

Looking for ways to stay cool during heatwaves

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As sunbathers enjoy this week's hot weather, scientists at the University of Brighton are researching ways the elderly can avoid heat-related illnesses which claim 2,000 lives in the UK each year.

The university is recruiting healthy volunteers aged 65 and over for a series of tests designed to help older people to stay cool.

Kirsty Waldock, Ph.D. student and lead investigator at the university's College of Social Sciences, warned that climate change is likely to increase the number of [heat](#)-related illnesses.

Recent mini-heat waves have resulted in an increase in visits to hospital emergency departments for the treatment of heatstroke. The Earth's climate is warming and as the mean global temperature rises, so does the frequency, severity and duration of heat waves, presenting a significant health risk to the population, with the elderly being the most vulnerable.

If effective action to adapt to climate change is not implemented, a predicted five-fold increase in the number of heat-related deaths will occur in the U.K. by 2050. Public Health England have provided heat wave guidelines, however, further specificity to this advice is warranted.

Miss Waldock and colleagues, based at the university's Eastbourne campus, are conducting exercise trials in a specially-designed cool chamber. Volunteers will receive information regarding their resting

blood pressure and heart rate, body composition and individualised exercise responses.

She said: "The aim is to develop a user-friendly guide to assess the risk of developing a heat illness across a range of environments likely to be experienced during summer months. We will be testing volunteers using exercises that equate to various activities of daily living including household chores, light exercise to moderate exercise.

"We want to find ways for the elderly to stay cool—the aim is to provide specific guidelines for maintaining good levels of activity whilst remaining healthy during periods of hot weather for an elderly population. This research is being conducted in response to the lack of evidence-based [hot weather](#) advice for vulnerable people. The purpose is to study unresolved questions about heat-related health effects in the elderly that will pave the way for individualised prevention strategies and policy change."

Dr Neil Maxwell, reader, head of the university's Centre for Sport and Exercise Science and Medicine, said, "The university has an international reputation for research in this field and we collaborate with industry in the development of heat-alleviating products for market. We believe our research could extend to impact those most vulnerable.

"Within our laboratories, we have found both acute and chronic interventions to be effective in alleviating heat strain in healthy, active populations as well as clinical population. In a health-based setting we have found cooling to have therapeutic effects for individuals with multiple sclerosis. We found that practical pre-cooling using cooling garments reduced physiological and perceptual markers of thermal strain in heat sensitive individuals with MS. We observed meaningful improvements in their walking performance and alleviation of MS-related symptoms."

☐Cooling is one of a number of acute interventions that could improve heat sensitivity in vulnerable populations. These chronic intervention protocols, in the form of repeated artificial heat exposures (heat acclimation), have also resulted in heat-alleviating benefits to healthy active populations. The adaptations result in an increase in heat loss capacity, the person having less strain on their heart and feeling more comfortable in a hot environment. The key aspect of improving heat sensitivity in a vulnerable population is knowing when they require an intervention. Therefore, specific interventions and advice can be provided to alleviate heat strain within the population.☐

More information: To volunteer for Miss Waldock☐s research, email k.waldock@brighton.ac.uk

Provided by University of Brighton

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