

Kevin C. Miller, PhD, AT, ATC

Curriculum Vitae

CONTACT INFORMATION

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EDUCATION

PhD Brigham Young University (Provo, UT) 2009
Major: Exercise Science
Concentration: Physical Medicine and Rehabilitation

Dissertation Title: Plasma and EMG responses during an electrically-induced muscle cramp and following pickle juice and water ingestion.

Mentor: Dr. Kenneth L. Knight, ATC, FNATA, FACSM (retired)

MS University of Wisconsin-La Crosse (La Crosse, WI) 2005
Major: Human Performance and Exercise Science

Thesis Title: The effects of ankle taping and sparring on active ankle range of motion before, during, and after exercise.

BS University of Wisconsin-Green Bay (Green Bay, WI) 2003
Major: Human Biology
Concentration: Exercise Science
Minor: Psychology

PROFESSIONAL EXPERIENCE

Full Professor (with tenure). Central Michigan University (Mt. Pleasant) 2017-Present

Full Professor (without tenure). Central Michigan University (Mt. Pleasant) 2016-2017

Associate Professor (without tenure). Central Michigan University (Mt. Pleasant) 2013-2016

Adjunct Professor. U. of New England (Armidale, Australia) 2011-2013

Assistant Professor. North Dakota State University (Fargo, ND) 2009-2013

Researcher/Lecturer. Brigham Young University (Provo, UT) 2005-2009

Athletic Trainer. UT High School Activities Assoc. (Provo, UT) 2005-2007

<u>Face Mask Removal Instructor</u> . UT EMT Training (Park City, UT)	2005
<u>Head Certified Athletic Trainer</u> . Jr. Eagles Gymnastics Camps (La Crosse, WI)	2005
<u>Medical Coordinator</u> . NYSP (La Crosse, WI)	2005
<u>Graduate Assistant ATC</u> . UW-La Crosse (La Crosse, WI)	2004-2005
<u>Intern Athletic Trainer</u> . Green Bay Blizzard Football (Green Bay, WI)	2004

CERTIFICATIONS

3. Certified Strength and Conditioning Specialist	NSCA	2005-2011
2. Certified Athletic Trainer	BOC	2004-Present
1. First Aid/CPR/AED for the Pro. Rescuer	American Red Cross	2001-Present

PROFESSIONAL LICENSES

5. National Provider Identification (NPI, #1447617782)	2016-Present
4. Licensed Athletic Trainer, Michigan (#2601001163)	2013-Present
3. Licensed Athletic Trainer, North Dakota (#388-10)	2010-2014
2. Licensed Athletic Trainer, Utah (#6317571-4810)	2006-2009
1. Licensed Athletic Trainer, Wisconsin (#640-39)	2004-2005

RESEARCH INTERESTS

- Exercise-Associated Muscle Cramps: treatment, prevention, and pathogenesis
- Heat illness prevention and treatment
- Hydration
- Electrolyte and fluid balance

REFEREED PUBLICATIONS (Note: student authors' names are underlined; * = undergraduate student author)

2018

47. **Miller KC**, Di Mango TA*, Katt GE*. Cooling rates of hyperthermic humans wearing American football uniforms when cold-water immersion is delayed. *J Athl Train*. 2018: In press.
46. Boehm KE*, **Miller KC**. Does gender affect rectal temperature cooling rates?: A critically-appraised topic. *J Sport Rehabil*. 2018: In press.
45. Wohlfert TM*, **Miller KC**. Does pre-cooling with whole-body immersion affect thermal sensation or perceived exertion?: A critically-appraised topic. *J Sport Rehabil*. 2018: In press.
44. **Miller KC**. The evolution of exercise-associated muscle cramp research. *ACSMs Health Fit J*. 2018; 22: 6-8.
43. **Miller KC**, Harsen JD, Long BC. Prophylactic stretching does not reduce cramp susceptibility. *Muscle Nerve*. 2018; 57: 473-477.

2017

42. Keen ML*, **Miller KC**, Zuhl M. Thermoregulatory and perceptual effects of a percooling

garment worn underneath an American football uniform. *J Strength Cond Res.* 2017; 31: 2983-2991.

41. **Miller KC**, Long BC, Edwards JE. Muscle cramp susceptibility increases following volitionally-induced muscle cramp. *Muscle Nerve.* 2017;56: E95-E99.
40. **Miller KC**, Truxton TT, Long BC. Temperate water immersion as a treatment for hyperthermic humans wearing American football uniforms. *J Athl Train.* 2017; 52: 747-752.
39. **Miller KC**, Hughes LE*, Long BC, Adams WM, Casa DJ. Validity of core temperature measurements at three rectal depths during rest, exercise, cold-water immersion, and recovery. *J Athl Train.* 2017; 52: 332-338.
38. Keen ML*, **Miller KC**. Should cooling vests be used to treat exertional heatstroke?: A critically-appraised topic. *J Sport Rehabil.* 2017; 26: 286-289.
37. Hosokawa Y, Casa DJ, Belval LN, Capacchione JF, Deuster PA, Jardine JF, Kavouras SA, Lee EC, **Miller KC**, Muldoon SM, O'Connor FG, Riazi S, Rosenberg H, Sagui E, Sailor SR, Sambuughin N, Stearns RL. Round table on malignant hyperthermia in physically active populations: Meeting proceedings. *J Athl Train.* 2017; 52: 377-383.
36. Burke J*, Herman A*, Long BC, **Miller KC**. Ankle skin temperature changes following ice bag application with compression at varying levels of elevation. *Athl Train Sports Health Care.* 2017; 9: 163-168.
35. Truxton TT, **Miller KC**. Can temperate water immersion be used to treat exertional heat stroke?: A critically-appraised topic. *J Sport Rehabil.* 2017; 26: 447-451.

2016

34. Long BC, **Miller KC**. Influence of topical analgesic cream on passive hip flexion range of motion, sensation of pressure, and temperature. *Athl Train Sports Health Care.* 2016; 8: 55-62.
33. Murray D, **Miller KC**, Edwards JE. Does a reduction in serum sodium concentration or serum potassium concentration increase the prevalence of exercise-associated muscle cramps? *J Sport Rehabil.* 2016; 25: 301-304.
32. McDermott BP, **Miller KC**, Lopez RM, Yeargin SW. Letter to the editor. *NATA News.* 2016; January: 9.
31. Liu G, Slappey N, Zhou Z, Snelgrove S, Ho C, Brown M, Grabinski A, Guo X, Chen Y, **Miller KC**, Edwards J, Kaya T. A wearable conductivity sensor for wireless real-time sweat monitoring. *Sensors Actuators B: Chemical.* 2016; 227: 35-42.
30. **Miller KC**. Myths and misconceptions about exercise-associated muscle cramping. *ACSMs Health Fit J.* 2016; 20: 37-39.

2015

29. Casa DJ, DeMartini JK, Bergeron MF, Csillan D, Eichner R, Lopez R, Ferrara M, **Miller KC**, O'Connor F, Sawka M, Yeargin S. National Athletic Trainers' Association position statement on exertional heat illnesses. *J Athl Train.* 2015; 50: 986-1000.
28. Hew-Butler T, Rosner MH, Fowkes-Godek S, Dugas JP, Hoffman MD, Lewis DP, Maughan RJ, **Miller KC**, Montain SJ, Rehrer NJ, Roberts WO, Rogers IR, Siegel AJ, Stuempfle KJ, Winger JM, Verbalis JG. Statement of the 3rd International Exercise-Associated Hyponatremia Consensus Development Conference. *Br J Sports Med.* 2015; 49: 1432-1446.
27. Hew-Butler T, Rosner MH, Fowkes-Godek S, Dugas JP, Hoffman MD, Lewis DP,

Maughan RJ, **Miller KC**, Montain SJ, Rehrer NJ, Roberts WO, Rogers IR, Siegel AJ, Stuempfle KJ, Winger JM, Verbalis JG. Statement of the 3rd International Exercise-Associated Hyponatremia Consensus Development Conference. *Clin J Sports Med*. 2015; 25: 303-320.

26. **Miller KC**, Long BC, Edwards JE. Necessity of removing American football uniforms from hyperthermic humans before cold-water immersion. *J Athl Train*. 2015; 50: 1240-1246.
25. **Miller KC**. Rethinking the cause of exercise-associated muscle cramping: Moving beyond dehydration and electrolyte losses. *Curr Sports Med Rep*. 2015; 14: 353-354.
24. **Miller KC**, Swartz EE, Long BC. Cold-water immersion for hyperthermic humans wearing football uniforms. *J Athl Train*. 2015; 50: 792-799.
23. McKenney MA, **Miller KC**, Deal JE, Garden-Robinson JA, Rhee YS. Plasma and electrolyte changes in exercising humans following ingestion of multiple boluses of pickle juice. *J Athl Train*. 2015; 50:141-146.

2014

22. **Miller KC**, Lopez RM, Yeargin SW, McDermott BP, Casa DJ. Letter to the editor. *NATA News*. 2014; July: 10.
21. **Miller KC**, Burne JA. Golgi tendon organ reflex inhibition following manually-applied acute static stretching. *J Sports Sci*. 2014; 32: 1491-1497.
20. Peikert JR, **Miller KC**, Albrecht JM, Tucker JM, Deal JE. Pre-exercise ingestion of pickle juice, hypertonic saline, or water and aerobic performance and thermoregulation. *J Athl Train*. 2014; 49: 204-209.
19. **Miller KC**. Electrolyte and plasma responses after pickle juice, mustard, and deionized water ingestion in dehydrated humans. *J Athl Train*. 2014; 49: 360-367.

2013

18. Allen ST, **Miller KC**, Albrecht JM, Garden-Robinson JA, Blodgett-Salafia EH. *Ad libitum* fluid intake and plasma responses following pickle juice, hypertonic saline and deionized water ingestion. *J Athl Train*. 2013; 48: 734-740.
17. Milton AE, Hansen PJ, **Miller KC**, Rhee YS. Grade III liver laceration in a female volleyball player. *Sports Health*. 2013; 5: 150-152.
16. Burrer JL, Hansen PJ, **Miller KC**, Christensen B. Fracture blisters following a posterior elbow dislocation: A case report. *Int J Athl Ther Train*. 2013; 18: 17-19.
15. Braulick KW, **Miller KC**, Albrecht JM, Tucker JM, Deal JE. Significant and serious dehydration does not affect skeletal muscle cramp threshold frequency. *Br J Sports Med*. 2013; 47: 710-714.

2012

14. Hawkins JR, **Miller KC**. The importance of target tissue depth in cryotherapy application. *J Athl Enhance*. 2012; 1: 1-4.
13. **Miller KC**. Plasma potassium concentration and content changes following banana ingestion in exercised males. *J Athl Train*. 2012; 47: 648-654.
12. **Miller KC**, Knight KL. Initial electrical stimulation frequency and cramp threshold frequency and force. *J Athl Train*. 2012; 47: 643-647.
11. Jutte L, Hawkins JR, **Miller KC**, Long BC, Knight KL. Skinfold thickness at 8 common cryotherapy sites in various athletic populations. *J Athl Train*. 2012; 47:170-177.

10. **Miller KC**, Knight KL, Wilding SW*, Stone MB. Duration of electrically induced muscle cramp increased by increasing stimulation frequency. *J Sport Rehabil.* 2012; 21:182-185.

2010

9. **Miller KC**, Mack GW, Knight KL. Gastric emptying after pickle juice ingestion in rested, euhydrated humans. *J Athl Train.* 2010; 45: 601-608.
8. **Miller KC**, Mack GW, Knight KL, Hopkins JT, Draper DO, Fields PJ, Hunter I. Three percent hypohydration does not affect threshold frequency of electrically induced cramps. *Med Sci Sports Exerc.* 2010; 42: 2056-2063.
7. **Miller KC**, Mack GW, Knight KL, Hopkins JT, Draper DO, Fields PJ, Hunter I. Reflex inhibition of electrically induced muscle cramps in hypohydrated humans. *Med Sci Sports Exerc.* 2010; 42: 953-961.
6. **Miller KC**, Stone MB, Huxel KC, Edwards JE. Exercise-associated muscle cramps: causes, treatment, and prevention. *Sports Health.* 2010; 2: 279-283.

2009

5. **Miller KC**, Mack GW, Knight KL. Electrolyte and plasma changes following ingestion of pickle juice, water, and a common carbohydrate-electrolyte solution. *J Athl Train.* 2009; 44: 454-461.
4. Udermann B, **Miller KC**, Doberstein S, Reineke D, Murray S, Pettitt R. Spatting restricts ankle range of motion more effectively than taping during exercise. *Int J Exerc Sci.* 2009; 2: 72-82.
3. **Miller KC**, Knight KL. Electrical stimulation cramp threshold frequency correlates well with the occurrence of skeletal muscle cramps. *Muscle Nerve.* 2009; 39: 364-368.

2008

2. **Miller KC**, Knight KL, Williams RB. Athletic Trainers' perceptions of pickle juice's effects on exercise associated muscle cramps. *Athl Ther Today.* 2008; 13: 31-34.

2007

1. **Miller KC**, Knight KL. Pain and soreness associated with a percutaneous electrical stimulation muscle cramping protocol. *Muscle Nerve.* 2007; 36:711-714.

MANUSCRIPTS IN REVIEW (Note: student authors' names are underlined; * = undergraduate student author)

1. Wohlfert TM*, **Miller KC**. Precooling allays exertional heatstroke risk factors without affecting postexercise cooling rates. *Aerosp Med Hum Perform.* 2018.
2. Katt GE*, **Miller KC**. Contribution of American football uniforms to the development of exercise-induced hyperthermia: A critically-appraised topic. *Sports Health.*
3. Boehm K*, Millar M*, Long BC, **Miller KC**. Perceived Physiological, Psychological, and Clinical Influence of Kinesio Tex Tape (KTT) in Health Care Practice. *Athl Train Sports Health Care.*

4. Taylor J, **Miller KC**. Precooling delays hyperthermia in humans wearing American football uniforms without impacting postexercise cooling rates. *J Athl Train*.
5. Liu G, Ho CT, Yelamarthi K, **Miller KC**, Edwards JE, Kaya T. Background and current trends in wearable sweat sensor systems. *Sensors Actuators B: Chemical*

MANUSCRIPTS IN PREPARATION (Note: student authors' names are underlined; * = undergraduate student author)

1. **Miller KC**, Long BC. Voluntarily-induced muscle cramp increases H-reflex amplitude. Manuscript being prepared for *Muscle Nerve*.
3. Schneider SL*, **Miller KC**. Stationary and portable cold water immersion methods for treating hyperthermia: A critically-appraised topic. Manuscript being prepared for *J Sport Rehabil*.
4. Saleski EA*, **Miller KC**. Does prophylactic stretching prevent muscle cramping?: A critically-appraised topic. Manuscript being prepared for *J Sport Rehabil*.
5. **Miller KC**, Adams WM. Validity of common body core temperature sites in hyperthermic humans wearing American football uniforms. Manuscript being prepared for *J Athl Train*.
6. **Miller KC**, Yeargin SW, McDermott BP. Sweat electrolyte concentrations and sweat rates of athletes with and without a history of muscle cramps. Manuscript being prepared for *Int J Sports Nutr Exerc Metab*.

REFEREED PUBLISHED ABSTRACTS (Note: student authors' names are underlined; * = undergraduate student author)

2018

22. Wohlfert TM*, **Miller KC**. Whole-body precooling mitigates some exertional heatstroke risk factors without affecting cold-water immersion cooling rates. *J Athl Train*. 2018; 52: S369.
21. **Miller KC**, Yeargin SW, McDermott BP. Sweat electrolyte concentrations and sweat rates of athletes with and without a history of muscle cramps. *J Athl Train*. 2018; 52: S207-S208.

2017

20. Long BC, **Miller KC**. Electrical point stimulation on myofascial trigger points in the upper back and neck muscles. *J Athl Train*. 2017; 52: S300.
19. Keen ML*, **Miller KC**, Zuhl MN. Thermoregulatory and perceptual effects of a percooling garment worn underneath an American football uniform. *J Athl Train*. 2017; 52: S104.
18. Katt GE*, Di Mango TA*, **Miller KC**. Cooling rates of hyperthermic humans wearing American football uniforms when cold-water immersion is delayed. *J Athl Train*. 2017; 52: S314.
17. **Miller KC**, Harsen JD, Long BC. Acute static or PNF stretching does not reduce cramp susceptibility in cramp-prone humans. *J Athl Train*. 2017; 52: S307-S308.

2016

16. Hughes LE*, **Miller KC**, Long BC, Adams WM, Casa DJ. Validity of core temperature

measurements at three depths in the rectum during rest, exercise, cold-water immersion, and recovery. *J Athl Train*. 2016; 51: S272.

15. **Miller KC**, Long BC, Edwards JE. Voluntarily-induced muscle cramp increases H-reflex amplitude. *J Athl Train*. 2016; 51: S272.
14. **Miller KC**, Long BC, Edwards JE. Muscle cramp susceptibility increases following volitionally-induced muscle cramp. *Med Sci Sports Exerc*. 2016; 48: 902.

2015

13. Long BC, **Miller KC**. Analgesic cream and static stretching on temperature, sensation of pressure, and hamstring flexibility. *J Athl Train*. 2015; 50: S271.
12. Burke J*, Herman A*, Long BC, **Miller KC**. Ankle skin temperature changes following ice bag application with varying levels of elevation. *J Athl Train*. 2015; 50: S166.
11. **Miller KC**, Long BC, Edwards JE. Necessity of removing American football uniforms from hyperthermic humans prior to cold-water immersion. *J Athl Train*. 2015; 50: S59.

2013

10. **Miller KC**, Burne JA. Acute static stretching does not affect golgi tendon organ reflex inhibition. *J Athl Train*. 2013; 48: S259.

2012

9. Hawkins JR, **Miller KC**. Gender plays a role in deep tissue cooling independent of skinfold thickness. *J Athl Train*. 2012; 47: S134-135.

2011

8. Milton AE, Hansen PJ, **Miller KC**, Rhee YS. Grade three liver laceration in an intercollegiate volleyball player: A case report. *J Athl Train*. 2011; 46: S93-S94.
7. Burrer JL, Hansen PJ, **Miller KC**, Christensen B. Fracture blisters following a posterior elbow dislocation: A case report. *J Athl Train*. 2011; 46: S153.

2010

6. **Miller KC**, Mack GW, Knight KL, Hopkins JT, Draper DO, Fields PJ, Hunter I. Hypohydration does not increase the threshold frequency of electrically induced cramps. *J Athl Train*. 2010; 45: S85.

2009

5. **Miller KC**, Mack GW, Knight KL. Pickle juice inhibits gastric emptying in rested, euhydrated humans. *Med Sci Sports Exerc*. 2009; 41: 191-192.
4. **Miller KC**, Knight KL. The relationship between the beginning electrical stimulation frequency and a person's "true" cramp threshold frequency. *J Athl Train*. 2009; 44: S89.
3. Wilding SW*, **Miller KC**, Stone, MB, Knight KL. Increasing electrical stimulation frequency above cramp threshold frequency increases the strength and duration of electrically-induced muscle cramps. *J Athl Train*. 2009; 44: S73.

2008

2. **Miller KC**, Mack GW, Knight KL. The effects of pickle juice, Gatorade, and water

ingestion on plasma variables in rested, euhydrated humans. *J Athl Train.* 2008; 43: S38.

2007

1. **Miller KC**, Hawkins JR, Knight KL. Variations of skinfold thickness at different locations in college-aged physically active individuals and athletes. *J Athl Train.* 2007; 42: S68.

LECTURE PRESENTATIONS

International (refereed)

1. Advances in exertional heatstroke diagnosis and treatment. Canadian Athletic Therapists Association annual meeting; Niagara Falls, Canada: 2017.

International (invited)

2. Exercise-Associated muscle cramps and hyponatremia: What's the link? Third International Symposium on Hyponatremia; San Diego, CA: 2015.
1. Rethinking the muscle cramp paradigm. University of New England; Armidale, Australia: 2011.

National (refereed)

5. Dehydration causes muscle cramping: Myth or fact? NATA Annual Symposium. St. Louis, MO: 2015. *EBP CEU approved session.*
4. Myths about muscle cramping (and the research that refutes them!). NATA Annual Symposia; Las Vegas, NV: 2013.
3. The neurological evidence for exercise-associated muscle cramps. NATA Annual Symposia; New Orleans, LA: 2011.
2. Dispelling dehydration myths. NATA Annual Symposia; Philadelphia, PA: 2010.
1. Heat illnesses that are NOT heat illnesses: exercise associated muscle cramps. NATA Annual Symposia; Philadelphia, PA: 2010.

National (invited)

6. Muscle cramps: Update on causes, treatment, and prevention. NATA Annual Symposia; New Orleans, LA: 2018.
5. New advances in exertional heatstroke diagnosis, treatment, and prevention. NATA Annual Symposia; Houston, TX: 2017.
4. Recent advances in exertional heatstroke diagnosis and treatment. NATA Webinar. 2016. *BOC EBP CEU approved session.*
3. Lead them to water but don't force them to drink!: Recommendations to prevent hyponatremia. NATA Annual Symposia; Baltimore, MD: 2016. *BOC EBP CEU approved session.*
2. EAMC: Characteristics and Cures. ACSM Symposium; Boston, MA: 2016.
1. Myths and misconceptions about muscle cramping. NATA Webinar. 2015.

Regional (refereed)

9. Exertional heatstroke: Defending and implementing best practice in the field. GLATA Symposium (District 4); Chicago, IL: 2018. *BOC EBP CEU-approved session.*

8. American football and exertional heatstroke: What have we learned in the last 50 years? GLATA Symposium (District 4); Chicago, IL: 2017. *BOC EBP CEU approved session.*
7. New considerations for diagnosing, treating, and preventing exertional heatstroke. GLATA Symposium (District 4); Chicago, IL: 2016.
6. Are dehydration and electrolyte loss to blame for muscle cramps? What does the research say? GLATA Symposium (District 4); Chicago, IL: 2015. *BOC EBP CEU approved session.*
5. Does dehydration or electrolyte loss cause cramping?: An evidence-based appraisal of the literature. Michigan AT Symposium; Ypsilanti, MI: 2014. *BOC EBP CEU approved session.*
4. Muscle cramps: Facts and fallacies. GLATA Symposium (District 4); Chicago, IL: 2014.
3. The neurology of muscle cramps. RMATA Symposia (District 7); Phoenix, AZ: 2008.
2. The causes of muscle cramps: past, present, and future. RMATA Symposia (District 7); Denver, CO: 2007.
1. Assessing and implementing evidence-based research in athletic training settings. RMATA Symposia (District 7); Salt Lake City, UT: 2006

Regional (invited)

25. Advances in exertional heatstroke diagnosis and treatment. Purdue University; West Lafayette, IN: 2018. *BOC EBP CEU-approved session.*
24. Exertional heatstroke: Best practice, legal precedent, and mock trial . MI Athletic Trainers Society Meeting; East Lansing, MI: 2018. *BOC EBP CEU-approved session.*
23. Exercise Associated muscle cramps and hyponatremia: What's the link? Hawaii Athletic Trainers Association Meeting; Honolulu, HI: 2018. *BOC EBP CEU-approved session.*
22. Recent advances in exertional heatstroke diagnosis and treatment. Hawaii Athletic Trainers Association Meeting; Honolulu, HI: 2018. *BOC EBP CEU-approved session.*
21. Facts and fables about muscle cramps. Hawaii Athletic Trainers Association Meeting; Honolulu, HI: 2018. *BOC EBP CEU-approved session.*
20. Advances in exertional heatstroke diagnosis and treatment. Adrian College; Adrian, MI: 2018. *BOC EBP CEU-approved session.*
19. Advances in exertional heatstroke diagnosis and treatment. Virginia Athletic Trainers Association annual meeting; Norfolk, VA: 2018. *BOC EBP CEU-approved session.*
18. Facts and fables about muscle cramps. Virginia Athletic Trainers Association annual meeting; Norfolk, VA: 2018. *BOC EBP CEU-approved session.*
17. Exertional heatstroke: Defending and implementing best practice in the field. MI Athletic Trainers Society Meeting; Ypsilanti, MI: 2017. *BOC EBP CEU-approved session.*
16. Updates on the Cause, Treatment, and Prevention of Exertional Heatstroke and Exercise-Associated Muscle Cramping. Illinois Athletic Trainers Association. Webinar: June, 2017. *BOC EBP CEU-approved session.*

15. Recent advances in exertional heatstroke diagnosis and treatment. Far West Athletic Trainers Association Meeting; Las Vegas, NV: 2017. *BOC EBP CEU-approved session.*
14. Facts and fables about muscle cramps. Far West Athletic Trainers Association Meeting; Las Vegas, NV: 2017. *BOC EBP CEU-approved session.*
16. Fact or fiction in the mechanism and treatment of muscle cramps. MI State University; Lansing, MI: 2017. *BOC EBP CEU-approved session.*
13. Facts and fables about muscle cramps. Illinois Athletic Trainers Association Meeting; Naperville, IL: 2016. *BOC EBP CEU-approved session.*
12. Facts and fables about muscle cramps. MI Athletic Trainers Society Meeting; Ypsilanti, MI: 2016. *BOC EBP CEU-approved session.*
11. Advances in exertional heatstroke diagnosis and treatment. MI Athletic Trainers Society Meeting; Ypsilanti, MI: 2016. *BOC EBP CEU-approved session.*
10. Facts and fables about muscle cramps. Pennsylvania State University; State College, PA: 2016. *BOC EBP CEU-approved session.*
9. Muscle cramping—moving beyond dehydration and electrolyte losses. Pennsylvania State University; State College, PA: 2016. *BOC EBP CEU-approved session.*
8. Dehydration causes cramping...and other myths and misconceptions about muscle cramps: An evidence-based presentation. Lafayette Orthopedic Clinic Symposium; Lafayette, IN: 2016. *BOC EPB CEU approved session.*
7. Are dehydration and electrolyte loss to blame for muscle cramps? What does the research say? ACHIEVING Best Practices in Emergency Care for Student-Athletes Conference. George Mason University; Manassas, VA: 2015. *BOC EPB CEU approved session.*
6. Exercise-associated muscle cramps. Southwest ACSM Symposium; Costa Mesa, CA: 2014.
5. Dehydration and muscle cramping: What does the research say in 2014? University of New Hampshire; Durham, NH: 2014.
4. "Cramping" athlete's style: What do you know about cramping? Michigan Athletic Training Student Seminar; Mount Pleasant, MI: 2014.
3. "Around the Horn"—Professionals in Athletic Training. Michigan Athletic Training Student Seminar; Mount Pleasant, MI: 2014.
2. Five myths about exercise-associated muscle cramps. NDATA Symposium; Fargo, ND: 2013.
1. Muscle cramps. Gatorade Sports Science Institute; Barrington, IL: 2008.

Community (invited)

8. Exertional heatstroke: Defending and implementing best practice in the field. McLaren Central Michigan Hospital; Mt. Pleasant, MI: 2016.
7. Exertional heatstroke: Defending and implementing best practice in the field. CMU Preceptor Day; Mt. Pleasant, MI: 2016. *BOC EBP CEU approved session.*
6. New considerations for diagnosing, treating, and preventing exertional heatstroke. CMU Preceptor Day; Mt. Pleasant, MI: 2016. *BOC EBP CEU approved session.*
5. Treating hyperthermic American football players: Do you have to remove equipment? Student Athletic Training Organization meeting (Nov); Mount Pleasant, MI: 2014.

4. Does dehydration or electrolyte loss cause cramping?: An evidence-based appraisal of the literature. CMU Preceptor Day; Mt. Pleasant, MI: 2014. *BOC EBP CEU approved session.*
3. Necessity of removing American football uniforms in exertional heat stroke scenarios. CMED Research Symposium; Mount Pleasant, MI: 2014.
2. Mythbusters: Cramp edition. College of Health Profession Dean's Advisory committee; Mount Pleasant, MI: 2013.
1. Current research on the etiology and treatment of muscle cramps. Sanford Hospital; Fargo, ND: 2010.

REFEREED RESEARCH PRESENTATIONS at PROFESSIONAL SYMPOSIUMS (Note: student authors' names are underlined; * = undergraduate student author)

2018

34. Wohlfert TM*, **Miller KC**. Whole-Body precooling mitigates some exertional heatstroke risk factors without affecting cold-water immersion cooling rates. NATA Annual Symposium. New Orleans, LA: 2018.
- 32 & 33. **Miller KC**, Yeargin SW, McDermott BP. Sweat electrolyte concentrations and sweat rates of athletes with and without a history of muscle cramps. NATA Annual Symposium. New Orleans, LA: 2018 and GLATA Annual Symposium. Chicago, IL: 2018.

2017

- 30 & 31. Keen ML*, **Miller KC**, Zuhl MN. Thermoregulatory and perceptual effects of a percooling garment worn underneath an American football uniform. NATA Annual Symposium. Houston, TX: 2017 and GLATA Annual Symposium. Chicago, IL: 2017.
- 29 & 30. Katt GE*, Di Mango TA*, **Miller KC**. Cooling rates of hyperthermic humans wearing American football uniforms when cold-water immersion is delayed. NATA Annual Symposium. Houston, TX: 2017 and GLATA Annual Symposium. Chicago, IL: 2017.
- 27 & 28. **Miller KC**, Harsen JD, Long BC. Acute static or PNF stretching does not reduce cramp susceptibility in cramp-prone humans. NATA Annual Symposium. Houston, TX: 2017 and GLATA Annual Symposium. Chicago, IL: 2017.

2016

26. **Miller KC**, Long BC, Edwards JE, Harsen JD. Muscle cramp susceptibility increases following a prior muscle cramp. ACSM Annual Symposium. Boston, MA: 2016.
25. **Miller KC**, Long BC, Edwards JE. Muscle cramps increase motor neuron pool excitability. NATA Annual Symposium. Baltimore, MD: 2016.
- 23 & 24. Hughes LE*, **Miller KC**, Long BC, Adams WM, Casa DJ. Validity of core temperature measurements at three depths in the rectum during rest, exercise, cold-water immersion, and recovery. NATA Annual Symposium. Baltimore, MD: 2016 and GLATA Annual Symposium. Chicago, IL: 2016.
22. Harsen JD, **Miller KC**, Long BC, Edwards JE. Muscle cramp susceptibility increases following a muscle cramp. GLATA Annual Symposium. Chicago, IL: 2016.

2015

21. Long BC, **Miller KC**. Analgesic cream and static stretching on temperature, sensation

- of pressure, and hamstring flexibility. NATA Annual Symposia. St. Louis, MO; 2015.
20. Burke J*, Herman A*, Long BC, **Miller KC**. Ankle skin temperature changes following ice bag application with varying levels of elevation. NATA Annual Symposia. St. Louis, MO; 2015.
 19. **Miller KC**, Long BC, Edwards JE. Necessity of removing American football uniforms from hyperthermic humans prior to cold-water immersion. NATA Annual Symposia. St. Louis, MO; 2015.

2014

18. **Miller KC**, Swartz EE, Long BC. Core body temperature cooling of hyperthermic humans wearing football uniforms. Faculty Excellence Exhibition (CMU). Mt Pleasant, MI; 2014.

2013

17. **Miller KC**, Burne JA. Acute static stretching does not affect golgi tendon organ reflex inhibition. NATA Annual Symposia. Las Vegas, NV; 2013.

2012

16. Hawkins JR, **Miller KC**. Gender plays a role in deep tissue cooling independent of skinfold thickness. NATA Annual Symposia; St. Louis, MO; 2012.
15. Allen ST, **Miller KC**, Albrecht JM, Garden-Robinson JA, Blodgett Salafia EH. *Ad libitum* fluid intake and plasma responses following pickle juice, hypertonic saline, and deionized water ingestion. North Dakota Athletic Trainers Association Annual Symposium, Bismarck, ND; 2012.

2011

14. Burrer JL, Hansen PJ, **Miller KC**, Christensen B. Fracture blisters following a posterior elbow dislocation: A case report. NATA Annual Symposia; New Orleans, LA; 2011.
13. Milton AE, Hansen PJ, **Miller KC**, Rhee YS. Grade three liver laceration in an intercollegiate volleyball player: A case report. NATA Annual Symposia; New Orleans, LA; 2011.

2010

12. **Miller KC**, Mack GW, Knight KL, et al. Hypohydration does not increase the intensity, duration, or threshold frequency of electrically- induced muscle cramps. NATA Annual Symposia; Philadelphia, PA; 2010.

2009

11. **Miller KC**, Mack GW, Knight KL. Pickle juice inhibits gastric emptying in rested, euhydrated humans. ACSM Annual Symposia; Seattle, WA; 2009.
- 9 & 10. **Miller KC**, Wilding SW*, Stone MB, Knight KL. Increasing electrical stimulation frequency above cramp threshold frequency increases the strength and duration of electrically induced muscle cramps. RMATA (District 7) and NATA Annual Symposias, Salt Lake City, UT and San Antonio, TX; 2009.
- 7 & 8. **Miller KC**, Knight KL. The relationship between the beginning electrical stimulation

frequency and a person's "true" cramp threshold frequency. RMATA (District 7) and NATA Annual Symposias, Salt Lake City, UT and San Antonio, TX; 2009.

2008

- 5 & 6. **Miller KC**, Mack GW, Knight KL. The effects of pickle juice, Gatorade, and water ingestion on plasma variables in rested, euhydrated humans. RMATA (District 7) and NATA Annual Symposias; Phoenix, AZ and St. Louis, MO; 2008.
4. **Miller KC**, Knight KL, Williams RB. Descriptive study of athletic trainers' perceptions regarding pickle juice and exercise-associated muscle cramps. RMATA (District 7) Annual Symposia; Phoenix, AZ; 2008.

2007

3. Jutte L, Hawkins JR, **Miller KC**, Long BC, Knight KL. Variations of skinfold thicknesses at different locations in athletes and college-aged physically active individuals. NATA Annual Symposia; Anaheim, CA; 2007.
2. **Miller KC**, Knight KL. Pain and soreness associated with an electrical stimulation muscle cramping protocol. RMATA (District 7) Annual Symposia; Denver, CO; 2007.

2006

1. **Miller KC**, Udermann B, Doberstein S, Reineke D. Spatting is more effective than ankle taping before, during, and after exercise. RMATA (District 7) Annual Symposia; Salt Lake City, UT; 2006.

GRANTS (Note: student authors' names are underlined; * = undergraduate student author)

Funded External Contracts

1. **Title:** A randomized, vehicle-controlled study to assess the effectiveness of the Flex-Aid beverage in preventing externally-induced muscle cramp of the flexor hallucis brevis muscle in healthy subjects.

Funding Agency: Flex Pharma, Inc

Investigators: **Miller KC**

Date: 2014

Amount: \$69,707.00

Description: This contract was to test the effectiveness of a cramp prevention drink.

Pending External Contracts

1. **Title:** Effectiveness of Pickle Juice® Sport

Funding Agency: The Pickle Juice Company

Investigators: **Miller KC**

Date: 2017

Amount: \$31,343

Description: This contract was to test the effectiveness of a cramp prevention drink.

Not Funded External Contracts

4. **Title:** Cooling effectiveness of the PolarLife Pod vs. Immersion tub

Funding Agency: POLAR Products, Inc

Investigators: Miller KC

Date: 2017

Amount: \$43,458.00

Description: This contract was to test the effectiveness of a device to cool victims with severe hyperthermia.

3. **Title:** Cooling effectiveness of the PolarLife Pod

Funding Agency: POLAR Products, Inc

Investigators: Miller KC

Date: 2016

Amount: \$35,746.00

Description: This contract was to test the effectiveness of a device to cool victims with severe hyperthermia.

2. **Title:** Effectiveness of Innergy Sport on Cramp Prevention

Funding Agency: Innergy Sport

Investigators: Miller KC

Date: 2016

Amount: \$46,769

Description: This contract was to test the effectiveness of a cramp prevention lotion.

1. **Title:** Effectiveness of various iterations of Pickle Juice Sport

Funding Agency: PJ Sport

Investigators: Miller KC

Date: 2015

Amount: \$20,553

Description: This contract was to test the effectiveness of a cramp prevention drink.

Funded External Grants

Funded Internal Grants

37. **Title:** Precooling's effects on American football skills

Funding Agency: College of Health Professions Research Grant (CMU)

Investigators: Bradley LJ, Miller KC

Date: 2018

Amount: \$500

Description: This grant proposal was to fund a research study.

36. **Title:** Sweat and Cramp Characteristics in Individuals with Varying Susceptibilities to Exercise Associated Muscle Cramps

Funding Agency: College of Health Professions Research Grant (CMU)

Investigators: Szymanski MR, Miller KC

Date: 2018

Amount: \$500

Description: This grant proposal was to fund a research study.

35. **Title:** Sweat and Cramp Characteristics in Individuals with Varying Susceptibilities to Exercise Associated Muscle Cramps

Funding Agency: Office of Research and Sponsored Programs Graduate Student Research and Creative Endeavors Grant (CMU)

Investigators: Szymanski MR, **Miller KC**

Date: 2018

Amount: \$800

Description: This grant proposal was to fund a research study.

34. **Title:** Effect of whole body pre-cooling on rectal temperature cooling rates.

Funding Agency: Office of Research and Graduate Studies; Faculty Research and Creative Endeavors Grant

Investigators: **Miller KC**

Date: 2017

Amount: \$800

Description: This grant proposal was to present research at the 2017 NATA Symposium.

33. **Title:** Effect of whole body pre-cooling on rectal temperature cooling rates.

Funding Agency: College of Health Professions (CMU)

Investigators: Wohlfert TM*, **Miller KC**

Date: 2017

Amount: \$500

Description: This grant proposal was to fund an undergraduate research study.

32. **Title:** Cooling rates of hyperthermic humans wearing American football uniforms when treatment is delayed

Funding Agency: College of Health Professions (CMU)

Investigators: Katt GE*, DiMango TA*, **Miller KC**

Date: 2016

Amount: \$3000

Description: This grant proposal was to fund an undergraduate research study.

31. **Title:** Cooling rates of hyperthermic humans wearing American football uniforms when treatment is delayed

Funding Agency: Office of Research and Sponsored Programs Undergraduate Research and Creative Endeavors Grant (CMU)

Investigators: Katt GE*, DiMango TA*, **Miller KC**

Date: 2016

Amount: \$500

Description: This grant proposal was to fund an undergraduate research study.

30. **Title:** Effectiveness of a wearable cooling system during exercise in heat

Funding Agency: Office of Research and Sponsored Programs Summer Scholar Grant (CMU)

Investigators: Keen ML*, **Miller KC**

Date: 2015

Amount: \$3500

Description: This grant proposal was to fund an undergraduate research study.

29. **Title:** Warm water immersion as a treatment for hyperthermic humans wearing American football uniforms.

Funding Agency: Office of Research and Sponsored Programs Graduate Student Research and Creative Endeavors Grant (CMU)

Investigators: Truxton TT, **Miller KC**

Date: 2015

Amount: \$800

Description: This grant proposal was to fund a research study.

28. **Title:** Environmental Chamber for Human Performance Laboratory

Funding Agency: College of Health Professions

Investigators: **Miller KC**

Date: 2014-2016

Amount: \$300,000

Description: This proposal was to fund the construction of an environmental chamber in my laboratory.

27. **Title:** Effectiveness of a wearable cooling system during exercise in heat

Funding Agency: Honors Program (CMU)

Investigators: Keen ML*, **Miller KC**

Date: 2015

Amount: \$300

Description: This grant proposal was to fund an undergraduate research study.

26. **Title:** Body core temperatures of the esophagus and rectum during exercise and cold-water immersion

Funding Agency: Office of Research and Sponsored Programs Summer Scholars Grant (CMU)

Investigators: Hughes LE*, **Miller KC**

Date: 2015

Amount: \$3,500

Description: This grant proposal was to fund an undergraduate research study.

25. **Title:** Cramp risk and neural excitability following volitionally-induced muscle cramps.

Funding Agency: Office of Research and Sponsored Programs Early Career Grant (CMU)

Investigators: **Miller KC**

Date: 2014-2016

Amount: \$40,620.00

Description: This grant proposal is to fund two research studies.

24. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: Department of Health, Nutrition, and Exercise Sciences

Investigators: **Miller KC**

Date: 2012

Amount: \$8467

Description: This grant was used to purchase Kestrel heat stress trackers and various other small pieces of equipment for my laboratory.

23. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: College of Human Development and Education

Investigators: Miller KC

Date: 2012

Amount: \$14,517.00

Description: This grant was used to purchase consumables and equipment for my laboratory.

22. **Title:** Undergraduate Research Award

Funding Agency: College of Human Development and Education Dean's Office

Investigators: Miller KC

Date: 2012

Amount: \$1000

Description: This grant was to mentor an undergraduate student and collect sweat data from Division 1 college athletes.

21. **Title:** Provost travel and research fund

Funding Agency: NDSU Provost's Office

Investigators: Miller KC

Date: 2011

Amount: \$300

Description: This grant helped support travel to present research at a conference.

20. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: College of Human Development and Education

Investigators: Miller KC

Date: 2011

Amount: \$4617

Description: This grant was used to purchase an EMG unit and consumables for research.

19. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: College of Human Development and Education

Investigators: Miller KC

Date: 2011

Amount: \$6237

Description: This grant was used to purchase a Digitimer constant current stimulator.

18. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: College of Human Development and Education

Investigators: Miller KC

Date: 2011

Amount: \$2309

Description: This grant was used to purchase various consumables for research.

17. **Title:** Request for Research and/or Teaching Laboratory Equipment

Funding Agency: College of Human Development and Education

Investigators: Miller KC

Date: 2011

Amount: \$3119

Description: This grant was used to purchase various consumables for research.

16. **Title:** Research equipment grant

Funding Agency: Experimental Program to Stimulate Research (EPSCoR)

Investigators: Miller KC

Date: 2011

Amount: \$4000

Description: This grant helped with the cost of a -80°C freezer.

15. **Title:** Travel grant

Funding Agency: Research Activities and Technology Transfer (NDSU)

Investigators: Miller KC

Date: 2011

Amount: \$300

Description: This grant helped offset travel costs to a conference.

14. **Title:** Research equipment grant

Funding Agency: Experimental Program to Stimulate Research (EPSCoR)

Investigators: Miller KC

Date: 2011

Amount: \$3500

Description: This grant helped purchase a spectrophotometer.

13. **Title:** Travel grant

Funding Agency: Research Activities and Technology Transfer (NDSU)

Investigators: Miller KC

Date: 2010

Amount: \$300

Description: This grant helped offset travel costs to a conference.

12. **Title:** Proposal for Professional Development

Funding Agency: President's Fund (NDSU)

Investigators: Miller KC

Date: 2009

Amount: \$1000

Description: This grant proposal was to offset travel costs to a conference.

11. **Title:** Research mentoring grant

Funding Agency: Office of Research and Creative Activities (BYU)

Investigators: Miller KC

Date: 2008

Amount: \$5000

Description: This grant was used to mentor an undergraduate student and help complete two research studies. Both studies were later published in Tier 1 medical journals.

10. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2008

Amount: \$3300

9. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2008

Amount: \$1671

8. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2008

Amount: \$1671

7. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2008

Amount: \$1050

6. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2007

Amount: \$3200

5. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2007

Amount: \$600

Description: This grant was used to complete a qualitative research study. The study was later published in a Tier 2 medical journal.

4. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2007

Amount: \$472

3. **Title:** Research presentation award

Funding Agency: Office of Research and Creative Activities

Investigators: Miller KC

Date: 2007

Amount: \$400

Description: This grant helped offset travel costs to a conference.

2. **Title:** Mary Lou Fulton Endowment Application

Funding Agency: Mary Lou Fulton Endowment

Investigators: Miller KC

Date: 2008

Amount: \$2258

1. **Title:** Graduate student research grant application

Funding Agency: Graduate student research grant program (UW-La Crosse)

Investigators: Miller KC

Date: 2005

Amount: \$600

Description: This grant was used to complete my masters thesis. The study was later published in a Tier 1 medical journal.

Not Funded Internal Grants

2. **Title:** Sweat and Nutrition Company

Funding Agency: Office of Research and Sponsored Programs

Investigators: Miller KC, Hildebrandt L, Strong O, Novak J

Date: 2017-2018

Amount: \$49,004

Description: This grant proposal was to develop a company.

1. **Title:** Student Government Capital Project

Funding Agency: Student Government Capital Projects (NDSU)

Investigators: Miller KC, Gange K

Date: 2011

Amount: \$20,675

Description: This grant proposal was to purchase a diagnostic ultrasound unit.

Pending Internal Grants

Not Funded External Grants

10. **Title:** The use of glutamine to minimize thermal stress during repeated firefighting

simulations.

Funding Agency: Department of Homeland Security, Federal Emergency Management Agency

Investigators: Zuhl M, **Miller KC**

Date: 2016

Amount: \$25,000

Description: This grant proposal is to complete a research study.

9. **Title:** Effectiveness of a cooling garment worn beneath American football uniforms during exercise in the heat

Funding Agency: Great Lakes Athletic Trainers Association (GLATA)

Investigators: **Miller KC**

Date: 2015

Amount: \$1500

Description: This grant proposal is to complete a research study.

8. **Title:** Development of in silico models for integration of complex metabolic processes.

Funding Agency: National Science Foundation, Major research instrumentation program

Investigators: Sharma N, Lixin L, Nelson R, Zuhl M, Lomond K, **Miller KC**, Rossignol J

Date: 2014

Amount: \$445,440

Description: This grant proposal was to acquire a comprehensive laboratory animal monitoring system (CLAMS) that will be used to investigate normal and altered metabolic processes in response to environmental stresses.

7. **Title:** Always at the peak! A real-time hydration watch

Funding Agency: Michigan Initiative for Innovation and Entrepreneurship

Investigators: Kaya T, Edwards JE, **Miller KC**

Date: 2014

Amount: \$63,414

Description: This grant proposal was to develop a wearable device that monitors hydration status and electrolyte loss in real time.

6. **Title:** Light therapy and occlusive dressings on superficial skin wounds

Funding Agency: American College of Sports Medicine

Investigators: Long BC, **Miller KC**, Zipple TJ

Date: 2013

Amount: \$5000

Description: This grant proposal was to complete a research study.

5. **Title:** Development of in silico models for integration of complex metabolic processes.

Funding Agency: National Science Foundation, Major research instrumentation program

Investigators: Sharma N, Zuhl M, Nelson R, Lixin L, Rossignol J, Lomond K, **Miller KC**

Date: 2013

Amount: \$176,360

Description: This grant proposal was to purchase a comprehensive laboratory animal monitoring system (CLAMS) for rats and mice.

4. **Title:** Factors which predispose athletes to exercise-associated muscle cramps.

Funding Agency: NATA Research and Education Foundation

Investigators: Miller KC, Long BC, Edwards JE

Date: 2013

Amount: \$115,000

Description: This grant proposal was to complete three research studies.

3. **Title:** Eat smart. Play Hard. Together 2013.

Funding Agency: General Mills Corporation

Investigators: Garden-Robinson JA, Miller KC

Date: 2012

Amount: \$10,000

Description: This grant proposal was to complete one research study.

2. **Title:** Munch and crunch nutrition and fitness (Munch and crunch after school program)

Funding Agency: General Mills Corporation

Investigators: Garden-Robinson JA, Miller KC

Date: 2011

Amount: \$50,000

Description: This grant proposal was to complete a research study.

1. **Title:** Novel beverage ingredients and technologies to improve physical performance

Funding Agency: Nine Sigma Corporation

Investigators: Miller KC

Date: 2010

Amount: \$84,000

Description: This grant proposal was to complete a research study.

Pending External Grants

1. **Title:** The role of type I hypersensitivity in mosquito blood feeding

Funding Agency: NIH NIAID R21

Investigators: Conway MJ, Londono-Renteria B, Miller KC

Date: 2018

Amount: \$275,000

Description: This grant proposal was to complete a research study.

PATENTS and INVENTIONS

1. **Miller KC**, Shingles R. Rectal probe system for detecting, monitoring, and treating heat stroke. Patent pending (filed with US Patent and Trademark Office on March 10, 2016). Patent application #62/306,143.

MY RESEARCH in MAIN-STREAM PRINTED MEDIA (non-refereed)

39. Dean J. *The Takeout*. Interview on my pickle juice research. August 3, 2018.
38. Pope-Parker T. How to start running. *New York Times* Wellness blog. May 16, 2018. [https://www.nytimes.com/guides/well/how-to-start-running?partner=applenews&ad- keywords=APPLEMOBILE®ion=written_through&asset_id=100000005878825?utm_source=mes&utm_campaign=our_cmu&utm_medium=email&utm_content=ITN-How%20to%20start%20running%20\(CMU%20faculty%20member%20Kevin%20Miller%20quoted\)](https://www.nytimes.com/guides/well/how-to-start-running?partner=applenews&ad- keywords=APPLEMOBILE®ion=written_through&asset_id=100000005878825?utm_source=mes&utm_campaign=our_cmu&utm_medium=email&utm_content=ITN-How%20to%20start%20running%20(CMU%20faculty%20member%20Kevin%20Miller%20quoted))
37. Smith C. CMU research on heat exhaustion could save lives. *CMU News*, July 6, 2017. <https://www.cmich.edu/news/article/Pages/heat-exhaustion-football.aspx>
36. Brown B. What will (and won't) help muscle cramps, according to research. *Daily Burn*. March 22, 2017. <http://dailyburn.com/life/fitness/muscle-cramps-causes-treatment/>
35. Simmons K. When drinking too much water can be deadly. *CMU News*. February 2017. <https://www.cmich.edu/news/article/Pages/sweat-testing-helps-hydrate-safely-improve-performance.aspx>
34. Favis R. Introverts and exercise (or pickle juice, the elixir of life). *Introvert Broadcasting Network*. <https://reynafavis.wordpress.com/>
33. Davis J. Can pickle juice really cure muscle cramps? *Runners Connect*. 2016. <http://runnersconnect.net/running-nutrition-articles/pickle-juice-muscle-cramps/>
32. Cole J. *Dr. Oz: The Good Life* (magazine). 2016.
31. Tison M. *La Presse* (Canadian newspaper). March, 2016.
30. Reynolds G. *New York Times* Wellness blog. October, 2015. http://well.blogs.nytimes.com/2015/10/13/ask-well-preventing-cramps-during-exercise-do-not-post/?_r=1
29. Reynolds G. *New York Times* Wellness blog. August, 2015. http://well.blogs.nytimes.com/2015/08/26/for-athletes-the-risk-of-too-much-water/?_r=2&module=ArrowsNav&contentCollection=health&action=keypress®ion=FixedLeft&pgtype=Blogs
28. Thornton J. *Swimmer Magazine*. April, 2015.
27. Lacke S. *Triathlete*. February, 2015. http://triathlon.competitor.com/2015/02/nutrition/fact-fallacy-pickle-juice-sports-nutrition_112027
26. Rosner MH, Hew-Butler T, Fowkes-Godek S, et al. *USA Football*. November, 2014. <http://usafootball.com/blogs/health-and-safety/post/9731/over-hydration-can-lead-to-hyponatremia-and-in-extreme-cases-death>
25. Rosner MH, Hew-Butler T, Fowkes-Godek S, et al. *Training and Conditioning*. November, 2014. http://www.training-conditioning.com/2014/11/26/more_awareness_needed_for_eah/index.php
24. Weinberger H. *Outside Magazine*. January, 2015.
23. Ahmad ZM. Heat stroke research aims to bring CMU to national light. *CM Life*. <http://www.cm-life.com/article/2014/09/heat-stroke-research-aims-to-bring-cmu-to-national-light>. September 23, 2014.
22. Digmann D. Hitting Heat Stroke. *The Pulse* (Winter 2014).
21. Keith LA. *CMU University Communications*. <http://media.cmich.edu/news/eight-tips-to-prevent-heat-stroke-in-athletes>. August 27, 2014.
20. Witz B. *New York Times*. June 6, 2014.

- http://www.nytimes.com/2014/06/07/sports/basketball/lebron-james-and-air-conditioning-are-back-in-service-for-nba-finals.html?ref=sports&_r=0m
19. Shilton, AC. "Oh Cramp!" *Runner's World*. November, 2014.
 18. **Miller KC**. *Brukner and Khan's Clinical Sports Medicine blog*. August 1, 2013. <http://www.clinicalsportsmedicine.com/determining-the-etiology-of-exercise-associated-muscle-cramping-new-evidence-comes-to-light-kevin-c-miller-phd-at-atc>
 17. Smith-Janssen K. *Women's Health Magazine*. October, 2013.
 16. **Miller KC**. *www.MomsTeam.com*. July, 2013. Exercise-associated muscle cramps: Debunking 5 myths. <http://www.momsteam.com/muscle-cramps/exercise-associated-muscle-cramps-debunking-five-myths>
 15. Beresini E. *Outside Magazine*. February, 2013. Interview on cramp myths.
 14. MDLinx.com. January, 2013. MDLinx is the world's most current index of articles that matter in the daily lives of physicians and other healthcare professionals. <http://www.mdlinx.com/internal-medicine/news-article.cfm/4352406>
 13. Liao S. *SELF magazine*. January, 2013.
 12. Berlin J. *National Geographic*.
 11. Hammond C. *BBC (United Kingdom)*. May, 2012. <http://www.bbc.com/future/story/20120430-are-cramps-due-to-lack-of-salt>
 10. Kahn M. *Outside Magazine*. November, 2011.
 9. Dalek B. *Men's Health Magazine*. April, 2011.
 8. Freedman L. *Food Network Magazine*. July/August, 2011.
 7. Bean A. *Runner's World*. April, 2011. The Body Shop: Cramp Out.
 6. Israelsen-Hartley S. Pickle juice doesn't cramp BYU football players' style. *Deseret News (UT)*. Aug 11, 2010. <http://www.deseretnews.com/article/700055636/Pickle-juice-doesnt-cramp-BYU-football-players-style.html>
 5. Maffly B. BYU team proves pickle juice kills cramps, but how? *Salt Lake Tribune*. July 4, 2010.
 4. Kitchen Sink Cures for Muscle Cramps. *The Independent (United Kingdom)*. <http://www.independent.co.uk/life-style/health-and-families/kitchensink-cures-for-muscle-cramps-1996468.html>
 3. Taylor L. Drinking pickle juice relieves muscle cramps: study. *Toronto Star*. June 16, 2010. <http://www.healthzone.ca/health/newsfeatures/article/824336--drinking-pickle-juice-relieves-muscle-cramps-study>
 2. Muessig B. Suffering from muscle cramps? Pick pickle juice. *AOL News*. June 14, 2010.
 1. Reynolds G. Phys Ed: Can pickle juice stop muscle cramping? *New York Times*. June 9, 2010. <http://well.blogs.nytimes.com/2010/06/09/phys-ed-can-pickle-juice-stop-muscle-cramps/?src=mv&ref=health>.

MY RESEARCH in TELEVISION and RADIO (non-refereed)

13. Kozak K. Hawaii Public Radio, "The Body Show." May 9, 2018. www.hawaiipublicradio.org
12. Delarue M. France télévisions, "Le Doc du Dimanche" (translation: "The Sunday Documentary"). Documentary on pickles that discussed my research on pickle juice and cramping. Watched by over 1 million viewers each Sunday evening.

11. Thorp B. CMU Public Health. July 18, 2017. Radio interview on exertional heatstroke research.
10. KHOU11. Television interview with Jeremy Rogalski (Stephanie Kuzydym, producer) on my hyperthermia research. June 27, 2017.
9. *Science of Survival* (Outside Magazine Podcast) with Peter Frick-Wright. May 15, 2017. Radio interview on muscle cramping and hydration.
8. *Top of the Mind* with Julie Rose (BYU Radio). March 20, 2017. Radio interview on cramping research. <http://www.byuradio.org/episode/b8be2511-126f-4b99-a212-da24b6bbe273/top-of-mind-with-julie-rose-world-event-the-pirate-next-door-creating-drinks-to-prevent-athlete-over-hydration?playhead=3126&autoplay=true>
7. CMU Public Health. March 8, 2017. Radio interview on cramping research in athletes.
6. Kropp and Sjö (Swedish Radio). September 16, 2015. Radio interview on overhydration in athletes. <http://t.sr.se/1Kxals5>
5. *Top of the Mind* with Julie Rose (BYU Radio). August 31, 2015. Radio interview on over hydration in youth athletes. <http://www.byuradio.org/episode/1ee20c83-5af2-46a6-bf4b-73393483e1a4/top-of-mind-with-julie-rose-new-orleans-military-families-medieval-feminism>
4. SU TV News, channel 84. Oct 11, 2012. Television interview on recent research projects investigating the effects of pickle juice on muscle cramping.
3. *This Way Up* (Radio New Zealand). Radio interview on the effects of pickle juice on muscle cramps. Feb 22, 2011.
2. KVLV Television (Fargo, ND). Television interview on the effects of pickle juice on muscle cramps. June 28, 2010.
1. The Mike McFeely Show. KFGO 790 am. Radio interview on the effects of pickle juice on muscle cramps. June 14, 2010.

CONSULTATIONS

6. Pickle Juice Sport, Inc. October 2017-Present. Served as a consultant for a company that makes a beverage to stop muscle cramping.
5. Jackson Lewis P.C. Law firm. September 2017. Served as an expert for legal counsel.
4. Flex Pharma. March 2014. Served as a consultant and tested the effectiveness of their product.
3. PureTech Ventures. September 2013-2014. Served on scientific advisory board and consultant.
2. Leicester Tigers Professional Rugby Team (United Kingdom). February 2013. Advised medical staff regarding athlete with persistent exercise-associated muscle cramping.
1. Central Michigan University. May 2012. Helped scientists learn cramp induction technique.

TEACHING EXPERIENCE (Note: student ratings are averaged over all years taught)

Graduate

North Dakota State University

HNES 722: Readings in Sports Medicine (3 cr) 2013

Average Student Evaluation Score for Course: 5 of 5

Average Student Evaluation Score for Instructor: 4.5 of 5

HNES 790: Athletic Training Evidence Based Research & Practice (2 cr)	2012
Average Student Evaluation Score for Course:	4.1 of 5
Average Student Evaluation Score for Instructor:	4.4 of 5
HNES 790: Publishing in Allied Health (1 cr)	2011-2013
Average Student Evaluation Score for Course:	4.1 of 5
Average Student Evaluation Score for Instructor:	4.1 of 5
HNES 723: Advanced Sports Medicine Techniques (3 cr)	2010-2013
Average Student Evaluation Score for Course:	4.6 of 5
Average Student Evaluation Score for Instructor:	4.4 of 5
HNES 782: Orthopedic Assessment II (5 cr)	2010-2012
Average Student Evaluation Score for Course:	4.5 of 5
Average Student Evaluation Score for Instructor:	4.8 of 5
HNES 777: Current Research Practice in Athletic Training (3 cr)	2009-2013
Average Student Evaluation Score for Course:	4.0 of 5
Average Student Evaluation Score for Instructor:	4.4 of 5

University of WI-La Crosse

ESS 730: Advanced Athletic Injury Evaluation (Guest Lecturer)	2004
*Teaching scores unavailable.	

Undergraduate

Central Michigan University

ATR 382: Athletic Training Assessment II (3 cr)	2013-Present
-Student Rating of 'Overall instructor effectiveness'	3.7 of 4
ATR 478: Research for the Health Professions (2 cr)	2013-2016
- Student Rating of 'Overall instructor effectiveness'	3.86 of 4
ATR 478WI: Research for the Health Professions (3 cr) (writing intensive)	2016-Present
- Student Rating of 'Overall instructor effectiveness'	4 of 4
ATR 482: Internship in Athletic Training (2 cr)	2014-Present
- Student Rating of 'Overall instructor effectiveness'	3.8 of 4

Brigham Young University*

EXSC 395: Athletic Training Clinical Education II	2009
EXSC 394: Athletic Training Clinical Education I	2009
EXSC 320: Basic Athletic Training	2008
EXSC 415: Therapeutic Modalities (Guest Lecturer)	2007-2008
EXSC 400L: Functional Anatomy/Cadaver Laboratory	2006-2009
EXSC 416: Lower Extremity Evaluation (Guest Lecturer)	2006
EXSC 321: Basic Athletic Training Taping Laboratory	2006-2008

EXSC: Various exercise science activity classes (martial arts, self-defense, bowling, basketball, soccer, weight training) 2005-2008

University of WI-La Crosse*

ESS 484: Rehabilitation Techniques for Athletic Injuries (Guest Lecturer) 2005
ESS 378: Lower Extremity Anatomy and Evaluation (Guest Lecturer) 2004

*Teaching scores unavailable.

PLAN B, THESIS, or DISSERTATION COMMITTEES

Masters Student Chair

Project Title and Graduation Year

- | | |
|----------------------|--|
| 7. Michael Szymanski | Sweat and cramp characteristics in individuals with varying susceptibilities to exercise associated muscle cramps. 2018-2019. |
| 6. Libby Bradley | Pre-cooling's effect on American football skills. 2018-2019. |
| 5. Jeremy Taylor | Effect of whole body pre-cooling on rectal temperature cooling rates in individuals wearing American football uniforms. 2017-2018. |
| 4. Michael McKenney | Plasma and electrolyte changes in humans following ingestion of multiple boluses of pickle juice. 2013. |
| 3. Kyle Braulick | The effect of significant and serious hypohydration on cramp threshold frequency. 2012. |
| 2. Scott Allen | <i>Ad libitum</i> fluid intake and plasma responses following pickle juice, hypertonic saline and deionized water ingestion. 2012. |
| 1. Jarett Peikert | The effect of pre-exercise ingestion of pickle juice, hypertonic saline and water on aerobic performance and thermoregulation. 2012. |

Masters Student Committee Member

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| 9. Kelsey Potts | The differences in sweat rate and sweat composition in collegiate swimmers. University of South Carolina 2015-2016. |
| 8. Loran Strunk | The differences in sweat rate and sweat composition in collegiate tennis players. University of South Carolina 2015-2016. |
| 7. Donal Murray | Does a reduction in serum sodium concentration or serum potassium concentration increase the prevalence of exercise-associated muscle cramps? CMU 2014. |
| 6. Ben Myers | The differences in sweat rate and sweat composition in collegiate baseball and softball players. University of South Carolina 2013-2014. |
| 5. Skye Koepplin | Posterior proximal tibiofibular joint dislocation in a young gymnast: A case report. NDSU 2012. |
| 4. Candace Lee | Paradoxical vocal fold movement in a female volleyball player. NDSU 2012. |
| 3. Marissa Lindback | Youth parent perceptions of concussion. NDSU 2011. |

- 2. Jodi Burrer Fracture blisters following a posterior elbow dislocation: A case report. NDSU 2011.
- 1. Abby Milton Grade III liver laceration in a female volleyball player: A case report. NDSU 2011.

Graduate Student Research (non-thesis or non-dissertation related research projects)

- 2. James Harsen Stretching's effect on cramp threshold frequency. CMU 2016.
- 1. Tyler Truxton (1) Temperate water immersion as a treatment for hyperthermic humans wearing American football uniforms. (2) Can temperate-water immersion effectively reduce rectal temperature in exertional heat stroke situations?: A critically-appraised topic. CMU 2015-2016.

Undergraduate Student Research

- 12. Kayla Boehm Does gender affect rectal temperature cooling rates?: A critically-appraised topic
- 11. Grace Katt Contribution of American football uniforms to the development of exercise-induced hyperthermia: A critically-appraised topic
- 10. Shelby Schneider Stationary and portable cold water immersion methods for treating hyperthermia: A critically-appraised topic
- 9. Alison Fiorini & Ethan Launstein (1) Validity of body temperature sites in hyperthermic humans wearing American football uniforms
- 8. Tim Wohlfert (1) Effectiveness of pre-cooling for preventing hyperthermia in humans: A critically-appraised topic. (2) Whole body pre-cooling's effect on rectal temperature cooling rate. CMU 2016-2017.
- 6 & 7. Tim DiMango & Grace Katt (1) Core temperature cooling when hyperthermic humans wear American football uniforms and treatment is delayed. CMU 2015-2016.
- 4 & 5. Shelby Schneider & Leah Komisak Warm water immersion as a treatment for hyperthermic humans wearing American football uniforms. CMU 2015.
- 3. Megan Keen (1) Should cooling vests be used to treat exertional heatstroke?: A critically-appraised topic; (2) Effectiveness of a wearable cooling system during exercise in the heat. CMU 2015.
- 2. Lexie Hughes Body core temperatures of the esophagus and rectum during exercise and cold-water immersion. CMU 2015.
- 1. Jon Burke & Austin Herman Ankle skin temperature changes following ice bag application with varying levels of elevation. CMU 2014-2015.

MEMBERSHIPS

- 9. Mid-America Athletic Trainers Association (MAATA) 2009-2013
- 8. National Athletic Trainers Association (NATA) 2002-Present
- 7. Phi Kappa Phi National Honors Society 2003-Present
- 6. Tribeta Biological National Honors Society 2003-Present

5. National Strength & Conditioning Association (NSCA)	2003-2011
4. American College of Sports Medicine (ACSM)	2008-2010
3. Rocky Mountain Athletic Trainers Association (RMATA)	2005-2009
2. Great Lakes Athletic Trainers Association (GLATA)	2001-2005
1. Wisconsin Athletic Trainers Association	2001-2005

HONORS

14. Nominated; NATA Young Professionals' Committee National Distinction Award	2018
13. Nominated; President's Award (CMU)	2018
12. Lecture entitled "Recent Advances in Exertional Heatstroke Diagnosis and Treatment" selected as the NATA Foundation lecture for annual FWATA (District 8) conference.	2017
11. Lecture entitled "American football and exertional heatstroke: What have we learned in the last 50 years?" selected as the NATA Foundation lecture for annual GLATA (District 4) conference	2017
10. Nominated; NATA New Investigator Award	2015, 2016
9. Nominated; Faculty Excellence Exhibition (CMU)	2014
8. Selected for NATA Foundation Research Mentor Program (mentor = Dr. Mike Ferrara, ATC, FNATA)	2012
7. Nominated; Graduate student research mentoring award (NDSU)	2012
6. Nominated; Emerging Researcher Award (NDSU)	2011
5. Research in top 99 th percentile of Science News Releases (Newswise)	2010
4. Valedictorian (BYU)	2009
3. Graduated Summa Cum Laude (UW-Green Bay)	2003
2. Dean's List (UW-Green Bay)	2000-2003
1. Sophomore Assessment Test High Honors (UW-Green Bay)	2001

AWARDS

5. Best Original Research Award (Great Lakes Athletic Trainer Association Annual meeting for "Cooling rates of hyperthermic humans wearing American football uniforms when cold-water immersion is delayed.")	2017
4. Robert and Patty Hendrickson Faculty Development Award (NDSU)	2012
3. James Lebedeff Endowed Professorship Development Award for Excellence in Research and Teaching (NDSU)	2011
2. Doctoral Fellowship Award (BYU)	2008-2009
1. Outstanding Doctoral Student Award (BYU)	2008

SCHOLARSHIPS

3. Miller KC. (2008). Rocky Mountain Athletic Trainers Association (District 7) Doctoral Scholarship. \$2000.00
2. Miller KC. (2000). UW-Green Bay Academic Scholarship. \$1000.00.
1. Miller KC. (2000). Exceptional Student Scholarship. Freedom Lions Club. \$500.00

SERVICE

Editorial Board Service

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| 4. <i>Sport and Exercise Nutrition</i> (a specialty of <i>Frontiers in Nutrition</i>) | 2018-Present |
| 3. <i>Athletic Training and Sports Health Care</i> | 2018-Present |
| 2. <i>Exercise Physiology</i> (a specialty of <i>Frontiers in Physiology</i>) | 2016-Present |
| 1. <i>Journal of Athletic Training</i> | 2016-2019 |

Reviewer Service

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| 26. <i>Journal of Strength and Conditioning Research</i> | |
| 25. <i>European Journal of Neurology</i> | |
| 24. <i>Prehospital Emergency Care</i> | |
| 23. <i>Exercise Physiology</i> (a specialty of <i>Frontiers in Physiology</i>) | |
| 22. <i>Athletic Training and Sports Health Care</i> | |
| 21. <i>American Journal of Preventative Medicine</i> | |
| 20. <i>Muscle and Nerve</i> | |
| 19. <i>Current Sports Medicine Reports</i> | |
| 18. <i>Journal of Sports Rehabilitation</i> | |
| 17. <i>Physician and Sports Medicine</i> | |
| 16. <i>Evidence-based Complementary and Alternative Medicine</i> | |
| 15. NATA Research and Education Foundation Grant Program | |
| 14. <i>Scandinavian Journal of Medicine and Science in Sports</i> | |
| 13. <i>Sports Medicine (Open)</i> | |
| 12. GLATA (district 4) free communications program | |
| 11. <i>Journal of Athletic Enhancement</i> | |
| 10. <i>Journal of Pain Research</i> | |
| 9. <i>Journal of Foot and Ankle Research</i> | |
| 8. District 5 (MAATA) Free Communications Program Reviewer | 2011-2013 |
| 7. <i>American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology</i> | |
| 6. <i>Journal of Physiology</i> | |
| 5. <i>International Journal of Sports Medicine</i> | |
| 4. NATA Annual Symposium Special Topic Presentations | |
| 3. <i>Medicine and Science in Sports and Exercise</i> | |
| 2. <i>Journal of Sports Sciences</i> | |
| 1. <i>Journal of Athletic Training</i> | |

Athletic Training Committee Service

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| 10. Chair, Michigan Athletic Trainers Society Research Assistance Committee | 2018-2021 |
| 9. NATA liaison to the Canadian Athletic Therapist Association | 2018-2021 |
| 8. Sub-committee Chair, NATA International Speaker Program | 2017-Present |
| 7. NATA International Committee, Member | 2016-Present |
| 6. Korey Stringer Institute (KSI) Medical and Science Advisory Board Member | 2016-Present |
| 5. Co-Chair, Michigan Athletic Trainers Society Professional Education Committee | 2015-2018 |
| 4. NATA Convention Program Committee, Chair of the Special Topics sessions | 2012-2015 |
| 3. NATA Convention Program Committee, Chair of the Peer-to-Peer | 2012-2013 |

sessions

2. UW-Green Bay Student Athletic Trainers Association, Vice President 2003-2004
1. UW-Green Bay Student Athletic Trainers Association, Secretary 2001-2003

College and University Service

20. AT Fixed Term Faculty Search Committee, Member (CMU) 2018
19. College of Health Professions Research Committee, Member (CMU) 2017-Present
18. SRMS Personnel Committee, Member (CMU) 2017-Present
17. Sub-committee Chair, IRB Quality Control (CMU) 2017
16. Honors Council, Member (CMU) 2016-Present
15. Early Career Grant Review Sub-committee, Member (CMU) 2016
14. Chair, Grade grievance committee (CMU) 2015-2016
13. Director of Development Search Committee, Member (CMU) 2015
12. President's and Provost's Award Committee, Member (CMU) 2015
11. Institutional Review Board, Member (CMU) 2014-2017
10. Athletic Training Graduate Assistant Search Committee, Member (CMU) 2014, 2017
9. Co-Chair, PhD Development Committee (CMU) 2013-2015
8. Chair, Grade grievance committee (CMU) 2014
7. Academic Integrity Committee, Member (CMU) 2014
6. Institutional Review Board, Member (NDSU) 2012-2013
5. Chair, Tracking Faculty Publication Committee (NDSU) 2012
4. Graduate Committee, Member (NDSU) 2011-2012
3. Chair, Merit Pay Distribution Committee (NDSU) 2011-2012
2. Postdoctoral Fellow Selection Committee (NDSU) 2010-2012
1. PhD Curriculum Committee (NDSU) 2009-2011

Other Professional Service

11. GLATA Non-Certified Free-Communication Abstract Review Team Leader 2016
10. NATA Symposium Special Topic Session Moderator 2016, 2017
8. Designer of the CMU Athletic Training 40th Anniversary logo 2013
7. Round Table Participant on "Writing in the Health Sciences" 2012
6. NATA Symposium Free Communications Session Moderator 2012
5. University Senate Proxy, North Dakota State University 2009
4. RMATA (District 7) annual symposium Moderator 2006-2008
3. Drews/Neubauer Cross Country Invitational, Athletic Training Student 2004
2. Bellin Sports Medicine Let-it-fly Football Combine 2001-2002
1. Special Olympics, Green Bay 2001

Community Service

4. Fireman's Picnic Volunteer (Greenleaf, WI) 2002-2012
3. CenterPoint Church Worship Team (Orem, UT) 2006-2009
2. St. Mark's Lutheran Church Worship Team (Green Bay, WI) 2001-2002
1. Usher, St. Mark's Lutheran Church (Green Bay, WI) 1998-2002

PROFESSIONAL DEVELOPMENT

Conference Attendance

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|--|------------|
| 1. Great Lakes Athletic Trainers Association Symposium | 2014-20XX |
| 2. Michigan Athletic Trainers Society Symposium | 2014-20XX |
| 3. North Dakota Athletic Trainers' Association Symposium | 2013 |
| 4. American College of Sports Medicine Symposium | 2009, 2016 |
| 5. Rocky Mountain Athletic Trainers' Association Symposium | 2006-2008 |
| 6. National Athletic Trainers' Association Clinical Symposia and AT Expo | 2005-20XX |
| 7. Wisconsin Athletic Trainers' Association Symposium | 2002 |

Pedagogical Development

1. Chambers P. "Graduate students, non-academic careers, and you." March 19, 2012.
2. Christensen W. "On the effective use of clickers, and other student response systems." February 1, 2012.
3. Womberg R. "Improving assessment in your classrooms." December 7, 2011.
4. Moody J. "Mentoring students: Good and bad practices." September 21, 2010.
5. Wageman J. "Clear learning targets: A key of high quality classroom assessment." November 24, 2009.
6. Various presenters. "NDSU teaching and learning conference." August 19, 2009.

Research Development

1. McGrath J. "The nuts and bolts of proposal submission and processing at CMU." CMU. March 28, 2014.
2. Morrison, D. "Write winning NIH grant proposals." University of MI. October 30, 2013.
3. Building a nationally-competitive research program at NDSU (Gear up for grants workshop). NDSU. December 17, 2009.
4. Protecting Intellectual Property (Gear up for grants workshop). NDSU. November 19, 2009.

RESEARCH ETHICS and HUMAN PROTECTION TRAINING

3. Collaborate Institutional Training Initiative (CITI), Biomedical Researcher; Completed 04-11-2014 (Expires 01-2020)
2. Collaborate Institutional Training Initiative (CITI), Good Clinical Practice; Completed 04-11-2014
1. National Institute of Health (NIH) Office of Extramural Research, Protecting Human Research Participants; Completed 05-15-2014 (certification #1467994)