

Kim Tingley.

As public health officials struggle to contain the spread of the coronavirus, determining whether a person has a fever is now a high-stakes matter, and using temperature guns to screen people has become a visible strategy for detecting possible cases.

"Any infectious disease — one of the cardinal signs of infection is raised body temperature," says Waleed Javaid, the director of infection prevention and control for the Mount Sinai

Downtown Network, in New York. But there's a catch: "That means you know the body temperature before you raised it." Body temperature varies considerably both among and within people, based on weight, height,

physical activity, the weather, clothing. Older people tend to be cooler than younger people.

A recent review suggests women might tend to be slightly warmer than men.

ADVERTISMENT

Temperature also fluctuates with the sleep-wake cycle. Of course, public health officials can't know each person's usual thermal patterns, so their advice is based on population averages. Yet those numbers aren't consistent, either, and most refer to oral temperature, which is considered more accurate than an infrared scan of the forehead.



to school," says Dr Julie Parsonnet, an infectious-diseases specialist at Stanford University.

Wunderlich began taking what he purported were millions of temperature readings from

ADVERTISMENT

myhome.ie

Search Now

That number dates to 1851, when a German physician named Carl Reinhold August

Search from the convenience of your own home

Their average, he announced, was the Celsius equivalent of 98.6F.

that put the average closer to 97.88F or lower.

until 1940 that contained 83,900 temperature readings.

READ MORE

25,000 patients in Leipzig.

A 1992 study in JAMA suggested that the discrepancy could be explained by Wunderlich's primitive thermometer or other external variables. But Parsonnet wondered if our average body temperature might have decreased.

Parsonnet and colleagues analysed the medical records of army veterans taken from 1862

That figure, which he defined as "normal," has persisted, despite numerous more recent studies

They found that average body temperature steadily decreased by about 0.02 degrees Celsius per decade; veterans born more recently were cooler.

Natural Health: Every summer my athlete's foot returns. What can I do? These data were compared with data collected between 1971 and 1975 and between 2007

and 2017. **ADVERTISMENT**

Over all, a similar pattern emerged: The average temperature of men born between 1800 and 1997 decreased by about 0.03 degrees per birth decade. (Women born between 1890 and 1997 had a 0.029 per decade decrease but weren't represented in the army data.) The most likely reason for such a change, Parsonnet and co-authors argue in a study published in January in eLife, a journal of biology and medicine, is that improvements in living standards, sanitation and medical care have reduced the number of cases of untreated chronic illness,

including tuberculosis, syphilis and periodontitis.

ecosystem that's associated with this drop in temperature".

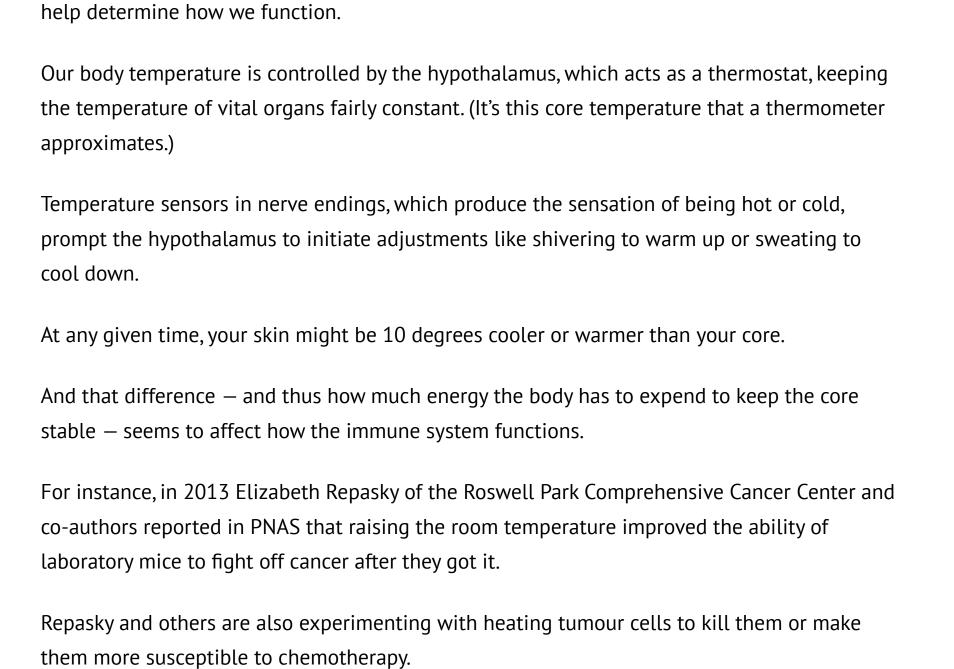
rest per unit of time — and that raises his or her temperature. A lower average temperature therefore suggests a lower average metabolic rate. And a lower metabolic rate tends to correlate with a greater body mass, at least in animals.

Fighting infection increases a person's basal metabolic rate — the amount of energy needed at

So far, researchers can only speculate about possible connections between a lower average temperature and rising obesity rates in people. Such a substantial change in average temperature over a fairly short period of history could have other, unforeseeable impacts.

Parsonnet points out that there are "more microbial organisms in us than there are human cells", which creates a complex ecosystem. And like a human-size version of climate change, "we're seeing probably a change in our

Yet we're only beginning to understand all the ways temperature influences that ecosystem to



A lower metabolic rate, and thus a lower temperature, has been linked to a longer life span in experimental settings with reduced calorie intake, when the body slows to conserve energy.

Already, certain abdominal cancers are treated with "hot chemotherapy", in which the drug is

heated to 103 degrees, which has been shown to increase how much of it is absorbed by

Separately, the heat from a fever may help fight infection, because, as Mark Dewhirst, an

lot of bacteria and other pathogens don't fare well at elevated temperatures."

emeritus professor of radiation oncology at the Duke University School of Medicine, puts it: "A

cancer cells.

But Bruno Conti, a professor of molecular medicine at the Scripps Research Institute, and colleagues have also found that mice genetically engineered to have a body temperature a half-degree lower than average lived longer than ordinary mice, even if they ate as much as they wanted.

H Craig Heller, a biology professor at Stanford, and colleagues have shown that muscle fatigue

is caused by heat, which they believe triggers a temperature-sensitive enzyme that acts as a

When Heller cools muscle during physical activity using special gloves that chill blood as it

It's unclear if or how the coronavirus might change the use of body temperature as a

might help clinicians diagnose and treat some illnesses more accurately.

should know what is their temperature when they are normal," he says.

Yes, you can still experience burnout working from home

it's normal and you feel sick, you're still sick."

New York Times Magazine

© READ MORE

Shape I'm In: Bestselling

author Liz Nugent

safety valve, stopping the production of chemicals that power muscle contractions in order to

"For instance," he says, "a brain at a lower temperature might not function as well."

At the same time, other bodily systems might benefit from being cooler.

What other effects this has on an organism is unknown.

moves through the hands, the muscle "just keeps on going".

He says: "I've had freshmen doing more than 800 push-ups."

prevent the tissue from burning up.

diagnostic tool.

He suggests taking it at set times for several weeks and giving that information to your doctor, if needed. "I think what we'll end up concluding is, just like people know their blood pressure, they also

But, Parsonnet adds, as a rule, it's also important to keep in mind that number's limitations: "If

In the near term, Javaid says, knowing your own average temperature and how it fluctuates

MORE ON THIS TOPIC

Lifestyle

direct to your inbox.

Sign up

Working Life: 'Our heart-

failure patients were

cocooning long before

they were told to'

Vaping damages arteries

and blood vessels like

smoking – study

Newsletter Irish Examiner The best food, health, entertainment and lifestyle content from the Irish Examiner,

Natural Health: Every

summer my athlete's

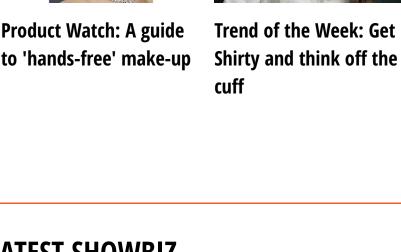
do?

foot returns. What can I

Phillip Schofield shows

off 'hair-raising' style

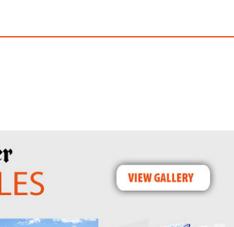
options





Shape I'm In: Bestselling

author Liz Nugent





hospital



Olympics dream on hold:

Irish Examiner Search our digitised

Paper newspaper archive today. FIND OUT MORE



MOST READ TOP STORIES Gsoc gets more than 70 complaints over Covid-19 enforcement by gardaí Alison O'Connor: A health

emergency is no time for conspiracy theories or for agendas Varadkar: Exercise limit to be extended to 5km as restrictions to remain until

Simon Coveney: 'Farming can't be decimated for **Green's 7% emissions** demand' Taoiseach to address nation at 6.30pm; Speculation over

'Tens of thousands' of nurses could be owed money **Country must 'find a new** way of living' as cabinet set to extend Covid-19 controls

> **Hurling Hands: Diarmuid** O'Sullivan - 'I broke Patrick

Horgan's hurley over my knee and threw the two

pieces up into the stand'

Manager who broke

colleagues jaw at work party awarded €6k for unfair dismissal **Lifestyle** Newsletter Irish Examiner The best food, health, entertainment

Orish Examiner **Start the search** for your new job e.g. engineer **All Regions** GO **LOTTO RESULTS** WEDNESDAY, APRIL 29, 2020



May 18 Limerick pub being redesigned for postcoronavirus era

70s to be allowed to leave

and lifestyle content from the Irish Examiner, direct to your inbox. Sign up



PRESS COUNCIL

TOPIC: HEALTH **MORE IN THIS SECTION Product Watch: A guide** to 'hands-free' make-up **LATEST SHOWBIZ**

Joe Wicks gives updates on hand injury from MORE FROM THE IRISH EXAMINER Irish Examiner **PHOTO SALES**

LIFESTYLE HELP Showbiz

FAQ **Contact Us Fashion & Beauty** Food & Drink **Privacy Policy Health & Life Cookie Policy** Mobile **Home & Interiors Subscriptions** Horoscopes **Property Travel** Arts, Books, Film & TV

sh Examiner X **NEWS SPORT VIEWPOINTS** Soccer **Our view (editorial)** Ireland NewsBrands Ireland **Podcast** Your view (letters) **Special Reports Get your Irish Examiner** Send letter to editor's **Columnists** World newspaper delivered free to GAA **Business** page your home. Rugby Columnists **Farming** Golf Technology Racing Weather **Death Notices** Other Sport Yes please! No, thanks! **Archives Features** Motors © Irish Examiner Ltd, Linn Dubh, Assumption Road, Blackpool, Cork. Registered in Ireland: 523712. i