

Guillermou

Interesting and innovative article. Considerations on thermoregulatory responses of young and elderly adults. Data from World Population Prospects says one in six people in the world will be over 65, and the number of people over 80 will triple to 426 million in 2050. The National Institute on Aging and governments of several Nations also warn about the effects of heat and cold waves on older people, such as heatstroke and hypothermia. This study aims to investigate age differences in thermoregulatory responses. Thermoregulation is a physiological mechanism by which an organism maintains its body temperature within a certain range through a negative feedback loop. The hypothalamus in the brain controls this mechanism, which is a representative example of homeostasis, the body's ability to maintain its condition at a certain level in response to a changing external environment.

As shown in Fig. 1(A), the thermoregulatory mechanism consists of three basic components. Older people prefer a room temperature similar to that of young people, but lack the ability to recognize and adjust room temperature. That is, elderly people are more likely to be exposed to an inadequate thermal environment. As people age, they undergo a variety of physical changes, including decreased cardiac blood output, loss of control over sweating capacity, decreased muscle mass/basal metabolic rate/thermal sensitivity, and increased body fat percentage.

Posted On 04/16/2024

Guillermou

Older people run various risks due to increased temperature. -----1) Aging affects cardiac function, which plays an important role in thermoregulation. It also reduces cardiac output and increases systemic vascular resistance, decreasing cutaneous blood flow, which is vital for thermoregulation. --- --2) aging directly affects thermoregulatory mechanisms, such as vasoconstriction, vasorelaxation or muscle tremors. Furthermore, elderly people have less contraction of blood vessels and less ability to sense cooling in a cold environment and are subject to decreased sweat secretion, skin blood flow, and cardiac output in a cold environment. warm. 3) older people generally have weaker homeostasis.

For example, blood glucose levels generally maintain homeostasis due to insulin and glucagon secreted by the adrenal glands. However, because aging reduces the body's ability to produce or use insulin and glucagon effectively, older people have a relatively higher risk of developing type 2 diabetes. In summary: 1) Age differences in thermoregulation was statistically significant. 2) Elderly individuals have insensitive thermoreceptors with smaller overshooting. 3) Elderly individuals' recovery and stabilization time took longer. 4) Types and directions of temperature ramp have impact on thermoregulatory responses.

www.sciencedirect.com/science/article/abs/pii/S0360132323007874 (2023).---

Posted On 04/16/2024

juststeve

Very interesting on the personal level Gui. In the family, myself, body temperature has always been on the low side. About the only time body temperature would be in the normal range is when there was a cold, infection. Also to note there was once a job where the situation in winter where an observation shack to monitor had an environment where the floor would be exceptionally cold no matter how hot we kept the heater running at. Heat blisters on the ears, ice crystals on your feet. No hope for comfort but worse was until the depths of summer the body would seem to have lost the ability to maintain itself. Along with this, there was a family member of advanced age living in a farmhouse heated with wood.

He had to be watched constantly as he would actually lay his arm on top of the woodstove claiming he was cold. His arm was black from it all. Also have another family member who is always cold, runs heat even when nearly everyone is dying from the heat. They don't seem to have a body ability to maintain a healthy range of heat. Currently, since picking up Doc's protocol to enhance the Mitochondrial function a light blanket at night even on very cold nights is enough, and fairly cold weather is less a problem. I will be checking out Miss Ashley's recommendations with great interest.

Posted On 04/16/2024

grulla

Every once in a great while, while lying in bed asleep, or even awake watching TV, my body temperature seems to drop and makes me shiver heavily and uncontrollably for a couple of minutes. It seems to happen mainly in when it's cooler, but sometimes in the summer too???

Posted On 04/16/2024

Guillermou

Thanks Just and Grulla, yes, each person is a world that must be interpreted. Depression has become a health crisis of epidemic proportions. Globally, the prevalence of major depressive disorder (MDD) has increased over the past few generations in countries around the world. The last decade has seen a particularly significant rise in depression in the United States, with prevalence rates increasing by 33% between 2013 and 2016, with the largest increase among youth and young adults. This is particularly worrying. To our knowledge, this is the largest study to date examining the association between body temperature, assessed by self-report methods and wearable sensors, and depressive symptoms in a geographically wide sample.

In these analyses, higher levels of depressive symptoms were associated with higher body temperatures during wake time. -These analyzes replicated previous results showing that self-reported daytime body temperature was associated with greater depressive symptoms and built on a previous study showing that the difference in body temperature between sleep and wake was more than double among controls compared to individuals with depression. Possible mechanisms of depression related to body temperature regulation are associated with (1) higher body temperature, (2) smaller differences between awake and sleeping body temperature, and (3) greater temperature amplitude.

lower daytime body temperature. Evidence suggests that people with MDD may have altered electrodermal activity (EDA), which is now the preferred term encompassing historical terms related to the electrical characteristics of the skin, such as electrodermal level, electrodermal response, galvanic skin response, reflex psychogalvanic, skin conductance, skin conductance level, skin conductance response and skin sympathetic response. www.nature.com/.../s41598-024-51567-w (2024).--

Posted On 04/16/2024

stoneharbor

Thanks Gui for the information on our thermoregulatory abilities and their loss of function as we age. All new to me, but now that I read about it, I can recognize some inabilities that I have now as well as more sensitivities to temperature change. It's really quite an important part of my environmental control now that I've aged. I thought I was just "learning" but I think what I've been experiencing is the effect of aging. Good to know.

Posted On 04/16/2024

Guillermou

The temperature of your bedroom can make a significant difference in the quality of your sleep. The best room temperature for sleeping is about 65 degrees Fahrenheit (18.3 degrees Celsius). This can vary a few degrees from person to person, but most doctors recommend keeping the thermostat between 65 and 68 degrees Fahrenheit (15.6 to 20 degrees Celsius) for the most comfortable sleep. Babies may benefit from a room that is one or two degrees warmer, up to 69 degrees Fahrenheit (20.5 degrees Celsius). Because their bodies are smaller and still developing, they are more sensitive to changes in ambient temperature.

A bedroom that is too warm may increase the risk of sudden infant death syndrome. The drop in temperature begins about two hours before going to sleep, coinciding with the release of the sleep hormone melatonin. During sleep, body temperature continues to fall, reaching a low point early in the morning and then gradually warming as the morning progresses. Lowering the thermostat at night can work in tandem with these natural temperature fluctuations, signaling to the body that bedtime is approaching.

The main way the body cools down for sleep is by sending heat away from the core. In a process called vasodilation, the circadian clock sends a signal to increase blood flow to the extremities. This is why some people may feel warm hands and feet (which can be confused with general body temperature) during the night. Additionally, people who have chronically cold feet www.sleepfoundation.org/bedroom-environment/best-temperature-for-sleep (2024).--

Posted On 04/16/2024

Meibao

Thank you, Guillermou, for your brilliant comments. It's amazing that you are always the first one to make a comment. Your comments are well-written, but I don't want to read them...too wordy, too much info. I'd like to know what else you do beside read and write on your computer: do you eat 100% real organic food, work in your garden, have farm animals? I'm 80 and I do all that, plus teach how to live a regenerative sustainable, organic lifestyle to young people who come to learn. I like Dr. Mercola's blogs but don't read all of them...no time. I have the energy of a 40 year old because I drink six quarts of water per day, lick or eat 1/8 cup of Redmond's Real salt per day to hold the water in the body so it can hydrate the cells. I eat meat I raise (cattle, pigs, goats), eggs from my chickens, veggies from my garden, fruits from the orchard. Life is good when I roll with Nature. Have a good jumping day! and thank you, again.

Posted On 04/16/2024

Guillermou

Thank you Meibao, you are very kind. The sun rises earlier in Spain!!. It is appreciated how you take care of your health with good hydration and good foods. At 74 years old, I am now retired but my great vocation has been teaching engineering. What do I do now!!, a quiet life and always learn something new every day and enjoy every moment with my family and walks in nature. As you know, hypohydration affects mental and physical performance, but new evidence suggests that hypohydration may also have harmful effects on cardiovascular health.

This is alarming because cardiovascular disease is the leading cause of death in the United States. Observational studies have linked low habitual water intake to an increased future risk of adverse cardiovascular events. Specifically, acute hypohydration can reduce endothelial function, increase sympathetic nervous system activity, and worsen orthostatic tolerance. This review is to present the currently available evidence that relates hypohydration to altered vascular function and blood pressure regulation. www.mdpi.com/.../1866

Posted On 04/16/2024

choule

Squirrels don't hibernate in Winter, but chipmunks do!

Posted On 04/16/2024

bee70578

I know, and I would give my local one nuts (near Battersea park in London) for winter and they would forget where they hid them in or back garden!

Posted On 04/16/2024

LSquare

Bee, you'd be surprised what those little bastards can remember. I saw a documentary on them a couple of years back, and using "marked nuts", researchers witnessed a a single squirrel burying over a 1,000 nuts in a season, and recovering most of them throughout winter. A few were left unsearched for, but it was hypothesized that they might come back for the strays later. Not a fan of them because of the damage they do to the bird seed supply, but a lot of respect for them - they are survivors!

Posted On 04/16/2024

grulla

Here's what can happen if rodents and others critters get out of control. www.youtube.com/watch

Posted On 04/17/2024

LSquare

@Grulla: THAT is Steelo Brim's nightmare (if you're familiar with the TV show Ridiculousness).

Posted On 04/17/2024

Boondock

I believe there are studies showing that a lower heart rate is generally associated with longer lifespans, so I'm a bit puzzled by this. The lower heart rate may be a marker for better cardio health, but I question whether one would actually want a higher heart rate.

Posted On 04/16/2024

TashuS

thanks for the info about the book "the pulse test" I found it available online but it was out of my budget range, then I found this free resource for it. I'm excited about trying this out for myself.

soilandhealth.org/.../020108.coca_.pdf

Posted On 04/16/2024

LSquare

Thanks for sharing, TashuS!

Posted On 04/17/2024

Pearl27

Thanks - looks good. I think Ayurvedic medicine uses the pulse to diagnose illness.

Posted On 04/17/2024

Shalaly

To Meibao, Very interesting, thank you for posting about your health and life! ~Have a great day.

Posted On 04/16/2024

pea7228

But it is good to be careful because hypothyroidism is associated with higher risk of breast, uterine, ovarian. and prostate cancers.

Posted On 04/16/2024

m231231

Heartbeat consistent 55, lowest has been 49. Pressure consistent 120/60, lowest 100/50. Almost always 2-1 ratio. Age 69. Retired. 1,000 sprints done, goal 10,000 by mid November. 100 yarders, walk back north to starting line. Boring as hell. Similar to sprinting from Minneapolis to Fort Wayne. 25 each session. Bought \$13 pressure/pulse gadget, works well. Half the running speed as high school. Sad. Read world record heart beat is 26, some runner in Norway or somewhere over there. Yikes. Reading Super Human by Dave Asprey , he's trying to live to 180. lol. I'm trying for 100. Dr. M endorsed Dave on bank of book. Very nice. I follow Dr. and lawyer, Sean O'mara. Local guy. \$5,000 minimum per his website if you want to see him. Included MRI. Haven't met him.

Posted On 04/16/2024

HilltopJPJ

Hmmm, I'd be curious to see the body temp pattern. As for the heart rate, probably not able to get accurate reading. I have a heart bigeminy or PVC, which makes it difficult to get a good reading, as I believe the PVC not being a full on heartbeat registers as one. A number of years ago at the Dr. the nurse was frustrated with the little thing they use on your fingertip, thought it wasn't working, so she did a manual pulse reading for a full minute. The fingertip device was saying my heart rate was 38, after she took my pulse manually she came up with 36!

The Dr. came in and I could tell by his body language that he thought the nurse was mistaken. The Dr. then did a manual pulse reading for 15 seconds and rounded and came up with 40. Fast forward a few years to late 2020, as I was being prepped for carpal tunnel surgery, the irregular heartbeat was detected and they notified my Dr after the surgery, he then referred me to a cardiologist for further evaluation. I declined to pursue any further tinkering by the system, as I've probably had it my whole life and nobody noticed, sometimes my pulse can be close to normal.

I'm in my sixties and when my heart stops, then my time here is over. I believe I have a very high metabolism, don't gain weight and everyone says I'm the energizer bunny. I would like to see the temp pattern, especially now that am doing wood fired sauna every day since this past February. I am warmer overall throughout the day, which actually started with Chinese medicine approximately 5 years ago and has only improved with daily saunas.

Posted On 04/16/2024

BicycleBoy

I have a similar stats and I am 79. Note, when at the gym which is every other day, I get my rate up a few times during the work out 100 to 120. In addition I have low red blood cell count.

Posted On 04/16/2024

chrisphillips

i really appreciate this... i was feeling a failure because my heart rate is in the 80's sometimes and i thought it was stress...

Posted On 04/16/2024

josephunger

See "The Pulse Test" by Arthur Coca MD. Pulse spikes after meals may be an indication of a sensitivity/allergy. I have used this testing with patients, often with surprising success. Long story, See the book.

Posted On 04/16/2024
