

## **David Robert Howell, PhD, ATC**

**Associate Professor and Director of Clinical Research, University of Colorado School of Medicine, Department of Orthopedics**  
**Director of Sports Medicine Research, Children's Hospital Colorado Sports Medicine Center**

### **CONTACT INFORMATION**

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### **EDUCATION**

*Whitworth University*, Spokane, WA  
Bachelor of Arts, Department of Kinesiology: Athletic Training, 2008  
Athletic Training Distinction Award

*University of Oregon*, Eugene, OR  
Master of Science, Department of Human Physiology: Athletic Training, 2011  
Thesis: *Evaluation of Neuropsychological and Attentional Disturbances in Concussed High School Athletes*

*University of Oregon*, Eugene, OR  
Doctorate of Philosophy, Department of Human Physiology: Biomechanics, 2014  
Dissertation: *An Examination of Motor and Cognitive Recovery Following Concussion*

### **PROFESSIONAL EXPERIENCE**

Assistant Athletic Trainer: August 2008 – June 2009  
Department of Athletics  
Whitman College, Walla Walla, WA 99362

Master's Student Graduate Teaching Fellow: August 2009 – June 2011  
NATA Post-Professional Master's Graduate Athletic Training Program  
Department of Human Physiology  
University of Oregon, Eugene, OR 97403

Doctoral Student Graduate Teaching Fellow: June 2011 – July 2014  
Motion Analysis Laboratory  
Department of Human Physiology  
University of Oregon, Eugene, OR 97403

Post-Doctoral Research Fellow: August 2014 – August 2017

Division of Sports Medicine, Department of Orthopaedics  
Brain Injury Center  
Boston Children's Hospital, Boston, MA, 02115  
The Micheli Center for Sports Injury Prevention, Waltham, MA, 02453

Adjunct Instructor: January 2017 – May 2017  
Athletic Training and Exercise Science Department  
Lasell College, Newton, MA, 02466

Assistant Professor: September 2017 – June 2023  
Department of Orthopedics  
University of Colorado School of Medicine, Aurora, CO 80045

Lead Researcher: September 2017 – June 2023  
Sports Medicine Center, Orthopedics Institute  
Children's Hospital Colorado, Aurora, CO 80045

Assistant Director of Clinical Research: January 2020 – June 2022  
Department of Orthopedics  
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Director of Clinical Research: July 2022 – Present  
Department of Orthopedics  
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Associate Professor: July 2023 – Present  
Department of Orthopedics  
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Director of Sports Medicine Research: July 2023 - Present  
Sports Medicine Center, Orthopedics Institute  
Children's Hospital Colorado, Aurora, CO 80045

## **SCHOLARSHIP**

### **Peer-Reviewed Publications**

Summary:

198 total peer-reviewed articles

177 original data publications

19 review publications

2 editorial publications.

### Role

First Author: 59

Senior Author: 47

Co-Author: 92

### H-Index and Other Influence Rankings

[Google scholar](#) h-index = 35; i10-index = 100 (since 2018)

[Expertscape](#): Ranked the #3 Worldwide Expert in 'Brain Concussion'

[NIH iCite](#): 22 publications with a top 10% relative citation ratio

#### Peer-Reviewed Original Research Publications

1. **Howell DR**, Osternig LR, van Donkelaar P, Mayr U, Chou L-S. Effects of concussion on attention and executive function in adolescents. *Medicine and Science in Sports and Exercise*. 2013; 45(6):1030-1037.
2. **Howell DR**, Osternig LR, Chou L-S. Dual-task effect on gait balance control in adolescents with concussion. *Archives of Physical Medicine and Rehabilitation*. 2013; 94(8):1513-1520.
3. **Howell DR**, Osternig LR, Koester MC, Chou L-S. The effect of cognitive task complexity on gait stability in adolescents following concussion. *Experimental Brain Research*. 2014; 232(6):1773-1782.
4. Miller N, Yasen AL, Maynard LF, Chou L-S, **Howell DR**, Christie AD. Acute and longitudinal changes in motor cortex function following mild traumatic brain injury. *Brain Injury*. 2014; 28(10):1270-1276.
5. **Howell DR**, Osternig LR, Chou L-S. Adolescents demonstrate greater gait balance control deficits following concussion than young adults. *The American Journal of Sports Medicine*. 2015; 43(3):625-632.
6. **Howell DR**, Osternig LR, Chou L-S. Return to activity after concussion affects dual-task gait balance control recovery. *Medicine and Science in Sports and Exercise*. 2015; 47(4):673-680.
7. **Howell DR**, Osternig LR, Chou L-S. Monitoring recovery of gait balance control following concussion using an accelerometer. *Journal of Biomechanics*. 2015; 48(12):3364-3368.
8. **Howell DR**, Mannix RC, Quinn B, Taylor JA, Tan CO, Meehan III WP. Physical activity level and symptom duration are not associated after concussion. *The American Journal of Sports Medicine*. 2016; 44(4): 1040-1046.
9. Breen EO, **Howell DR**, Stracciolini AS, Dawkins C, Meehan III WP. Examination of age-related differences on clinical tests of postural stability. *Sports Health: A Multidisciplinary Approach*. 2016; 8(3): 244-249.
10. Breen EO, **Howell DR**, Borg DR, Sugimoto D, Meehan III WP. Functional Deep Squat Performance is Associated with Hip and Ankle Range of Motion. *Journal of Athletic Enhancement*. 2016; 5(3): 1-5.
11. **Howell DR**, Meehan III WP. Normative values for a video-force plate assessment of postural control in athletic children. *Journal of Pediatric Orthopaedics-B*. 2016; 25(4): 310-314.

12. Sugimoto D, **Howell DR**, Micheli LJ, Meehan III WP. Single leg postural stability deficits following anterior cruciate ligament reconstruction in pediatrics and adolescents. *Journal of Pediatric Orthopaedics-B*. 2016; 25(4): 338-342.
13. **Howell DR**, Osternig LR, Christie AD, Chou L-S. Return to physical activity timing and dual-task gait stability are associated two months following concussion. *The Journal of Head Trauma Rehabilitation*. 2016; 31(4): 262-268.
14. Stracciolini AS, Friedman HL, Casciano R, **Howell DR**, Sugimoto D, Micheli L. The relative age effect on youth sports injuries. *Medicine & Science in Sports & Exercise*. 2016; 48(6): 1068-1074.
15. **Howell DR**, Osternig LR, Chou L-S. Consistency and cost of dual-task gait balance measures in healthy adolescents and young adults. *Gait and Posture*. 2016; 49: 176-180.
16. **Howell DR**, O'Brien MJ, Beasley M, Mannix RC, Meehan III WP. Initial somatic symptom burden is associated with prolonged symptom duration following concussion in adolescent athletes. *Acta Paediatrica*. 2016; 105(9):e426-432.
17. Stache S, **Howell DR**, Meehan III WP. Concussion management practices among primary care sports medicine physicians. *Clinical Journal of Sport Medicine*. 2016; 26(5): 381-385.
18. **Howell DR**, Shore, BJ, Hanson E, Meehan III WP. Evaluation of postural stability in youth athletes: the relationship between two rating systems. *The Physician and Sports Medicine*. 2016; 44(3): 304-310.
19. **Howell DR**, Beasley M, Vopat L, Meehan III WP. The effect of prior concussion history on dual-task gait following a concussion. *Journal of Neurotrauma*. 2017; 34(4):838-844.
20. **Howell DR**, Oldham J, DiFabio M, Vallabhajosula S, Hall E, Ketcham C, Meehan III WP, Buckley TA. Single-task and dual-task gait performance values in healthy collegiate athletes: implications for concussion management. *Journal of Applied Biomechanics*. 2017; 33(1):24-31.
21. **Howell DR**, Stracciolini A, Geminiani E, Meehan III WP. Dual-task gait costs in female and male adolescents following sport-related concussion. *Gait & Posture*. 2017; 54: 284-289.
22. Tocci N, **Howell DR**, Sugimoto D, Stracciolini A, Morse J, Meehan III WP. Physical activity outside of organised sports is associated with functional performance. *Acta Paediatrica*. 2017; 106(5): 825-830.
23. **Howell DR**, Osternig LR, Chou L-S. Single-task and dual-task tandem gait test performance after concussion. *Journal of Science and Medicine in Sport*. 2017; 20(7): 622-626.
24. Yasen A, **Howell DR**, Chou L-S, Pazzaglia AM, Christie AD. Cortical and physical function following mild traumatic brain injury. *Medicine & Science in Sports & Exercise*. 2017; 49(6): 1066-1071.
25. **Howell DR**, Hanson E, Sugimoto D, Stracciolini AS, Meehan III WP. Assessment of the postural stability of female and male athletes. *Clinical Journal of Sport Medicine*. 2017; 27(5):444-449.

26. **Howell DR**, Meehan WP III, Loosemore ML, Cummiskey J, von Rosenberg JPG, McDonagh D. Neurological tests improve after Olympic-style boxing bouts: A pre-post tournament study in the Women's World Boxing Championship (2016). *British Journal of Sports Medicine* 2017; 51(17):1279-1284.
27. Gardner AJ, Levi CR, **Howell DR**, Iverson GL. Evidence of Concussion Signs in National Rugby League Match Play: A Video Review and Validation Study. *Sports Medicine - Open*. 2017; 3(29):1-10.
28. Lee JH, **Howell DR**, Iverson G, Meehan III WP, Gardner A. Effects of exercise on sports concussion assessment tool-third edition performance in professional athletes. *The Orthopedic Journal of Sports Medicine*. 2017; 5(9).
29. Tocci N, **Howell DR**, Sugimoto D, Whited A, Dawkins C, Bae D. The effect of lower extremity motion on elbow torque in youth baseball pitchers. *Journal of Applied Biomechanics*. 2017; 33(5):339-346.
30. O'Brien MJ, **Howell DR**, Pepin MJ, Meehan WP III. Sport-related concussion symptom recurrence following return to sports. *The Orthopedic Journal of Sports Medicine*. 2017; 5(10).
31. **Howell DR**, Brilliant A, Berkstresser B, Wang F, Fraser J, Meehan III WP. The association between post-concussion dual-task gait measures and prolonged symptom duration. *Journal of Neurotrauma*. 2017; 34(23):3288-3294.
32. Berkner J, Meehan WP III, Master CL, **Howell DR**. Assessment of static and dynamic postural control after concussion symptom resolution. *Journal of Athletic Training*. 2017; 52(12):1089-1095.
33. Gardner AJ, **Howell DR**, Iverson GL. A Video Review of Multiple Concussion Signs in National Rugby League Match Play. *Sports Medicine – Open*. 2018; 12;4(1):5.
34. **Howell DR**, Stillman A, Berkstresser B, Wang F, Buckley TA, Meehan III WP. The utility of instrumented dual-task gait and tablet-based neurocognitive measurements after concussion. *Journal of Science and Medicine in Sport*. 2018; 21(4):358-362.
35. **Howell DR**, Berkstresser B, Wang F, Buckley TA, Mannix R, Stillman A, Meehan III WP. Self-reported sleep duration affects tandem gait, but not steady-state gait outcomes among healthy collegiate athletes. *Gait & Posture*. 2018; 62: 291-296.
36. **Howell DR**, O'Brien MJ, Raghuram A, Shah AS, Meehan III WP. Near point of convergence and gait deficits in adolescents after sport-related concussion. *Clinical Journal of Sport Medicine*. 2018; 28(3): 262-267.
37. Oldham JR, DiFabio MS, Kaminski TW, DeWolf RM, **Howell DR**, Buckley TA. Efficacy of Tandem Gait to Identify Impaired Postural Control Following Concussion. *Medicine & Science in Sports & Exercise*. 2018; 50(6): 1162-1168.
38. Yuan W, Dudley J, Barber Foss K, Ellis JD, Thomas S, Galloway RT, DiCesare CA, Leach JL, Adams J, Maloney T, Gadd B, Smith D, Epstein J, Grooms DR, Logan K, **Howell DR**, Altaye M, Myer G. Mild jugular compression collar ameliorated changes in brain activation of working memory after one soccer season in female high school athletes. *Journal of Neurotrauma*. 2018;35(11): 1248-1259.

39. **Howell DR**, Meehan III WP, Barber Foss KD, Reches A, Weiss M, Myer G. Reduced dual-task gait speed is associated with response inhibition in children and adolescents with concussion. *Brain Injury*. 2018;32(9): 1129-1134.
40. Hänninen T, Parkkari J, Tuominen M, Öhman J, **Howell DR**, Iverson GI. Sport Concussion Assessment Tool: Interpreting day-of-injury scores in professional ice hockey players. *Journal of Science and Medicine in Sport*. 2018; 21(8):794-799.
41. **Howell DR**, Buckley TA, Lynall RC, Meehan III WP. Worsening dual-task gait costs after concussion and their association with subsequent sport-related injury. *Journal of Neurotrauma*. 2018; 35(14):1630-1636.
42. Sugimoto D, **Howell DR**, Tocci NX, Meehan III WP. Comparing the history of musculoskeletal injuries in single and multiple position young female soccer players during youth. *The Physician and Sportsmedicine*. 2018; 46(3):312-318.
43. **Howell DR**, Osternig LR, Chou LS. Detection of acute and long-term effects of concussion: dual-task gait balance control vs. computerized neurocognitive test. *Archives of Physical Medicine & Rehabilitation*. 2018; 99(7):1318-1324.
44. **Howell DR**, Brilliant AN, Storey E, Podolok O, Meehan III WP, Master CL. Objective eye tracking deficits following concussion for youth seen in a sports medicine setting. *Journal of Child Neurology*. 2018; 33(12): 794-800.
45. **Howell DR**, Zemek R, Brilliant A, Mannix RC, Master CL, Meehan III WP. Identifying persistent post-concussion symptom risk in a pediatric sports medicine clinic. *The American Journal of Sports Medicine*. 2018; 46(13):3254-3261.
46. **Howell DR**, Wilson J, Kirkwood MW, Grubenhoff JA. Quality of life and symptomatology one month after concussion in children and adolescents. *Clinical Pediatrics*. 2019; 59(1):42-49.
47. **Howell DR**, Oldham JR, Brilliant AN, Meehan III WP. Trouble falling asleep after concussion is associated with higher symptom burden. *Journal of Child Neurology*. 2019. 34(5): 256-261.
48. Gagliardi A, Carry P, Parikh H, Traver J, **Howell DR**, Albright JC. ACL Repair With Suture Ligament Augmentation Is Associated With a High Failure Rate Among Adolescent Patients. *The American Journal of Sports Medicine*. 2019. 47(3):560-566.
49. **Howell DR**, Myer GD, Grooms D, Diekfuss J, Yuan W, Meehan III WP. Examining motor tasks of differing complexity after concussion in adolescents. *Archives of Physical Medicine and Rehabilitation*. 2019. 100(4):613-619.
50. **Howell DR**, Oldham J, Meehan III WP, DiFabio MS, Buckley TA. Dual-task tandem gait and average walking speed in healthy collegiate athletes. *Clinical Journal of Sport Medicine*. 2019. 29(3):238-244.
51. Sweeney EA, Potter MN, MacDonald J, **Howell DR**. Low Back Pain in Female Adolescent Gymnasts and Functional Pain Scales. *Physical Therapy in Sport*. 2019. 38(4):66-70.

52. Sweeney EA, Daoud AK, Potter MN, Ritchie L, **Howell DR**. Association between flexibility and low back pain in female adolescent gymnasts. *Clinical Journal of Sport Medicine*. 2019. 29(5): 379-383.
53. **Howell DR**, Kriz P, Mannix RC, Kirchberg T, Master CL, Meehan III WP. Concussion symptom profiles among child, adolescent, and young adult athletes. *Clinical Journal of Sport Medicine*. 2019. 29(5): 391-397.
54. Sugimoto D, Jackson SS, **Howell DR**, Meehan III WP, Stracciolini A. Association between training volume and lower extremity overuse injuries in young female athletes: implications for early sports specialization. *The Physician and Sportsmedicine*. 2019. 47(2): 199-204.
55. **Howell DR**, Wilson J, Brilliant AN, Gardner AJ, Iverson GI, Meehan III WP. Objective clinical tests of dual-task dynamic postural control in youth athletes with concussion. *Journal of Science and Medicine in Sport*. 2019. 22(5): 521-525.
56. **Howell DR**, Buckley TA, Berkstresser B, Wang F, Meehan III WP. Identification of post-concussion dual-task gait abnormalities using normative reference ranges. *Journal of Applied Biomechanics*. 2019. 35(4): 290-296.
57. Dahab K, Potter MN, Provance A, Albright J, **Howell DR**. The association between sport specialization, club sport participation, quality of life, and injury history in high school athletes. *Journal of Athletic Training*. 2019. 54(10): 1061-1066.
58. Raghuram A, Cotter, S, Gowrisankaran S, Kanji J, **Howell DR**, Meehan III WP, Shah A. Receded Near Point of Convergence is Not Diagnostic of Convergence Insufficiency. *American Journal of Ophthalmology*. 2019. 206: 235-244.
59. **Howell DR**, Potter MN, Kirkwood MW, Wilson PE, Provance AJ, Wilson JC. Clinical predictors of symptom resolution for children and adolescents with sport-related concussion. *Journal of Neurosurgery: Pediatrics*. 2019. 24(10):54-61. **2019 JNS Editor's Choice Selection.**
60. **Howell DR**, Lugade V, Taksir M, Meehan III WP. The validity and reliability of a smartphone-based gait evaluation for concussion management. *The Physician and Sportsmedicine*. 2020. 48(1):75-80.
61. Gardner AJ, **Howell DR**, Iverson GL. National Rugby League match scheduling and rate of concussion. *Journal of Science and Medicine in Sport*. 2019. 22(7):780-783.
62. **Howell DR**, Lugade V, Potter MN, Walker G, Wilson JC. A multifaceted and clinically viable paradigm to quantify postural control impairments among adolescents with concussion. *Physiological Measurement*. 2019. 40(8):084006.
63. **Howell DR**, Brilliant AN, Meehan III WP. Tandem gait test reliability among healthy youth athletes. *Journal of Athletic Training*. 2019. 54(12): 1254-1259.
64. **Howell DR**, Brilliant AN, Oldham JR, Berkstresser B, Wang F, Meehan III WP. Exercise in the first week following concussion among collegiate athletes: Preliminary findings. *Journal of Science and Medicine in Sport*. 2020. 23(2):112-117.

65. Potter MN, **Howell DR**, Dahab KS, Sweeney EA, Albright JC, Provance AJ. Sleep quality and quality of life among healthy high school athletes. *Clinical Pediatrics*. 2020. 59(2):170-177.
66. Gray M, Wilson JC, Potter MN, Provance AJ, **Howell DR**. Female adolescents demonstrate greater oculomotor and vestibular impairments than male adolescents following concussion. *Physical Therapy in Sport*. 2020. 42:68-74.
67. Stracciolini A, Quinn B, Zwicker R, **Howell DR**, Sugimoto D. Part I: CrossFit-Related Injury Characteristics Presenting to Sports Medicine Clinic. *Clinical Journal of Sport Medicine*. 2020. 30(2):102-107.
68. **Howell DR**, Oldham JR, Lanois C, Koerte, IK, Lin AP, Berkstresser B, Wang F, Meehan III WP. Dual-task gait recovery after concussion among female and male collegiate athletes. *Medicine & Science in Sports & Exercise*. 2020. 52(5):1015-1021.
69. Meyers R, Hobbs S, **Howell DR**, Provance A. Are adolescent climbers aware of the most common youth climbing injury and safe training practices? *International Journal of Environmental Research and Public Health*. 2020. 17(3).
70. Provance AJ, **Howell DR**, Potter MN, Wilson PE, D'Lauro AM, Wilson JC. Presence of neck or shoulder pain following sport-related concussion negatively influences recovery. *Journal of Child Neurology*. 2020. 35(7):456-462.
71. Kirkwood MW, Crossland MM, **Howell DR**, Wilson JC, Peterson RL. A longitudinal investigation of symptom recovery following concussion in youth soccer. *Journal of Pediatrics*. 2020. 220:2017-213.e.2.
72. Bonnette S, Diekfuss JA, Grooms D, Myer GD, Meehan III WP, **Howell DR**. Integrated linear and nonlinear trunk dynamics identify residual concussion deficits. *Neuroscience Letters*. 2020. 729:134975.
73. **Howell DR**, Mayer A, Master CL, Leddy J, Zemek R, Meier TB, Yeates KO, Arbogast KB, Mannix R, Meehan III WP. Prognosis for Persistent Post Concussion Symptoms using a Multifaceted Objective Gait and Balance Assessment Approach. *Gait & Posture*. 2020. 79:53-59.
74. Pimentel R, Potter MN, Carollo J, **Howell DR**, Sweeney EA. Peak sagittal plane spine kinematics in female gymnasts with and without a history of low back pain. *Clinical Biomechanics*. 2020. 76:105019.
75. Gardner AJ, **Howell DR**, Iverson GL. The association between multiple prior concussions, cognitive test scores, and symptom reporting in youth rugby league players. *Brain Injury*. 2020. 34(2): 224-228.
76. Kent M, Brilliant AN, Erickson KI, Meehan III WP, **Howell DR**. Associations between pre-existing anxiety disorders and concussion symptom presentation among youth athletes. *International Journal of Sports Medicine*. 2020. 41(10): 682-687.
77. **Howell DR**, Bonnette S, Diekfuss J, Grooms D, Myer GD, Meehan III WP. Youth with concussion demonstrate less adaptable gait patterns than uninjured peers: implications for



- concussion management. *Journal of Orthopaedic & Sports Physical Therapy*. 2020. 50(8): 438-446.
78. Wilson JC, Kirkwood MW, Potter MN, Wilson PE, Provance AJ, **Howell DR**. Early physical activity and clinical outcomes following pediatric sport-related concussion. *Journal of Clinical and Translational Research*. 2020. 5(4): 161-168.
79. Oldham JR, **Howell DR**, Bryk KN, Lanois CJ, Koerte IK, Meehan III WP, Buckley TA. No Differences in Tandem Gait Performance between Males and Females Acutely Post-Concussion. *Journal of Science and Medicine in Sport*. 2020. 23(9): 814-819.
80. Sweeney EA, Wilson JC, Potter MN, Dahab KS, Denay KL, **Howell DR**. Symptom profiles and postural control after concussion in female artistic athletes. *Brain Injury*. 2020. 34(7): 928-933.
81. Oldham J, **Howell DR**, Knight CA, Crenshaw JR, Buckley TA. Gait is Associated with Subsequent Lower Extremity Injury Following Concussion. *Medicine & Science in Sports & Exercise*. 2020. 52(11):2279-2285.
82. Charney MF, **Howell DR**, Lanois C, Starr TC, Liao H, Coello E, Breedlove KM, Meehan III WP, Koerte IK, Lin AP. Associations between neurochemistry and gait performance following concussion in collegiate athletes. *Journal of Head Trauma Rehabilitation*. 2020. 35(5): 342-353.
83. Parikh HB, Gagliardi AG, **Howell DR**, Albright JC, Mandler TN. Femoral Nerve Catheters Are Associated with Limb Strength Asymmetry at 6 Months After Primary Anterior Cruciate Ligament Reconstruction in Pediatric Patients. *Pediatric Anesthesia*. 2020. 30(10): 1109-1115.
84. Büttner F, **Howell DR**, Severini G, Doherty C, Blake C, Ryan J, Delahunt E. Using functional movement tests to investigate the presence of sensorimotor impairment in amateur athletes following sport-related concussion; a prospective, matched-cohort study. *Physical Therapy in Sport*. 2020. 47:105-113.
85. Gagliardi AG, Walker GA, Dahab K, Seehusen CN, Provance AJ, Albright JC, **Howell DR**. Sports Participation Volume and Psychosocial Outcomes Among Healthy High School Athletes. *Journal of Clinical and Translational Research*. 2020. 6(2): 54-60.
86. Büttner FC, **Howell DR**, Doherty C, Blake C, Ryan J, Delahunt E. Persistent headache and dizziness health-related quality of life impairments after clearance to return-to-activity following sport-related concussion; a prospective, matched-cohort study. *Journal of Orthopaedic & Sports Physical Therapy*. 2020. 50(12): 692-701.
87. Walker GA, Seehusen CN, Armento A, Provance AJ, Wilson JC, **Howell DR**. Family Affluence Relationship to Sports Specialization in Youth Athletes. *Clinical Pediatrics*. 2020. 60(1): 50-55.
88. **Howell DR**, Brilliant AN, Master CL, Meehan III WP. Reliability of objective eye-tracking measures among healthy adolescent athletes. *Clinical Journal of Sport Medicine*. 2020. 30(5):444-450.
89. **Howell DR**, O'Brien MJ, Fraser J, Meehan III WP. Continuing play, symptom severity, and symptom duration after concussion in youth athletes. *Clinical Journal of Sport Medicine*. 2020. 30(1):42-46.

90. Brown L, Hall EE, Ketcham C, **Howell DR**, Buckley TA, Vallabhajosula S. Turn characteristics during gait differ with and without a cognitive demand among collegiate athletes. *Journal of Sport Rehabilitation*. 2019. 29(4):448-453.
91. Chung P, Yong JP, **Howell DR**, Iverson G, Meehan III WP, Gardner A. Effects of Exercise on Sport Concussion Assessment Tool-Third Edition Performance in Women. *Clinical Journal of Sport Medicine*. 2020. 30(4):353-359.
92. Stracciolini A, Amar-Dolan L, **Howell DR**, Taylor A, Berkner P, Sandstrom NJ, Peluso M, Kurtz M, Mannix R, Meehan III WP. Female Sport Participation Effect on Long-Term Health-Related Quality of Life. *Clinical Journal of Sport Medicine*. 2020. 30(6):525-532.
93. Patsimas T, **Howell DR**, Potter MN, Provance AJ, Kirkwood MW, Wilson JC. Concussion-Symptom Rating Correlation Between Pediatric Patients and Their Parents. *Journal of Athletic Training*. 2020. 55(10):1020-1026.
94. Provance AJ, Brewer M, Seehusen C, Younger B, **Howell DR**. Athletic Trainer Employment, Physician Access and Care Delivery in Secondary Schools. *The Physician and Sportsmedicine*. 2020. 48(4):407-411.
95. Sweeney E, **Howell DR**, Potter MN, Gagliardi A, Albright JC, Provance A. Comparison of pediatric sports fracture outcomes based on provider type. *Physician and Sportsmedicine*. 2021. 49(1):31-36.
96. Hänninen T, Seppänen A, Palola V, Parkkari J, **Howell DR**, Tuominen M, Iverson GL, Luoto TM. Reliability of the Sport Concussion Assessment Tool 5 Baseline Testing: A 2-Week Test-Retest Study. *Journal of Science and Medicine in Sport*. 2021. 24(2):129-134.
97. Van Deventer K, Seehusen C, Walker GA, Wilson JC, **Howell DR**. The diagnostic and prognostic utility of the dual-task tandem gait test for pediatric concussion. *Journal of Sport and Health Science*. 2021. 10(2): 131-137.
98. Meyers R, **Howell DR**, Provance AJ. The association of finger growth plate injury history and speed climbing in youth climbers. *Wilderness & Environmental Medicine*. 2020. 31(4):394-399.
99. **Howell DR**, Kirkwood MW, Laker S, Wilson JC. Collision and contact sport participation and quality of life among adolescent athletes. *Journal of Athletic Training*. 2020. 55(11):1174-1180.
100. Oldham JR, Meehan III WP, **Howell DR**. Impaired Eye Tracking is Associated with Symptom Severity, but not Dynamic Postural Control in Adolescents Following Concussion. *Journal of Sport and Health Science*. 2021. 10(2): 138-144.
101. **Howell DR**, Bonnette S, Diekfuss JA, Grooms DR, Myer GD, Wilson JC, Meehan III, WP. Dual-task gait stability after concussion and subsequent injury: an exploratory investigation. *Sensors*. 2020. 20(21):6297.
102. Armento A, Albright JC, Gagliardi A, **Howell DR**, Daoud AK, Mayer S. Psychological Factors Related to Return to Sport after Anterior Cruciate Ligament Reconstruction in Adolescent Athletes. *Physical Therapy in Sport*. 2021. 47(1):72-77.

103. **Howell DR**, Myer GD, Brilliant A, Barber-Foss K, Meehan III WP. Quantitative multimodal assessment of concussion recovery in youth athletes. *Clinical Journal of Sport Medicine*. 2021. 31(2):133-138.
- E-pub ahead of print
104. Iverson GL, Cook NE, **Howell DR**, Collings LJ, Kusch C, Sun J, Virji-Babul N, Panenka WJ. Preseason Vestibular Ocular Motor Screening in Children and Adolescents. *Clinical Journal of Sport Medicine*. E-pub ahead of print: June 19, 2019.
105. Brilliant A, Meehan III WP, **Howell DR**. Static and dynamic cognitive test performance in youth and collegiate athletes with concussion. *Clinical Journal of Sport Medicine*. E-pub ahead of print: November 21, 2019.
106. Oldham J, **Howell DR**, Knight CA, Crenshaw JR, Buckley TA. Single and Dual-Task Tandem Gait Performance Across Clinical Concussion Milestones in Collegiate Student-Athletes. *Clinical Journal of Sport Medicine*. E-pub ahead of print: August 17, 2020.
107. Büttner FC, **Howell DR**, Doherty C, Blake C, Ryan J, Delahunt E. Clinical Detection and Recovery of Vestibular and Oculomotor Impairments Among Amateur Athletes Following Sport-Related Concussion: A Prospective, Matched-Cohort Study. *Journal of Head Trauma Rehabilitation*. 2020. E-pub ahead of print: September 2, 2020.
108. **Howell DR**, Potter MN, Provance AJ, Wilson PE, Kirkwood MW, Wilson JC. Sleep problems and melatonin prescription after concussion among youth athletes. *Clinical Journal of Sport Medicine*. 2020. E-pub ahead of print: September 29, 2020.
109. Wingerson MJ, Seehusen CN, Walker GA, Wilson JC, **Howell DR**. Clinical feasibility and utility of a dual-task tandem gait protocol for pediatric concussion management. *Journal of Athletic Training*. 2020. E-pub ahead of print, November 5, 2020.
110. Shah AS, Raghuram A, Kaur K, Lipsn S, Shoshany T, Stevens R, O'Brien M, **Howell DR**, Fleischman K, Barnack D, Molind H, Kuemmerle K, Brodsky J. Specialty-specific Diagnoses in Pediatric Patients with Post-Concussion Syndrome: Experience from a Multi-disciplinary Concussion Clinic. *Clinical Journal of Sport Medicine*. 2021. E-pub ahead of print: February 16, 2021.
111. Sweeney EA, **Howell DR**, Seehusen CN, Tilley D, Casey E. Health Outcomes Among Former Female Collegiate Gymnasts: The Influence of Sport Specialization, Concussion, and Disordered Eating. *The Physician and Sportsmedicine*. 2020. E-pub ahead of print: November 23, 2020.
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- Measures Among High School Female Athletes. *Journal of Athletic Training*. 2021. E-pub ahead of print: February 24, 2021.
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  115. **Howell DR**, Hunt D, Aaron SE, Meehan III WP, Tan CO. Influence of Aerobic Exercise Volume on Concussion Symptoms. 2021. *The American Journal of Sports Medicine*. 2021. E-pub ahead of print: April 15, 2021.
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  120. Fadell M, **Howell DR**, Stein J, McGraw M, Gagliardi A, Pearce S, Albright JC. Agreement between Arthroscopy and Saline Magnetic Resonance Shoulder Arthrography in Adolescent Patients - Evaluation of Location and Extent of Injury of Labral Tears. *International Journal of Radiology and Imaging Techniques*. 7(1): 075.
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123. Büttner F, **Howell DR**, Doherty C, Blake C, Ryan J, Delahunt E. Longitudinal vestibular and oculomotor impairments amongst amateur athletes one-year following sport-related concussion: a prospective follow-up. *Journal of Head Trauma Rehabilitation*. In press, accepted December 4, 2020.
  124. Walker GA, Wilson JC, Seehusen CN, Provance AJ, **Howell DR**. Is Near Point Of Convergence Associated With Symptom Profiles or Recovery In Adolescents After Concussion? 2021. *Vision Research*. In press, accepted March 8, 2021.

125. Oldham JR, Master CL, Meehan III WP, Walker GA, **Howell DR**. The Association Between Baseline Eye Tracking Performance and Common Concussion Assessments in High School Football Players. 2021. *Optometry and Vision Science*. In press, accepted March 8, 2021.
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135. Ozturk ED, Iaccarino MA, Hamner JW, Hunt DL, Daniels R, Meehan III WP, **Howell DR**, Tan CO. Executive Dysfunction after Multiple Head Injuries is not Related to Cerebrovascular Dysfunction. 2021. *Physiological Measurement*. In press, accepted August 28, 2021.
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157. Smulligan KL, Wingerson MJ, Seehusen CN, Little CC, Wilson JC, **Howell DR**. More Physical Activity is Correlated with Reduction in Kinesiophobia for Adolescents with Persistent Symptoms After Concussion. 2022. *Journal of Sport Rehabilitation*. In press, accepted August 19, 2022.
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  169. Little CC, **Howell DR**, Armento AA, McCarthy AR, Sweeney EA. Concerns about Weight and Mental Health among Adolescent Gymnasts: A Pilot Study. 2023. *Science of Gymnastics*. In press, accepted February 20, 2023.
  170. Fryar C, **Howell DR**, Seehusen CN, Tilley D, Casey E, Sweeney EA. Link Between the Female Athlete Triad and Gymnastics Related Injury in Retired Collegiate Gymnasts. 2023. *Clinical Journal of Sport Medicine*. In press, accepted March 13, 2023.
  171. Magliato SN, Wingerson MJ, Seehusen CN, Smulligan KL, Simon SL, Wilson JC, **Howell DR**. Sleep Problems After Concussion Are Associated with Poor Balance and Persistent Post-Concussion Symptoms. 2023. *Journal of Child Neurology*. In press, accepted April 1, 2023.
  172. Wingerson MJ, Magliato SN, Smulligan KL, Wilson JC, Little CC, **Howell DR**. Predicting time to evaluation after pediatric concussion: Factors affecting specialty concussion care. 2023. *Orthopaedic Journal of Sports Medicine*. In press, accepted April 14, 2023.



173. Rademacher JG, Wingerson MJ, Smulligan KL, Little CC, Wilson JC, **Howell DR**. Early Moderate-to-Vigorous Physical Activity After Concussion Is Associated with Faster Symptom Resolution Time. 2023. *Journal of Sport Rehabilitation*. In press, accepted April 24, 2023.
174. Liu R., **Howell DR**, Little CC, Khodae M, Pierpoint LA, Provance A. Salter Harris fractures in pediatric skiers and snowboarders. 2023. *Research in Sports Medicine*. In press, accepted May 1, 2023.
175. Armento AA, Keeter C, Gagliardi A, Rossing H, Giachino C, VandenBerg C, **Howell DR**, Albright JC. Association Of Grit with Post-Operative Knee Outcomes and Physical Function After ACL Reconstruction in Adolescent Athletes. 2023. *American Journal of Sports Medicine*. In press, accepted May 15, 2023.
176. Hart E, **Howell DR**, Brilliant A, O'Brien M, Meehan III WP. Gymnastics and Concussions: A Retrospective Chart Review. 2023. *Brain Injury*. In press, accepted May 18, 2023.
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#### Peer-Reviewed Review Publications

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179. **Howell DR**, Kirkwood M, Provance A, Iverson GL, Meehan III WP. Using concurrent gait and cognitive assessments to identify impairments after concussion: a narrative review. *Concussion*. 2018; 3(1): CNC54.
180. **Howell DR**, Lynall RC, Buckley TA, Herman DC. Dual-task neuromuscular deficits and the risk of subsequent injury after a concussion: a scoping review. *Sports Medicine*. 2018; 48(5): 1097-1115.
181. Sweeney EA, **Howell DR**, James DA, Potter MN, Provance AJ. Returning to Sport After Gymnastics Injuries. *Current Sports Medicine Reports*. 2018; 17(11):376-390.
182. **Howell DR**, Taylor JA, Tan CO, Orr R, Meehan III WP. The Role of Aerobic Exercise in Reducing Persistent Sport-Related Concussion Symptoms. *Medicine & Science in Sports & Exercise*. 2019. 51(4):647-652.
183. Büttner FC, **Howell DR**, Ardern C, Doherty C, Blake C, Ryan J, Catena R, Chou LS, Fino PC, Rochefort C, Sveistrup H, Parker T, Delahunt E. Concussed athletes walk slower than control participants during cognitive-motor dual-task assessments but not during single-task assessments 2 months after sports concussion; a systematic review and meta-analysis using individual participant data. *British Journal of Sports Medicine*. 2020. 54(2):94-101.

184. Lempke LB, **Howell DR**, Eckner JT, Lynall RC. Examination of Reaction Time Deficits Following Concussion: A Systematic Review and Meta-Analysis. *Sports Medicine*. 2020. 50(7): 1341-1359.
185. Mannix R, Levy R, Zemek R, Yeates KO, Arbogast K, Meehan III WP, Leddy J, Master CL, Mayer AR, **Howell DR**, Meier TB. *Journal of Neurotrauma*. Fluid Biomarkers of Pediatric Mild Traumatic Brain Injury: A Systematic Review. 2020. 37(19): 2029-2044.
186. Koerte IK, Shultz V, Sydnor VJ, **Howell DR**, Guenette JP, Dennis E, Kochsiek J, Kaufmann D, Sollmann N, Mondello S, Shenton ME, Lin AP. Sex-Related Differences in the Effects of Sports-Related Concussion: A Review. *Journal of Neuroimaging*. 2020. 30(4): 387-409.
187. **Howell DR**, Southard J. The Molecular Pathophysiology of Concussion. *Clinics in Sports Medicine*. 2021. 40(1): 39-51.
188. Bonke EM, Koerte IK, Buckley TA, Reinsberger CL, **Howell DR**. The Effects of Repetitive Head Impacts on Postural Control: A Systematic Review. *Journal of Science and Medicine in Sports*. 2021. 24(3):247-257.
189. Kirkwood MW, **Howell DR**, Brooks BL, Wilson JC, Meehan III WP. The Nocebo Effect and Pediatric Concussion. 2021. *Journal of Sport Rehabilitation*. In press, accepted March 24, 2021.
190. Smulligan KL, Wilson JC, **Howell DR**. Increased Risk Of Musculoskeletal Injuries After Concussion. 2022. *Operative Techniques in Sports Medicine*.
191. Echemendia RJ, Brett BL, Broglio S, Davis GA, Giza CC, Guskiewicz KM, Harmon KG, Herring S, **Howell DR**, Master C, McCrea M, Naidu D, Patricios JS, Putukian M, Walton SR, Schneider KJ, Burma JS, Bruce JM. Sport concussion assessment tool™ - 6 (SCAT6). *Br J Sports Med*. 2023 Jun;57(11):622-631. doi: 10.1136/bjsports-2023-107036. PMID: 37316203.
192. Echemendia RJ, Brett BL, Broglio S, Davis GA, Giza CC, Guskiewicz KM, Harmon KG, Herring S, **Howell DR**, Master CL, Valovich McLeod TC, McCrea M, Naidu D, Patricios J, Putukian M, Walton SR, Schneider KJ, Burma JS, Bruce JM. Introducing the Sport Concussion Assessment Tool 6 (SCAT6). *Br J Sports Med*. 2023 Jun;57(11):619-621. doi: 10.1136/bjsports-2023-106849. PMID: 37316207.
193. Echemendia RJ, Burma JS, Bruce JM, Davis GA, Giza CC, Guskiewicz KM, Naidu D, Black AM, Broglio S, Kemp S, Patricios JS, Putukian M, Zemek R, Arango-Lasprilla JC, Bailey CM, Brett BL, Didehbani N, Gioia G, Herring SA, **Howell DR**, Master CL, Valovich McLeod TC, Meehan WP 3rd, Premji Z, Salmon D, van Ierssel J, Bhathela N, Makdissi M, Walton SR, Kissick J, Pardini J, Schneider KJ. Acute evaluation of sport-related concussion and implications for the Sport Concussion Assessment Tool (SCAT6) for adults, adolescents and children: a systematic review. *Br J Sports Med*. 2023 Jun;57(11):722-735. doi: 10.1136/bjsports-2022-106661. PMID: 37316213.
194. Echemendia RJ, Ahmed OH, Bailey CM, Bruce JM, Burma JS, Davis GA, Gioia G, **Howell DR**, Fuller GW, Master CL, van Ierssel J, Pardini J, Schneider KJ, Walton

- SR, Zemek R, Patricios JS. The Concussion Recognition Tool 6 (CRT6). *Br J Sports Med.* 2023 Jun;57(11):692-694. doi: 10.1136/bjsports-2023-107021. PMID: 37316201.
195. Echemendia RJ, Ahmed OH, Bailey CM, Bruce JM, Burma JS, Davis GA, Gioia G, **Howell DR**, Fuller GW, Master CL, van Ierssel J, Pardini J, Schneider KJ, Walton SR, Zemek R, Patricios J. Introducing the Concussion Recognition Tool 6 (CRT6). *Br J Sports Med.* 2023 Jun;57(11):689-691. doi: 10.1136/bjsports-2023-106851. PMID: 37316214.
196. Dunne LA, Cole MH, Cormack SJ, **Howell DR**, Johnston RD. Validity and Reliability of Methods to Assess Movement Deficiencies Following Concussion: A COSMIN Systematic Review. 2023. *Sports Medicine - Open*. In press, accepted August 2, 2023.

#### Peer-Reviewed Editorial Publications

197. Stewart W, Allinson K, Al-Sarraj S, Bachmeir C, Barlow K, Belli A, Carson A, Crawford F, Dams-O'Connor K, Diaz-Arrastia R, Dixon CE, Edlow B, Ferguson S, Fischl B, Folkerth R, Gentleman S, Giza CC, Grady MS, Helmy A, Herceg D, **Howell DR**, Hutchinson P, Iacono D, Iglesias JE, Ikonovic M, Johnson VE, Keene CD, Koffler JK, Koliatsos V, Lee EB, Levin H, Loane DJ, Love S, Maas AIR, Marklund N, McElvenny D, Menon DK, Montine T, Mouzon B, Mufson E, Ojo JO, Prins M, Ritchie C, Smith C, Tang CY, Trojanowski JQ, Vink R, Wellington C, Wilde EA, Yeates K, Smith DH. Primum non nocere: a call for balance when reporting on chronic traumatic encephalopathy. *Lancet Neurology.* 2019. 18(3): 231-233.
198. Gagliardi A, Carry P, Parikh H, Traver J, **Howell DR**, Albright JC. Should We Rethink How to Define Success After ACL Surgery? Response. *The American Journal of Sports Medicine.* 2019. 47(10): NP59-NP60.

#### Non Peer-Reviewed Publications

1. **Howell DR**. Using gait to identify risk of prolonged concussion symptoms. Published October 10, 2017. <https://thesurg.com/using-gait-to-identify-risk-of-prolonged-concussion-symptoms/>
2. Lynall, RC, Mauntel, TC, **Howell DR**, Buckley TA. Brains, sprains, and chronic pain: Concussion consequences may include osteoarthritis. Published November, 2017. [http://lermagazine.com/cover\\_story/brains-sprains-and-chronic-pain-concussion-consequences-may-include-osteoarthritis](http://lermagazine.com/cover_story/brains-sprains-and-chronic-pain-concussion-consequences-may-include-osteoarthritis)

#### Funded Research Activities

**Total Funding Portfolio, Career (PI of Project): \$5,210,071**

**Total Funding Portfolio, Active (PI of Project): \$4,533,206**

#### Ongoing Funded Projects

“Modulating Exercise Dosage to Improve Concussion Rehabilitation: A Randomized Clinical Trial”

NIH NICHD R01 (R01HD108133)

**Role:** PI/PD

05/15/2022 – 03/31/2027

**Purpose:** To identify if high dose exercise at an individualized intensity level, relative to standard-of-care, results in: faster/slower symptom resolution, altered physiological function, or reduced secondary sequelae.

“Tele-Rehabilitation to Improve Mild Traumatic Brain Injury Recovery and Reduce Subsequent Injury Risk”

FY22 Defense Health Agency (DHA) Restoral Funding; Department of the Air Force, 59th Medical Wing

**Role:** Co-PI

10/01/2022 – 09/30/2023

**Purpose:** To examine the feasibility a smartphone-based mild TBI assessment among U.S. military service members and efficacy of a remote intervention approach among civilians with mild TBI to reduce future injury risk.

“Cervical Spine Dysfunction Following Adolescent Mild Traumatic Brain Injury”

Tai Foundation

**Role:** PI/PD

11/01/2022 – 10/31/2024

**Purpose:** To disentangle the reasons underlying post-concussion neck dysfunction using advanced imaging and genomic data elements.

“The Physical, Mental, and Emotional Effects of Youth Girls Flag Football: A Prospective Investigation”

Denver Broncos Foundation

**Role:** PI/PD

07/01/2023 – 06/30/2024

**Purpose:** To understand the physical, mental, and emotional changes that occur throughout one high school girls flag football season, and beyond, compared to girls who do not play sports.

### **Completed Funded Projects**

“Improving quantitative recovery outcomes from concussion with aerobic exercise training”

NIH NICHD R03 NCMRR Early Career Research Award: R03HD094560

**Role:** PI

02/15/2018 – 12/31/2020

**Purpose:** To prospectively evaluate the efficacy of a sub-maximal aerobic exercise intervention on concussion recovery initiated soon after injury.

**Outcomes:** PMID 30376513, 31522997

“A software tool for objective identification of concussion-related vision disorders using a novel eye-tracking device”

NIH/NINDS Phase I STTR Award: R41NS103698

**Role:** Consultant (PI: Christina Master, MD)

02/15/2018 – 11/30/2019

**Purpose:** To develop a software product that provides an objective assessment of vision characteristics for use in concussion evaluations.

“A novel smartphone-based tool to quantify dual-task gait performance for concussion assessment”

NIH/NINDS Phase I SBIR Program: R43NS108823

**Role:** Site PI (PI Vipul Lugade, PhD)

09/30/2019 – 03/31/2021

**Purpose:** To develop a tool to evaluate single-task and dual-task gait and cognitive function in common clinical environments using a smartphone.

“Initiation of an Early Exercise Program to Improve Symptoms and Psychosocial Function after Pediatric Mild Traumatic Brain Injury”

MINDSOURCE Brain Injury Network New Investigator Award

**Role:** PI/PD

08/01/2019 – 12/31/2021

**Purpose:** To identify the effects of the initiation of an individualized sub-symptom aerobic exercise program within the first week of a mild traumatic brain injury (mTBI) on measures of persistent post-concussive symptoms and psychosocial function.

“Comparison of Braces for Treatment of Sever’s Disease in Barefoot Athletes”

American Medical Society for Sports Medicine Foundation Research Grant

**Role:** Co-Investigator (PI: Emily Sweeney, MD)

04/01/2018 – 03/30/2020

**Purpose:** To evaluate the effect of brace type on pain and functional outcomes among barefoot athletes with Sever’s disease

“Prevention of Post Traumatic Osteoarthritis in an Animal Model with Post-Traumatic Injection of a Chondroprotective Agent.”

Pediatric Orthopaedic Society of North America Research Grant

**Role:** Statistical consultant (PI: Jay Albright, MD)

07/01/2018 – 06/30/2020

**Purpose:** To determine if delayed injection of N-acetyl-cysteine after joint injury delays the progression of post-traumatic osteoarthritis in skeletally immature animals that represent the pediatric population.

“The effects of concussion on neurophysiological function, motor control, and blood serum biomarkers in collegiate athletes”

Eastern Athletic Trainer’s Association Supported Research Grant Program

**Role:** Principal Investigator

08/15/16 – 1/31/18

**Purpose:** To determine the strength of association between post-concussion measures of function and recovery time.

“Implementation of a sports injury prevention program to reduce subsequent injuries after concussion: a pilot randomized control study”

Children's Hospital Colorado Research Institute Pilot Award

**Role:** PI/PD

01/01/2019 – 12/31/2021

**Purpose:** To generate pilot data evaluating the efficacy of a prophylactic sports injury prevention program aimed to reduce musculoskeletal injury risk after athletes return to play following a sport-related concussion.

“Sex Differences in Brain Structure and Function After Sports-Related Concussion”

NIH NINDS R01 (R01NS100952)

**Role:** Site PI (PI: Inga Koerte, MD, PhD)

08/01/2017 – 07/31/2022

**Purpose:** To prospectively assess how sex differentially affects concussion severity and subsequent recovery on measures of brain structure and function.

“A multifaceted and interdisciplinary approach to improving pediatric concussion outcomes”

Tai Foundation

**Role:** PI/PD

11/01/2020 – 10/31/2022

**Purpose:** To examine brain neurochemistry among adolescents with a concussion, to discover clinical correlates underlying altered neurochemical profiles after concussion, and to monitor long-term outcomes.

“Understanding How Sleep Health Affects Recovery from Adolescent Concussion”

CCTSI Child and Maternal Health Junior Faculty Pilot Grant Award (CMH-J-22-18)

**Role:** PI

05/01/2022 – 04/30/2023

**Purpose:** To examine subjective and objective sleep health measures longitudinally post-concussion, relative to uninjured controls, and to evaluate the relationship between post-concussion sleep health with Persistent Post Concussion Symptoms (PPCS) and symptom severity.

### **Refereed Abstracts/Presentations**

#### **Presenter**

1. **Howell DR;** Mayr U; Koester M; van Donkelaar P; Osternig LR; Chou L-S. Evaluation of the orientation and executive function of attention and gait disturbances in concussed high school athletes. *2011 University of Oregon Graduate Student Research Forum*. Eugene, OR. February 11, 2011. Poster presentation.
2. **Howell DR;** Koester M; Hahn M; van Donkelaar P; Osternig L; Chou LS. Evaluation of neuropsychological and attentional disturbances in concussed high school athletes. *Northwest Biomechanics Symposium*. Vancouver, BC. June 4, 2011. Podium presentation.
3. **Howell DR;** Osternig L; Chou LS. Concussion recovery assessment utilizing dual-task walking and computerized cognitive tests in high school athletes. *Northwest Biomechanics Symposium*. Eugene, OR. May 18, 2012. Podium presentation.
4. **Howell DR;** Osternig LR; van Donkelaar P, Chou L-S. Evaluation of neuropsychological and gait disturbances following concussion in high school athletes.

- National Athletic Trainers Association Annual Meeting – Free Communications*. St. Louis, MO. June 28, 2012. Poster presentation.
5. **Howell DR**; Osternig LR; Chou L-S. Dual-task walking and computerized cognitive tests in assessing concussed high school athletes. *American Society of Biomechanics Annual Meeting*. Gainesville, FL. August 16, 2012. Poster presentation.
  6. **Howell DR**; Osternig L; Chou LS. Gait balance control recovery during dual-task walking in adolescents following concussion. *Northwest Biomechanics Symposium*. Moscow, ID. June 1, 2013. Podium presentation- 2<sup>nd</sup> place: Student Paper Competition.
  7. **Howell DR**; Osternig LR; Chou L-S. Complexity of cognitive task affects gait balance control in adolescents recovering from concussion. *31st Conference of the International Society of Biomechanics in Sport*. Taipei, Taiwan. July 8, 2013. Oral presentation.
  8. **Howell DR**; Osternig LR; Chou L-S. Dual-task effect on gait balance control in adolescents with concussion. *24<sup>th</sup> Congress of the International Society of Biomechanics*. Natal, Brazil. August 7, 2013. Oral presentation.
  9. **Howell DR**; Osternig LR; Christie AD; Chou L-S. Dynamic balance control recovery from mild traumatic brain injury in adolescents and young adults. *43<sup>rd</sup> Annual meeting of the Society for Neuroscience*. San Diego, CA, USA. November 13, 2013. Poster presentation.
  10. **Howell DR**; Osternig LR; Chou L-S. Return to physical activity following concussion affects recovery in balance control during dual-task walking. *The International Brain Injury Association's Tenth World Congress on Brain Injury*. San Francisco, CA, USA. March 20, 2014. Poster presentation.
  11. **Howell DR**; Osternig LR; Chou L-S. Dual-task gait balance control assessment with an accelerometer following concussion. *Northwest Biomechanics Symposium*. Salem, OR. May 17, 2014. Podium Presentation.
  12. **Howell DR**; Osternig LR; Chou L-S. Differences in gait balance control recovery from concussion between adolescents and young adults. *2014 International Society for Posture & Gait Research World Congress*. Vancouver, BC, Canada. July 3, 2014. Podium Presentation.
  13. **Howell DR**; Osternig LR; Chou L-S. Concussion affects dual-task gait balance control differently between adolescents and young adults. *7<sup>th</sup> World Congress of Biomechanics*. Boston, MA. July 8, 2014. Poster Presentation.
  14. **Howell DR**; Osternig LR; Chou L-S. Return to physical activity following concussion affects recovery in frontal plane balance control during dual-task walking. *7<sup>th</sup> World Congress of Biomechanics*. Boston, MA. July 8, 2014. Podium Presentation.  
**Award Winner- PhD Student Competition, Human Locomotion Category.**
  15. **Howell DR**; Osternig LR; Chou L-S; Meehan III WP. A prospective examination of dual-task gait balance control following concussion using an accelerometer. *Dr. M. Judah Folkman Research Day Surgical Grand Rounds, Boston Children's Hospital*. Boston, MA. May 13, 2015. Podium Presentation.
  16. **Howell DR**; Osternig LR; Chou L-S. Return to activity timing is associated with dual-task gait stability two months after concussion. *American College of Sports Medicine 62<sup>nd</sup> Annual Meeting*. San Diego, CA. May 29, 2015. Podium Presentation.
  17. **Howell DR**, O'Brien MJ, Raghuram A, Meehan III WP. Adolescents with convergence insufficiency after concussion exhibit gait stability deficits. *American College of Sports Medicine 63<sup>rd</sup> Annual Meeting*. Boston, MA. June 3, 2016. Podium Presentation.

18. **Howell DR**, O'Brien MJ, Raghuram A, Meehan III WP. Adolescents with convergence insufficiency demonstrate dual-task gait stability deficits following concussion. *National Athletic Trainers Association Annual Meeting – Free Communications*. Baltimore, MD. June 23, 2016. Podium Presentation.
19. **Howell DR**, O'Brien MJ, Raghuram A, Meehan III WP. Receded near point of convergence and gait are associated after concussion. *5th International Consensus Conference on Concussion in Sport*. Berlin, Germany. October 28, 2016.
20. **Howell DR**, Osternig LR, Chou LS. Single-task and dual-task Tandem Gait Test performance after concussion. *5th International Consensus Conference on Concussion in Sport*. Berlin, Germany. October 28, 2016.
21. **Howell DR**, Beasley MA, Vopat L, Meehan III WP. The effect of prior concussion history on dual-task gait following a concussion. *5th International Consensus Conference on Concussion in Sport*. Berlin, Germany. October 29, 2016.
22. **Howell DR**, Stracciolini, Geminiani, Meehan III WP. Dual-task costs during gait in female and male adolescent athletes after concussion. *Pediatric Research in Sports Medicine 4th Annual Conference*. Dallas, TX. Podium presentation. January 28, 2017.
23. **Howell DR**, Osternig LR, Chou LS. Tandem gait test performance after concussion among adolescents. *Pediatric Research in Sports Medicine 4th Annual Conference*. Dallas, TX. Poster presentation. January 27, 2017. **Award Winner- Best Scientific Poster Award**.
24. **Howell DR**, Meehan WP III. Dual-task gait deficits and acute injury in the year after concussion. *American Academy of Neurology 2017 Annual Conference*. Boston, MA. Poster presentation. April 28, 2017.
25. **Howell DR**, Meehan WP III, Loosemore ML, Cumiskey J, von Rosenberg JPG, McDonagh D. Investigating the acute effects of Olympic style boxing among females *American College of Sports Medicine 64th Annual Meeting*. Denver, CO. Poster presentation. June 2, 2017.
26. **Howell DR**, Myer GD, Brilliant A, Meehan III WP. Longitudinal multimodal assessment to quantify concussion recovery trajectory among youth athletes. *Pediatric Research in Sports Medicine 5th Annual Conference*. January 27, 2018. Fort Lauderdale, FL. Podium presentation.
27. **Howell DR**, Myer GD, Brilliant AN, Barber Foss K, Meehan III WP. Longitudinal multimodal assessment to quantify concussion recovery trajectory among youth athletes. *American College of Sports Medicine 65th Annual Meeting*. May 30, 2018. Minneapolis, MN. Thematic poster presentation.
28. **Howell DR**, Buckley TA, Lynall RC, Meehan III WP. Worsening Dual-Task Gait Costs after Concussion and their Association with Subsequent Sport-Related Injury. *2018 NATA Clinical Symposia & AT Expo*. June 28, 2018. New Orleans, LA. Oral presentation.
29. **Howell DR**, Brilliant AN, Meehan III WP. Gait asymmetry after concussion during single-task and dual-task walking. *2018 World Congress of Biomechanics*. July 11, 2018. Dublin, Ireland. Oral presentation.
30. **Howell DR**, Potter MN, Kirkwood MW, Wilson PE, Provance A, Wilson J. Clinical predictors of symptom resolution for children and adolescents with sport-related concussion. *Pediatric Research in Sports Medicine 6th Annual Conference*. January 17-



19, 2019. Atlanta, GA. Podium presentation. **Award Winner: Hank Chambers Award-Best Scientific Paper**

31. **Howell DR**, Lugade V, Potter MN, Walker G, Wilson JC. A multifaceted and clinically viable paradigm to quantify postural control impairments among adolescents with concussion. *University of Colorado's Inaugural Orthopedic Research Symposium*. May 8, 2019. Aurora, CO. Podium Presentation.
32. **Howell DR**, Oldham JR, Lanois C, Koerte I, Lin AP, Meehan III WP. Female athletes demonstrate faster dual-task gait recovery than male athletes after concussion. XXVII Congress of the International Society of Biomechanics and 43rd Annual Meeting of the American Society of Biomechanics. August 1-3, 2019. Calgary, Alberta, Canada. Poster Presentation. **Clinical Biomechanics Award Finalist**.
33. **Howell DR**, Fazekas M, Grady M, Halstead M, Master CL, Valovich McLeod TC, Miller SM, Snedden TR, Zaslow T, Wilson JC. Quality-of-life outcomes and academic concerns following pediatric concussion: initial findings from the PRISM concussion RIG. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Podium presentation.
34. **Howell DR**, Laker S, Kirkwood MW, Wilson JC. Contact and collision sports participation during adolescence is associated with reduced anxiety and depressive symptoms. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Podium presentation.
35. **Howell DR**, Bonnette S, Diekfuss JA, Grooms DR, Myer GD, Wilson JC, Meehan III WP. Dual-task gait adaptability after clinical concussion recovery and subsequent injury: An exploratory investigation. *University of Colorado Virtual 2nd Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. November 11, 2020. Podium presentation (virtual).
36. **Howell DR**, Hunt D, Aaron SE, Meehan III WP, Tan CO. Aerobic exercise volume, not prescription, influences post-concussion symptoms: a randomized clinical trial. *Pediatric Research in Sports Medicine 8th Annual Meeting*. January 27-30, 2021. Virtual poster presentation.
37. **Howell DR**, Seehusen CN, Carry PM, Walker GA, Reinking S, Wilson JC. An 8-Week Neuromuscular Training Program After Concussion Reduces One-Year Subsequent Injury Risk: A Randomized Clinical Trial. *Pediatric Research in Sports Medicine Society 9th Annual Meeting*. January 28, 2022. Podium presentation.
38. **Howell DR**, Smulligan KL, Wingerson MJ, Little CC, Wilson JC. Post-Concussion Subsequent Injury Prediction: The Role of Reaction Time as a Clinically Viable Prognostic Indicator. *6th International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
39. **Howell DR**, Wingerson MJ, Smulligan KL, Little CC, Simon S, Wilson JC. Adolescents With Concussion Who Exercise More Than 150 Minutes/Week Demonstrate Sleep Quality Improvements. *6th International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
40. **Howell DR**, Smulligan KL, Wingerson MJ, Little CC, Wilson JC. Slower Simple Reaction Time After Post-Concussion Return-To-Play Predicts Higher Risk of Subsequent Injury. *Pediatric Research in Sports Medicine (PRISM) 10th Annual Meeting*. Denver, CO. February 2-4, 2023. Poster Presentation.

### Senior author/primary mentor

1. Berkner JN, Meehan III WP, Master CL, **Howell DR**. Gait and Quiet Stance Performance After Concussion Symptom Resolution Among Adolescents. *University of New England College of Osteopathic Medicine Research Symposium*. Biddeford, ME. Poster Presentation. May 18, 2017.
2. Whited AJ, Dawkins CI, Sugimoto D, **Howell DR**. Kinematic Predictors of Ball Velocity and Elbow Varus Torque in Adolescent Baseball Pitchers. *American College of Sports Medicine 64th Annual Meeting*. Denver, CO. Poster presentation. June 1, 2017.
3. Brilliant A, Storey EP, Master CL, Meehan III WP, **Howell DR**. The effect of sex on visual symptoms and quantitative eye movement after concussion. *Boston Children's Hospital Female Athlete Conference*. Waltham, MA. Poster presentation. June 9, 2017.
4. Brilliant AN, Meehan III WP, **Howell DR**. Static and dynamic cognitive task performance in youth and collegiate athletes with concussion. *2017 NEACSM Annual Fall Conference*. Providence, RI. October 19, 2017. Podium presentation.
5. Brilliant AN, Meehan III WP, **Howell DR**. Static and dynamic cognitive task performance in youth and collegiate athletes with concussion. *American College of Sports Medicine 65th Annual Meeting*. May 30, 2018. Minneapolis, MN. Thematic poster presentation.
6. Wilson J, Potter MN, Kirkwood MW, Wilson PE, Provance A, **Howell DR**. The association between early exercise and clinical characteristics following pediatric sport-related concussion. *Pediatric Research in Sports Medicine 6th Annual Conference*. January 17-19, 2019. Atlanta, GA. Poster presentation. **Award Winner: Most Tweeted Poster- PRISM Conference 2019**.
7. Wilson JC, Potter MN, Kirkwood MW, Wilson PE, Provance AJ, **Howell DR**. Sleep and Concussion. *2019 AMSSM Annual Meeting*. April 15, 2019. Houston, TX. Oral poster presentation.
8. Oldham JR, Wang F, Berkstresser B, Lanois CJ, Meehan III WP, **Howell DR**. Male Sex Predicts Higher Depression Scores Among Healthy Collegiate Athletes. *16th Annual Sport-Related Concussion Conferences: Focus on the Female Athletes*. May 9, 2019. Boston, MA, USA. Poster Presentation.
9. Oldham JR, Wang F, Berkstresser B, Lanois CJ, Meehan III WP, **Howell DR**. Male Sex Predicts Higher Depression Scores Among Healthy Collegiate Athletes. *American Academy of Neurology Sports Concussion Conference*. July 26-28, 2019. Indianapolis, Indiana. Poster presentation.
10. Lanois CJ, Wang F, Berkstresser B, Oldham JR, Meehan III WP, **Howell DR**. Acute post-concussion anxiety and depression scores are not associated with duration of concussion symptoms among collegiate athletes. *American Academy of Neurology Sports Concussion Conference*. July 26-28, 2019. Indianapolis, Indiana. Poster presentation.
11. Lanois CJ, Wang F, Berkstresser B, Oldham JR, Meehan III WP, **Howell DR**. No differences in HADS scores between acutely concussed and healthy collegiate student-athletes. *American Academy of Neurology Sports Concussion Conference*. July 26-28, 2019. Indianapolis, Indiana. Poster presentation.
12. Oldham JR, Meehan III WP, **Howell DR**. Impaired eye tracking is associated with symptoms but not dynamic postural control in adolescents following concussion. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Podium presentation.

13. Wilson JC, Kirkwood MW, Provance AJ, Walker GA, Wilson PE, **Howell DR.** Adolescents report sleep quality impairments acutely post-concussion. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation .
14. Sweeney EA, Wilson JC, Potter MN, Dahab K, Denay KL, **Howell DR.** Symptom profiles and balance control after concussion among female youth artistic athletes. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation.
15. Sweeney EA, Potter MN, Pimentel RE, Carollo JJ, **Howell DR.** Spinal range of motion and back pain in female artistic gymnasts during back walkovers and back handsprings. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Podium presentation.
16. Armento A, VanBaak K, Sweeney EA, Wilson JC, **Howell DR.** Presence and Perceptions of Menstrual Dysfunction Among High School Female Athletes. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation.
17. Walker GA, Armento A, Dahab KS, Provance AJ, Wilson JC, **Howell DR.** Family Affluence Relationship to Sports Specialization in Youth Athletes. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation.
18. Gray M, Wilson JC, Potter MN, Provance AJ, **Howell DR.** Females exhibit greater balance, vestibular and oculomotor dysfunction than males following pediatric concussion. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Poster presentation.
19. Reinking SE, Flynn KA, Gagliardi AG, Halligan CJ, Randall MN, Kanai S, Albright JC, **Howell DR.** The Effect of Age and Concomitant Surgery on Strength in Adolescent Athletes Post-Quadriceps Tendon ACL-Reconstruction. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Poster presentation.
20. Altenburger AR, Schein LV, Reinking SE, Provance AJ, Walker GA, **Howell DR.** Effects of sports specialization on performance of functional tasks in adolescent athletes. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Poster presentation.
21. Bonke EM, Southard J, Buckley TA, Reinsberger C, Koerte IK, **Howell DR.** The Effects of Repetitive Head Impacts on Postural Control: A Systematic Review. <interact> international scientific conference. Munich, Germany. February 28, 2020. Poster presentation.
22. Provance AJ, Walker GA, Dahab K, Potter MN, **Howell DR.** Athlete burnout is associated with perceived likelihood of future injury among healthy adolescent athletes. POSNA 2020 Annual Meeting. May 15, 2020. San Diego, CA. Podium presentation. Presented virtually.
23. May O, Armento A, Dahab K, Provance AJ, Seehusen C, **Howell DR.** Psychosocial Characteristics of High-School Endurance Athletes Compared to Team Sport Athletes. *2020 National Athletic Trainers' Association Annual Meeting and Clinical Symposium*. June 2020. Atlanta, GA. Podium presentation. Presented virtually.

24. Wilson JC, Brenner LA, Khodae M, Provance AJ, Spittler J, **Howell DR.** History Of Concussion Does Not Influence Sleep Quality In Adolescent Athletes. *2020 AMSSM Annual Meeting.* April 2020. Oral poster presentation. Presented virtually.
25. Armento A, VanBaak K, Seehusen C, **Howell DR.** Comparison of training and health characteristics between ultramarathoners and half-marathon/10K runners in a Colorado trail race series. *2020 AMSSM Annual Meeting.* April 2020. Oral poster presentation. Presented virtually.
26. Sweeney EA, Wilson JC, Daoud AK, Potter MN, Seehusen CN, **Howell DR.** Brace Use in Barefoot Athletes with Sever's Disease. *2020 AMSSM Annual Meeting.* April 2020. Oral poster presentation. Presented virtually.
27. Seehusen CN, Wilson JC, Walker GA, Reinking SE, **Howell DR.** Quantifying physical activity after concussion: The relationship between sleep quality, symptoms, and steps. *2020 American College of Sports Medicine Annual Meeting.* Poster Presentation. Presented virtually.
28. Wingerson MJ, Seehusen CN, Walker GA, Wilson JC, **Howell DR.** Clinical feasibility and utility of a dual-task tandem gait protocol for pediatric concussion management. *University of Colorado Virtual 2nd Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship.* November 11, 2020. Podium presentation (virtual). **Mack Clayton Trainee Award Winner.**
29. Seehusen CN, Wilson JC, Walker GA, Reinking SE, **Howell DR.** More physical activity post-concussion is associated with faster return to play in adolescents. *University of Colorado Virtual 2nd Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship.* November 11, 2020. Poster presentation (virtual).
30. Wilson JC, Seehusen CN, Simon SL, **Howell DR.** Changes in subjective and objective sleep measures during recovery in pediatric concussion. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual podium presentation.
31. Seehusen CN, Wilson JC, Walker GA, Reinking SE, **Howell DR.** Less physical activity after concussion is associated with prolonged clinical recovery among adolescents. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual podium presentation.
32. Walker GA, Wilson JC, Seehusen CN, Provance AJ, **Howell DR.** Is near point of convergence associated with symptom profiles or recovery in adolescents after concussion? *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual podium presentation.
33. Reinking SE, Seehusen CN, Walker GA, Wilson JC, **Howell DR.** Anxiety, fear, and movement following sports-related concussion: how does kinesiophobia correlate to symptoms and reaction time? *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual podium presentation.
34. Hunt DL, Oldham JR, Aaron SE, Tan CO, Meehan III WP, **Howell DR.** Dizziness, psychosocial function, and gait assessment following sport-related concussion. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual podium presentation.
35. Wingerson MJ, Baugh CB, Provance AJ, Armento A, Walker GA, **Howell DR.** Differences in quality of life, sleep, and physical activity in adolescent athletes before and during COVID-19. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting.* January 27-30, 2021. Virtual poster presentation.

36. Wingerson MJ, Wilson JC, Seehusen CN, Walker GA, **Howell DR**. Determinants of immediate and delayed recall performance following pediatric concussion. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting*. January 27-30, 2021. Virtual poster presentation.
37. Magliato SN, Seehusen CN, Wingerson MJ, Smulligan KL, Wilson JC, **Howell DR**. Post-Concussion Sleep Problems Associated with Worse Balance among Youth Athletes. *Rocky Mountain American Society of Biomechanics, Annual Meeting*. April 2, 2021. Virtual podium presentation.
38. Smulligan KL, Wilson JC, Seehusen CN, Wingerson M, Magliato SN, **Howell DR**. Post-Concussion Dizziness is Associated with Impaired Postural Stability. *Rocky Mountain American Society of Biomechanics, Annual Meeting*. April 2, 2021. Virtual podium presentation.
39. Wilson JC, Seehusen CN, Smulligan K, Wingerson M, **Howell DR**. Sleep quality and functional outcomes during pediatric concussion recovery. *AMSSM 2021 Annual Meeting*. April 16, 2021. Virtual podium presentation.
40. Sidhar K, Baugh CM, Wilson JC, Spittler J, Walker GA, Armento A, **Howell DR**. Lower Family Affluence Among Adolescent Athletes is Associated With a History of Concussion: A Cross Sectional Study. *AMSSM 2021 Annual Meeting*. April 16, 2021. Virtual podium presentation.
41. Magliato S, Seehusen CN, Wingerson MJ, Smulligan KL, Wilson JC, **Howell DR**. Self-reported Sleep Problems After Concussion are Associated with Poor Balance and Risk of Prolonged Recovery. *16th International Symposium of 3D-Analysis of Human Movement*. May 24-28, 2021. Virtual podium presentation.
42. Smulligan KL, Wilson JC, Seehusen CN, Wingerson MJ, Magliato S, **Howell DR**. Patient perception of dizziness and imbalance does not correlate with gait measures in adolescent athletes acutely post-concussion. *16th International Symposium of 3D-Analysis of Human Movement*. May 24-28, 2021. Virtual podium presentation.
43. Seehusen CN, Wingerson MJ, Smulligan KL, Magliato S, Wilson JC, **Howell DR**. Effect of an 8-Week Neuromuscular Training Program on Postural Stability Following Concussion: A Randomized Clinical Trial. *16th International Symposium of 3D-Analysis of Human Movement*. May 24-28, 2021. Virtual podium presentation.
44. Smulligan KL, Wilson JC, Seehusen CN, Wingerson MJ, Magliato SN, **Howell DR**. Post-Concussion Dizziness, Sleep Quality, and Postural Stability in Young Athletes. *American College of Sports Medicine*. June 1-5, 2021. Virtual poster presentation.
45. Smulligan KL, Wingerson MJ, Seehusen CN, Wilson JC, **Howell DR**. Examining Initial Post-Concussion Dizziness and Postural Stability as Potential Recovery Predictors. *American Academy of Neurology Sports Concussion Conference*. July 30-31, 2021. Virtual Poster Presentation.
46. Smulligan KL, Seehusen CN, Wingerson MJ, Smith AC, Walker GA, Wilson JC, **Howell DR**. Dizziness is Associated with Neck and Shoulder Pain in Pediatric Concussion. *University of Colorado 3rd Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. November 10, 2021. Aurora, CO. Poster Presentation.
47. Wingerson MJ, Seehusen CN, Wilson JC, Smulligan KL, Lynall RC, Lugade V, **Howell DR**. Smartphone measured single- and dual-task gait evaluation in adolescent's post-

- concussion: A longitudinal comparison to healthy controls. *University of Colorado 3<sup>rd</sup> Annual Orthopedic Research Symposium & D'Ambrosia Diversity Lectureship*. November 10, 2021. Aurora, CO. Poster presentation.
48. Smulligan KL, Wingerson MJ, Seehusen CN, Wilson JC, **Howell DR**. Post-Concussion Dizziness Severity Predicts Daily Step Count During Recovery Among Adolescent Athletes. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
  49. Magliato SN, Seehusen CN, Wingerson MJ, Smulligan KL, Wilson JC, **Howell DR**. Sleep Problems Following Concussion Are Associated With Worse Balance And More Severe Symptoms In Youth Athletes. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
  50. Halstead M, Snedden T, Valovich McLeod T, Wilson JC, Master CL, Grady M, Fazekas M, Santana J, Zaslow T, Miller S, **Howell DR**. Higher Student Confidence In Their Schools' Academic Support Associated With Lower Adverse Academic Concern Following Concussion. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
  51. Valovich McLeod T, Snedden T, Halstead M, Wilson JC, Master CL, Grady M, Fazekas M, Santana J, Zaslow T, Miller S, **Howell DR**. Self-Reported Amnesia Following Concussion Predicts Greater Deficits In Quality Of Life Domains Among Adolescent Athletes. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
  52. Miller S, Zaslow T, Wilson JC, Master CL, Valovich McLeod T, Snedden T, Halstead M, Grady M, Fazekas M, Santana J, **Howell DR**. Findings From The Prism Concussion Rig: Does The 5p Risk Score Predict Persistent Postconcussive Symptoms In A Multi-Center Sample Of Youth Athletes? Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
  53. Wingerson MJ, Seehusen CN, Wilson JC, Smulligan KL, Lynall RC, Lugade V, **Howell DR**. Smartphone Measured Single- And Dual-Task Gait Evaluation In Adolescents Post-Concussion: A Longitudinal Comparison To Healthy Controls. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Poster Presentation. Top Poster Finalist.
  54. Wingerson MJ, Seehusen CN, Wilson JC, Smulligan KL, Reinking S, Magliato SN, **Howell DR**. Diagnostic And Predictive Ability Of Reaction Time Assessments For Adolescent Concussion . Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Poster Presentation.
  55. Walker GA, Seehusen CN, Armento A, Provance AJ, **Howell DR**. Sports And Physical Activity Attenuate The Emotional Toll Of The Covid-19 Pandemic. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Poster Presentation.
  56. Snedden T, Valovich McLeod T, Halstead M, Wilson JC, Master CL, Grady M, Fazekas M, Santana J, Zaslow T, Miller S, **Howell DR**. Comparing Academic Challenges And

- Quality Of Life In Concussed Adolescents Prior To And During The Covid-19 Pandemic. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Poster Presentation.
57. Passalugo S, Lanois C, Meehan III WP, **Howell DR**. Burnout in team sport athletes vs. individual sport athletes. Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Poster Presentation.
  58. Smulligan KL, Wingerson MJ, Seehusen CN, Wilson JC, **Howell DR**. Physical activity predicts kinesiphobia at return to play for adolescent athletes with persistent post-concussion symptoms. American Physical Therapy Association (APTA) Combined Sections Meeting. February 2-5, 2022. Podium Presentation.
  59. Wilson JC, Wingerson MJ, Kirkwood MW, Grubenhoff JA, **Howell DR**. Early Aerobic Exercise for Adolescents at Moderate/High Risk for Persistent Postconcussion Symptoms: A Pilot Randomized Clinical Trial. 2022 American Medical Society for Sports Medicine Annual Meeting. April 11, 2022. Podium Presentation.
  60. Sweeney EA, Little C, Seehusen CN, Potter MN, Wilson JC, **Howell DR**. Comparison of Braces for Treatment of Sever's Disease in Barefoot Athletes. 2022 American Medical Society for Sports Medicine Annual Meeting. April 11, 2022. Podium Presentation.
  61. Smulligan KL, Wingerson MJ, Seehusen CN, Wilson JC, **Howell DR**. More Physical Activity Reduces Fear of Movement for Adolescent Athletes with Persistent Post-Concussion Symptoms. American College of Sports Medicine (ACSM) 2022 Annual Meeting & World Congress. June 1, 2022. San Diego, California. Poster Presentation.
  62. Wingerson MJ, Smulligan KL, Wilson JC, Walker GA, **Howell DR**. Sociodemographic and injury characteristics predictive of time to presentation at a specialty clinic after concussion. *American College of Sports Medicine (ACSM) 2022 Annual Meeting & World Congress*. May 31, 2022. San Diego, California. Poster Presentation.
  63. Smulligan KL, Wingerson MJ, Little CC, Wilson JC, **Howell DR**. Patient-reported outcomes do not predict time to subsequent injury after concussion return to play. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  64. Smulligan KL, Wingerson MJ, Little CC, Wilson JC, **Howell DR**. Sleep Quality, Dizziness, and Postural Stability Outcomes Following Early Post-Concussion Physical Activity. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  65. Wilson JC, Wingerson MJ, Little CC, Smulligan KL, **Howell DR**. 5P Clinical Risk Score Predicts Exercise Intensity in Adolescents Recovering from Concussion. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  66. Magliato SN, Wingerson MJ, Smulligan KL, Little CC, Seehusen CN, Lugade V, Wilson JC, **Howell DR**. Tracking post-concussion recovery using a smartphone-based motor-cognitive (dual-task) assessment among youth athletes. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  67. Magliato SN, Wingerson MJ, Smulligan KL, Little CC, Seehusen CN, Lugade V, Wilson JC, **Howell DR**. Dual-task performance changes across time following concussion are

- correlated with sleep quality changes among youth athletes. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
68. Magliato SN, Wingerson MJ, Smulligan KL, Little CC, Lugade V, Wilson JC, **Howell DR**. Virtual neuromuscular training to reduce injury risk after concussion: a randomized feasibility study in healthy adults. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  69. Wingerson MJ, Hunt DL, Wilson RC, Meehan WP, **Howell DR**. Aerobic Exercise Following Concussion in Adolescents: Differentiating Treatment Responders and Non-Responders. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  70. Wingerson MJ, Seehusen CN, Smulligan KL, Wilson JC, **Howell DR**. Combined Effect Of Sleep And Physical Activity On Symptom Duration In Adolescents With Concussion. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  71. Wingerson MJ, Rademacher JG, Smulligan KL, Little CC, Wilson JC, **Howell DR**. Higher Intensity Daily Physical Activity During Concussion Recovery is Associated with Shorter Symptom Duration. *6<sup>th</sup> International Consensus Conference on Concussion in Sport*. Amsterdam, Netherlands. October 27-28, 2022. Poster presentation.
  72. Truong D, Wingerson MJ, Seehusen CN, Smulligan KL, Magliato SM, Provance AJ, Wilson JC, **Howell DR**. Concussion Characteristics and Time to Medical Clearance Among Youth Adventure Sport Athletes. Pediatric Research in Sports Medicine (PRiSM) 10<sup>th</sup> Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  73. Zynda AJ, Valovich McLeod TC, Grady M, Halstead M, Master CL, Fazekas M, Snedden TR, Zaslow T, Wilson JC, Miller S, **Howell DR**. Symptom Resolution Following Pediatric Concussion in Athletic Training Vs. Primary Care Sports Medicine Setting: Findings from The Sport Concussion Outcomes in Pediatrics (Scope) Study. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  74. Smulligan KL, Schmitz B, Wingerson MJ, Walker GA, Wilson JC, **Howell DR**. Double Vision and Light Sensitivity Symptoms Are Associated with Return to School Timing After Pediatric Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  75. Neely LM, Smulligan KL, Wingerson MJ, Seehusen CN, Simon SL, Wilson JC, **Howell DR**. Objective Measurements of Sleep and Physical Activity Behavior Following Adolescent Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  76. Little CC, Wingerson MJ, Smulligan KL, Wilson JC, **Howell DR**. Post-Concussion Kinesiophobia in Adolescent Athletes with And Without a History of Lower Extremity Musculoskeletal Injury or Prior Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
  77. Smulligan KL, Wingerson MJ, Little CC, Wilson JC, **Howell DR**. Patient-Reported Outcomes Do Not Predict Time to Subsequent Injury After Concussion Return to Play. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.



78. Magliato SN, Wingerson MJ, Smulligan KL, Little CC, Seehusen CN, Wilson JC, **Howell DR**. Changes in Smartphone-Obtained Dual-Task Gait and Correlation With Sleep Quality In Adolescents Recovering
79. From Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
80. Wingerson MJ, Hunt DL, Wilson RC, Meehan WP, **Howell DR**. Differentiating Treatment Responders from Non-Responders After Aerobic Exercise Intervention in Adolescents with Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
81. Wingerson MJ, Seehusen CN, Smulligan KL, Wilson JC, **Howell DR**. Symptom Resolution Among Adolescents Reporting Both Sleep and Exercise After Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
82. Barnes A, Smulligan KL, Wingerson MJ, Little CC, Lugade V, Wilson JC, **Howell DR**. A Multifaceted Approach to Measuring Reaction Time Deficits After Adolescent Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
83. Rademacher JG, Wingerson MJ, Smulligan KL, Little CC, Wilson JC, **Howell DR**. Moderate to Vigorous Physical Activity Is Associated with Symptom Resolution in Adolescents with Concussion. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
84. Wingerson MJ, Schmitz B, Smulligan KL, Walker GA, Little CC, Wilson JC, **Howell DR**. Exercise, Symptom Severity, And Return-To-Play Time Among Pediatric Athletes: Comparing Concussions Sustained During Academic and Summer Months. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
85. Smulligan KL, Wingerson MJ, Magliato SN, Little CC, Wilson JC, **Howell DR**. Assessing Vestibular, Oculomotor, and Cervical Spine Impairments As Predictors of Post-Concussion Gait Speed. American Physical Therapy Association (APTA) Combined Sections Meeting. February 23-25, 2023. San Diego, CA. Podium presentation.
86. Barnes A, Smulligan KL, Wingerson MJ, Little CC, Lugade V, Wilson JC, **Howell DR**. A Multifaceted Approach to Measuring Reaction Time Deficits After Adolescent Concussion. American Physical Therapy Association (APTA) Combined Sections Meeting. February 23-25, 2023. San Diego, CA. Podium presentation.
87. Carry PM, Keeter C, **Howell DR**. When 1 + 1 Does Not Equal 2: Special Considerations Are Required For Inclusion Of Patients With Bilateral Conditions In Orthopedic Research Studies. Orthopedic Research Society 2023 Annual Meeting. February 10-14, 2023. Dallas, TX. Podium Presentation.

#### **Co-Author**

1. Kado M; **Howell DR**; Osternig L; Chou LS. Gait performance while performing cognitive tasks continuously in concussed high school athletes. *Northwest Biomechanics Symposium*. Eugene, OR. May 17, 2012. Poster presentation.

2. Becker J; **Howell DR**; Chou L-S. A comparison of two techniques for large volume calibration. *31st Conference of the International Society of Biomechanics in Sport*. Taipei, Taiwan. July 9, 2013. Poster presentation.
3. Yasen AL; Miller N; Maynard LF; **Howell DR**; Baumann H; Christie AD. Acute and longitudinal effects of concussion on excitability and inhibition of the motor cortex. *43rd Annual meeting of the Society for Neuroscience*. San Diego, CA, USA. November 13, 2013. Poster presentation.
4. Peterson Q; **Howell DR**; Osternig LR; Chou L-S. Longitudinal effect of concussion on gait balance control, one-year follow up: a pilot study. *Northwest Biomechanics Symposium*. Salem, OR. May 16, 2014. Poster Presentation.
5. Yasen AL; Miller NR; **Howell DR**; Maynard LF; Christie AD. Movement speed and motor cortex inhibition following concussion. *American College of Sports Medicine 61st Annual Meeting*. Orlando, FL. May 28, 2014. Podium Presentation.
6. Chou LS; **Howell DR**; Osternig LR. Tracking recovery of gait balance control following concussion using an accelerometer. *Gait and Clinical Movement Analysis Society 2015 Annual Conference*. Portland, OR. March 19, 2015. Poster Presentation.
7. Peterson QA, Klas R, **Howell DR**, Chou L-S. Effect of sex on recovery of gait balance control following concussion. *39th Annual Meeting of the American Society of Biomechanics*. Columbus, OH. August 5-8, 2015. Poster Presentation.
8. Jackson SS, Sugimoto D, **Howell DR**, Meehan WP, Stracciolini A. Effects of sports specialization on the rates of IT band syndrome. *Pediatric Research in Sports Medicine 3rd Annual Meeting*. San Diego, CA. January 29, 2016. E-Poster Presentation.
9. Jackson SS, Sugimoto D, **Howell DR**, Meehan WP, Stracciolini A. Effects of sports specialization on the rates of IT band syndrome. *2016 American Medical Society for Sports Medicine 25th Annual Meeting*. Dallas, TX. April 15, 2016. Podium Presentation.
10. Jackson SS, Sugimoto D, **Howell DR**, Meehan WP, Stracciolini A. Effects of sports specialization on the rates of IT band syndrome. *American College of Sports Medicine 63rd Annual Meeting*. Boston, MA. June 2, 2016. Poster Presentation and Clinical Reception.
11. Hanson E, **Howell DR**, Sugimoto D, Stracciolini AS, Meehan III WP. Female athletes demonstrate better postural stability than male athletes. *American College of Sports Medicine 63rd Annual Meeting*. Boston, MA. June 1, 2016. Poster Presentation.
12. Pepin M, **Howell DR**, Meehan III WP. The effect of over-the-counter medication on symptom severity following sport-related concussion. *American College of Sports Medicine 63rd Annual Meeting*. Boston, MA. June 2, 2016. Poster Presentation.
13. Brown L, Hall E, Ketcham C, Patel K, Buckley TA, **Howell DR**, Vallabhajosula S. Effect of dual-task on turning characteristics while walking among collegiate athletes. *American College of Sports Medicine 63rd Annual Meeting*. Boston, MA. June 2, 2016. Poster Presentation.
14. O'Brien MJ, Pepin M, **Howell DR**, Meehan III WP. Exercise induced recurrence of concussion symptoms after symptom free status. *5th International Consensus Conference on Concussion in Sport*. Berlin, Germany. October 29, 2016.
15. Shah A, Raghuram A, Brodsky J, **Howell DR**. Concussion: A multi-disciplinary approach to assessment and management in the adolescent population. *2016 American Academy of Optometry Meeting*. Anaheim, CA. November 11, 2016.

16. Stracciolini A, Mannix R, Eisenberg K, **Howell DR**, Meehan WP III. Health and well-being outcomes among former female collegiate athletes since the enactment of Title IX. *Pediatric Research in Sports Medicine 4<sup>th</sup> Annual Conference*. Dallas, TX. Poster presentation. January 27, 2017.
17. Brilliant A, **Howell DR**, Meehan WP III. Dual-task gait abnormalities after sport-related concussion and their association with prolonged symptom duration. *American Academy of Neurology 2017 Annual Conference*. Boston, MA. Poster presentation. April 28, 2017.
18. Gardner AJ, Lee HJ, **Howell DR**, Iverson GL. Effects of Exercise on SCAT-3 Performance in Professional Male Athletes. *American Academy of Neurology 2017 Annual Conference*. Boston, MA. Poster presentation. April 28, 2017.
19. Gardner AJ, Chung Pin Yong JP, **Howell DR**, Lee HJ, Iverson GL. Effects of Exercise on SCAT-3 Performance in Amateur Female Athletes. *American Academy of Neurology 2017 Annual Conference*. Boston, MA. Poster presentation. April 28, 2017.
20. Paquin H, **Howell DR**, Meehan WP III. Lower neck strength among youth soccer players is associated with an increased prevalence of concussion. *American College of Sports Medicine 64<sup>th</sup> Annual Meeting*. Denver, CO. Poster presentation. June 1, 2017.
21. Hart E, **Howell DR**, Brilliant A, Meehan III WP. Gymnastics and concussion. *Pediatric Research in Sports Medicine 5<sup>th</sup> Annual Conference*. January 27, 2018. Fort Lauderdale, FL. E-poster presentation.
22. Potter M, **Howell DR**, Daoud A, Stuart E. Flexibility and Lower Back Pain in Female Adolescent Gymnasts. *American College of Sports Medicine 65<sup>th</sup> Annual Meeting*. May 30, 2018. Minneapolis, MN. Poster presentation.
23. Chou LS, **Howell DR**, Osternig LR: Detecting acute and long-term effects of concussion: dual-task gait balance control vs. computerized neurocognitive test. *2018 World Congress of Biomechanics*. July 11, 2018. Dublin, Ireland. Oral presentation.
24. Provance A, **Howell DR**, Potter MN, Meyers R. Finger stress fractures in youth elite rock climbers. *Pediatric Research in Sports Medicine 6<sup>th</sup> Annual Conference*. January 17-19, 2019. Atlanta, GA. Podium presentation.
25. Armento A, Albright JC, Skelton A, Gagliardi A, **Howell DR**, Daoud A, Mayer S. The relationship between perceived social support and psychological factors related to returning to sport in adolescents following anterior cruciate ligament reconstruction. *Pediatric Research in Sports Medicine 6<sup>th</sup> Annual Conference*. January 17-19, 2019. Atlanta, GA. Poster presentation. **Poster Award Finalist**.
26. Sweeney E, **Howell DR**, Potter MN, Gagliardi A, Albright JC, Provance A. Assessing patient outcomes following a fracture. *Pediatric Research in Sports Medicine 6<sup>th</sup> Annual Conference*. January 17-19, 2019. Atlanta, GA. Poster presentation.
27. Gagliardi A, **Howell DR**, Kanai S, Rhodes J, Tagawa A, Albright JC. Isokinetic performance and limb asymmetry differences between adolescent males and females recovering from quadriceps tendon – patellar bone autograft anterior cruciate ligament reconstruction. *Rocky Mountain American Society of Biomechanics Annual Meeting*. April 5, 2019. Estes Park, CO. Podium Presentation.
28. Potter MN, Pimentel R, **Howell DR**, Sweeney EA. Spinal biomechanics in gymnasts during back walkovers and back hand springs. *Rocky Mountain American Society of Biomechanics Annual Meeting*. April 6, 2019. Estes Park, CO. Podium Presentation.
29. Armento A, Albright JC, Skelton A, Gagliardi A, **Howell DR**, Daoud AK, Mayer S. Pre-operative competition level and expectations of returning to sport after ACL

- reconstruction in adolescents. *2019 AMSSM Annual Meeting*. April 15, 2019. Houston, TX. Oral poster presentation.
30. Sweeney EA, **Howell DR**, Potter MN, Gagliardi A, Albright JC, Provance AJ. Patient Outcomes Following Pediatric Fractures. *2019 AMSSM Annual Meeting*. April 15, 2019. Houston, TX. Oral poster presentation.
  31. Erdman NK, Jimenez J, Buckley TA, **Howell DR**, Hart JM, Resch JE. The Test-Retest Reliability of a Clinically-Relevant Dual-Task Assessment in Healthy College Students. *2019 Sport Neuropsychology Society Annual Symposium*. Seattle, WA. May 3, 2019.
  32. Potter MN, **Howell DR**, Dahab KS, Sweeney EA, Albright JC, Provance AJ. The association between sleep quality and quality of life among healthy high school athletes. *University of Colorado's Inaugural Orthopedic Research Symposium*. May 8, 2019. Aurora, CO. Poster Presentation.
  33. Armento A, Albright J, Skelton A, Gagliardi A, **Howell DR**, Daoud A, Mayer S. Pre-operative competition level and expectations of returning to sport after anterior cruciate ligament (ACL) reconstruction in adolescents. University of Colorado's Inaugural Orthopedic Research Symposium. May 8, 2019. Aurora, CO. Poster Presentation.
  34. Gagliardi A, **Howell DR**, Sanai S, Rhodes J, Albright J. Isokinetic performance and limb asymmetry differences between adolescent males and females recovering from quadriceps tendon – patellar bone autograft anterior cruciate ligament reconstruction. University of Colorado's Inaugural Orthopedic Research Symposium. May 8, 2019. Aurora, CO. Poster Presentation.
  35. Sweeney EA, Potter MN, **Howell DR**. Low Back Pain in Female Adolescent Gymnasts and Functional Pain Scales. University of Colorado's Inaugural Orthopedic Research Symposium. May 8, 2019. Aurora, CO. Poster Presentation.
  36. Potter MN, **Howell DR**, Dahab KS, Sweeney EA, Albright JC, Provance AJ. The Association Between Sleep Quality On Quality Of Life Among Healthy High School Athletes. *American College of Sports Medicine 66th Annual Meeting*. May 29, 2019. Orlando, FL. Poster presentation.
  37. Oldham JR, **Howell DR**, Bryk K, Meehan III WP, Buckley TA. No Differences in Tandem Gait Performance between Males and Females Acutely Post-Concussion. *American College of Sports Medicine 66th Annual Meeting*. May 30, 2019. Orlando, FL. Poster presentation.
  38. Patsimas T, **Howell DR**, Potter MN, Provance AJ, Kirkwood MW, Wilson JC. Patient-Parent Agreement on the Health and Behavior Inventory after Pediatric Concussion. *American College of Sports Medicine 2019 Annual Meeting*. May 30, 2019. Orlando, FL. Poster Presentation.
  39. Erdman NK, Jimenez J, **Howell DR**, Buckley TA, Resch JE. Single Versus Dual-Task Performance Using a Novel Dual-Task Assessment in a Healthy Sample. *2019 American College of Sports Medicine Annual Meeting*. May 31, 2019. Orlando, FL. Poster presentation.
  40. Armento A, Albright JC, Gagliardi A, **Howell DR**, Mayer S. Psychological Factors Related to Return to Sport After ACL Reconstruction in Adolescents. *2019 American College of Sports Medicine Annual Meeting*. May 31, 2019. Orlando, FL. Fellows poster presentation.
  41. Erdman NK, Jimenez J, **Howell DR**, Buckley TA, Resch JE. Motor Performance During Single and Dual-Task Administration of a Novel Dual-Task Assessment for Sport

- Concussion. *2019 National Athletic Trainers' Association Annual Meeting and Clinical Symposium*. June 25, 2019. Las Vegas, NV. Poster presentation.
42. Oldham JR, **Howell DR**, Knight CA, Crenshaw JR, Buckley TA. Collegiate athletes with a conservative gait strategy are more likely to sustain a lower extremity musculoskeletal injury following concussion. *The International Society for Posture & Gait Research World Congress 2019*. July 2, 2019. Poster presentation.
  43. Oldham JR, **Howell DR**, Bryk KN, Meehan III WP, Buckley TA. No Differences in Tandem Gait Performance between Males and Females Acutely Post-Concussion. *American Academy of Neurology Sports Concussion Conference*. July 26-28, 2019. Indianapolis, Indiana. Poster presentation.
  44. Gagliardi AG, **Howell DR**, Kanai SK, Rhodes JT, Tagawa A, Albright JC. Isokinetic performance and limb asymmetry differences between adolescent males and females following quadriceps tendon – patellar bone autograft anterior cruciate ligament reconstruction. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation.
  45. Schein LV, Altenburger AR, Halligan CJ, Gagliardi AG, **Howell DR**, Albright JC. Function and recovery timelines for adolescents following ACL reconstruction with quadriceps tendon patellar bone autograft. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. E-poster.
  46. Parikh H, Gagliardi AG, Mandler T, **Howell DR**, Albright JC. Femoral Nerve Catheter Is Associated with Persistent Strength Deficits at 6 Months Following Anterior Cruciate Ligament Reconstruction in Pediatric Patients. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Podium presentation.
  47. Reinking SE, Flynn KA, Gagliardi AG, Halligan CJ, Randall MN, Kanai S, Albright JC, **Howell DR**. The Effect of Age and Concomitant Surgery on Strength in Adolescent Athletes Post-Quadriceps Tendon ACL-Reconstruction. *Pediatric Research in Sports Medicine 7th Annual Conference*. January 23-25, 2020. Glendale, AZ. Poster presentation.
  48. Weatherford S, Baldini T, Adams D, **Howell DR**, Gagliardi A, Albright J, Payne K. Development Of A Non-invasive Anterior Cruciate Ligament Rupture Model In A Skeletally Immature Rat. *ORS 2020 Annual Meeting*. February 8-11, 2020. Phoenix, AZ. Poster presentation.
  49. Potter MN, Pimentel RE, Kilijanek K, Carollo JJ, **Howell DR**, Sweeney EA. Spinal Biomechanics and Back Pain during Back Walkovers and Back Handsprings: A Feasibility Study. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Poster presentation.
  50. Meyers R, **Howell DR**, Provance AJ. Finger Growth Plate Injuries in Elite, Adolescent Rock Climbers. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Platform presentation.
  51. Schein LV, Altenburger AR, Halligan CJ, Gagliardi AG, **Howell DR**, Albright JC. Function and recovery timelines for adolescents following ACL reconstruction with quadriceps tendon patellar bone autograft. *2020 American Physical Therapy Association Combined Sections Meeting*. February 2020. Denver, CO. Poster presentation.
  52. Weatherford SA, Baldini TH, Adams DJ, **Howell DR**, Gagliardi AG, Albright JC, Payne KA. Prevention of Post-Traumatic Osteoarthritis in a Skeletally Immature Animal Model.

- Center for Children's Surgery 2020 Symposium*. February 28, 2020. Aurora, CO. Podium presentation.
53. Gagliardi AG, Walker G, Dahab K, Seehusen C, Albright JC, **Howell DR**. Sports Participation is Associated with Fewer Self-Reported Depressive Symptoms Among Healthy High School Athletes. *Center for Children's Surgery 2020 Symposium*. February 28, 2020. Aurora, CO. Podium presentation.
  54. Gagliardi A, Quach V, Walker G, Dahab K, **Howell DR**, Albright JC. Outcomes of non-operative treatment for stable OCD lesions in adolescent patients. *POSNA 2020 Annual Meeting*. May 13-16, 2020. San Diego, CA. E-poster presentation.
  55. Stockbower K, **Howell DR**, Seehusen C, Walker GA. Sport specialization, sleep, fatigue, and psychosocial ratings: do highly specialized athletes differ from their less specialized peers? *2020 AMSSM Annual Meeting*. April 2020. Atlanta, GA. Podium presentation. Award: Highest Scoring Fellow, Resident or Student research abstract
  56. Provance AJ, Walker GA, Dahab K, Potter MN, **Howell DR**. Athlete Burnout Is Associated With Perceived Likelihood Of Future Injury Among Healthy Adolescent Athletes. *2020 AMSSM Annual Meeting*. April 2020. Podium presentation. Presented virtually.
  57. VanBaak K, **Howell DR**, Seehusen C, Armento A. Trends in bone mineral density and risk factors for bone stress injury in a cohort of collegiate distance runners. *2020 AMSSM Annual Meeting*. April 2020. Oral poster presentation. Presented virtually.
  58. Fryar, C, **Howell DR**, Seehusen CN, Tilley D, Casey E, Sweeney EA. Time loss injuries among former collegiate gymnasts: the influence of female athlete triad symptoms. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting*. January 27-30, 2021. Virtual podium presentation.
  58. Oldham JR, **Howell DR**, Lanois CJ, Berkner PD, Mannix RC, Meehan III WP. Sport type and baseline neurocognitive scores among healthy high school athletes. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting*. January 27-30, 2021. Virtual podium presentation.
  59. Sweeney EA, **Howell DR**, Seehusen CN, Tilley D, Casey E. The influence of sport specialization, concussion, and disordered eating on health outcomes among former female collegiate gymnasts. *Pediatric Research in Sports Medicine 8<sup>th</sup> Annual Meeting*. January 27-30, 2021. Virtual poster presentation.
  60. Armento A, Logterman S, Gagliardi A, Hovater W, **Howell DR**, Albright J. Grit After ACL Reconstruction: Sex Differences And Association With Knee Outcomes Among Adolescent Athletes. *Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting*. January 27-29, 2022. Poster Presentation.
  61. Sandridge B, **Howell DR**, Albright JC. Progression To Surgery In Adolescent Osteochondritis Dissecans Of The Elbow. *Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting*. January 27-29, 2022. Poster Presentation.
  62. Oldham JR **Howell DR**, Lanois CJ, Berkner PD, Mannix RC, Meehan WP. Female Collision Sport Athletes Report Higher Symptom Burden At Baseline Than Contact And Non-Contact Athletes. *Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting*. January 27-29, 2022. Poster Presentation.
  63. Chesler KC, **Howell DR**, Pierpoint L, Comstock RD, Khodae M, Provance AJ. Are Different Aged Youth Skiers And Snowboarders Experiencing Different Injury Patterns?

- Pediatric Research in Sports Medicine Society (PRiSM) 9th Annual Meeting. January 27-29, 2022. Podium Presentation.
64. Giachino CF, Rossing H, **Howell DR**, VandenBerg C, Albright JC. Time from ACL Injury to Surgery: Evaluating A Multifaceted Set of Potential Predictors. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  65. Albright JC, Giachino C, Rossing H, **Howell DR**, VandenBerg C. Comparing Safety and Physical Activity Profiles of Institutional Standard of Care Versus Arthroscopic Cautey Approaches for ACL Reconstruction. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  66. Seehusen CN, McCarthy A, **Howell DR**, VanBaak K, Armento A. The Relationship Between Macronutrient Consumption and Sleep in Adolescent Athletes. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Podium Presentation.
  67. Armento A, Keeter C, Gagliardi A, Rossing H, Giachino C, VandenBerg C, **Howell DR**, Albright JC. Increased Grit is Associated with Greater Activity Level and Lower Extremity Functioning Across Time After ACL Reconstruction in Adolescent Athletes. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
  68. Little CC, **Howell DR**, Armento A, McCarthy A, Sweeney EA. Concerns About Weight and Mental Health Among Adolescent Gymnasts: A Pilot Study. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.
  69. Sweeney EA, **Howell DR**, Reinking S, Gagliardi A, Rossing H, Giachino C, VandenBerg C, Albright JC. Evaluating Pre-Operative Physical Therapy prior to ACL Reconstruction on Pain, Function, and Quality-of-Life. Pediatric Research in Sports Medicine (PRiSM) 10th Annual Meeting. Denver, CO. February 2-4, 2023. Poster Presentation.

### Invited Presentations

1. **Howell, DR.** Mild traumatic brain injury in sport: current trends and future directions. *Northwest Athletic Trainers Association Annual Business Meeting and Symposium.* Spokane, WA. March 26, 2010.
2. **Howell, DR.** Current literature in concussion rehabilitation. *Oregon Athletic Trainers Society Symposium.* Eugene, OR. May 7, 2011.
3. **Howell, DR.** Functional recovery following sport concussion: integration of movement analysis and cognitive assessments. *2012 International Conference of Motion Capture and Applications.* Tatung University, Taipei, Taiwan. March 26, 2012.
4. **Howell, DR.** The human brain: anatomy, function, and pathology. *2013 International Conference of Motion Capture and Applications.* Tatung University, Taipei, Taiwan. July 4, 2013.
5. **Howell, DR.** Role, utilization, and limitations of post-concussion cognitive and balance tests: Implementing laboratory science in the clinic. *2015 Annual Meeting: Pediatric Research in Sports Medicine.* Weston, FL. February 20, 2015.
6. **Howell, DR.** Age-related considerations for pediatric and adolescent populations in concussion management. *Workshop on International Concussion Collaboration.* Glasgow, Scotland. June 11-13, 2015.

7. **Howell, DR.** The effects of head trauma on biological and neurologic function during a collegiate career and beyond. *Workshop on International Concussion Collaboration*. Glasgow, Scotland. June 11-13, 2015.
8. **Howell, DR.** Current concussion research and prevention strategies. *2015 Quarterly Lecture Series presented by The Micheli Center for Sports Injury Prevention and Boston Children's Hospital- Division of Sports Medicine*. Waltham, MA. August, 15, 2015.
9. **Howell, DR.** Assessment of gait stability following concussion. *PAIN Group Lecture Series*. Boston Children's Hospital. Boston, MA. September 8, 2015.
10. **Howell, DR.** Identification of balance control deficits following sport-related concussion. *University of Massachusetts-Amherst, Department of Kinesiology: Seminar Series*. Amherst, MA. October 26, 2015.
11. **Howell DR.** Investigating dual-task balance control deficits following sport-related concussion. *University of Delaware BIOMS Seminar Speaker*. Newark, DE. November 12, 2015.
12. **Howell DR.** Examining the recovery of dual-task gait stability after concussion. *Spaulding Rehabilitation Hospital Traumatic Brain Injury Workgroup Presentation*. December 18, 2015.
13. **Howell DR** and Buckley TA. Post-concussion balance deficits – are athletic trainers missing lingering impairments? The role of dual-tasks. *2016 Eastern Athletic Trainers Association Annual Meeting and Clinical Symposia*. Boston, MA. January 10, 2016.
14. Dawkins CI, Borg, D, **Howell, DR.** The Micheli Center for Sports Injury Prevention: A unique model integrating research driven injury prevention methods and clinical care for athletes. *2016 Eastern Athletic Trainers Association Annual Meeting and Clinical Symposia*. Boston, MA. January 11, 2016.
15. **Howell DR** and Master CL. Post-Concussion RTP- The role of balance tests and physical activity. *2016 Annual Meeting: Pediatric Research in Sports Medicine*. San Diego, CA. January 29, 2016.
16. **Howell DR.** Examining recovery from sport-related concussion using dual-task paradigms. *University of Utah Athletic Training Program Seminar Series*. Salt Lake City, UT. February 11, 2016.
17. **Howell DR.** The role of instrumented postural stability and gait balance control assessments in concussion management. Albany Medical Center Pediatric Grand Rounds. Albany, NY. March 16, 2016.
18. **Howell DR.** Balance control and physical activity: implications for improving concussion management. *Northwest Athletic Trainers Association Annual Meeting and Clinical Symposium*. Boise, ID. April 1, 2016.
19. **Howell DR.** The effects of concussion on gait and balance. The 13<sup>th</sup> Annual Sports Concussion, Traumatic Brain and Spine Injury Conference. Boston Children's Hospital and Harvard Medical School, Boston MA. May 20, 2016.
20. Brooks A and **Howell DR.** Post-concussion motor impairments and subsequent musculoskeletal injury risk after return to play. *2016 Big Ten-Ivy League Traumatic Brain Injury Summit*. July 13, 2016.
21. Buckley T, **Howell DR,** Lynall R, Herman D. Are We Missing Something after Concussion? Identifying Lingering Balance Control and Cognitive Deficits and their Potential Consequences. *2016 American Society of Biomechanics Annual Meeting Symposium*. Raleigh, NC. August 3, 2016.



22. **Howell DR.** Research Overview: Using Dual-Task Gait in Concussion Assessments. *Children's Hospital Colorado*. Aurora, CO. August 22, 2016.
23. **Howell DR,** Baugh CM, Buckley TA. Objectively tracking gait balance control recovery following sport-related concussion. *Precision AT Concussion Lecture and Roundtable Discussion*. Boston, MA. November 20, 2016.
24. **Howell DR.** PRISM Concussion Research Interest Group Update. *Pediatric Research in Sports Medicine 4<sup>th</sup> Annual Conference*. Dallas, TX. January 28, 2017.
25. **Howell DR.** The effects of concussion on gait and balance. 14th Annual Sport-Related Concussion & Spine Injury Conference. Boston Children's Hospital and Harvard Medical School, Boston MA. May 19, 2017.
26. Master CL, Grady MF, **Howell DR,** Leddy JJ. Minds Matter: Comprehensive Concussion Care and Rehabilitation. *2017 ACSM Annual Meeting*. Denver, CO. June 1, 2017.
27. **Howell DR.** Using Gait to Monitor Recovery from Concussion. *2017 Boston Children's Hospital Sports Medicine Research Day*. Boston, MA. June 14, 2017.
28. **Howell DR,** Lynall R, Buckley T. Risk of injury after concussion and proposed mechanisms. *National Athletic Trainers Association Annual Meeting Mini Course*. June 25, 2017. Dallas, TX.
29. **Howell DR.** The role of gait and balance in concussion evaluations. *4<sup>th</sup> Annual Advanced Care of the Young Athlete Symposium*. November 17, 2017. Aurora, CO.
30. **Howell DR.** Improving clinical concussion assessments through quantitative and non-invasive measurements. *EATA Annual Meeting Grant Lecture*. January 6, 2018. Boston, MA.
31. **Howell DR.** Research Update: PRISM Concussion RIG. *Pediatric Research in Sports Medicine 5<sup>th</sup> Annual Conference*. January 27, 2018. Fort Lauderdale, FL.
32. **Howell DR.** What are we missing in concussion evaluations? Lingering deficits and their potential consequences. *2018 Rocky Mountain Athletic Training Association Annual Clinical Symposium*. April 12, 2018. Salt Lake City, UT.
33. **Howell DR.** The association between dual-task gait deficits and subsequent sports-related injury after concussion. *2018 Children's Hospital Colorado Oorthopedics Institute Orthopedic Day*. Aurora, CO.
34. **Howell DR.** The effects of concussion on gait and balance. 15th Annual Sport-Related Concussion & Spine Injury Conference. Boston Children's Hospital and Harvard Medical School, Boston MA. May 11, 2017.
35. **Howell DR** and Lynall R. Concussion and Subsequent Musculoskeletal Injury: Incidence and Mechanisms. *American College of Sports Medicine 65th Annual Meeting*. Minneapolis, MN. May 30, 2018.
36. **Howell DR.** The effects of sport-related concussion on balance control. *Children's Hospital Colorado Musculoskeletal Research Center Summer Internship Lecture Series*. Aurora, CO. June 21, 2018.
37. **Howell DR.** The Role of Mobile Technology Within the Assessment of Concussion. *National Athletic Trainers Association Annual Meeting Special Topics Presentation*. June 28, 2018. New Orleans, LA.
38. Buckley TA, Lynall RC, **Howell DR.** Dynamic Movement Deficits after Concussion and their Potential Consequences. *European Congress of Sport Sciences Workshop*. Dublin, Ireland. July 5, 2018.

39. **Howell DR**, Lynall RC, Buckley TA, Doherty C. Dual-task, Concussion, and Sports Injuries: Connecting Mind and Movement to Better Understand Sports Injuries. *8<sup>th</sup> World Congress of Biomechanics, Special Topics Session*. Dublin, Ireland. July 11, 2018.
40. **Howell DR**. Presenting research data and writing a successful paper. *Children's Hospital Colorado Musculoskeletal Research Center Summer Internship Lecture Series*. Aurora, CO. July 16, 2018.
41. **Howell DR** and Lin AP. Functional and structural sex differences after concussion. *2018 Big Ten-Ivy League Traumatic Brain Injury Summit*. Philadelphia, PA. July 18, 2018.
42. **Howell DR**. Concussion Myths Debunked. Adams 12 Five Star Schools Concussion Night. Northglenn, CO. August 21, 2018.
43. **Howell DR**. Dual-task postural control deficits after sport concussion and their potential consequences. *PM&R Grand Rounds and Research Symposium: University of Colorado School of Medicine*. Aurora, CO. September 5, 2018.
44. **Howell DR**. The Role of Exercise in Concussion Recovery: What the Research Tells Us. *Concussion & the Classroom 2.0: A School-Focused Symposium on Mild TBI*. Aurora, CO. September 28, 2018.
45. **Howell DR**. Concussion Research at Children's Hospital Colorado. *CHCO Rehabilitation Department Community Collaboration Day*. Aurora, CO. December 4, 2018.
46. **Howell DR**. Quantification of concussion impairments using clinically viable tests. *United States Olympic Training Center Seminar Series*. Colorado Springs, CO. February 14, 2019.
47. **Howell DR**. Sport-Related Concussion: Objectively Measuring a Multifaceted Injury. *Montana State University Department of Health and Human Development Seminar*. Bozeman, MT. March 11, 2019.
48. **Howell DR**. Quantifying impairments after concussion: which measures can assist with clinical decision-making?" *2019 AMSSM Annual Meeting*. April 15, 2019. Houston, TX.
49. **Howell DR**. Translating Concussion Assessments: From the Laboratory to Clinical Implementation. New Investigator Award, Distinguished Scholars Presentation. National Athletic Trainers Association Annual Meeting. June 25, 2019. Las Vegas, NV.
50. **Howell DR**. Musculoskeletal Injury Risk After Returning to Play Post-Concussion. The University of Hawaii and Hawaii Concussion Awareness & Management Program Concussion Summit 2019. Honolulu, HI. July 12, 2019.
51. **Howell DR**. Clinical & Objective Assessments for Concussion: Dual Tasks, Tandem Gait and Beyond. (Lab and Lecture). The University of Hawaii and Hawaii Concussion Awareness & Management Program Concussion Summit 2019. Honolulu, HI. July 13, 2019.
52. Emery C, Dennison C, **Howell DR**, Siegmund G. Concussion – Mechanisms, prevention, and opportunities for technology. XXVII Congress of the International Society of Biomechanics. Calgary, AB, Canada. August 2, 2019.
53. **Howell DR**. Dual-task approaches to assist with clinical decision-making for concussion. University of Utah Motor Control and Concussion Symposium. October 16, 2019. Salt Lake City, UT.
54. Giza C, **Howell DR**, Pearson R. Sleep Working Group. International Congress of Athlete Brain Health. October 19, 2019. Park City, UT.

55. **Howell DR.** Preventing Injuries After Sport-Related Concussion: How Do We Identify Who is at Risk, and What Can be Done? The Steadman Clinic and U.S. Olympic & Paralympic National Medical Center. 4<sup>th</sup> Annual Injury Prevention Symposium. April 29, 2020. Virtual lecture.
56. **Howell DR.** Sport-related concussion: what is new in diagnosis and prognosis? 2020 AMSSM Fellows' Research & Leadership Conference. July 24, 2020. Virtual lecture.
57. **Howell DR.** Concussion and Musculoskeletal Injury: What Do We Know, and What Can Be Done? Precision Athletic Training. Concussions and Neurological and Musculoskeletal Health Live Webinar. July 29, 2020. Virtual lecture.
58. **Howell DR.** Using Dual-Task Approaches in Concussion Assessment and Treatment. Children's Hospital Colorado Sports Physical Therapy Continuing Education. September 3, 2020. Virtual lecture.
59. **Howell DR.** Using Gait Evaluations to Assess Readiness to Return to Sports after Concussion. 17th Boston Children's Hospital Sport-Related Concussion and Spine Injury Conference. October 15, 2020. Virtual lecture.
60. **Howell DR.** A Multimodal Approach to Understanding Concussion Recovery: Insights from Dual-Task Paradigms. 2020 Virtual Conference; Childhood Brain Injury: Moving Research into Practice. *The Center on Brain Injury Research and Training; University of Oregon.* November 13, 2020. Virtual lecture.
61. **Howell DR.** Dual-Task Paradigms to Assess Readiness to Return to Sports after Concussion. *TBI in Sport Lecture Series, A.T. Still University.* February 1, 2021.
62. **Howell DR.** What Factors Can Influence Adolescent Concussion Recovery? *BrainSteps Program Virtual Seminar Series.* February 10, 2021. Virtual lecture.
63. **Howell DR.** Improving Outcomes After Sport-Related Concussion: Prognosis, Recovery Monitoring, and Rehabilitation. *Iowa State Department of Kinesiology Visiting Professor.* February 26, 2021. Virtual lecture.
64. **Howell DR.** Movement analysis for concussion evaluation: from the laboratory to the clinic. Keynote lecture. *11th Annual (Virtual) Rocky Mountain American Society of Biomechanics Meeting.* April 2, 2021. Virtual lecture.
65. Master CL, Leddy JJ, **Howell DR.** Physiology of Concussion: Implications for Diagnosis, Prognosis and Management. *Virtual 2021 ACSM Annual Meeting.* June 3, 2021. Virtual lecture.
66. **Howell DR.** Concussion Rehabilitation for Adolescent Athletes: What Feasible Methods Can Athletic Trainers Implement to Improve Outcomes? *Virtual National Athletic Trainers Association 2021 Convention.* June 29, 2021. Virtual lecture.
67. **Howell DR.** Clinically Feasible Rehabilitation Approaches to Improve Outcomes After Concussion. *Advancing Concussion Care Webinar Series.* December 14, 2021. Virtual lecture.
68. **Howell DR.** Pragmatic Assessment and Rehabilitation Approaches for Concussion Management. CU Boulder, Department of Integrative Physiology Colloquium Lecture. January 31, 2022. Virtual Lecture.
69. **Howell DR.** Understanding Disturbances Following Concussion: Emerging Approaches to Injury Prognosis and Rehabilitation. University of Pittsburgh Medical Center Sports Medicine Concussion Program 2021-2022 Grand Rounds series. March 17, 2022. Virtual lecture.

70. **Howell DR.** Pragmatic Assessment and Rehab Strategies for Sport-Related Concussion. Concussion 360 Lunch and Learn Grand Rounds. September 13, 2022. Virtual lecture.
71. **Howell DR.** Assessment of Post-Concussion Dizziness and Using Neuromuscular Training Interventions to Reduce Injury Risk. Boston Children's Hospital 18th Annual Concussion Conference: Fears, Facts and the Future. April 28, 2023. Virtual lecture.
72. **Howell DR.** Integrating multimodal intervention approaches throughout concussion recovery. Children's Hospital Colorado Sports Physical Therapy Education Series: Management of Concussion from the Sideline to the Clinic and Back to Sport. April 28, 2023. Virtual lecture.
73. **Howell DR.** Improving Concussion Care: Translating Research to Practice for Better Prognosis and Rehabilitation. Boston Children's Hospital Sports Medicine Research Day, Visiting Professor. June 7, 2023.

### **Book Chapters**

1. **Howell, DR.** The Sports Medicine Team. In: *National Federation of State High School Associations Sports Medicine Handbook. 4<sup>th</sup> Edition.* © 2011 National Federation of High School Associations.
2. **Howell, DR,** Koester, MC. Protective Equipment. In: *National Federation of State High School Associations Sports Medicine Handbook. 4<sup>th</sup> Edition.* © 2011 National Federation of High School Associations.
3. **Howell DR,** Meehan III WP. Head and Neck Injury Prevention. In: Head and Neck Injuries in Young Athletes, W.P. Meehan, M. O'Brien (eds.); Contemporary Pediatric and Adolescent Sports Medicine. © Springer International Publishing Switzerland 2016. DOI 10.1007/978-3-319-23549-3\_1
4. **Howell DR.** Gait and Posture Assessments in Concussion Management. In: Concussions in Athletics: Assessment, Management, and Emerging Issues, E.E. Hall, C.J. Ketcham (eds.); Nova Publishers. In press.

### **Research Featured in Media**

1. [Recovery regression seen in athletes who return from concussions too quickly.](#) Healio Spine Surgery Today. Published September 3, 2014.
2. [Not So Fast: Concussions and Recovery Time.](#) Cascade: Magazine of the UO College of Arts + Sciences. Inter 2014.
3. [Concussion chronicity: Balance deficits persist long term.](#) Jordana Bieze Foster, Lower Extremity Review. Published June 1, 2015
4. [Concussions Can Hurt More Than Your Brain.](#) Nicole Westman, Tonic (Vice). Published September 20, 2017.
5. [It's a long way from Boston to Denver — 5 Questions with David Howell.](#) Jim MacDonald, Clinical Journal of Sport Medicine Blog. Published October 24, 2017.
6. [How male and female teens respond to concussions differently.](#) APDM Wearable Technologies website. Published December 18, 2017.

7. [Does CTE call for an end to youth tackle football?](#) Commentary published in the Minneapolis Star-Tribune. Published February 12, 2018. Authors: Jason Chung, Peter Cummings, and Uzma Samadani. Listed as one of 26 brain injury experts who endorse the article.
8. [‘Walk & Think’ test could be key to concussion care.](#) Robert Preidt, U.S. News & World Report. Published June 28, 2018.
9. Concussion: dual-task gait linked to future injury risk. Tracey Romero, Orthopedics This Week. Published July 5, 2018. <https://ryortho.com/breaking/concussion-dual-task-gait-linked-to-future-injury-risk/>
10. [Concussion Corner Podcast.](#) Episode 20. Dr. David Howell PhD: The Future of Concussion Research. Released July 09, 2018.
11. [RehabCast: Podcast for the Archives of Physical Medicine and Rehabilitation.](#) July 2018 episode. Released July 26, 2018.
12. [Clinical Journal of Sport Medicine Podcast:](#) Dr. David Howell looks at pediatric concussion. Released August 28, 2018.
13. [Are Eyes a Window to Diagnosing Acute Concussion in Youth?](#) CHOP News. Published October 9, 2018.
14. [Risk score helpful identifying post-concussion complications.](#) Tracey Romero, Orthopedics This Week. Published October 25, 2018.
15. [Experts urge caution on head injury link to dementia.](#) David Leask, The Herald. Published February 11, 2019.
16. [Experts call for caution on reporting long-term effects of head injuries in sports.](#) University of Glasgow News. Published February 12, 2019.
17. [Simple test can indicate prolonged symptoms following pediatric sports-related concussion.](#) Journal of Neurosurgery Publishing Group. Published April 16, 2019.
18. [Concussion Test.](#) Shelley Schlender, How On Earth Radio. Published April 16, 2019.
19. [Abnormal Romberg Test Predicts Prolonged Concussion in Children.](#) HealthDay News. Published April 17, 2019.
20. [The Dream Job Podcast.](#) Released July 27, 2020.
21. [Concussion Treatment is Suffering From the ‘Nocebo’ Effect.](#) 5280, Denver’s Mile High Magazine. Published November 2, 2021.
22. [Could concussion be monitored through urine samples?](#) EurekAlert! Published January 14, 2022.
23. Neuromuscular training to reduce injury risk after concussion
  - a. [Colorado Study: Additional Post-Symptom Exercise Cut Concussed Athletes’ Risk Of Further Injury.](#) CBS Denver. January 23, 2022.
  - b. [Study: Neuromuscular Training May Reduce Injury Risk Following Concussion.](#) Athletic Leader. January 24, 2022.

24. [Former Bronco hopes to humanize players following Demaryius Thomas' CTE diagnosis.](#)  
Denver ABC 7. July 7, 2022.
25. [CU Anschutz Expert on Dolphin QB Injury: 'You Can't Just Tough-Out a Concussion'.](#)  
CU Anschutz Today. October 4, 2022.

### **Continuing Education**

March 28 – May 9, 2016: Successful Grant Writing Strategies; Harvard Catalyst online course.

September 15, 2016 – June 15, 2017: Certificate in Applied Biostatistics; Harvard Catalyst online course.

### **Scholarships Received**

Northwest Athletic Trainers Association Bob Peterson Scholarship, National Athletic Trainers Association District 10, April 2012, \$1500

William and Genera Fieldman Graduate Scholarship, Department of Human Physiology, University of Oregon, May 2012, \$1500

Scholarship: Ursula (Sue) Moshberger Scholarship, Department of Human Physiology, University of Oregon, May 2013, \$2500

Jan Broekhoff Graduate Scholarship, Department of Human Physiology, University of Oregon, June 2014, \$1000

### **TEACHING EXPERIENCE**

#### ***Whitworth University***

Department of Kinesiology

Teaching Assistant: Introduction to Athletic Training – 2008

#### ***University of Oregon***

Department of Human Physiology

Course Instructor: HPHY 102: Exercise and Wellness –2011

Course Co-Instructor: HPHY 408: Therapeutic Techniques –2010  
HPHY 433: Neurophysiology of Concussion – 2012-2014

Lab Instructor: HPHY 321, 323, 325: Human Anatomy Lab – 2009-2014  
HPHY 362: Tissue Injury and Repair Lab – 2009-2012  
HPHY 420/520: Human Anatomy Dissection – 2012-2014

Lab Coordinator: Human Anatomy Lab – 2012-2014

Course Designer: HPHY 325: Human Anatomy Lab –2013  
HPHY 433: Neurophysiology of Concussion –2013-14

Guest Lecturer: HPHY 322: Human Physiology

“Pathophysiology of Concussion” November 19, 2013

HPHY 381: Biomechanics

“Using Center of Mass Analysis to Detect Gait Imbalance”

November 26, 2013

HPHY 212: Evidence, Inference, and Biostatistics

“Neurophysiology of Concussion: Current Research from the  
HPHY Department” January 21, 2014 & April 15, 2014

HPHY 434: Movement Disorders

“Balance Control Deficits Post-Concussion”

May 29, 2014

### ***Lasell College***

Department of Athletic Training and Exercise Science

Adjunct Instructor: EXSC 406: Advanced Topics in Exercise Physiology –Spring  
2017

Guest Lecturer: On-site visit: The Micheli Center for Sports Injury Prevention  
“Investigating Injury Risk Factors in Youth Athletes”  
March 3, 2016

### ***University of Colorado Anschutz Medical Campus***

Rehabilitation Sciences PhD Program

Guest Lecturer: PHSC 7002: Professional Skills in Academia  
“Navigating the Post-Doc”  
January 10, 2019; February 1, 2021

RHSC 7001: Graduate Student Seminar  
“Translational Research in Concussion”  
September 21, 2021

## **SUPERVISOR EXPERIENCE**

### ***University of Oregon***

Department of Human Physiology

Undergraduate research advisor: Motion Analysis Laboratory – 2010-2014

Teaching assistant advisor- Human Anatomy Lab: HPHY 321/323/325: 2009 – 2014

### ***The Micheli Center for Sports Injury Prevention***

Summer research internship advisor: 2015 – 2017

### ***Children’s Hospital Colorado Musculoskeletal Research Center***

Summer research internship advisor: 2018 – 2019.

## **CLINICAL EXPERIENCE**

### ***Athletic Summer Camps***

Certified Athletic Trainer

Gonzaga University: Basketball. July 2008.

Whitworth University: Football. June 2008 and 2009.

University of Puget Sound: Football. July 2009.

University of Oregon: Football, Basketball, Lacrosse. June – July 2010.

Athletic Training Student

Gonzaga University: Basketball. July 2006 and 2007.

Whitworth University: Football. June 2007.

### ***Whitworth University***

Athletic Training Student: 2006-2008

### ***Whitman College, Walla Walla, WA***

Assistant Athletic Trainer: 2008-2009

### ***University of Oregon***

Graduate Teaching Fellow/Certified Athletic Trainer- Football: 2010-2011

Graduate Teaching Fellow/Certified Athletic Trainer- Women's Lacrosse: 2010-2011

Graduate Teaching Fellow/Certified Athletic Trainer- Club Sports: 2009-2010

### **MEMBERSHIPS/CERTIFICATIONS**

First Aid and CPR Certified, American Red Cross, 2005-present

National Athletic Trainers Association, Member #1008039, 2007-present

Northwest Athletic Trainers Association, Member, 2007-2014

Board of Certification, Inc. Athletic Trainer, Certified # 070802135, 2008-present

Oregon Athletic Trainers Society, Member, 2009-2014

American Society of Biomechanics, Member #4500, 2011-present

International Society of Biomechanics, Member #5018, 2012-present

Society for Neuroscience, Member #210488735, 2013-2018

Eastern Athletic Trainers Association, Member, 2014-2017

American College of Sports Medicine, Member #750512, 2015-present

Pediatric Research in Sports Medicine Society, Charter Member, 2015-present

EEG/ERP Data Acquisition Technician Certificate, ElMinda Inc., 2015-2018

Member, Colorado Clinical & Translational Sciences Institute, 2018-present

### **SERVICE**

#### **Departmental Service**

***University of Oregon, Department of Human Physiology***

Undergraduate Honors Thesis Advisor

***The Micheli Center for Sports Injury Prevention***

Research Internship Advisor

***Boston Children's Hospital, Division of Sports Medicine***

Scientific Review Board

Sports Medicine Fellowship Research Advisor

***Children's Hospital Colorado, Musculoskeletal Research Center***



Leadership Council  
*Colorado Clinical and Translational Sciences Institute (CCTSI)*  
Pre K Award Review Panel. January 2019.  
*University of Colorado Denver, School of Medicine, Department of Orthopedics*  
Clinical research council. 2019 - Present  
Faculty course director. 2020 CU Orthopedic Research Symposium. 2020.

## **Professional Service**

### *Board/Committee Membership*

- PRiSM (Pediatric Research in Sports Medicine) Society, Executive Board Member, 2016 – 2018
- PRiSM (Pediatric Research in Sports Medicine) Society Communications Committee, 2018 – 2021.
- NATA Research & Education Foundation Research Committee. 2019 – Present.
- International Congress on Athlete Brain Health. Sleep in Athletes Working Group. 2019 – Present.
- PRiSM (Pediatric Research in Sports Medicine) Society, 2<sup>nd</sup> Vice President, 2021-2022.

### *Other Service*

- National Athletic Trainers Association District 10 Student President, 2007-2008
- PRiSM Society, Chair: Concussion Research Interest Group, 2016 – 2019.
- *2017 PRiSM Society Annual Meeting*. Conference Planning Committee and Scientific Program Committee
- Expert panel: Development of the Concussion Quality of Life Scale – Youth (CQOL-Y), with A.T. Still University. 2018.

## **Session Moderator**

Session: “*Clinical Biomechanics: Parkinson’s, Alzheimer’s, and Concussion.*”  
Conference: 2013 International Society of Biomechanics Congress. Natal, Brazil.  
August 7, 2013.

Session: “*Concussion Assessment and Recovery: II*”  
Conference: 2015 National Athletic Trainer’s Association Annual Meeting. St. Louis, MO. June 25, 2015.

Session: “*Seasonal Effects on Concussion Assessment Performance*”  
Conference: 2016 National Athletic Trainer’s Association Annual Meeting. Baltimore, MD. June 24, 2016.

Sessions: “*Sport Specialization*” and “*Establishing Risk Factors*”  
Conference: 2017 PRISM Annual Meeting. Dallas, TX. January 26, 2017.

Session: “*Trajectory of Subconcussive Head Impact: Where Are We Heading?*” and  
“*Concussion Outcomes: The Acute Stage*”

Conference: 2017 National Athletic Trainer's Association Annual Meeting. Houston, TX. June 26-28, 2017.

Sessions: "*The inclusion of dual-tasking in rehabilitation*", "*Post-concussion sleep disturbances throughout concussion recovery*", and "*Emerging aspects of concussion research*"

Conference: 2018 National Athletic Trainer's Association Annual Meeting. New Orleans, LA. June 27-28, 2018.

Session: "*Legal, Ethical, and Education Issues Related to Anti-Doping Movement*"

Conference: 2019 National Athletic Trainer's Association Annual Meeting. Las Vegas, NV. June 25, 2019.

### **Editorial Board**

2018-2021            Review Editor: *Neurorehabilitation: a specialty of Frontiers in Neurology*  
2022-Present        Editorial Board Member: *Journal of Athletic Training*

### **Ad-Hoc Reviewer**

1. Addictive Behaviors Reports
2. The American Journal of Sports Medicine
3. Applied Neuropsychology: Adult
4. Archives of Physical Medicine and Rehabilitation
5. Athletic Training & Sports Health Care
6. Biomedical Engineering
7. Brain Injury
8. British Journal of Sports Medicine
9. British Medical Journal – Military Health
10. British Medical Journal – Open
11. Clinical Biomechanics
12. Clinical Journal of Sport Medicine
13. Clinical Orthopaedics and Related Research
14. Computers in Biology and Medicine
15. Contemporary Clinical Trials Communications
16. Developmental Neurorehabilitation
17. Gait & Posture
18. International Journal of Athletic Therapy & Training
19. International Journal of Sports Medicine
20. International Journal of Psychophysiology
21. International Journal of Sports Physical Therapy
22. Journal of Applied Biomechanics
23. Journal of Athletic Training
24. Journal of Biomechanics
25. Journal of Clinical and Translational Research
26. Journal of Concussion
27. Journal of Head Trauma Rehabilitation
28. Journal of the International Neuropsychological Society
29. Journal of Neurotrauma
30. Journal of Pediatrics
31. Journal of Science and Medicine in Sport
32. Journal of Sport and Health Science
33. Journal of Sport Rehabilitation
34. Journal of Sport Sciences
35. Medicine & Science in Sports & Exercise
36. Military Medical Research
37. Musculoskeletal Science and Practice
38. Pediatrics
39. Physiological Measurement

- |   |  |
|---|--|
| 40. Physical Therapy in Sport                                 | 44. Sports Health: An Interdisciplinary Approach |
| 41. PLOS One  | 45. Sports Medicine                              |
| 42. PM&R: The journal of injury, function, and rehabilitation | 46. Sports Medicine – Open                       |
| 43. Scandinavian Journal of Medicine and Science in Sports    | 47. The Physician and Sportsmedicine             |

## **Grant Reviewer**

### *Scientific Review Panel Member*

- October 2020. National Institutes of Health. Musculoskeletal Rehabilitation Sciences (MRS) Study Section Member.
  - October 2020. AB Nexus Research Collaboration Grant Review. University of Colorado.
  - September 2020. Scientific Review Panel: Congressionally Directed Medical Research Program. Epilepsy Research Program (ERP): Quality of Life Research.
  - May 2020. Scientific Review Panel: NATA Foundation Research Grant Program
- ### *Scientific Reviewer*
- 2018. Scientific Reviewer: Congressionally Directed Medical Research Program.: Technical Reviewer- Medical Research and Material Command Broad Agency Announcement
  - 2018. Institute of Translational Health Sciences, Pilot Award Committee.
  - 2017. Scientific Reviewer: Defense and Veterans Brain Injury Center, Intramural Research: External Grant Reviewer
  - 2017. EATA (Eastern Athletic Trainers Association) Foundation External Grant Reviewer.
  - 2015. Scientific Reviewer: Scientific Reviewer: Congressionally Directed Medical Research Program.: Technical Reviewer- Medical Research and Material Command Broad Agency Announcement

## **Conference Abstract Reviewer**

- 2017 Pediatric Research in Sports Medicine Annual Meeting. Dallas, TX. January 26, 2017.
- 2017 American Society of Biomechanics Annual Meeting. Boulder, CO. August 8-11, 2017.
- 2018 American Society of Biomechanics Annual Meeting. Rochester, MN. August 8-11, 2018.
- 2019 Gait and Clinical Movement Analysis Society Annual Meeting. Frisco, TX. March 26-29, 2019.

## **MENTORSHIP**

### **Doctoral Students: Primary Advisor**

- Katherine Smulligan, DPT. University of Colorado Rehabilitation Science PhD Program. 2020 – present.
- Mathew Wingerson, MS. University of Colorado Rehabilitation Science PhD Program. 2022 – present.

### **Doctoral Dissertation Committee**

- Jessie Oldham, PhD. University of Delaware. 2016-2018.
- Fionn Büttner, PhD. University College Dublin. 2017-2021.
- Niki Anthea Konstandtinides, PhD. University of Colorado, Boulder. 2021-2023.
- Aaron Kilfoyle, MSc, ATC. Rocky Mountain University of Health Professions. 2020-present.

### **Master's Thesis Committee**

- Elena Bonke, MSc. University of Munich. 2019-2020.

### **Formally Supervised Research Trainees**

#### *Sports Medicine Fellows*

- Aubrey Armento, MD. Children's Hospital Colorado, Sports Medicine Center. 2018-2019.
- Kathryn Stockbower, MD. Children's Hospital Colorado, Sports Medicine Center. 2019-2020.
- Kartik Sidhar, MD. University of Colorado School of Medicine, Department of Family Medicine. 2020-2021.
- Benjamin Krainin, MD. University of Colorado School of Medicine, Department of Emergency Medicine. 2020-2021.
- Justin Stumph, MD. University of Colorado School of Medicine, Department of Emergency Medicine. 2021-2022.
- Kong Kong Liu, MD. University of Colorado School of Medicine, Department of Emergency Medicine. 2021-2022.

#### *Medical Students*

- Justin Berkner. University of New England College of Osteopathy. 2016.
- Katie Van Deventer. University of Colorado School of Medicine. 2019-2020.
- Samantha Magliato. University of Colorado School of Medicine. 2020 – 2022.

#### *Medical Residents*

- Tatiana Patsimas. University of Colorado School of Medicine. 2019-2020.

#### *Master's Students*

- Linda Neely. University of Colorado, Modern Human Anatomy Program. 2021-2022.
- Ryan Lagreca. University of Colorado, Modern Human Anatomy Program. 2022-2023.

#### *Occupational Therapy Doctoral Students*

- Baylie Schmitz. Occupational Therapy Doctoral Student. Northern Arizona University. 2022.

#### *Physical Therapy Residents.*

- Alice Barnes. Children's Hospital Colorado Sports Physical Therapy Residency Program. 2021-2022.

### *Athletic Training Residents*

- Olivia May, MS, ATC. Children's Hospital Colorado, Sports Medicine Center. 2019-2020.

### *Research Assistants*

- Anna Brilliant. Boston Children's Hospital, Division of Sports Medicine. 2015-2018.
- Alexia Gagliardi. Children's Hospital Colorado, Sports Medicine Center. 2017-present.
- Morgan Potter. Children's Hospital Colorado, Sports Medicine Center. 2017-2019.
- Rebecca Daniels, MS. Boston Children's Hospital, Division of Sports Medicine. 2018-2019.
- Corey Lanois, MS, ATC. Boston Children's Hospital, Division of Sports Medicine. 2018-2020.
- Corrine Seehusen. Children's Hospital Colorado, Sports Medicine Center. 2019-2021.
- Danielle Hunt, MS, ATC. Boston Children's Hospital, Division of Sports Medicine. 2019-present.
- Mathew Wingerson, MS. Children's Hospital Colorado. Sports Medicine Center. 2019-2022.
- Scott Passalugo, BS. Boston Children's Hospital, Division of Sports Medicine. 2020-present.
- Casey Little, BS. Children's Hospital Colorado. Sports Medicine Center. 2021-2022.
- Madison Brna, BS. Children's Hospital Colorado. Sports Medicine Center. 2022-present.
- Amanda Otamendi, MPH. Colorado Concussion Research Laboratory. 2022.
- Samantha Magliato, BS. Colorado Concussion Research Laboratory. 2022-present.
- Lindsey Kemp, BS. Colorado Concussion Research Laboratory. 2023-present.

### *Undergraduate Students*

- Michael Kado. University of Oregon, Department of Human Physiology. 2011-2013.
- Madison Murray. University of Oregon, Department of Human Physiology. 2013-2014.
- Rachel Klas. University of Oregon, Department of Human Physiology. 2014.
- Erin Breen. Colby College, Department of Psychology. 2015.
- Noah Tocci. Colby College, Department of Psychology. 2016.
- Stacey Hou. Colby College, Department of Psychology. 2017.
- Matthew Kent. University of Pittsburgh. Department of Psychology. 2018-2019.
- Julia Southard. Regis University, Department of Neuroscience. 2019.

### **External Thesis Examiner**

- Olivia Adelle Galea. PhD written thesis and oral examination. University of Queensland, Australia. 2019-2020.
- Joshua Shore. MS written thesis and oral examination. University of Toronto. 2021.
- Laura Dunne. PhD written and oral defense examination. Australia Catholic University. 2021.

## ACTIVE COLLABORATIONS

- Boston Children's Hospital (William Meehan III, MD and Jessie Oldham, PhD)
- Brigham and Women's Hospital (Alexander Lin, PhD and Inga Koerte, PhD, MD)
- Cincinnati Children's Hospital Medical Center (Gregory Myer, MD)
- Children's Hospital of Philadelphia (Tina Master, MD)
- Harvard University (Francis Wang, MD and Brant Berkstresser, MS)
- Massachusetts General Hospital (Grant Iverson, PhD)
- Ohio University (Dustin Grooms, PhD)
- SCOPE multi-center research study. Lead site: Children's Hospital Colorado.
  - A.T. Still University, Children's Hospital of Los Angeles, Texas Scottish Rite Children's Hospital, Joe DiMaggio Children's Hospital, Washington University St. Louis, University of Wisconsin
- Spaulding Rehabilitation Hospital (Can Ozan Tan, PhD and J. Andrew Taylor, PhD)
- University of Delaware (Thomas Buckley, EdD, ATC)
- University of Georgia (Robert Lynall, PhD, ATC)
- University of Virginia (Jacob Resch, PhD, ATC)
- University of Utah (Peter Fino, PhD)
- Binghamton University (Vipul Lugade, PhD)

## HONORS AND AWARDS

*Athletic Training Distinction Award.* Whitworth University. May 2008.

*Athletic Training Student of the Month.* Oregon Athletic Trainers Society. October 2010.

*Stein Graduate Teaching Award Nomination:* Nominated by Human Physiology Faculty. University of Oregon. March 2013.

*2<sup>nd</sup> Place, Podium Presentation Award.* Northwest Biomechanics Symposium. June 1, 2013. Moscow, ID.

*Commencement Speaker.* University of Oregon, Department of Human Physiology Graduation Ceremony. Nominated by the Department of Human Physiology Faculty. June 16, 2014.

*1<sup>st</sup> Place: 2014 PhD Student Paper Competition:* World Congress of Biomechanics Conference. Boston, MA. July 2014. Top presentation (category: human locomotion) of over 700 submissions.

*NATA Foundation 2015 Doctoral Dissertation Award Winner.* National Athletic Trainers Association. June 2015.

*2017 Best Scientific Poster Award.* Pediatric Research in Sports Medicine Society 4<sup>th</sup> Annual Meeting. Dallas, TX. January 2017.

*Hank Chambers Award for Best Scientific Paper.* Pediatric Research in Sports Medicine Society 6<sup>th</sup> Annual Meeting. Atlanta, GA. January 2019.

*NATA Foundation 2019 New Investigator Award.* National Athletic Trainers Association. June 2019.

*Clinical Biomechanics Award Finalist.* XXVII Congress of the International Society of Biomechanics and 43rd Annual Meeting of the American Society of Biomechanics. Calgary, Canada. August 2019.

*2019 Journal of Neurosurgery Editor's Choice Selection.* Clinical predictors of symptom resolution for children and adolescents with sport-related concussion. **Howell DR**, Potter MN, Kirkwood MW, Wilson PE, Provance AJ, Wilson JC.

*2020 ACSM New Investigator Award. American College of Sports Medicine. May 2020.*  
*2021 PRISM National Athletic Trainer Achievement Award. Pediatric Research in Sports*  
Medicine Society

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