

Casey M. Watkins, PhD

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I am a sport scientist with a particular interest in applying scientific principles to athlete performance and monitoring. My professional and academic portfolio can also be found at <https://www.linkedin.com/in/casey-watkins025/>
<https://scholar.google.co.nz/citations?user=Bc0NuY0AAAAJ&hl=en&oi=ao>

EDUCATION

Auckland University of Technology *2017 – 2021*
Doctor of Philosophy – Sport and Exercise Science
Thesis: Dose response and manipulation of plyometrics for improving sprint performance in semi-professional and professional rugby players.
Graduation: July 2021

California State University, Fullerton *2015 – 2017*
Master of Science – Kinesiology
Thesis: Determination of vertical jump as a measure of neuromuscular fatigue and readiness.
Graduation: May 2017

California State University, Fullerton *2012 – 2015*
Bachelor of Science – Kinesiology
Honors: Cum Laude, Dean's List
Graduation: May 2015

CERTIFICATIONS

Certified Strength and Conditioning Specialist (CSCS) *Since 2015*
National Strength and Conditioning Association (NSCA)
Exp. December 2023

Level 1 Anthropometrist *Since 2018*
The International Society for the Advancement of Kinanthropometry (ISAK)

SCHOLARSHIPS

Adidas NZ Rugby scholarship *2018*
NSCA Foundation Women's Scholarship *2016*
ASI Carol Burke Scholarship *2016*

PROFESSIONAL EXPERIENCE

Lecturer and Strength & Conditioning Coach *2021*
Split between leading 1 – 2 classes per quarter including professional standards, exercise programming and lab, physical activity across the lifespan, and coaching. This involves class structure, content creation, execution, and assessment. Additionally, I am the strength and

conditioning coach for ~170 NCAA Division 1 athletes including women's soccer, women's rowing, and all track and field athletes.

Seattle University
Seattle, Washington, USA

Senior Clinic Technician

2018 – present

Educational workshops (i.e., athlete assessment, strength and power, sprint and jump kinetics, muscle-tendon interaction, biomechanics) for primary, secondary and tertiary providers and individual client assessments (i.e., movement competency, strength, programming needs).

Sports Performance Clinic, Sports Performance Research Institute New Zealand, Auckland University of Technology
Mairangi Bay, Auckland, NZ

Teaching Associate

2018 – present

Sport and Recreation certificate, Sport and Exercise Science Fundamentals, Group and Individual Behavior, Sport, Exercise and Fitness, Post graduate Exercise Physiology

Auckland University of Technology
Mairangi Bay, Auckland, NZ

Research Assistant

2018 – present

Metabolic effects of heat training in cyclists, early specialization in football athletes, weight gain with varied caloric intake, range of motion in powerlifters

Auckland University of Technology
Mairangi Bay, Auckland, NZ

Strength and Conditioning Assistant Coach

2020

Personally responsible for gym programming 7 athletes in the back line. In particular, my main focus was speed and power training. Additionally, I managed performance testing and data analysis for all athletes on the team.

Mitre 10, North Harbour Rugby Union
Albany, Auckland, NZ

Strength and Conditioning Assistant Coach

2018 – 2020

Involved in all aspects of human performance, including programming, daily monitoring, warm up and preparation, sprint training, conditioning, nutrition, and data analysis.

Mitre 10, Auckland Rugby Union
Western Springs, Auckland, NZ.

Juniors Lead Strength and Conditioning Coach

2018

Athlete Development
Mairangi bay, Auckland, NZ.

Head Strength and Conditioning Coach

2016 – 2017

Fullerton Spirit Squad, California State University, Fullerton
Fullerton, California, USA

Assistant Laboratory Director *2016 – 2017*
Human Performance Laboratory, California State University, Fullerton
Fullerton, California, USA

Teaching Associate *2016 – 2017*
KNES 171, Resistance Training
Center for Sport Performance, California State University, Fullerton
Fullerton, California, USA

Women's Lacrosse Head Coach *2014 – 2017*
Fullerton Women's Lacrosse, California State University, Fullerton
Fullerton, California, USA

Sport Science Intern *2016*
Olympic Ski Half-Pipe Team, Canadian Sports Institute
Whistler, British Columbia, Canada.

National Collegiate Athletic Association Weight Room Intern *2016*
California State University, Fullerton
Fullerton, California, USA

Assistant Junior Varsity Lacrosse Coach *2015 – 2016*
Foothill High School
Tustin, California, USA

Intern *2014*
Athletic Republic
Costa Mesa, California, USA

Assistant Lacrosse Coach *2010 – 2011*
Blue Dog Lacrosse
Pleasanton, California, USA

PROFESSIONAL SERVICES

Athos product reliability testing *2016 – 2017*
Nike compression Study *2016*
Western Hockey League Combine anaerobic power testing *2016*
Anaheim Ducks On-Ice Speed testing *2016*
Anaheim Ducks anaerobic power testing, CSUF *2015 – 2016*
Pilot for Coaching Fundamental Lifts Course, NSCA *2015*

PROFESSIONAL SCHOLARSHIP

Reviewer (n = 15), Journal of Strength and Conditioning since 2016

Reviewer (n = 2), The Physician and Sports Medicine since 2021
Reviewer (n = 1), Medicine and Science in Sports and Exercise since 2021
Reviewer (n = 2), Science and Football since 2020

PUBLICATIONS

I have built a substantial research portfolio prior to, during, and following my PhD. I have five first-author publications in high-impact peer-reviewed journals, co-authorship on a further 10 journal articles, 2 book chapters and 24 total conference abstracts, accruing ~119 citations and an h-index of 5.

1. Maunder, M, Plews, DJ, Wallis, GA, Brick, MJ, Leigh, WB, Chang, WL, Stewart, T, **Watkins, CM**, and Kilding, AE. Peak fat oxidation is positively associated with *vastus lateralis* CD36 content, fed-state exercise fat oxidation, and endurance performance in trained males. *Eur J Appl Physiol*, 2021.
2. **Watkins, CM**, Storey, AG, McGuigan, MR, and Gill, ND. Horizontal force velocity power profiling of rugby players: A cross-sectional analysis of competition-level and position-specific movement demands. In press. *J Strength Cond Res* xx: 000–000, 2021.
3. **Watkins, CM**, Storey, AG, McGuigan, MR, and Gill, ND. Implementation and efficacy of plyometric training: Bridging the gap between practice and research. *J Strength Cond Res* 35(5): 1244–1255, 2021.
4. Maunder, E, Plews, DJ, Wallis, GA, Brick, MJ, Leigh, WB, Chang, WL, **Watkins, CM**, and Kilding, AE. Temperate performance and metabolic adaptations following endurance training performed under environmental heat stress. *Physiol Rep*, 9, e14849, 2021.
5. **Watkins, CM**, Gill, ND, Maunder, E, Downes, P, Young, JD, McGuigan, MR, and Storey, AG. The effect of low-volume preseason plyometric training on force-velocity profiles in semiprofessional rugby union players. In press. *J Strength Cond Res* 35(3): 604–615, 2020.
6. **Watkins, CM**, Maunder, E, Tillaar, R, Oranchuk, DJ. Concurrent validity and reliability of three ultra-portable vertical jump assessment technologies. *Sensors*. 20(24): 7240, 2020.
7. Dobbs IJ, Wong MA, **Watkins CM**, Barillas SR, Rivera M, Coburn JW, Costa PB, Brown LE. Correlation between isometric horizontal push force and sprint times across positions in collegiate rugby union players. *J Aust Strength Cond*. 26(4): 17-24, 2018.
8. Lynn, SK, **Watkins, CM**, Wong, MA, Belfany, K, Feeney, DF. Validity and reliability of surface electromyography measurements from a wearable athlete performance system. *J Sports Sci Med*. 17(2): 205–215, 2018.
9. Marquardt AM, Wong, MA, **Watkins CM**, Barillas SR, Galpin AJ, Coburn JW, Brown LE. Effects of starting stance on base running sprint speed in softball players. *Int J Exerc Sci*. 11(6):179–186, 2018.

10. Rivera M, Leyva WD, Archer DC, Munger CN, **Watkins CM**, Wong MA, Dobbs IJ, Galpin AJ, Coburn JW, Brown LE. No effect of assisted hip rotation on bat velocity. *Int J Exerc Sci.* 11(4):68–74, 2018.
11. Barillas SR, **Watkins CM**, Wong MA, Dobbs IJ, Archer DC, Munger CN, Galpin AJ, Coburn JW, Brown LE. Acute effects of plyometric exercise on blood glucose. *Int J Exerc Sci.* 10(7):1076–1084, 2017.
12. Dobbs IJ, **Watkins CM**, Barillas SR, Wong MA, Brown LE. Assessing knee strength ratios and bilateral deficit via dynamic vs. static tests in amateur rugby union players. *Isokinet Exerc Sci.* 25(4):281–287, 2017.
13. Eckel TL, **Watkins CM**, Archer DC, Wong MA, Arevalo JA, Lin A, Coburn JW, Galpin AJ, Brown LE. Bench press and pushup repetitions to failure with equated load. *Int J Sports Sci Coach.* 12(5):647–652, 2017.
14. **Watkins CM**, Barillas SR, Wong MA, Archer DC, Dobbs IJ, Lockie RG, Coburn JW, Tran TT, Brown LE. Determination of vertical jump as a measure of neuromuscular readiness and fatigue. *J Strength Cond Res.* 31(12):3305–3310, 2017.
15. Wong MA, Dobbs IJ, **Watkins CM**, Barillas SR, Lin A, Archer DC, Lockie RG, Coburn JW, Brown LE. Sled towing acutely decreases acceleration sprint time. *J Strength Cond Res.* 31(11):3046–3051, 2017.

ABSTRACTS

1. **Watkins CM**, Barillas SR, Wong MA, Dobbs IJ, Lin A, Munger CN, Archer DC, Brown LE. Leg Strength Differences Between Women's Collegiate Spirit Squad and Rugby Players. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017. *Journal of Strength and Conditioning Research*, 31(12);, 2017.
2. Archer DC, Munger CN, Rivera M, Leyva WD, Barillas SR, **Watkins CM**, Wong MA, Dobbs IJ, Brown LE. No effect of smelling salts on vertical jump height or sprint time. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017. *Journal of Strength and Conditioning Research*, 31(12), 2017.
3. Dobbs IJ, Wong MA, **Watkins CM**, Barillas SR, Rivera M, Coburn JW, Costa PB, Brown LE. Relationship between isometric horizontal push force and sprint speed in collegiate rugby players. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017. *Journal of Strength and Conditioning Research*, 31(12), 2017.
4. Eckel TL, **Watkins CM**, Archer DC, Wong MA, Arevalo JA, Lin A, Coburn JW, Galpin AJ, Brown LE. Differences in bench press vs. push up repetitions to failure with equated load between genders. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017. *Journal of Strength and Conditioning Research*, 31(12), 2017.

5. Kammerer JD, Dobbs IJ, Wong MA, **Watkins CM**, Barillas SR, Rivera M, Coburn JW, Costa PB, Brown LE. Differences between unilateral and bilateral horizontal isometric push force in collegiate rugby players. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017.
6. Leyva WD, Archer DC, Munger CN, Rivera M, Barillas SR, **Watkins CM**, Wong MA, Dobbs IJ, Brown LE. Relationship between vertical jump power and sprint speed is altered between acceleration and top speed phases. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017.
7. Lin A, Wong MA, **Watkins CM**, Eckel TL, Brown LE. Relationship between core endurance, leg strength and balance. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017.
8. Marquardt AM, Wong, MA, **Watkins CM**, Barillas SR, Coburn JW, Galpin AJ, Brown LE. Effects of starting position on sprint speed in softball players. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017. *Journal of Strength and Conditioning Research*, 31(12), 2017.
9. Rivera M, Archer DC, Munger CN, Leyva WD, Barillas SR, **Watkins CM**, Dobbs IJ, Wong MA, Brown LE. Effects of inhalants on force production. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017.
10. Wong MA, Dobbs IJ, **Watkins CM**, Barillas SR, Lin A, Archer DC, Lockie RG, Coburn JW, Brown LE. Acceleration sprint time is potentiated following sled towing. NSCA Annual Meeting, Las Vegas, NV, July 12-15, 2017.
11. **Watkins CM**, Wong MA, Barillas SR, Dobbs IJ, Brown LE. Differences Between Open and Closed-Kinetic Chain Measurements for Assessing Bilateral Strength Deficits. ACSM Annual Meeting, Denver, CO, May 30-June 3, 2017.
12. Barillas SR, **Watkins CM**, Wong MA, Dobbs IJ, Archer DC, Munger CN, Galpin AJ, Coburn JW, Brown LE. Acute effects of plyometric exercise on blood glucose. ACSM Annual Meeting, Denver, CO, May 30-June 3, 2017.
13. Dobbs IJ, **Watkins CM**, Wong MA, Barillas SR, Brown LE. Hamstrings to quadriceps ratios differ between legs and isometric and dynamic tests in amateur rugby players. ACSM Annual Meeting, Denver, CO, May 30-June 3, 2017.
14. Eckel TL, **Watkins CM**, Archer DC, Wong MA, Brown LE. Correlation between bench press and pushup repetitions to failure relative to bodyweight. ACSM Annual Meeting, Denver, CO, May 30-June 3, 2017.
15. Wong MA, **Watkins CM**, Dobbs IJ, Barillas SR, Lin A, Archer DC, Coburn JW, Lockie RG, Brown LE. No acute effect of sled towing on sprint acceleration or maximum speed. ACSM Annual Meeting, Denver, CO, May 30-June 3, 2017.

16. **Watkins CM**, Wong MA, Barillas SR, Brown LE. Target position decreases velocity in collegiate lacrosse players. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
17. Barillas SR, **Watkins CM**, Galpin AJ, Coburn JW, Brown LE. Acute effects of plyometric exercise on glycemic control. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
18. Chavez A, Kelly SB, Wong MA, **Watkins CM**, Brown LE. Baseball swing velocity measured by Zepp[®] vs. timing lights. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
19. Eckel TL, **Watkins CM**, Archer DC, Wong MA, Brown LE. Relationship between 1RM bench press and isometric pushup force. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
20. Lin A, Wong MA, **Watkins CM**, Dobbs IJ, Barillas SR, Archer DC, Coburn JW, Lockie RG, Brown LE. No sprint potentiation following sled towing. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
21. Thornberry JH, **Watkins CM**, Wong MA, Barillas SR, Brown LE. Accuracy decreases stick velocity in collegiate lacrosse players. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
22. Wong MA, **Watkins CM**, Dobbs IJ, Lin A, Barillas SR, Archer DC, Coburn JW, Lockie RG, Brown LE. Relationship between relative strength and sprint potentiation following sled towing. SWACSM Annual Meeting, Costa Mesa, CA, October 21-22, 2016.
23. **Watkins CM**, Brown LE, Wong MA, Barillas SR, Bartolini JA, Munger CN. Stick carry decreases sprint speed in collegiate lacrosse players. NSCA Annual Meeting, New Orleans, LA, July 6-9, 2016.
24. Wong MA, Brown LE, **Watkins CM**, Barillas SR, Bartolini JA, Munger CN. No effect of stick carry on agility in collegiate lacrosse players. NSCA Annual Meeting, New Orleans, LA, July 6-9, 2016.

BOOK CHAPTERS

1. **Watkins CM**, Wong MA, Barillas SR, Brown LE. Plyometric, Speed, Agility and Quickness Exercise Prescription. In: Conditioning for Strength and Human Performance, 3rd Edition. Chandler TJ, Brown LE (Eds.) Abingdon, OX, UK: Routledge, 2017.

2. Wong MA, **Watkins CM**, Dobbs IJ, Brown LE. Test Administration and Interpretation. In: Conditioning for Strength and Human Performance, 3rd Edition. Chandler TJ, Brown LE (Eds.) Abingdon, OX, UK: Routledge, 2017.

REFERENCES

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