenesis and Natural Cell-Mediated Cytotoxicity (NCCM) Following a 24 Hour Run*". Medicine & Science in Sports & Exercise. 25(5):S123, 1993 May.
91. Sigg JA, Flynn MG, Pizza FX, Armstrong CW, **Brolinson PG**. "*Excessive Training and Foot Impact Shock in Competitive Distance Runners*". Medicine & Science in Sports & Exercise. 24(5):S130, 1992 May.
92. Flynn MG, Pizza FX, **Brolinson PG**, Starling RD, Nauerth HJ, Davenport R. "*Hormonal Responses to Excessive Training: Influence of Cross Training*". Medicine & Science in Sports & Exercise. 24(5):S101, May 1992.

## Lay Publications, Letters to Editors and Selected Media:

| | | |
|---|---|---|
| Feb | 2018 | Roanoke Times – *Medical Breakthrough Born in Blacksburg* |
| Feb | 2013 | Collegiate Times – *Helmet Research aims at reducing concussions* |
| Jan | 2013 | WSLS Channel 10 – *VCOM helping train Virginia Tech Athletes for medical Careers* |
| Nov | 2013 | NFL Networks – *Health of the Game: Helmet Technology* |
| Sep | 2012 | Stone Phillips Reports – *Hard Hits, Hard Numbers: The First Study of Head Impacts in Youth Football* (broadcast nationally on The PBS NewsHour) |
| Aug | 2011 | Roanoke Times article – *The Greenbrier Announces Medical Institute Plans* |
| Jul | 2011 | WDBJ Channel 7 – *Providing Medical Care at Greenbrier "Like Herding Cats"* |
| Jul | 2011 | ESPN.com Page 2 article – *Virginia Tech Helmet Research Critical* |
| May | 2011 | MIT Technology Review article – *Images of a Hard-Hitting Disease* |
| May | 2011 | WSLS Channel 10 – *Virginia Tech ranks football helmets' concussion safety* |
| Jul | 2010 | WDBJ Channel 7 – *Volunteers keep the Greenbrier Classic on course* |
| Sep | 2010 | NY Times article – *Football Practice Seen as Starting Point to Reduce Head Injuries* |
| | | NPR Morning Report – *Scrutiny of Concussion Risk in Football Intensifies.* |
| Nov | 2010 | Relaxed Fit E-Zine – *How do Football Players Get Concussions? They Wear Helmets, Don't They?* |
| Dec | 2005 | The Sports Health Highlight with Host Dr. Vincent Disabella -- *Concussions in Sports* |
| Mar | 2004 | Technology Today with Carol Jennings, NCTC TV - *Concussions, Head Accelerations & Sports* |
| | 2003 | FOX Channel 5 Evening News - *Concussions In Sports* |

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|---|---|---|
| | 2003 | Discovery Channel Science Segment - *Head Accelerations* |
| Aug | 2001 | Muscle and Fitness - *Everything in Moderation* |
| Oct | 2000 | Healthy Living News - *Back on Track with Solid Ankles* |
| Sep | 2000 | Healthy Living News - *Run, Forrest, Run!* |
| Sep | 2000 | The Blade. *There's Often a Twist in Care by Osteopathic.* |
| Apr | 1999 | Nightline with Connie Chung – *Gymnastics Cervical Spine Trauma at the 1998 Goodwill Games* |
| Aug | 1998 | WTOL Channel 11 - *Sports Performance Supplements Story* |
| Aug | 1996 | Shape Magazine - *Bikini Bottom* |
| Jun | 1996 | WTOL Channel 11 - *Sports Medicine for the Weekend Warrior* |
| Jun | 1996 | WTOL Channel 11 - *News Segment in Sports Medicine* |
| Dec | 1995 | WTOL Channel 11 - *First at Five* |
| May | 1995 | WTOL Channel 11 - *Rowing Regatta News Coverage* |
| Aug | 1994 | WTOL Channel 11 - Sports Care Segment, *Accident* |
| Aug | 1994 | WTOL Channel 11 - *News clip*. |
| Mar | 1994 | Noon News - *Ask the Doctor*. |
| May | 1991 | TV Health Break - *Exercise as Medicine* |

## Local, State and National Committees:

| | |
|---|---|
| 2019- | **Member**, 2019 Health Expo Committee, ACOFP |
| 2018- | **Member**, 2018 Convention Health Expo Committee, ACOFP |
| 2013- 2014 | **Delegate**, Congress of Delegates, ACOFP |
| 2014 - | **Chair**, Institutional Review Board and Human Subjects Committee<br>Edward Via College of Osteopathic Medicine |
| 2010 | **Member**, NIH Center for Complementary and Alternative Medicine Scientific Review Panel, ZAT1 SM (22) |
| 2009 | **Member,** NIH Center for Complementary and Alternative Medicine Scientific Review Panel, ZAT1 RB (04) |
| | **Member,** NIH Center for Scientific Review Somatosensory and Chemosensory Systems Study Section |
| | **Member**, Virginia Tech Performance and Nutrition Committee |
| | **Member**, Virginia Tech Substance Abuse Committee |
| | **Past Presidents Committee**, American Osteopathic Academy of Sports Medicine |
| 2007- 2017 | **Board Member**, Center for Innovation in Construction Safety & Health Research, Virginia Tech |
| | **Member**, Graduate Medical Education Committee – Sports Medicine Fellowship<br>Montgomery County Regional Hospital, Christiansburg, VA |
| 2007- 2014 | **Member,** Institutional Review Board and Human Subjects Committee<br>Edward Via College of Osteopathic Medicine |
| 2007 - | **Member**, Continuing Medical Education Committee<br>Edward Via College of Osteopathic Medicine |
| | **Member**, Provost's Council of Officers<br>Edward Via College of Osteopathic Medicine |
| | **Member**, Curriculum and Assessment Oversight Committee<br>Edward Via College of Osteopathic Medicine |
| | **Member**, Faculty Development Committee<br>Edward Via College of Osteopathic Medicine |

**Member**, Institutional Environmental and Biosafety Committee
Edward Via College of Osteopathic Medicine
**Member**, Appointment, Promotion, and Tenure Committee
Edward Via College of Osteopathic Medicine

2004 **Program Committee** for Rendezvous 2004
2004 International Sports Medicine Meeting, Vancouver, BC.

2003 – 2006 **Member**, Interdisciplinary Research Committee
Edward Via College of Osteopathic Medicine

## Additional Academic and Administrative Duties/Positions:

2009- 2019 **Editorial Board Member**
The Journal of the American Osteopathic Association

2002- 2006 **Section Editor** for Competitive Sports and Pain Management
Current Sports Medicine Reports

1999 - 2002 **Editorial Board Member**
The Physician and Sports Medicine

1998 - 2004 **Associate Editor**
Clinical Journal of Sports Medicine

1998 - 2004 **Associate Editor**
Sports Medicine Alert

1995 - **Physician Editorial Reviewer**
The Journal of Osteopathic Medicine (formerly the Journal of the American Osteopathic Association)

## Academic Mentoring in Graduate Research Programs:

July 2020 **Thesis Committee Member:** Summer Keim
*"Assessing the Performance of MIPS in Snowsport Helmets Under Varying Impact Surface Friction Conditions"*

May 2020 **Thesis Committee Member:** Emily Kiefer
*"Sex-specific Head Impact Exposure in Rugby: Measurement Considerations and Relationships to Clinical Outcomes"*

Mar 2019 **Thesis Committee Member:** Tessa Rieber
*"Replicating Helmet Testing Protocol on Multiple Systems and Investigating the Evolution of Helmets Based on Design and Helmet Performance"*

Apr 2018 **Thesis Committee Member**: Ryan A. Gellner
*"Identifying High Risk Individuals in Youth Football and Evaluating Tackling Technique"*

Apr 2018 **Thesis Committee Member**: Eamon Campolettano
*"Promoting Youth Football Player Safety: Development of a Youth Concussion Risk Function and Youth-Specific Postural Control Assessment"*

Jan 2018 **Thesis Committee Member:** Ty Morris, Ryan Gellner
"*Evaluating the Head Injury Risk Associated with Baseball and Softball"*

Apr 2017 **Thesis Committee Member**: Evan McConnell
*"Assessing Symmetry in Landing Mechanics during Single-Leg and Bilateral Tasks in Health Recreational Athletes"*

Mar 2017 **Thesis Committee Member:** Eamon Campolettano
*"On-Field Measurements of Head Impacts in Youth Football: Characterizing High*

| | | |
|---|---|---|
| | | *Magnitude Impacts and Assessing Balance Outcomes"* |
| Mar | 2017 | **Thesis Committee Member:** David Sproule |
| Dec | 2015 | **Thesis Committee Member:** Jake Smith<br>*"Quantifying the Effect of Helmet Fit on Performance"* |
| Dec | 2015 | **Thesis Committee Member:** Jaclyn Press<br>*"Biomechanics of Head Impacts in Soccer"* |
| Aug | 2015 | **Dissertation Committee Member:** Bethany Rowson |
| Feb | 2013 | **Dissertation Committee Member**: Ray Daniels<br>*"Youth Football Head Accelerations"* |
| Feb | 2013 | **Dissertation Committee Member**: Peter Fino<br>*"Gait Evaluation in Concussion"* |
| Apr | 2012 | **Thesis Committee Member:** Christina Seimetz<br>*"Cranial movement as related to craniosacral therapy and a comparison of cadaver and test dummy head trajectories in sled tests"* |
| Feb | 2011 | **Dissertation Committee Member**: Christan Whysong<br>"*Chemosensory evaluation of training and oxidative stress in runners"* |
| Oct | 2010 | **Dissertation Committee Member:** Eric A. Kennedy<br>"*The Development and Validation of a Biofidelic Synthetic Eye for the Facial and Ocular CountermeasUre Safety (FOCUS) Headform*" |
| Mar | 2010 | **Dissertation Committee Member**: Craig P. Thor<br>"*The Effectiveness of Graduated Driver Licensing in the United States*" |
| Mar | 2010 | **Dissertation Committee Member:** Andrew Kemper<br>"*The Biomechanics of thoracic skeletal response*" |
| | 2009 | **Thesis Committee Member:** Christan Whysong<br>"*Chemosensory evaluation of training and oxidative stress in runners"* |
| Dec | 2008 | **Dissertation Committee Member:** Courtney Ann Haynes<br>"*Evaluation of Gait and Slip Characteristics for Adults with Mental Retardation*" |
| Aug | 2008 | **Dissertation Committee Member:** Qian Wang<br>"*Finite Element Modeling of Occupant Injury Risk and Crash Performance of W-Beam Guardrail Barriers in Roadside Crashes*" |
| May | 2007 | **Thesis Committee Member:** Eric Kennedy<br>"*Predicting Risk of Orbital Fracture from Baseball Impact*" |
| May | 2006 | **Thesis Committee Member:** David Eugene McNeely<br>"*Analysis of Force-Limiting Capabilities of Football Neck Collars*" |
| May | 2005 | **Thesis Committee Member:** Erin L. Wilson<br>"*Effects of Fatigue and Gender on Peroneal Reflexes after Ankle Inversion*" |
| Apr | 2005 | **Thesis Committee Co-Chairman:** Sarah J. Manoogian<br>"*Analysis of Linear Head Accelerations in Collegiate Football Impacts*" |
| Prior to | 2005 | **Thesis Committee Member:** Alison R. Snyder<br>"*Effect of Monophasic High Voltage Stimulation on Markers of Muscle Injury and Inflammation*"<br>**Dissertation Committee Member:** Thomas Joseph McLoughlin<br>"*Neutrophil-mediated Skeletal Myotube Injury: The Contribution of Reactive Oxygen and Nitrogen Intermediates*"<br>**Dissertation Committee Member:** Jonathan H. Anning<br>"*Plasma Volume Shifts During Exercise: Role of Exercise Mode and Training Status on Hydrostatic and Oncotic Forces*" |

**Thesis Committee Member:** Jennifer M. Peterson
"*Ibuprofen and Acetaminophen: Effect on Muscle Inflammation and Injury Following Eccentric Contractions*"
**Dissertation Committee Member:** Michael R. Heifferon
"*An Upper Body Power Test for Adolescent Males*"
**Dissertation Committee Member:** Francis X. Pizza
"*Increased training vs. cross training: Effects on immune system and performance*"
**Dissertation Committee Member:** Heather L. Hall
"*Effects of excessive training on testicular function*"
**Dissertation Committee Member:** Kathy K. Carroll
"*Influence of a resistance training program on immune system parameters in young men*"
**Dissertation Committee Member:** Carol A. Weideman
"*Resistance training and immune system function in elderly women*"
**Dissertation Committee Member:** Charles P. Lambert
"*Influence of exercise on suppressor cell function in healthy young males*"

## Service, Volunteerism, and Event Coverage:

2019 **Team Physician,** US Ski Team World Championships, Deer Valley, UT
2017 **Event Physician**, US Ski and Snowboard Team Medical Coverage, Deer Valley, UT
2016 **Event Physician**, US Ski Team MESS Course, Vail, CO
2014 **Event Physician**, US Freestyle Ski Team, Deer Valley UT
2012 **Event Physician**, USSA Medical Emergencies in Skiing / Snowboarding, Vail, CO
2012 **Event Physician**, FIS Freestyle World Cup, Deer Valley, UT
2010 **Event Physician**, Greenbrier Classic PGA Tournament, White Sulphur Springs, WV
2010 **Medical Director,** Performance Services Center and
**Medical Staff Winter Olympic Games**, Vancouver, Canada
2010 **Event Physician,** US Olympic Freestyle Ski Team, Deer Valley, UT
2007 **World Championship Physician**, US Freestyle Ski Team, Madonna di Campiglio, Italy
2006 **Head Team Physician**, Freestyle Ski Team, and
**Medical Staff,** Winter Olympics Games, Turin, Italy
2005 **Event Physician**, US Freestyle Ski Team, Sauze D'Oulx, Italy
2005 **World Championship Physician**, United States Freestyle Ski Team, Ruka, Finland
2004 **Tournament Physician**, Women's NCAA Basketball Sub-Regional, Blacksburg, VA
2004 **Tournament Physician,** NCAA Men's Golf, The Homestead Golf Resort, Hot Springs, VA
2004 **Event Physician**, US Freestyle Ski Team, Fernie, Canada
2004 **Event Physician**, US Alpine Ski Team, Alta-Badia, Italy
2003 **Event Physician,** US Alpine Ski Team, Yong Pyeong (Dragon Valley, South Korea)
2003 **Event Physician,** US Freestyle Ski Team, Mt. Tremblant, Canada
2003 **Event Physician**, US Alpine Ski Team, Val d'Isere and Madonna, Italy
2001 **Event Physician**, US Alpine Ski Team, Kraska Gora, Slovenia
2001 **Event Physician,** US Freestyle Ski Team, Tignes, France
2001 **Event Physician**, US Freestyle Ski Team, Deer Valley, UT
2001 **Medical Director,** Kriedel Fast-pitch Softball Tournament, Toledo, OH
2001 **Medical Director,** Senior Judo Championships, Seagate Center, Toledo, OH
2001 **Medical Director,** Junior Judo Championships, Seagate Center, Toledo, OH

2001 **Medical Director,** Go the Distance Running Camp, Toledo, OH
2001 **Team Physician,** Regional All Star Football Game, Perrysburg, High School
2000 **Event Physician,** US Freestyle Ski Team, Heavenly Valley, CA
1999 **Event Physician,** US Alpine Ski Team, Ofterschwang, Germany
1999 **Event Physician,** US Alpine Ski Team, Portillo, Chile
1998 **Event Physician,** Goodwill Games, Team Physician for Gymnastics, Rhythm Gymnastics, Figure Skating, New York, NY
1998 **Event Physician,** US Freestyle Ski Team, Mount Tremblant, Quebec, Canada
1997 **Event Physician,** US Freestyle Ski Team, LaPlange, France
1994- **Physician-in-Residence,** US Olympic Training Center, Lake Placid, New York, NY
1994- 1996 **Event Physician,** Ironman World Triathlon Championship, Kona, HI
1994- 1999 **Medical Director,** MAC Basketball Championship, Seagate Center, Toledo, OH

**Other Event Coverage:**

**Medical Director,** Ohio/Michigan 5K/10K Run and Marathon, Toledo, OH
**Medical Director,** Jeremy Lincoln Football Camp, University of Toledo, Toledo, OH
**Medical Director,** Jimmy Jackson Basketball Camp, University of Toledo, Toledo, OH
**Medical Director**, Toledo Classic 10K, Toledo, OH
**Medical Director**, Race for the Cure, 5K and 10K, Toledo, OH
**Medical Director,** Toledo Regatta, Toledo, OH
**Medical Director,** Junior A and B National Hockey Tournament, Toledo, OH
**Medical Director,** Glass City Marathon, Toledo, OH
**Medical Director,** US Track and Field 24-Hour Run National Championship, Toledo, OH
**Medical Director,** Mad Anthony River Rally Bike Event, Perrysburg, OH
**Co-Medical Director,** Ohio State Games, Toledo, OH
**Team Physician,** USA Volleyball Association National Championship, Toledo, OH
**Team Physician,** USA Volleyball Association Junior Olympics, Toledo, OH
**Team Physician,** World Cup Wrestling Championships, Toledo, OH