HUMAN & ENVIRONMENTAL PHYSIOLOGY RESEARCH UNIT

NEWSLETTER

HOME OF OPERATION HEAT SHIELD CANADA

Generating the science to help Canadians adapt and prepare to rising temperature extremes

SEPTEMBER 2024 • VOLUME 3 • ISSUE 3

THE SUMMER EDITION

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NEWS AND NOTEWORTHY

A NEW PERSONAL HEAT RISK ASSESSMENT TOOL AND HOME PREPAREDNESS CHECKLIST TO ASSIST YOU IN IDENTIFYING POTENTIAL VULNERABILITIES TO HEAT AND TO GUIDE YOU IN SELECTING EFFECTIVE HOME MODIFICATIONS TO MITIGATE INDOOR OVERHEATING IS NOW AVAILABLE!

The likelihood of exposure to overheated indoor environments is increasing as climate change is exacerbating the frequency and severity of hot weather and extreme heat events. As a result, vulnerable populations will face serious health risks from indoor overheating. However, indoor overheating risk and the impact to health involves a complex interaction between the building's characteristics and location within the built environment and the occupants' behaviour and susceptibility to heat. Understanding these factors and identifying ways to modify them appropriately over the immediate-, short- and long-term is essential for mitigating the health risks associated with indoor overheating.

(continued on page 2)

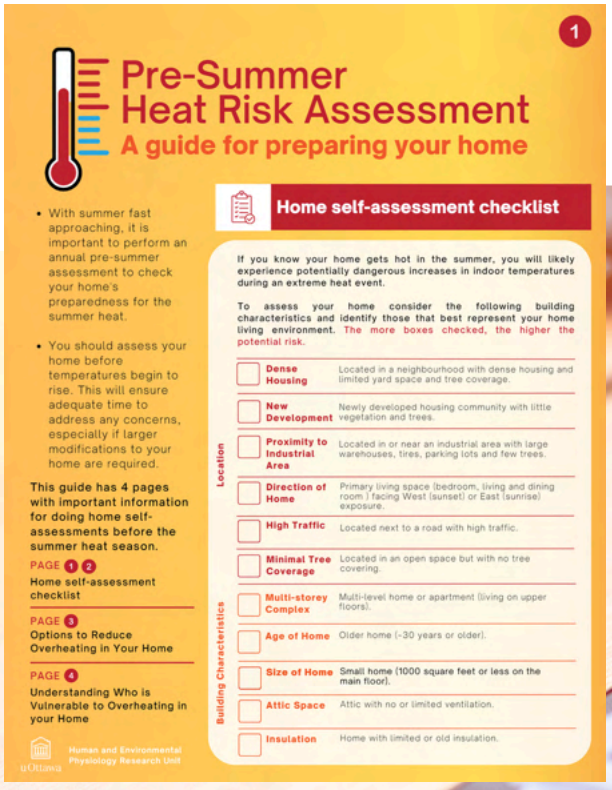
NEWS AND NOTEWORTHY (CONTINUED)

A NEW PERSONAL HEAT RISK ASSESSMENT TOOL AND HOME PREPAREDNESS CHECKLIST TO ASSIST YOU IN IDENTIFYING POTENTIAL VULNERABILITIES TO HEAT AND TO GUIDE YOU IN SELECTING EFFECTIVE HOME MODIFICATIONS TO MITIGATE INDOOR OVERHEATING IS NOW AVAILABLE!

In a recent study led by Dr. Glen Kenny, we aimed to review the wealth of new literature available across various disciplines, to consider the risk factors driving high indoor temperatures, residents' exposure, and susceptibility to them. In the review we then discussed the individual factors that can increase vulnerability to heat exposure, profiled the hazards and causes of indoor overheating, assessed methods to manage overheating risk and identified heat protective strategies to safeguard vulnerable occupants.

The team also synthesized the findings generated from this review to create a personal heat risk assessment tool and home preparedness checklist to assist homeowners and tenants in identifying their vulnerability to heat. The checklist also provides guidance for selecting effective immediate, short-term, and long-term home modifications to mitigate indoor overheating. The tool can be accessed and downloaded for free here.

CLICK HERE TO READ THE FULL OPEN-ACCESS ARTICLE!



A MESSAGE FROM THE DIRECTOR

For many of you who watched the Olympics, you witnessed amazing performances from athletes who had to compete against the toughest opponent - extreme heat. A punishing heat wave welcomed the athletes and spectators at the start of the Olympics, with temperatures exceeding 36°C in Paris. While temperatures moderated somewhat for the Olympics, athletes were forced to find ways to stay cool and mitigate the dangers of competing in high temperatures. During the blistering heat, teams rushed to keep their athletes safe, renting air conditioners for their bedrooms in the Olympic Village and offering them ice vests. Other teams sought to employ state-of-the-art monitors to conduct real-time tracking of on-the-ground ambient conditions to protect the health of their athletes. Extended rest breaks had to be implemented for some outdoor events, such as tennis and soccer, as temperatures surpassed predetermined safety thresholds. It also raised an important question: Will cities be too hot for the Olympics over the next few decades? The short answer is yes. Based on rising global temperatures, many cities will be unable to host the Olympics as temperature extremes in these cities will make it untenable for athletes to compete safely. It is estimated that by 2050, nearly half of previous Summer Olympic hosts could exceed safe temperatures.

It isn't just the athletes who are dealing with these extreme temperatures. Once again, temperature extremes this summer are impacting the lives of Canadians across the country, forcing communities to seek ways to manage the punishing heat. An unprecedented heat event impacted the Atlantic provinces from June 18th to 20th, with the region experiencing temperatures ~11°C above normal. Other provinces fared no better. Southern British Columbia experienced peak temperatures of just over 29°C in mid-July, which was 9.2°C above average with the city of Ashcroft reaching a record breaking 40.3°C July 7. In the same period, Alberta and Saskatchewan experienced temperatures of more than 30°C, nearly 10°C above normal. Canada's northern communities were not immune from the heat. Fort Smith in the Northwest Territories reached levels comparable to those in the prairie provinces, with peak temperatures hitting 28.4°C. Regions across Nunavut experienced temperatures 7.5°C above normal in early July. The reality will be that Canadians will continue to face these record-breaking temperature extremes for the next few decades. Like the teams at the Olympics, Canadians will need to find ways to mitigate the potentially harmful health effects of extreme heat.

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A MESSAGE FROM THE DIRECTOR
(CONTINUED)

Many of you have already acted by supporting our research directed at developing short- and long-term heat adaptation strategies to protect our communities. Several of you have participated in several of our team's recent heat wave simulation studies, which have resulted in the creation of new heat management guidelines and policies that have been adopted by health agencies worldwide, including Health Canada. However, more work needs to be done. It is estimated that people born in 2020 will experience between 2- to 7-times more extreme and intense heat events over their lifetimes than people born in 1960. With your continued help and support, we can help ensure that future generations - and our future Olympians - are protected. In partnership with Health Canada, we are taking the next steps to achieve this goal by conducting a new phase of research that will help all Canadians better adapt to the changing climate (see our recruitment corner). We hope you will join us in this important work.

Dr. Glen P. Kenny

Director
Human and Environmental Physiology Research Unit

SPOTLIGHT FEATURE WITH DR. RON SIGAL

STRENGTH TRAINING IS IMPORTANT FOR MIDDLE AGED AND OLDER PEOPLE, ESPECIALLY THOSE WITH DIABETES

Most people realize that aerobic exercise like walking, jogging, bicycling or swimming are important, to maximize well-being and reduce risks of developing heart disease or cancer. Fewer people are aware of the importance of strength training, also known as resistance training. Resistance training refers to exercise involving weight lifting or movement of muscles against resistance. Examples include exercise with free weights, weight machines, resistance bands, or body weight (e.g. pushups).

As people age, especially after age 60, there is a tendency to lose strength and muscle mass. The losses of muscle mass and strength happen more quickly in people with diabetes than in those withoutdiabetes. Loss of strength can make it difficult to perform many activities of daily living, such as carrying and putting away groceries, climbing stairs, opening jars, and eventually even standing up from a sitting position. Losses of strength and muscle mass are associated with higher risks of falls, fractures, and premature death. Strength training can prevent or reverse these age-related changes, and enhance mobility and functional independence into old age.

In people with diabetes, resistance training has the additional benefit of reducing blood glucose levels. If average blood glucose levels are reduced over time, the risks of developing long term small-vessel complications of diabetes, including problems with the eyes, kidneys, and nervous system will be reduced as well.

How does one get started with strength training? It is ideal to begin with a few sessions with a qualified exercise trainer, in order to maximize the benefits achieved while minimizing risk of injury. Most YMCAs, community centres and gyms employ qualified exercise trainers. There are also online resources on resistance training, including this Diabetes Canada handout on home-based resistance training, and this collection of videos at the Mayo Clinic website that includes exercises with free weights, weight machines, resistance tubing, and one's own body weight.

If you are not already doing strength training, now is a good time to start. Your body will thank you for it.

Dr. Ron Sigal, MD

Professor of Medicine, Cardiac Sciences, Community Health Sciences, and Kinesiology, Cumming School of Medicine, University of Calgary

Adjunct Professor, School of Human Kinetics, University of Ottawa

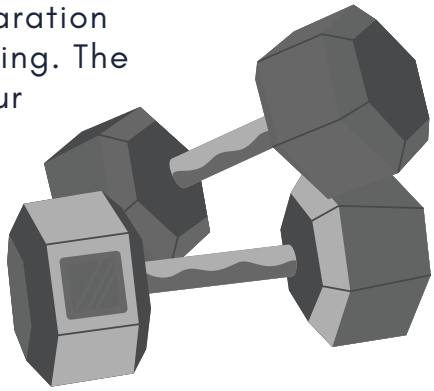
Attending Physician, Division of Endocrinology and Metabolism, Alberta Health Services Calgary Zone

SPOTLIGHT FEATURE WITH MATT PORTUGESE

PERSONAL TRAINING: AN APPROACH TO PROACTIVE AND PREVENTATIVE HEALTH CARE

Like a well-loved vintage car, aging bodies need more time and careful upkeep to stay in peak functional condition. Personal training is a form of proactive and preventative healthcare that involves having the confidence to take control of your health to reduce the risk of diseases and disabilities. A qualified personal trainer (PT) serves as your preventative healthcare specialist, focusing on the activities of daily living (AOLs). PT sessions encompass strength, stability, mobility, aerobic fitness, confidence, and control.

To understand your stage of readiness, the Transtheoretical Model (TTM) can help you assess your readiness to start working with a trainer. The TTM is a 5-stage model that operates on the principle that intentions are more influential than actions. The first 2 stages are pre-contemplation and contemplation, where you are either not thinking about making a change or have just begun considering a change. The 3rd and 4th stages are preparation and action, where you find a trainer and start your training. The fifth stage is maintenance, which involves sustaining your efforts for at least three to six months—keep it up!



In the stages of pre-contemplation and contemplation, a lack of motivation is often cited as the most common barrier to starting exercise. These barriers are frequently perceived rather than genuine (equipment vs physical disability) During a consultation with a trainer, you'll engage in a discussion called a decisional balance exercise. This exercise has two stages: listing the expected benefits of working with the PT and identifying potential barriers. Together you will determine if these barriers are genuine or perceived and develop a plan to overcome them.

In preparation, when searching for a PT, be on the lookout for a trainer who advocates for strength training and aerobic conditioning, which is a key measure of cardiorespiratory health. This is measured by maximal oxygen consumption, also termed VO_{2max}, a trainable factor that significantly impacts long-term health, morbidity, and quality of life. Simply, VO_{2max} is the measure of the maximal ability of the cardiorespiratory system to take up and consume oxygen during exercise. For more information on VO_{2max} and cardiorespiratory health, refer to the April 2024 newsletter spotlight featuring Dr. Pierre Boulay.

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SPOTLIGHT FEATURE (CONTINUED)

PERSONAL TRAINING: AN APPROACH TO PROACTIVE AND PREVENTATIVE HEALTH CARE

In the action stage, working towards strength and stability are common goals. Strength is typically understood as the ability of our main muscles (known as agonists and antagonists) to generate force to move an object. Research shows that women can increase their leg press strength by 16% with the guidance of a PT, while men can achieve a 20% increase with regular training. Stability, on the other hand, refers to the strength in our supporting muscles (known as synergists) that keep our body upright through various ranges of motion in daily activities. Similar to strength, stability can be improved with weight training. To place a greater emphasis on stability, a PT will demonstrate exercises that place an increased load on our synergist muscles. An improvement in strength and stability is crucial in reducing the risk of common injuries caused by trips, slips, and falls.

Finally, in the maintenance stage, you have adopted a proactive and preventative healthcare approach with your PT. Together, you have built the confidence to control to overcome your perceived barriers, surpass challenges, develop and accomplish goals, and improved the strength and stability to control your body. Investing in a personal trainer is investing in your health, and the best investment you can make is in yourself.

Matt Portugese
Personal Trainer
University of Ottawa

FRESH OFF THE PRESS

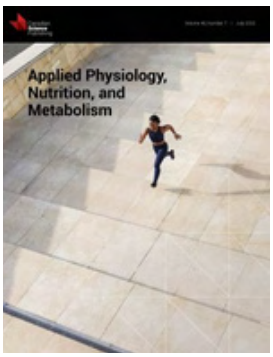
Indoor overheating: A review of vulnerabilities, causes, and strategies to prevent adverse human health outcomes during extreme heat events

Glen P. Kenny, Emily J. Tetzlaff, Shane W. Journeay, Sarah B. Henderson, and Fergus K. O'Connor

CLICK HERE TO READ MORE!

The effect of foot immersion and neck cooling on cardiac autonomic function in older adults exposed to indoor overheating : a randomized crossover trial

Emma R. McCourt, Robert D. Meade, Brodie J. Richards, Nicholas J. Koetje, Nicholas B. Santucci, James J. McCormick, Pierre Poulay, Ronald J. Sigal, and Glen P. Kenny



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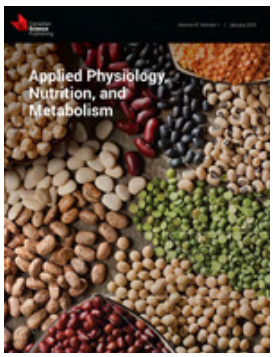
Markers of enterocyte damage, microbial translocation, and systemic inflammation following 9 h of heat exposure in young and older adults

Ben J. Lee, Sophie L. Russell, Robert D. Meade, James J. McCormick, Kelli E. King, and Glen P. Kenny



CLICK HERE TO READ MORE!

Beach day or deadly heat wave? Content analysis of media images from the 2021 Western Heat Dome in Canada

Emily J. Tetzlaff, Nicholas Goulet, Melissa Gorman, Gregory R.A. Richardson, Nihal Yapici, Paddy Enright, and Glen P. Kenny

CLICK HERE TO READ MORE!

"Death is a Possibility for Those Without Shelter": A Thematic Analysis of News Coverage on Homelessness and the 2021 Heat Dome in Canada

Emily J. Tetzlaff, Farah Mourad, Nicholas Goulet, Melissa Gorman, Sean A. Kidd, Maria Bezgrebelna, and Glen P. Kenny

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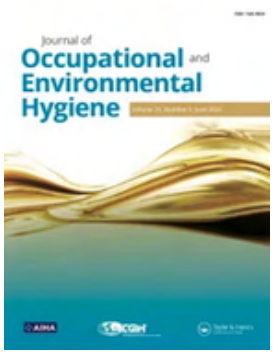
An exploratory survey of heat stress management programs in the Canadian mining industry

Emily J. Tetzlaff, Fergus K. O'Connor, Robert D. Meade, and Glen P. Kenny



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HEPRU TEAM HIGHLIGHT

MEET MIKAËL KANAAN

Mikael is a Ph.D. student in human physiology and joined the HEPRU family in May 2024. He completed his Master of Science in Exercise Physiology in 2022 under the guidance of Dr. Éric Doucet, during which he looked at the effects of high protein intakes on weight loss in athletes. Mikael is also a fellow of Dr. Luke Witherspoon at the Ottawa Civic Hospital where he studies the effects of testosterone therapy on ICU patients' recovery. Together with Dr. Witherspoon, Mikael is working to determine whether preoperative testosterone therapy could facilitate the recovery of bladder cancer patients mainly by preventing the loss of muscle mass. Outside of his academic endeavors, Mikael works with athletes of various sports including the Canadian national volleyball team. Having been an athlete himself, Mikael has a strong interest in human performance and how it intertwines with general health. His areas of research interest include cellular autophagy, energy restriction, body composition, andrology, cardiovascular function and exercise. His most recent contribution to the HEPRU laboratory is the start of his study entitled "Putting the T in heaT" in which he is examining the effects of heat stress and exercise on testosterone replacement therapy patients. Specifically, the study aims to determine the effects of testosterone therapy on thermoregulation, autophagy and heart rate variability.

MEET MATT PORTUGESE

Matthew is a third-year undergraduate student completing his Honours Bachelor of Science in Human Kinetics with Applied Studies in Kinesiology - French Immersion. Since joining the research unit in his second year, he has actively contributed to leading research on heat stress and cellular responses in Canada's most vulnerable populations. Matthew's work focuses on direct human calorimetry and the physiological responses of the body, striving to create protocols that deepen our understanding of how the body responds to heat and exercise stressors. His dedication to research is evident in his ongoing efforts to aid in the exploration of the intricate physiological and biomechanical mechanisms of the human body's response to environmental challenges. In addition to his academic pursuits, Matthew is also a personal trainer who cares deeply about public health. By integrating research findings with personal training practices, he aims to develop effective health and fitness programs tailored to meet the needs of vulnerable populations. Eager to continue learning, he is dedicated to expanding his knowledge in physiology and biochemistry to further contribute to the field and promote better health outcomes for all.

NEW FELLOWS TO THE HEPRU

This summer, the HEPRU gained three new postdoctoral fellows! Meet them below:

MEET DR. SARAH TAGGART

Hi, I'm Sarah! I have recently moved to Ottawa from Australia, where I completed my PhD in Occupational Heat Stress at the University of Western Australia. My thesis explored the impact of season on cognitive function, thermal strain, and heat-related illnesses in mine industry workers. At HEPRU my research will focus on the physiological and cognitive responses to living and working in the heat during day-long heat exposures.

MEET DR. GIL BOURGOIS

Hi, I'm Gil! I have recently completed my joint PhD in exercise physiology at the Universities of Ghent (Belgium) and Lille (France) where my thesis examined individual and heat exposure challenges to threshold determination and acute recovery from severe-intensity exercise. I was involved in the heat preparation for the Tokyo (2021) and Paris (2024) Olympics in different sports, including athletics, (track) cycling, rowing, and sailing for Team Belgium. My research focus at HEPRU is the physiological response to living and working in the heat during (multi-)day-long heat exposure.

MEET DR. JENNY PEEL

Hi, I'm Jenny! I've recently finished my PhD in Thermal Physiology at Swansea University (Wales, UK), where I investigated the effect of dietary supplements on thermoregulatory responses in the heat. I recently moved from England to start a Postdoc at the HEPRU and I'm looking forward to a new research chapter here, where I will primarily be examining physiological responses to living and working in the heat during (multi-)day-long heat exposure.

RECRUITMENT CORNER

THE HEPRU AND HEALTH CANADA JOINING FORCES TO CREATE HEAT-RESILIENT COMMUNITIES

In partnership with Health Canada, over the next 4 years we are conducting a series of studies aimed at creating heat-resilient communities. This builds on our recently completed heat wave simulation trial aimed at defining indoor temperature limits. Our findings provided the first experimental data on the physiological and health impacts of indoor heat stress experienced by heat-vulnerable persons. Specifically, we showed that maintaining indoor temperature at or below 26°C safeguards older, heat vulnerable adults against potentially dangerous increases in thermal and cardiovascular strain during exposures simulating indoor overheating during an extreme heat event. While our study findings have been adopted by Health Canada (and the World Health Organization) to implement a national 26°C upper temperature limit in Canada, important gaps remain in terms of understanding how other factors thought to affect heat tolerance influence the appropriateness of a 26°C indoor temperature limit. This includes evaluating whether the 26°C temperature limit is protective over multiple days or requires adjustment for the level of ambient humidity, worn clothing, and physical activity levels (e.g., activities of daily living).

It is our hope that you will join us once again and help us generate the critical knowledge we need to help protect Canadians across Canada against the harmful effects of extreme heat.

This study is looking for participants that meet the following criteria:

- Men and women 60-85 years of age, with and without a history of chronic conditions (e.g., diabetes, hypertension)
- May be physically active but not engaged in an intense exercise program.

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.

Learn more about our heatwave research at www.hepru.ca

Effects of Daylong Exposure to Indoor Overheating on Thermal and Cardiovascular Strain in Older Adults: A Randomized Crossover Trial

Physiological responses to 9 hours of heat exposure in young and older adults. Part I: Body temperature and hemodynamic regulation

RECRUITMENT CORNER

PROTECTING WORKERS PERFORMING THEIR DUTIES IN THE HEAT

Occupational heat stress directly threatens workers' ability to live healthy and productive lives. Heat exposed workers are at an elevated risk of experiencing impaired work performance and cognitive function leading to a greater risk of work-related injuries, which includes traumatic injury (e.g., fractures) and heat-related illnesses (e.g., heat stroke, acute kidney injury, adverse cardiovascular events).

To mitigate this risk, safety organizations recommend upper limits for heat stress, typically defined by the level of effort and ambient conditions. Yet, heat stress continues to compromise worker health and safety. This can in part be attributed to the fact that employers underestimate the risks associated with heat stress and are given relatively limited guidance in how best to implement heat mitigation strategies.

Perhaps the strongest contributing factor is the fact that current occupational heat stress management guidelines assume a one size fits all approach and do not consider individual variability in physiological tolerance to heat stress, leaving many heat vulnerable workers, such as older individuals, under protected.

With climate change fueling an increase in the occurrence of hot weather, the risk of heat-related injury and disease is expected to rise dramatically in both prevalence and severity over the next decades. To address the shortcomings of current heat management guidelines, we are conducting a study to generate safe work times to protect all workers, regardless of age or sex, that must perform their jobs in hot environments.

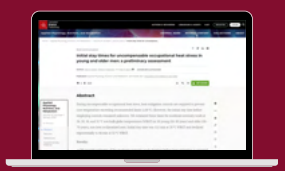
This study is looking for participants that meet the following criteria:

- Men 18-30 or 55-69 years of age
- Habitually active (not enduranced trained)

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.

Learn more about our occupational heat stress research at www.hepru.ca

Heat tolerance and the validity of occupational heat exposure limits in women during moderate-intensity work



Initial stay times for uncompensable occupational heat stress in young-to-older men: a preliminary assessment

RECRUITMENT CORNER

HOW DOES MENOPAUSE AFFECT THE ABILITY TO COOL DOWN

HEPRU's research has demonstrated that aging is associated with large reductions in the body's ability to lose heat—which can result in marked elevations in body temperature and a greater strain on the cardiovascular system during a heat stress. Unfortunately, there is a serious lack of research into how women change in their heat loss responses as we age. Furthermore, it is unknown whether menopause—which is a normal part of the aging process—is a factor in how women respond to heat stress. Women have diverse experiences of menopause and may be affected by the heat in diverse ways.

In our first study, we are using an innovative imaging technique to investigate how aging affects tolerance of whole-body heating. We will be comparing how younger and older women differ in facial skin vasodilation ("flushing").

In our second series of studies, we seek to better understand the effects of menopause on heat tolerance during exposure to heat at rest. The studies are currently focused on assessing the separate effects of hot flashes and type 2 diabetes on heat loss responses.

This study is looking for participants that meet the following criteria:

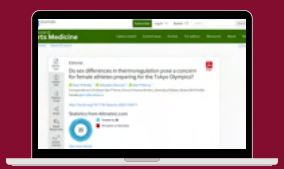
- Women 55-85 years of age
- No history of cardiovascular disease or type 2 diabetes

Additionally, if you are interested in our menopause-related studies we are looking for women 50-69 years of age with:

- Type 2 diabetes **OR**
- Currently experiencing severe or frequent hot flashes

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.

Learn more about how age and sex affect thermoregulation at www.hepru.ca



Do sex differences in thermoregulation pose a concern for female athletes preparing for the Tokyo Olympics?

The Relation between Age and Sex on Whole-Body Heat Loss during Exercise-Heat Stress.

RECRUITMENT CORNER

PROTECTING OLDER WOMEN DURING HEATWAVES

It is well established that heatwaves can be more harmful for women compared to men. During the Western Heat Dome of 2021, more women than men lost their lives, and internationally, it was found that 56% more women than men died during the 2022 European heatwave. The vast majority of these women were above the age of 60. HEPRU has demonstrated that women experience an overall 5% decrease in heat loss compared to men—a difference that is compounded by the impairments in heat dissipation associated with age.

There is an urgent need to develop heat-mitigation strategies that are tailored to older women to better protect them in future heat-waves. While air-conditioning provides the most effective protection from extreme heat, it is inaccessible for many Canadian women, due to financial cost and energy demands. Instead, improving heat tolerance may reduce the harm to women from extreme heat.

In the fall, we will be launching a study testing a potentially home-based strategy for improving heat tolerance: warm-water immersion for 7 consecutive days. We will assess whether this mitigates the effects of a day-long exposure to heat on body temperature, the cardiovascular system, cognitive function and thermal comfort. This research has the potential to shape public health policy and provide an accessible way to keep women safe in the heat.

This study is looking for participants that meet the following criteria:

- Women 65-85 years of age
- May be physically active but not engaged in intense exercise training programs.

Please contact Dr. Glen Kenny at gkenny@uottawa.ca to participate.

NEW IN THE NEWS

Over the course of the 2024 summer, HEPRU's research was highlighted by various local, provincial and national media outlets showcasing how our practical, action-oriented research is impacting public health in Canada and the world.

PRINT MEDIA

Operating the perfect cooling center is harder than it looks.
BBN Bloomberg - August 14 2024

Why Ottawa's heat and humidity is more dangerous than it seems.
Ottawa Citizen. - August 1 2024

Les dangers des ventilateurs.
La Presse - July 28 2024

What's the right temperature for your air conditioning?
CBC News - July 14 2024

Have a safe and healthy summer.
Good Times Magazine - July 11 2024

Click the links to learn more!

RADIO INTERVIEWS

Dangers of heat, how it affects the body, and how it can lead to serious injuries and accidents. *580 CFRA* - August 2 2024

Feeling the heat? Here's how your city ranks in access to cooling spaces.
Investigative Journalism Foundation - July 26 2024

How Canadians can protect themselves from extreme heat.
SirisXM Canada Talks (Channel 167) - July 17 2024

Impact of heat and humidity on the body.
690 CJOB - July 11 2024

L'impact des épisodes de chaleur extrême sur les personnes vulnérables.
CBC Radio Canada - June 18 2024

The Morning Rush with Bill Carroll. How extreme heat affects the human body.
580 CFRA- June 17 2024

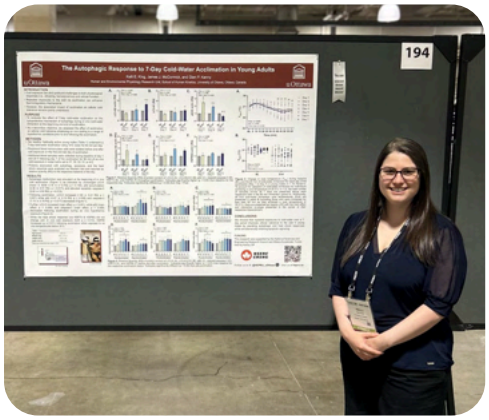
Inside the lab studying how to keep people safe during heat waves

Last June, the CBC featured HEPRU's laboratory on their national news program. Dr. Glen Kenny and Dr. Jeremy McCormick emphasized the importance of preparedness for extreme weather as well as how heatwaves increase the strain on medical services. Katie Wagar shared insights from her thesis work on coping with the heat and its challenges.

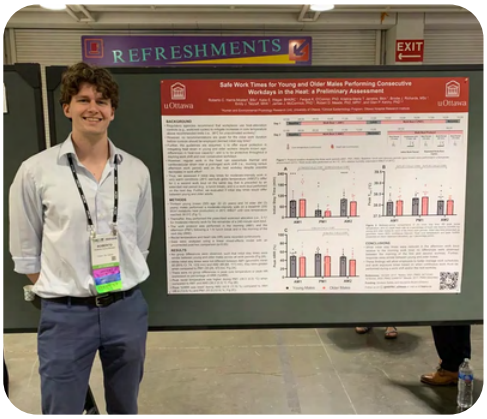
CONFERENCE PRESENTATIONS

ACSM 2024 ANNUAL MEETING
May 28 – 31 | Boston, Massachusetts USA

This year, out team attended the Annual Meeting for the American College of Sports Medicine (ACSM) in Boston, Massachusetts. As the largest conference for research in physiology, our team had the opportunity to showcase our work in physiological responses to hot and cold environments on an international stage.



Poster Presentation
Dr. Kelli E. King The autophagic response to 7-day cold-water acclimation in young adults



Poster Presentation
Roberto C. Harris-Mostert Safe work times for men performing consecutive workdays in the heat: a preliminary assessment

ACSM AWARDS

Kelli and Roberto were both awarded for their research by the Environmental & Occupational Physiology Special Interest Group.

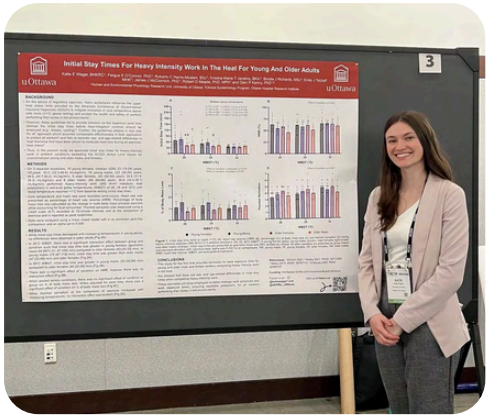
Kelli was awarded the A**dolfo M. Hernández Memorial Award** for Outstanding Research by a Doctoral Student

Roberto was awarded the **Emergency Responder Human Performance Research Award** for Master's Students

CONFERENCE PRESENTATIONS

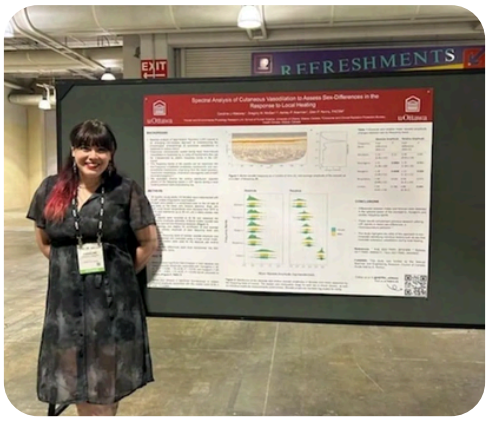
ACSM 2024 ANNUAL MEETING
May 28 – 31 | Boston, Massachusetts USA

Oral Presentation
Dr. James J. McCormick Autophagic responses to exercise and warm water immersion in older adults

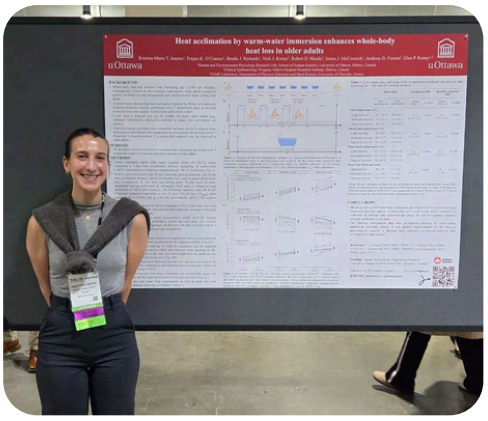


Thematic Poster Presentation
Katie E. Wagar Initial stay times for heavy-intensity work in the heat for young and older adults

Rapid Fire Presentation
Nicholas J. Koetje Aging does not influence whole-body heat loss during exercise-heat stress following sleep deprivation



Poster Presentation
Caroline Li-Maloney Spectral analysis of cutaneous vasodilation to assess sex-differences in passive heat stress response

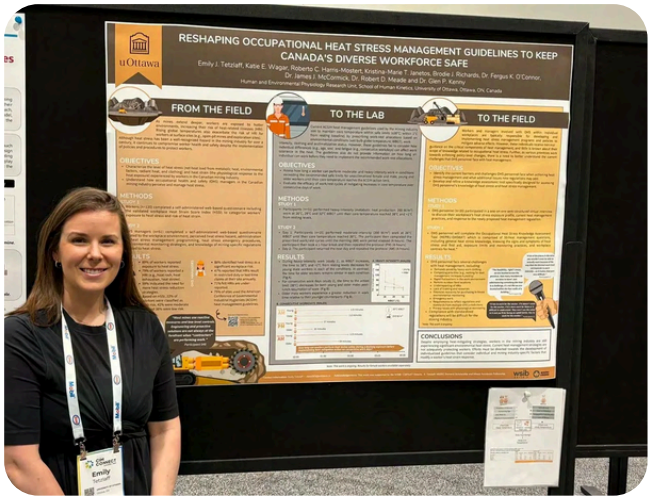


Poster Presentation
Kristina-Marie T. Janetos Heat acclimation by warm-water immersion enhances whole-body heat loss in older adults

CONFERENCE PRESENTATIONS

CIM vancouver may 12-15, 2024 CONNECT convention + expo

PhD Candidate Emily Tetzlaff attended the Canadian Institute of Mining Connect: Convention and Expo in Vancouver, British Columbia from May 12th-15th, 2024 to present both an oral and poster presentation on behalf of the team. The presentations shared preliminary findings on the team's current work on new approaches to heat stress management for protecting the health and productivity of all workers using safe, initial stay times for work in the heat.



Poster Presentation
Emily J. Tetzlaff Reshaping occupational heat stress management guidelines to keep Canada's diverse workforce safe

CIM AWARD

PhD Candidate Emily Tetzlaff was awarded 1st Place in the student poster competition for the second year in a row at the Canadian Institute of Mining Expo hosted in Vancouver, British Columbia this spring. Emily's poster was titled "Reshaping Occupational Heat Stress Management Guidelines to Keep Canada's Diverse Workforce Safe" presented a series of qualitative field projects and laboratory work.

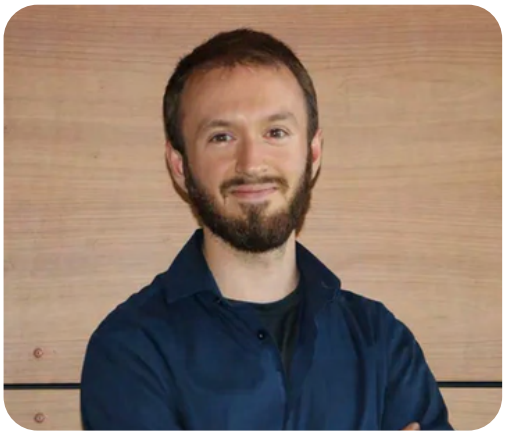
CONFERENCE PRESENTATIONS

CAHSPR ACRSPS

Canadian Association for Health Services and Policy Research

L'Association canadienne pour la recherche sur les services et les politiques de la santé

In May, Caroline Li-Maloney and Nicholas Goulet attended the annual meeting for the Canadian Association for Health Services and Policy Research (CAHSPR). As Health System Impact (HSI) fellows, they presented research done in partnership with Health Canada on the health effects of extreme heat and how to best inform Canadian health policy on heat.



Poster Presentation
Nicholas Goulet
Media news coverage on the 2021 heat dome and homelessness in Canada

Sharing the voices of first responders: Media-based composite narratives of emergency medical service providers during the 2021 heat dome

L'intersection de la pandémie de COVID-19 et de la canicule de 2021 dans l'ouest du Canada : une analyse de contenu des média numériques canadiens

Poster Presentation
Caroline Li-Maloney
Identifying the potential health risks and vulnerabilities faced by pregnant people and fetuses during extreme heat events

CONFERENCE PRESENTATIONS

Three members of the team – Katie Wagar (MSc Candidate), Roberto Harris-Mostert (MSc Candidate) and Emily Tetzlaff (PhD Candidate) presented at the 2024 Workplace Safety North Mining Health and Safety Conference in Sudbury, Ontario from April 18th to 19th, 2024. The team presented a double session on a series of projects aimed at helping to reshape occupational heat stress management guidelines to keep Ontario's diverse workforce safe.

Oral Presentation
Emily J. Tetzlaff, Katie E. Wagar, and Roberto C. Harris-Mostert
Reshaping occupational heat stress management guidelines to keep Ontario's diverse workforce safe

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