FOUNDATION for the Royal College of Chiropractic Sport Sciences (Canada) announces their 2021 Research Awards Winners

The FOUNDATION is pleased to announce the following Awards

2021 Tempur Sealy Foundation Research Grant	**Dr. Alex Lee**
2021 Dr. John DeFinney Research Funding Grant	**Dr. Mohsen Kazemi**
2021 Dr. Rocco Guerriero Research Funding Grant	**Dr. Melissa Belchos**
2021 Dr. Gordon Lawson Research Funding Grant	**Dr. Cristina Leonardelli**
2021 Dr. Trevor Wallace Academic Achievement Scholarship Award	**Dr. Michael Edgar**
2021 Academic Achievement Scholarship Award	**Dr. Nader Abdelkader**
2021 Award of Excellence – Resident	**Dr. Cristina Leonardelli**
2021 Award of Excellence – Fellow	**Dr. Janice Drover**
2021 Outstanding Paper Award	**Dr. Mohsen Kazemi**
2021 Outstanding Paper Award	**Dr. Nader Abdelkader**

The following are the descriptions of the Awards and the award winners.

2021 Tempur Sealy Foundation Research Grants

Dr. Alex Lee

Mohsen Kazemi
Peter Stilwell
Kent Stuber
Scott Howitt
Chris deGraauw
Brad Muir
Rocco Guerriero
Glenn Cashman
Katie de Luca
Sheilah Hogg-Johnson
Kaitlyn Szabo
Gordon Lawson
Lara deGraauw

Abstract (500 words max)

Background: Sleep is essential for maintaining health, promoting recovery and optimizing performance for athletes. Sleep disturbances can occur in athletes as a result of specific contextual factors related to their lifestyle, such as high training loads, frequency of travel, evening competitions and early morning training sessions. While sleep disturbances have been documented in elite athlete populations, little is known about the sleep habits, behaviours and prevalence of sleep disturbances among athletes presenting to community-based sports clinics.

Objectives: To investigate the sleep habits, behaviours, prevalence of sleep disturbance, and sleep environment preferences of athletes presenting to a national practice-based research network of Canadian chiropractors working in sport.

Methods: Athletes of all skill-levels from the ages of 12 years and older will be recruited from clinics of the Sports and Exercise Research Collaborative for Health Practice-Based Research Network (17 clinics spanning 8 provinces). They will be asked to complete a survey that will include the Athlete Sleep Screening Questionnaire, a validated athlete sleep outcome measure that categorizes athletes into 4 sleep difficulty categories (none, mild, moderate and severe), and questions about their sleep environment and the impact of sleep on their athletic activities.

Analysis: Descriptive statistics will be used to summarize athlete characteristics and survey questions related to sleep habits, sleep environment and the impact of sleep on athletic activities. The distribution of the primary outcome of the ASSQ, sleep difficulty category, will be described using frequency and percentages, and its association with athlete characteristics (age, sex, sport, etc.) will be investigated using $\chi 2$ tests accounting for the clustering of patients within practices by using survey estimator procedures with practice as the primary sampling unit.

Impact of Work: This project will be the first to report the use of the ASSQ in a community-based sports healthcare setting, and it will report the sleep habits, behaviours and prevalence of sleep disturbance of athletes of all skill-levels from 12 years of age and older. This study will be the first to utilize a sports healthcare PBRN to conduct sleep research in athletes, and it will provide sports chiropractors with the experience of administering the ASSQ, providing the opportunity to translate evidence-based sleep screening methods to their clinical care of athletes.

Dr. Lee started his academic career at the University of Waterloo where he earned a Bachelor of Science Honours degree in Kinesiology. His interest in sports medicine led him to the Canadian Memorial Chiropractic College (CMCC) where he graduated with magna cum laude honours and received the John M Wallace Memorial Award for clinical proficiency.

Interested in specializing in sports health care, Dr. Lee completed a two-year, full time, post-graduate Sports Sciences Residency at CMCC which led him to obtaining his Sports Sciences Fellowship from the Royal College of Chiropractic Sports Sciences (Canada). In addition to his academic training, he has completed certifications in contemporary clinical acupuncture and Active Release Techniques.

Dr. Lee has worked as a provider in both the elite and amateur levels of hockey, martial arts, wrestling, volleyball, track & field, and endurance sports. He is clinical faculty at CMCC, is a peer reviewer for various academic journals, and is actively involved in clinical research.



2021 Dr. John DeFinney Research Funding Grant –
Kickstarting G-CARE; The Global Chiropractic Athletics Research and Education Initiative

Dr. Mohsen Kazemi

Corrie Myburgh **Silvano Mior**
Alex Lee **Samuel Howarth**

Abstract

This proposed project forms the foundation of an international collaboration, which aims to advance the position of chiropractors in the world of elite athletic healthcare and performance management (AHPM).

Interprofessional practice (IPP) has the potential to enhance patient experiences and improve the outcomes of health care. IPP also provides opportunities for various health care provider groups to formalize their status, by demonstrating their value as a service provider. However, chiropractors in general, have found it challenging to be accepted as a viable contributing member of interprofessional health care teams (IHCT). Consequently, their value as service providers is still questioned.

Service provision in athletic contexts, particularly at the elite level, is highly influenced by economic incentives and athletes' needs and experiences. As such organizations are prepared to 'gamble' on service providers with the potential of adding unique contributions to their IHCTs to enhance performance and manage injuries. Therefore, understanding how organizations assess such contributions by health care providers, particularly chiropractors, can inform strategies for their ultimate inclusions in IHCT. As a profession, greater inclusion of chiropractors as part of IHCTs is strategically valuable for enhancing its visibility, image, integration, and scope of practice development in athletic contexts. Moreover, knowledge developed in the AHPM setting may have carry-over effects to chiropractic practice in general.

Our specific aim is to capture the unique international experiences of chiropractors working in elite interdisciplinary AHPM settings, to better understand factors such as essential expert knowledge, key professional competencies, and barriers and facilitators required for their sustained inclusion.

The project findings will allow the research team to identify further gaps in current knowledge and aid in generating strategically meaningful hypotheses informing a global agenda for chiropractic professional practice and education. Our vision is to establish the professional role of the chiropractor as an integral member of the IHCT for effective AHPM. Our international team has the potential of further extending this work globally.

***Mohsen Kazemi**, RN, DC, FRCCSS(C), FCCPOR(C), MSc, PhD (mkazemi@cmcc.ca) is a Professor and Sports Sciences Residency Coordinator at CMCC. He is a Fellow of the Royal College of Chiropractic Sports Sciences [RCCSS(C)] and the College of Chiropractic Physical and Occupation Rehabilitation (CCPOR). He has published more than 45 peer reviewed articles and five books. Dr. Kazemi's research interests are in chiropractic care, sports performance, concussion, sports epidemiology, manipulative therapies, and soft tissue techniques. His research aspirations are driven by his passion for evidence-based practice and efficiency. His recent study on the concussion Knowledge of North American chiropractors was fuelled by the controversy of who is qualified to diagnose and manage concussion.*



Dr. Kazemi has attended several major games as team Chiropractor and has served as team chiropractor and medical chair for Taekwondo Canada and Taekwondo Ontario.

2021 Dr. Rocco Guerriero Research Funding Grant –
Exploring sleep characteristics and perspectives in Canadian varsity athletes.

Dr. Melissa Belchos

Dr. Silvano Mior

Dr. Sheilah Hogg-Johnson

Dr. Efrosini Papaconstantinou

Abstract

Background: Healthy sleep is critical to overall health and wellbeing. In athletes, high-quality and sufficient sleep is necessary for performance optimization and recovery. Student-athletes face additional academic and social pressures and tend to experience poor sleep quality. Yet the sleep characteristics of Canadian varsity athletes is unknown, and therefore an important gap requiring attention.

Objectives: To explore sleep behaviours and perspectives on sleep in Canadian varsity athletes from sixteen teams in nine different sports (Basketball, Hockey, Rowing, Soccer, Badminton, Curling, Golf, Lacrosse and Dance) at Ontario Tech University.

Methods: We will use a mixed method explanatory sequential design. In Phase I, we will collect and analyze quantitative questionnaire data, which will inform the follow-up qualitative phase (Phase II). All varsity athletes from all sports teams at Ontario Tech University will be invited to complete an online questionnaire assessing their sleep behaviours and other lifestyle context. The questionnaire is comprised of five validated scales related to sleep behaviours and lifestyle behaviours. Participants will be asked to provide data on demographics, lifestyle, training and competitive schedules as well as present and past injuries. Qualitative semi-structured interviews will be informed by the completed analysis in Phase I. Any statistical relationships identified will be posed to the participants to explore their perspectives. In Phase II, questions regarding the athlete's perceptions of the importance of sleep to their training and performance and barriers to obtaining sleep will be explored and converged with Phase I results.

Analysis: In Phase I, quantitative data from the online survey will be imported and analyzed using SPSS 22 (IBM corporation, Chicago, IL, USA). Sample characteristics and descriptive statistics of measures will be calculated. Internal consistency scores as measured by Cronbach's alpha will be calculated. To determine significant relationships of sleep duration and overall sleep quality with sociodemographic data, tests of significance will be conducted. All interview data from Phase II will be digitally audio recorded, transcribed verbatim, and then imported into NVivoTM software (QSR International Pty Ltd., Victoria, Australia) for data management. Conventional content analysis, where codes will be inductively created, will be used to collapse into representative categories, and summarized.

Implication: Before sleep interventions can be developed, implemented and evaluated with rigorous evaluative methods, it is important to benchmark the sleep health of individual and team sport athletes across a wide range of sports. Therefore, the present study aims to fill an important gap in the literature and investigate the sleep quality, duration,

chronotype, mental health, as well as the subsequent daytime functioning of Canadian varsity athletes at a single university. Sports chiropractors are well situated to provide sleep education, screen for sleep problems, and intervene appropriately. Sports chiropractors spend time thoroughly evaluating patients, understanding factors that impact athlete recovery and performance. Findings from this study will inform future studies and identify potential areas for sports chiropractors to implement sleep screening as part of their scope of practice, to treat and manage sleep problems in hopes of improving sleep and recovery, and optimizing performance in athletes.



Dr. Melissa Belchos is a Sports Sciences Resident and Undergraduate Faculty at the Canadian Memorial Chiropractic College (CMCC). She is currently in clinical practice at Studio Athletica Sports Medicine, and completing her first year of a Masters of Health Sciences at Ontario Tech University.

This award is funding a portion of her Master's thesis, entitled: Exploring sleep characteristics and perspectives in Canadian varsity athletes. Healthy sleep is critical to overall health and wellbeing. In athletes, high-quality and sufficient sleep is necessary for performance optimization and recovery. Student-athletes face additional academic and social pressures and tend to experience poor sleep quality. Yet the sleep characteristics of Canadian varsity athletes is unknown, and therefore an important gap requiring attention.

2021 Dr. Gordon Lawson Research Funding Grant –

A survey of Canada-based sport chiropractors' attitudes, beliefs, and practical application of sport psychology in the rehabilitation process

Dr. Cristina Leonardelli

Dr. Scott Howitt

Dr. Lara deGraauw

Abstract

Injured athletes often consult with sports injury rehabilitation professionals (SIRPs) such as physiotherapists, athletic therapists, and sport specialist chiropractors, to help them return to sport. Thus, it is prudent for SIRPs to have a good understanding of both the physical and psychological responses to sport injury, as well as the ability to provide effective psychological interventions to optimize the recovery process. Sports specialist chiropractors are emerging as leaders in the sport medicine community and work closely with injured athletes on their rehabilitation and recovery.

Competencies for many governing bodies of SIRPs, including the Royal College of Chiropractic Sport Specialists (RCCSS(C)) call for a baseline level of knowledge and ability in psychosocial factors of healthcare. In practice, however, SIRPs may not feel confident in their knowledge and/or ability to deliver such interventions. Previous research has examined the attitudes, beliefs, and confidence of athletic therapists and physiotherapists in the United States and United Kingdom,1–5 however there is currently no data available on Canadian sports specialist chiropractors.

The objective of this mixed-methods study is to survey Canadian sports chiropractors to better understand their attitudes, beliefs, and confidence surrounding the use of principles and practice of sport psychology interventions during the sport injury rehabilitation process, as well as their education and training in sports psychology and referral practices. The quantitative portion of the study involves an 11-item questionnaire. The qualitative portion of the study involves semi-structured interviews with sport specialist chiropractors. This research will hopefully guide future research into education interventions to help with knowledge translation and practical application of skills in this population.

Dr. Cristina Leonardelli is currently a resident of the Royal College of Chiropractic Sports Sciences Canada (RCCSS(C)). She earned her Bachelor of Science Kinesiology degree from McMaster University, where she captained the varsity soccer team. She then graduated magna cum laude from the Canadian Memorial Chiropractic College in 2017, and went on to complete her Masters in Human Kinetics with a focus in applied sport psychology from the University of Ottawa in 2018.

Dr. Leonardelli has worked in private practice as a chiropractor and mental performance consultant in Ottawa since 2017. She has been involved in various levels of sport from the grassroots level to the international stage, including as a team chiropractor of the CFL's Ottawa Redblacks since the 2018 season. She was also the lead therapist for Atletico Ottawa of the Canadian Premier League (CPL) during their inaugural season in 2020, and worked as a team therapist with the Canadian Women's National Soccer Team at the SheBelieves Cup in 2021.



Dr. Leonardelli believes that sports chiropractic research is critical to keeping sports chiropractors informed of the latest advancements in supporting athletes toward optimal performance. Sports Chiropractic research in a variety of domains, such as biomechanics, rehabilitation, injury prevention, nutrition, and psychology, provide a holistic approach to evidence-informed practice. Continuing to advance this research is especially important as sports specialist chiropractors position themselves as integral members of every athlete's healthcare team.

2021 Dr. Trevor Wallace Academic Achievement Scholarship Award

Dr. Michael Edgar

These scholarships are open to members of the Royal College of Chiropractic Sports Sciences (Canada) [RCCSS(C)] who have recently conducted scholarly written requirements as part of their Canadian Chiropractic Sports Sciences Residency Program (SSRP).



Michael Edgar is a Doctor of Chiropractic and current medical student at the University of Illinois College of Medicine. He is also currently pursuing his sports sciences fellowship through the Royal College of Chiropractic Sports Sciences with a research focus on exercise as medicine and sarcopenia. His primary interests focus on coaching in the realm of resistance training, nutrition, and bodybuilding.

Michael's interest in research stems from his desire to develop pragmatic solutions to allow for better accessibility to musculoskeletal care. This desire led to the development and research of the exercise app currently being implemented at St. Michael's and The ARME. The ARME is a platform several colleagues and himself created to offer free and accessible evidence-based information regarding health and fitness. The primary goal Michael has related to research is developing resources with equitable access to enable individuals to become more autonomous with regards to their own health.

2021 Academic Achievement Scholarship Award

Dr. Nader Abdelkader

These scholarships are open to members of the Royal College of Chiropractic Sports Sciences (Canada) [RCCSS(C)] who have recently conducted scholarly written requirements as part of their Canadian Chiropractic Sports Sciences Residency Program (SSRP).



Dr. Nader Abdelkader has recently completed his Sport Sciences residency from the Royal College of Chiropractic of Sport Sciences. In addition to sports-related academic courses and rotations, the Sport Sciences residency offered various opportunities such as on-field and clinical experience, teaching experiences, as well as a research project with an original thesis and an in-depth systematic review. Dr. Abdelkader's research topic of choice focused on the effects of fatigue on balance.

When considering the dynamic nature of sports and the demand it imposes on athletes, Dr. Abdelkader finds it of importance to evaluate the consequences of lack of balance to meet these athletic demands. Because of this, he chose to investigate the effects of fatigue on dynamic balance in the athletic population. He intends on using this knowledge to provide optimal care for his patients both in the clinical setting and on the field.

Dr. Abdelkader is currently the Chair of the Medical and Health Committee of the Ontario Fencing Association, as well as the Lead Medical Consultant for the Canadian National Fencing team. Notably, he was most recently part of the medical team for the pre-Olympic Canadian fencing training camp in Japan for Tokyo 2020 and prior to that, the medical team for the 2019 Canada Cup Squash (a Professional Squash Association event), and Fencing World Championships 2018 and 2019.

2021 Award of Excellence – Resident Category

Dr. Cristina Leonardelli

Awards of Excellence are meant to recognize the outstanding achievement conducted by chiropractic students, RCCSS(C) sports residents and RCCSS(C) Fellows.

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Dr. Cristina Leonardelli is currently a resident of the Royal College of Chiropractic Sports Sciences Canada (RCCSS(C)). She earned her Bachelor of Science Kinesiology degree from McMaster University, where she captained the varsity soccer team. She then graduated magna cum laude from the Canadian Memorial Chiropractic College in 2017, and went on to complete her Masters in Human Kinetics with a focus in applied sport psychology from the University of Ottawa in 2018.

Dr. Leonardelli has worked in private practice as a chiropractor and mental performance consultant in Ottawa since 2017. She has been involved in various levels of sport from the grassroots level to the international stage, including as a team chiropractor of the CFL's Ottawa Redblacks since the 2018 season. She was also the lead therapist for Atletico Ottawa of the Canadian Premier League (CPL) during their inaugural season in 2020, and worked as a team therapist with the Canadian Women's National Soccer Team at the SheBelieves Cup in 2021.

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2021 Award of Excellence – Fellow Category

Dr. Janice Drover

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These awards are open to members of the Royal College of Chiropractic Sports Sciences (Canada) [RCCSS(C)] who have recently conducted scholarly written requirements as part of their Canadian Chiropractic Sports Sciences Residency Program (SSRP).



Janice has an undergraduate degree in Human Kinetics from the University of Ottawa, as well as a Doctor of Chiropractic from the Canadian Memorial Chiropractic College (CMCC). In 2002 she completed a two-year postgraduate residency in sports chiropractic, and in 2003 she became a Fellow in the Royal College of Chiropractic Sports Sciences (Canada), which gave her the designation of Chiropractic Sports Specialist. In her practice Janice uses a variety of techniques including chiropractic adjusting, Active Release Technique, Graston Technique®, Kinesio Taping, athletic taping and bracing.

While at CMCC Janice was an assistant professor in the department of clinical Education, and she was also the official sports chiropractor for the York University Varsity program. Since then, Janice has been the chiropractor for numerous local, provincial and national sports teams. She was also a member of the host medical services team for the 2010 Vancouver Paralympic Games, the 2011 Halifax Canada Games and the 2015 Toronto Pan Am/Para Pan Am Games. She has been a member of the Core Health Services Team for Canada at the 2018 Gold Coast Commonwealth Games and the 2019 Lima Pan Am/Para Pan Am Games. Janice is also a sport chiropractor for Canada Soccer's Men's National team, the NL Growlers and former chiropractor of the St. John's Edge.

Janice has served on the Board of the Royal College of Chiropractic Sports Sciences (Canada) since 2010 in the roles of treasurer, president and currently past president. The RCCSS(C) is the national governing body for Sports Chiropractic is Canada responsible for the education and promotion of Sports Chiropractic on a local, provincial, national and international level.

Janice also gives lectures on sports injury management and prevention to different organizations. In the past this has included the Newfoundland and Labrador Tennis Association, the St. John's Sea Stars Synchronized Swimming Team, the Newfoundland and Labrador Soccer Association and Running Room clinics. She has also been a guest lecturer at Memorial University in the Sports Injury Management course in the faculty of Human Kinetics and Recreation.

2021 Outstanding Paper Award

"Concussion Knowledge Among North American Chiropractors"

Dr. Mohsen Kazemi

Kevin Deoraj

Milcah Hiemstra

Lauren Kimberly Santiago



Mohsen Kazemi, RN, DC, FRCCSS(C), FCCPOR(C), MSc, PhD (mkazemi@cmcc.ca) is a Professor and Sports Sciences Residency Coordinator at CMCC. He is a Fellow of the Royal College of Chiropractic Sports Sciences [RCCSS(C)] and the College of Chiropractic Physical and Occupation Rehabilitation (CCPOR). He has published more than 45 peer reviewed articles and five books. Dr. Kazemi's research interests are in chiropractic care, sports performance, concussion, sports epidemiology, manipulative therapies, and soft tissue techniques. His research aspirations are driven by his passion for evidence-based practice and efficiency. His recent study on the concussion Knowledge of North American chiropractors was fueled by the controversy of who is qualified to diagnose and manage concussion.

Dr. Kazemi has attended several major games as team Chiropractor and has served as team chiropractor and medical chair for Taekwondo Canada and Taekwondo Ontario.

2021 Outstanding Paper Award

"Does induced fatigue alter dynamic balance in athletes? A systematic review"

Dr. Nader Abdelkader

Andrew Romanelli

Sheilah Hogg-Johnson



Dr. Nader Abdelkader has recently completed his Sport Sciences residency from the Royal College of Chiropractic of Sport Sciences. In addition to sports-related academic courses and rotations, the Sport Sciences residency offered various opportunities such as on-field and clinical experience, teaching experiences, as well as a research project with an original thesis and an in-depth systematic review. Dr. Abdelkader's research topic of choice focused on the effects of fatigue on balance.

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