

***NATIONAL INSTITUTE OF OCCUPATIONAL HEALTH
(ICMR-NIOH)***

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September, 2019

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ISSN 0002-9262 (PRINT)
ISSN 1476-6256 (ONLINE)
PRINTED IN THE U.S.A.



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academic.oup.com/aje

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Published by Oxford University Press on behalf of the Johns Hopkins Bloomberg School of Public Health and Sponsored by the Society for Epidemiologic Research
Founded in 1920 by W. H. Welch and W. H. Howell as the *American Journal of Hygiene* at the Johns Hopkins School of Hygiene and Public Health

OXFORD
UNIVERSITY PRESS

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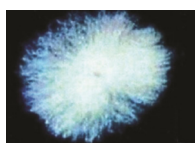
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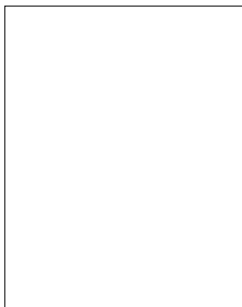
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CODEN: IJEB (A6) 57 (08) 639-716 (2019)

ISSN: 0019-5189 (Print); 0975-1009 (Online)

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Journal of Occupational and Environmental Medicine

September 2019 - Volume 61 - Issue 9

Editor's Picks for September

The Relationship Between Organizational Dehumanization and Outcomes: The Mediating Role of Emotional Exhaustion

Caesens, Gaëtane; Stinglhamber, Florence

Journal of Occupational and Environmental Medicine. 61(9):699-703, September 2019.

Degree of Integration Between Occupational Safety and Health Programs and Wellness Programs: First-year Results From an Insurer-Sponsored Wellness Grant for Smaller Employers

Meyers, Alysha R.; Al-Tarawneh, Ibraheem S.; Bushnell, P. Timothy; More

Journal of Occupational and Environmental Medicine. 61(9):704-717, September 2019.

A RE-AIM Evaluation of a Workplace Physical Activity Microgrant Initiative: The 10,000 Steps Workplace Challenge

Duncan, Mitch J.; Caperchione, Cristina M.; Corry, Kelly; More

Journal of Occupational and Environmental Medicine. 61(9):718-723, September 2019.

Current Issue Highlights

ORIGINAL ARTICLES

The Relationship Between Organizational Dehumanization and Outcomes: The Mediating Role of Emotional Exhaustion

Caesens, Gaëtane; Stinglhamber, Florence

Journal of Occupational and Environmental Medicine. 61(9):699-703, September 2019.

Degree of Integration Between Occupational Safety and Health Programs and Wellness Programs: First-year Results From an Insurer-Sponsored Wellness Grant for Smaller Employers

Meyers, Alysha R.; Al-Tarawneh, Ibraheem S.; Bushnell, P. Timothy; More

Journal of Occupational and Environmental Medicine. 61(9):704-717, September 2019.

FAST TRACK ARTICLE

Outcomes of a Heat Stress Awareness Program on Heat-Related Illness in Municipal Outdoor Workers

McCarthy, Ronda B.; Shofer, Frances S.; Green-McKenzie, Judith

Journal of Occupational and Environmental Medicine. 61(9):724-728, September 2019.

OCCUPATIONAL MEDICINE FORUM

What Should OEM Physicians Know About Ammonium Bifluoride?

Journal of Occupational and Environmental Medicine. 61(9):e394-e395, September 2019.

As an Occupational Medicine Provider, What Are the Basics That I Need to Know About the Beryllium Lymphocyte Proliferation Test?

Journal of Occupational and Environmental Medicine. 61(9):e396-e398, September 2019.

LETTERS TO THE EDITOR

Comparison Between a Self-Reported Job Exposure Matrix (JEM CONSTANCES) to an Expertise-Based Job Exposure Matrix (MADE) for Biomechanical Exposures

Descatha, Alexis; Evanoff, Bradley A.; Andersen, Johann H.; More

Journal of Occupational and Environmental Medicine. 61(9):e399-e400, September 2019.

Pilots' Healthcare Seeking Anxiety When Experiencing Chest Pain

Hoffman, William; Chervu, Nikhil; Geng, Xue; More

Journal of Occupational and Environmental Medicine. 61(9):e401-e405, September 2019.

Nature

Volume 573 Issue 7772, 5 September 2019

This Week

Editorial

- Editorial | 04 September 2019
[Wanted: better data on police shootings to reduce mistrust between the police and the communities they serve](#)
Law-enforcement organizations in the United States need to record data on civilians killed in encounters with the police.
- Editorial | 03 September 2019
[Science needs mentors](#)
Nature's mentoring awards are open for nominations from India.

World View

- World View | 04 September 2019
[Eliminating malaria should not be the end of vigilance](#)
Three years after Sri Lanka was declared free of the deadly disease, complacency is a big risk, warns Kamini Mendis.
- Kamini Mendis

Research Highlights

- Research Highlight | 28 August 2019
[A robo-thread wiggles through some of the body's most intricate spaces](#)
Robots that are roughly half a millimetre wide veer around sharp corners and down tiny corridors.
- Research Highlight | 29 August 2019
[A storied wine region feels the heat of a warming world](#)
More than 600 years' worth of records from Burgundy reveal the nudge of climate change.
- Research Highlight | 21 August 2019
[How to spot a hardy opportunistic infection](#)
Gut-dwelling bacteria produce molecules that could reveal who is prone to a life-threatening consequence of antibiotic treatment.
- Research Highlight | 22 August 2019
[Cuba's untold Zika outbreak uncovered](#)
An unreported spike in cases from 2017 is revealed through international travellers, a technique that could help with early detection in other epidemics.
- Research Highlight | 28 August 2019
[Asteroids in disguise: violent impacts might explain space-rock mystery](#)
Metal-rich bodies could be hiding beneath the glassy remnants of celestial smash-ups.
- Research Highlight | 27 August 2019

Healthy habits ward off dementia — for select seniors

For a fortunate group, exercise and the right diet could protect against cognitive symptoms that develop with age.

- Research Highlight | 22 August 2019

Lightest neutrino is at least 6 million times lighter than an electron

Researchers established the limits by combining data from surveys of the cosmos and particle-physics experiments.

Research

News & Views

- News & Views | 21 August 2019

A recipe book for cell types in the human brain

Whether cell types in the brain have been conserved during evolution is not clear. A comparison of the molecular recipes that define brain cell types in humans and mice reveals similarities and differences between species.

- Matthew G. Keefe & Tomasz J. Nowakowski
- News & Views | 04 September 2019

Fluorinated compounds present opportunities for drug discovery

A practical method has been devised to synthesize compounds that have previously been almost impossible to make. The combination of fluorine atoms and amide groups in the compounds might be useful in pharmaceuticals.

- Jonathan Clayden
- News & Views | 26 August 2019

Inhibitory protein puts a lid on an epigenetic marker

Two reports examine how a protein complex that adds transcription-repressing marks to histone proteins is potentially inhibited by the protein EZHIP during the maturation of sperm and egg cells and in a type of brain cancer.

- Sergi Aranda & Luciano Di Croce
- News & Views | 04 September 2019

Information gerrymandering in social networks skews collective decision-making

An analysis shows that information flow between individuals in a social network can be 'gerrymandered' to skew perceptions of how others in the community will vote — which can alter the outcomes of elections.

- Carl T. Bergstrom & Joseph B. Bak-Coleman
- News & Views | 21 August 2019

Pressure regulates immune-cell function

Immune cells called monocytes enter the lung during infection. Whether they help to launch a defence response is affected by the pressure encountered there, which is sensed by an ion channel called PIEZO1.

- Sarah R. Walmsley
- News & Views | 04 September 2019

Small and large earthquakes can have similar starts

A long-standing question in seismology is whether small and large earthquakes have similar or different onsets. An analysis of earthquakes around Japan shows that, in some cases, these onsets are almost identical.

- Rachel E. Abercrombie

Reviews

- Review Article | 28 August 2019

Organization and regulation of gene transcription

Structural and microscopy studies of gene transcription underpin a model in which phosphorylation controls the shuttling of RNA polymerase II between promoter and gene-body condensates to regulate transcription initiation and elongation.

- Patrick Cramer

Articles

- Article | 04 September 2019

Magnitude of urban heat islands largely explained by climate and population

The effect of cities on urban climate (often warmer but sometimes cooler than their surroundings) is largely explained by local hydroclimate and patterns of city development.

- Gabriele Manoli, Simone Fatichi & Elie Bou-Zeid

- Article | 21 August 2019

Conserved cell types with divergent features in human versus mouse cortex

RNA-sequencing analysis of cells in the human cortex enabled identification of diverse cell types, revealing well-conserved architecture and homologous cell types as well as extensive differences when compared with datasets covering the analogous region of the mouse brain.

- Rebecca D. Hodge, Trygve E. Bakken & Ed S. Lein

- Article | 21 August 2019

Mechanosensation of cyclical force by PIEZO1 is essential for innate immunity

PIEZO1 signalling mediates activation of a proinflammatory response to cyclical pressure fluctuations in immune cells.

- Angel G. Solis, Piotr Bielecki & Richard A. Flavell

- Article | 17 July 2019

Neuronal vulnerability and multilineage diversity in multiple sclerosis

Single-cell RNA sequencing was used to construct a map of gene expression in lesions from brains of patients with multiple sclerosis, revealing distinct lineage- and region-specific transcriptomic changes associated with selective cortical neuron damage and glial activation.

- Lucas Schirmer, Dmitry Velmeshev & David H. Rowitch

Letters

- Letter | 04 September 2019

[Fast inflows as the adjacent fuel of supermassive black hole accretion disks in quasars](#)

Observations of highly redshifted broad absorption lines of helium and hydrogen atoms provide unambiguous evidence of fast infalling gas that is merging into an accretion disk around a black hole.

- Hongyan Zhou, Xiheng Shi & Zhihao Zhong
- Letter | 19 August 2019

[Absence of a thick atmosphere on the terrestrial exoplanet LHS 3844b](#)

Phase curve measurements for the small (1.3 Earth radii) terrestrial exoplanet LHS 3844b show absence of a thick atmosphere, in agreement with theoretical predictions.

- Laura Kreidberg, Daniel D. B. Koll & Roland Vanderspek
- Letter | 31 July 2019

[Charge order and broken rotational symmetry in magic-angle twisted bilayer graphene](#)

When scanning tunnelling spectroscopy is used to map the electronic structure of magic-angle twisted bilayer graphene, a pseudogap phase is found, accompanied by a global charge-ordered stripe phase.

- Yuhang Jiang, Xinyuan Lai & Eva Y. Andrei
- Letter | 28 August 2019

[Emergence of tissue-like mechanics from fibrous networks confined by close-packed cells](#)

Tissue rheology emerges from the interplay between fibrous networks and cell inclusions, and the mechanical properties of tissues are modulated by restricting the relaxation modes of fibres close to volume-conserving cells.

- Anne S. G. van Oosten, Xingyu Chen & Paul A. Janmey
- Letter | 04 September 2019

[Straightforward access to *N*-trifluoromethyl amides, carbamates, thiocarbamates and ureas](#)

N-trifluoromethyl analogues of amides and related carbonyl compounds are prepared via bench-stable carbamoyl fluoride building blocks.

- Thomas Scattolin, Samir Bouayad-Gervais & Franziska Schoenebeck
- Letter | 28 August 2019

[Changing climate both increases and decreases European river floods](#)

Analysis of a comprehensive European flood dataset reveals regional changes in river flood discharges in the past five decades that are consistent with models suggesting that climate-driven changes are already happening.

- Günter Blöschl, Julia Hall & Nenad Živković
- Letter | 04 September 2019

[Frequent observations of identical onsets of large and small earthquakes](#)

Analysis of a dataset of high-sensitivity Tohoku–Hokkaido seismograph records shows that pairs of subduction-type earthquakes of different sizes have very similar initial characteristics, implying that the final size of an earthquake cannot be reliably predicted from these.

- Satoshi Ide
- Letter | 04 September 2019

Information gerrymandering and undemocratic decisions

In a voter game, information gerrymandering can sway the outcome of the vote towards one party, even when both parties have equal sizes and each player has the same influence; and this effect can be exaggerated by strategically placed zealots or automated bots.

- Alexander J. Stewart, Mohsen Mosleh & Joshua B. Plotkin
- Letter | 15 August 2019

Fossil insect eyes shed light on trilobite optics and the arthropod pigment screen

Comparing the eyes of crane-fly fossils with those of extant species demonstrates that they contain eumelanic screening pigments and that the lenses are calcified during fossilization, with implications for interpreting optical systems in other extinct arthropods such as trilobites.

- Johan Lindgren, Dan-Eric Nilsson & Per Ahlberg
- Letter | 28 August 2019

Natural selection on the *Arabidopsis thaliana* genome in present and future climates

The predicted increase in frequency of droughts and rising temperatures in Europe will lead core populations of a temperate plant to an evolutionary dead-end unless they acquire genetic alleles that are present only in extreme edge Mediterranean, Scandinavian, or Siberian populations.

- Moises Exposito-Alonso, Moises Exposito-Alonso & Detlef Weigel
- Letter | 15 August 2019

Niche stiffness underlies the ageing of central nervous system progenitor cells

Aged progenitor cells in the rat central nervous system can be made to behave as young cells by reducing the stiffness of the tissue microenvironment, or by inhibiting the mechanosensitive protein PIEZO1.

- Michael Segel, Björn Neumann & Kevin J. Chalut
- Letter | 28 August 2019

The flight response impairs cytoprotective mechanisms by activating the insulin pathway

The release of tyramine during the flight response in nematodes activates the DAF-2/insulin-IGF pathway to downregulate cytoprotective mechanisms and shorten lifespan.

- María José De Rosa, Tania Veuthey & Mark J. Alkema
- Letter | 28 August 2019

Fatty acids and cancer-amplified ZDHHC19 promote STAT3 activation through S-palmitoylation

The palmitoylation of STAT3 is mediated by fatty acids and/or the palmitoyl acyltransferase ZDHHC19, and deregulation of this palmitoylation has a role in inflammation and tumorigenesis.

- Jixiao Niu, Yang Sun & Xu Wu
- Letter | 21 August 2019

DEAD-box ATPases are global regulators of phase-separated organelles

RNA-dependent DEAD-box ATPases (DDXs) regulate the dynamics of phase-separated organelles, with ATP-bound DDXs promoting phase separation, and ATP hydrolysis inducing compartment disassembly and RNA release.

- Maria Hondele, Ruchika Sachdev & Karsten Weis

This Week

Editorial

- Editorial | 10 September 2019

[Take action to stop the Amazon burning](#)

The planet's largest rainforest is on fire. Brazil and the world must halt the destruction before it's too late.

- Editorial | 11 September 2019

[Set citation data free](#)

Respondents to a *Nature* poll want to make their own decisions about how to interpret citation metrics. That requires data to be freely accessible.

- Editorial | 11 September 2019

[Look out for potential bias in chemical data sets](#)

Materials science has embraced machine learning. As with other disciplines, researchers must be alert to the risks of biased data.

World View

- World View | 09 September 2019

[Tackle the epidemic, not the opioids](#)

Unless attention turns to what leads to addiction and overdose, treatment will always be out of date, says Judith Feinberg.

- Judith Feinberg

Research Highlights

- Research Highlight | 02 September 2019

[Zip-lining owls reveal what really scares their prey](#)

The light of a full moon gives white barn owls a deadly glow.

- Research Highlight | 03 September 2019

[The crop that's gobbling up a vast Brazilian ecosystem](#)

But all is not lost: targeted soya-bean planting could help to preserve the country's species-rich savanna.

- Research Highlight | 06 September 2019

[How a cheap mineral could make a better battery — and help the planet](#)

Calcium could replace lithium in batteries that store solar and wind power.

- Research Highlight | 06 September 2019

['Extreme inbreeding' revealed by massive human-genome survey](#)

Analysis suggests that roughly one in 3,600 people studied were born to closely related parents.

- Research Highlight | 04 September 2019

[The mystery of the missing mountain snow](#)

Global data sets don't accurately capture the size of mountain snowpack, a crucial water resource.

- Research Highlight | 06 September 2019

[A peculiar atom shakes up assumptions of nuclear structure](#)

Lopsided potassium isotope survives longer than predicted by theory.

- [Research Highlight | 02 September 2019](#)

[A dog's breed is a window onto its brain](#)

Brain anatomy reflects the activities — such as hunting — for which a breed is known.

Research

News & Views

- [News & Views | 11 September 2019](#)

[Electrochemical reactions drive morphing of materials](#)

Silicon anodes in lithium batteries expand during discharge, causing failure. This expansion has been used constructively in a material whose architecture controllably and reversibly changes to alter its function.

- Seung-Yeol Jeon & Sung Hoon Kang
- [News & Views | 21 August 2019](#)

[A mechanism for touch](#)

Piezo proteins mediate the sense of touch. A near-complete structure of one such protein has been obtained, and the mechanism for converting mechanical signals into electrical ones has been probed in another.

- Edwin W. McCleskey
- [News & Views | 28 August 2019](#)

[Elusive cranium of early hominin found](#)

A 3.8-million-year-old hominin fossil reveals what the cranium of the oldest known Australopithecus species looked like, casting doubt on assumptions about how these ancient relatives of humans evolved.

- Fred Spoor
- [News & Views | 11 September 2019](#)

[One tick closer to a nuclear clock](#)

Clocks that are based on the nucleus of a single thorium atom could be more precise than existing timekeepers. Such clocks have not yet been realized, but two experiments provide keys steps towards this goal.

- Jason T. Burke
- [News & Views | 21 August 2019](#)

[Strategies for combating online hate](#)

An analysis of the dynamics of online hate groups on social-media platforms reveals why current methods to ban hate content are ineffective, and provides the basis for four potential strategies to combat online hate.

- Noemi Derzsy

Articles

- Article | 11 September 2019
[Electrochemically reconfigurable architected materials](#)
Architected silicon-based lattices are reported that reversibly transform their structure on electrochemical lithiation and delithiation, through cooperatively coupled buckling instabilities that are sensitive to random and pre-designed defects.
- Xiaoxing Xia, Arman Afshar & Julia R. Greer
- Article | 28 August 2019
[A 3.8-million-year-old hominin cranium from Woranso-Mille, Ethiopia](#)
Two related studies describe a newly discovered cranium of *Australopithecus anamensis*, the environment in which this hominin would have lived approximately 3.8 million years ago and how it is related to *Australopithecus afarensis*.
- Yohannes Haile-Selassie, Stephanie M. Melillo & Timothy M. Ryan
- Article | 28 August 2019
[Age and context of mid-Pliocene hominin cranium from Woranso-Mille, Ethiopia](#)
Two related studies describe a newly discovered cranium of *Australopithecus anamensis*, the environment in which this hominin would have lived approximately 3.8 million years ago and how it is related to *Australopithecus afarensis*.
- Beverly Z. Saylor, Luis Gibert & Yohannes Haile-Selassie
- Article | 21 August 2019
[Structure and mechanogating of the mammalian tactile channel PIEZO2](#)
The cryo-electron microscopy structure of mouse PIEZO2 is determined and compared to that of PIEZO1, providing insights into the potential gating mechanisms of these mechanosensitive ion channels.
- Li Wang, Heng Zhou & Bailong Xiao
- Article | 21 August 2019
[Force-induced conformational changes in PIEZO1](#)
Cryo-electron microscopy and high-speed atomic force microscopy reveal that PIEZO1 can reversibly deform its shape towards a planar structure, which may explain how the PIEZO1 channel is gated in response to mechanical stimulation.
- Yi-Chih Lin, Yusong R. Guo & Simon Scheuring

Letters

- Letter | 11 September 2019
[Inflation of 430-parsec bipolar radio bubbles in the Galactic Centre by an energetic event](#)
Radio observations show a bipolar bubble structure of size 140 parsecs by 430 parsecs both above and below the Galactic Centre.
- I. Heywood, F. Camilo & L. P. Williams
- Letter | 11 September 2019
[X-ray pumping of the \$^{229}\text{Th}\$ nuclear clock isomer](#)
Excitation to the second excited state of ^{229}Th is used to populate the metastable state $^{229\text{m}}\text{Th}$, enabling accurate determination of the isomer's energy, half-life and excitation linewidth.

- Takahiko Masuda, Akihiro Yoshimi & Koji Yoshimura
- Letter | 11 September 2019

[Energy of the ²²⁹Th nuclear clock transition](#)

The transition energy of the first excited state of ²²⁹Th to the ground state is determined through the measurement of internal conversion electrons to correspond to a wavelength of 149.7 ± 3.1 nanometres.

- Benedict Seiferle, Lars von der Wense & Peter G. Thirolf
- Letter | 12 August 2019

[Position and momentum mapping of vibrations in graphene nanostructures](#)

Investigation of a free-standing graphene monolayer using a technique based on transmission electron microscopy allows identification of atomic vibrations characteristic of the bulk or the edge of the sample.

- Ryosuke Senga, Kazu Suenaga & Thomas Pichler
- Letter | 11 September 2019

[Anthropogenic biases in chemical reaction data hinder exploratory inorganic synthesis](#)

Human scientists make unrepresentative chemical reagent and reaction condition choices, and machine-learning algorithms trained on human-selected experiments are less capable of successfully predicting reaction outcomes than those trained on randomly generated experiments.

- Xiwen Jia, Allyson Lynch & Joshua Schrier
- Letter | 02 September 2019

[Mediterranean winter rainfall in phase with African monsoons during the past 1.36 million years](#)

Comparisons between past regional drivers of precipitation extremes found time series data from Lake Ohrid and modern climate models of the Mediterranean may help to reduce simulation uncertainties in predictions of the Mediterranean climate.

- Bernd Wagner, Hendrik Vogel & Xiaosen Zhang
- Letter | 21 August 2019

[Hidden resilience and adaptive dynamics of the global online hate ecology](#)

The dynamics of interactions between hate-orientated networks on different online platforms is characterized, and a mathematical model predicts that policing on one online platform can make matters worse and generate 'darker' parts of the Internet.

- N. F. Johnson, R. Leahy & S. Wuchty
- Letter | 28 August 2019

[An actin-based viscoplastic lock ensures progressive body-axis elongation](#)

Molecular analysis and mathematical modelling are combined to identify a network of factors that account for viscoplastic deformation in elongation of *Caenorhabditis elegans* during embryonic development.

- Alicia Lardennois, Gabriella Pásti & Michel Labouesse
- Letter | 04 September 2019

[Maternal vitamin C regulates reprogramming of DNA methylation and germline development](#)

The effect of vitamin C deprivation on mouse germline development is analysed, revealing that maternal vitamin C is required for proper DNA demethylation and the development of fetal oocytes, whereas the lack of vitamin C during pregnancy leads to reduced female fecundity in the offspring.

- Stephanie P. DiTroia, Michelle Percharde & Miguel Ramalho-Santos
- Letter | 04 September 2019

[Salmonella persisters promote the spread of antibiotic resistance plasmids in the gut](#)

The re-seeding of antibiotic-resistant persister subpopulations of *Salmonella enterica* into the gut lumen favours the transfer of resistance plasmids to gut-resident enterobacteria, showing that even small reservoirs of persister bacteria facilitate the spread of antibiotic resistance.

- Erik Bakkeren, Jana S. Huisman & Wolf-Dietrich Hardt
- Letter | 04 September 2019

[The histone mark H3K36me2 recruits DNMT3A and shapes the intergenic DNA methylation landscape](#)

H3K36me2 targets DNMT3A to intergenic regions and this process, together with H3K36me3-mediated recruitment of DNMT3B, has a key role in establishing and maintaining genomic DNA methylation landscapes.

- Daniel N. Weinberg, Simon Papillon-Cavanagh & Chao Lu
- Letter | 04 September 2019

[Structures of influenza A virus RNA polymerase offer insight into viral genome replication](#)

Structures of RNA polymerase of human and avian influenza A viruses reveal that the interface of the RNA polymerase dimer is required to initiate viral RNA synthesis in viral genome replication.

- Haitian Fan, Alexander P. Walker & Ervin Fodor
- Letter | 28 August 2019

[Structure and mechanism of mitochondrial proton-translocating transhydrogenase](#)

The structure of a mammalian proton-translocating transhydrogenase in various conformations is solved by cryo-electron microscopy, and a mechanism for the coupling process within the enzyme is proposed.

- Domen Kampjut & Leonid A. Sazanov

Volume 573 Issue 7774, 19 September 2019

This Week

Editorial

- Editorial | 15 September 2019
- [Act now and avert a climate crisis](#)

Nature joins more than 250 media outlets in Covering Climate Now, a unique collaboration to focus attention on the need for urgent action.

- Editorial | 18 September 2019
- [How to make computing more sustainable](#)

A new type of computing could provide an energy-efficient way of dealing with big data and a chance to ease computing's environmental impact.

- Editorial | 17 September 2019

[End the drought in drought research](#)

Policymakers battling water shortages and land degradation need independent scientific advice.

World View

- World View | 17 September 2019
[Why I welcome a climate emergency](#)

Now maybe we'll mobilize technology and policy at the necessary scale, says Paul Gilding.

- Paul Gilding

Research Highlights

- Research Highlight | 12 September 2019
[A giant star's 'fingerprint' reveals a closely held secret](#)

The age of a giant star is one of its most difficult traits to measure, but a new method tells all.

- Research Highlight | 13 September 2019
[A reaction used by chemists worldwide goes green](#)

Thanks to a catalyst, a crucial chemical process no longer requires an explosive ingredient.

- Research Highlight | 12 September 2019
[The masquerade that helps ruinous microbes to invade](#)

A bacterial protein in disguise works to squelch an infected host's immune system.

- Research Highlight | 13 September 2019
[Giant explosions sculpted a moon's peculiar scenery](#)

Craters on Saturn's largest moon could have resulted from nitrogen blasting from below ground.

- Research Highlight | 13 September 2019
[How cells 'know' to stop growing](#)

A protein called YAP might help to convey messages from a cell's internal framework.

- Research Highlight | 12 September 2019
[Baby sea turtles' treks are captured in fossils](#)

Rocks preserve prehistoric tracks that resemble those made by two modern sea-turtle species.

- Research Highlight | 13 September 2019
['Toe maps' in the brain guide painters born without hands](#)

People who can manipulate objects with their feet illustrate the brain's adaptability.

Research

News & Views

- News & Views Forum | 16 September 2019
[Debating the bedrock of climate-change mitigation scenarios](#)

Researchers and policymakers rely on computer simulations called integrated assessment models to determine the best strategies for tackling climate change. Here, scientists present opposing views on the suitability of these simulations.

- Kevin Anderson & Jessica Jewell
- News & Views | 11 September 2019

[Human embryo implantation modelled in microfluidic channels](#)

An innovative microfluidic device has enabled the modelling of the events that occur in human embryos when they implant in the wall of the uterus. It could be used to help understand early pregnancy loss.

- Amander T. Clark
- News & Views | 18 September 2019

[Stochastic magnetic circuits rival quantum computing](#)

Circuits based on the stochastic evolution of nanoscale magnets have been used to split large numbers into prime-number factors — a problem that only quantum computers were previously expected to solve efficiently.

- Dmitri E. Nikonov
- News & Views | 17 September 2019

[From the archive](#)

How *Nature* reported hominid remains in 1969 and sea-fishery investigations in 1919.

- News & Views | 04 September 2019

[Survival skills ensure that cancer spreads](#)

How cancer cells migrate to a secondary site and become established there is not fully understood. An analysis of mouse and human cancer cells could help settle the debate about the role of the protein E-cadherin in this process.

- Roger R. Gomis
- News & Views | 11 September 2019

[Spectacularly rapid and regular X-ray eruptions observed from an active galaxy](#)

A galaxy has been seen producing strong, regular bursts of X-rays that recur on timescales of hours. The eruptions imply that the matter flowing onto the galaxy's central black hole undergoes repeated restructuring.

- Bożena Czerny
- News & Views | 04 September 2019

[A key to unlocking chromatin revealed by complex structures](#)

Histone proteins pack DNA into a condensed form called chromatin. Detailed structures of the MLL family of histone-modifying protein complexes have been defined, shedding light on how they operate.

- Steven J. Gamblin & Jon R. Wilson

Articles

- Article | 18 September 2019

[A new scenario logic for the Paris Agreement long-term temperature goal](#)

Fundamental value judgments about acceptable maximum levels of climate change and future reliance on controversial technologies can be made explicitly in climate scenarios, thereby addressing the intergenerational bias present in the scenario literature.

- Joeri Rogelj, Daniel Huppmann & Malte Meinshausen
- Article | 07 August 2019 | Open Access

[A national experiment reveals where a growth mindset improves achievement](#)

A US national experiment showed that a short, online, self-administered growth mindset intervention can increase adolescents' grades and advanced course-taking, and identified the types of school that were poised to benefit the most.

- David S. Yeager, Paul Hanselman & Carol S. Dweck

- Article | 28 August 2019

[Temporal plasticity of apical progenitors in the developing mouse neocortex](#)

In the brains of embryonic mice, some types of progenitor (apical progenitors) can revert to earlier molecular, electrophysiological and neurogenic states when transplanted into younger hosts, whereas others cannot, highlighting progenitor-type-specific differences in fate plasticity.

- Polina Oberst, Sabine Fièvre & Denis Jabaudon

- Article | 04 September 2019

[A unified mechanism for intron and exon definition and back-splicing](#)

The cryo-electron microscopy structures of an early spliceosome complex in yeast reveal a unified mechanism for defining introns and exons and also for back-splicing to generate circular RNA.

- Xueni Li, Shiheng Liu & Rui Zhao

Letters

- Letter | 11 September 2019

[Nine-hour X-ray quasi-periodic eruptions from a low-mass black hole galactic nucleus](#)

Galaxy GSN 069 has unprecedented eruptions of X-ray light every nine hours, which indicate fast transitions between cold and warm states and may shed light on black hole accretion.

- G. Miniutti, R. D. Saxton & B. Agís-González

- Letter | 04 September 2019

[Quantum critical behaviour at the many-body localization transition](#)

Quantum critical behaviour at the many-body localization transition in a disordered Bose–Hubbard system of bosonic rubidium atoms in an optical lattice is observed, connecting the macroscopic phenomenology of the transition to the system's microscopic quantum correlations.

- Matthew Rispoli, Alexander Lukin & Markus Greiner

- Letter | 18 September 2019

[Integer factorization using stochastic magnetic tunnel junctions](#)

A probabilistic computer utilizing probabilistic bits, or p-bits, is implemented with stochastic nanomagnetic devices in a neural-network-inspired electrical circuit operating at room temperature and demonstrates integer factorization up to 945.

- William A. Borders, Ahmed Z. Pervaiz & Supriyo Datta

- Letter | 09 September 2019

[Intrinsically stable organic solar cells under high-intensity illumination](#)

Organic photovoltaic cells containing an intrinsically stable organic absorber layer that are likely to be stable for many decades under illumination are demonstrated.

- Quinn Burlingame, Xiaoheng Huang & Stephen R. Forrest

- Letter | 09 September 2019

[Hindered dialkyl ether synthesis with electrogenerated carbocations](#)

A route to the synthesis of hindered ethers is developed, in which electrochemical oxidation is used to liberate high-energy carbocations that are then captured by an alcohol.

- Jinbao Xiang, Ming Shang & Phil S. Baran
- Letter | 18 September 2019

[Rapid expansion of Greenland's low-permeability ice slabs](#)

Observations and regional climate models show that the increasing coverage of ice slabs on the Greenland ice sheet could lead to a global sea-level rise of up to 74 millimetres by 2100.

- M. MacFerrin, H. Machguth & W. Abdalati
- Letter | 18 September 2019

[Climate and air-quality benefits of a realistic phase-out of fossil fuels](#)

Scenarios that model a realistic phase-out of fossil fuels find no substantial near-term increase in the rate of warming, and suggest benefits for climate change mitigation and air quality at essentially all timescales.

- Drew Shindell & Christopher J. Smith
- Letter | 04 September 2019

[Death march of a segmented and trilobate bilaterian elucidates early animal evolution](#)

Yilingia spiciformis, a bilaterian dating to the Ediacaran period, is described from body fossils associated with trails produced by the animal, shedding light on the origins of segmentation and motility in bilaterian animals.

- Zhe Chen, Chuanming Zhou & Shuhai Xiao
- Letter | 11 September 2019

[Genome architecture and stability in the *Saccharomyces cerevisiae* knockout collection](#)

Whole-genome sequencing of the strains of the *Saccharomyces cerevisiae* gene-knockout collection reveals the effects of the deletion of non-essential genes on genome stability.

- Fabio Puddu, Mareike Herzog & Stephen P. Jackson
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[Controlled modelling of human epiblast and amnion development using stem cells](#)

Landmarks of early stages of human embryogenesis can be recapitulated in a highly controllable and scalable fashion by culturing human pluripotent stem cells in a microfluidic device.

- Yi Zheng, Xufeng Xue & Jianping Fu
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[Asymmetric lysosome inheritance predicts activation of haematopoietic stem cells](#)

The cellular degradative machinery can be asymmetrically inherited upon haematopoietic-stem-cell division, which predicts the future metabolic and translational activation of their daughter cells.

- Dirk Loeffler, Arne Wehling & Timm Schroeder
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[Targeting cardiac fibrosis with engineered T cells](#)

Adoptive transfer of CAR T cells against the fibroblast marker FAP reduces cardiac fibrosis and restores function after cardiac injury in mice, providing proof-of-principle for the development of immunotherapeutic treatments for cardiac disease.

- Haig Aghajanian, Toru Kimura & Jonathan A. Epstein
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[SLC19A1 transports immunoreactive cyclic dinucleotides](#)

A genome-wide CRISPR-interference screen is used to identify the reduced folate carrier SLC19A1 as the major transporter of cyclic dinucleotides in human cells, with potential roles in immunotherapeutic treatment of cancer, immune responses to pathogens and inflammatory diseases.

- Rutger D. Luteijn, Shivam A. Zaver & David H. Raulet
- Letter | 04 September 2019

[E-cadherin is required for metastasis in multiple models of breast cancer](#)

Although E-cadherin loss promotes tumour-cell invasion in mouse and human models of invasive ductal carcinoma, E-cadherin expression prevents oxidative-stress-mediated apoptosis during detachment and is essential for metastasis.

- Veena Padmanaban, Ilona Krol & Andrew J. Ewald
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[Structural basis of nucleosome recognition and modification by MLL methyltransferases](#)

Cryo-electron microscopy structures of mixed-lineage leukaemia methyltransferases 1 and 3 associated with unmodified or mono-ubiquitinated nucleosome reveal the structural basis for the activity specificity and regulation of these enzymes.

- Han Xue, Tonghui Yao & Jing Huang

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[The value of biodiversity is not the same as its price](#)

An assessment of nature's contribution to economic growth must listen to diverse voices.

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- Amy Orben

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Kimberlites are volcanic rocks that derive from deep in Earth's mantle, but the nature of their source is uncertain. A study of this source's evolution over two billion years provides valuable information about its properties.
- Catherine Chauvel
- News & Views | 18 September 2019

[Dangerous liaisons as tumour cells form synapses with neurons](#)

Why brain tumours progress rapidly is unclear. The finding that such cancer cells form synaptic connections with neurons uncovers an interaction that accelerates tumour growth rate and lethality.

- Andres Barria
- News & Views | 09 September 2019

[Concerns that captive breeding affects the ability of monarch butterflies to migrate](#)

Monarch butterflies' ability to migrate over long distances is impressive. Evidence that some monarchs reared in captivity have impaired migratory skills compared with wild monarchs has conservation implications.

- Karen S. Oberhauser
- News & Views | 09 September 2019

[The structure of a T-cell mechanosensor](#)

T-cell receptors orchestrate immune-system responses against infection and cancer. A structure of an entire T-cell receptor complex clarifies its assembly and signalling, and sheds light on its dynamic ligand recognition.

- Ellis L. Reinherz
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How *Nature* reported political support for European union in 1969, and early studies of the effects of sewage on fish from 1919.

- News & Views | 25 September 2019

[X-rays glimpse solid hydrogen's structure](#)

Little was known about the properties of hydrogen under extreme pressure. Experiments now reveal key details about the arrangement of molecules in several of the element's high-pressure phases.

- Bartomeu Monserrat & Chris J. Pickard

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[Graphene and two-dimensional materials for silicon technology](#)

Progress in integrating atomically thin two-dimensional materials with silicon-based technology is reviewed, together with the associated opportunities and challenges, and a roadmap for future applications is presented.

- Deji Akinwande, Cedric Huyghebaert & Frank H. L. Koppens

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Multivalent anions as universal latent electron donors

Multivalent anions are found to be capable of electron-doping polymer semiconductors to realize conductive films with very low work functions, which enable efficient electron injection into materials with low electron affinity.

- Cindy G. Tang, Mazlan Nur Syafiqah & Peter K. H. Ho
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Synaptic proximity enables NMDAR signalling to promote brain metastasis

Breast-to-brain metastasis is enabled by activation of an *N*-methyl-D-aspartate receptor, which is achieved via the formation of pseudo-tripartite synapses between cancer cells and glutamatergic neurons.

- Qiqun Zeng, Iacovos P. Michael & Douglas Hanahan
- Article | 18 September 2019

Glutamatergic synaptic input to glioma cells drives brain tumour progression

Neurons form glutamatergic synapses with glioma cells in mice and humans, and inhibition of AMPA receptors reduces glioma cell invasion and growth.

- Varun Venkataramani, Dimitar Ivanov Tanev & Thomas Kuner
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Electrical and synaptic integration of glioma into neural circuits

Neurons form synapses onto glioma cells, and depolarization of glioma membranes promotes glioma growth in vivo, whereas blocking electrochemical signalling blocks tumour growth.

- Humsa S. Venkatesh, Wade Morishita & Michelle Monje
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Structural basis of assembly of the human T cell receptor–CD3 complex

A high-resolution cryo-electron microscopy structure of the human octameric T cell receptor–CD3 complex, including the complete extracellular and transmembrane domains, reveals the structural basis for TCR–CD3 assembly and provides insights into T cell receptor activation.

- De Dong, Lvqin Zheng & Zhiwei Huang

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Coherent spin-state transfer via Heisenberg exchange

Transmission of single-spin and entangled quantum states without the physical displacement of electrons is demonstrated in a quadruple quantum dot array using the Heisenberg exchange interaction and coherent SWAP gates.

- Yadav P. Kandel, Haifeng Qiao & John M. Nichol
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Ultra-high-pressure isostructural electronic transitions in hydrogen

X-ray diffraction measurements of solid hydrogen provide crystallographic information for high-pressure phases of hydrogen and transitions between them, suggesting a series of isostructural transitions under compression before band closure and metallization.

- Cheng Ji, Bing Li & Ho-Kwang Mao
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A 16-step synthesis of the isoryanodane diterpene (+)-perseanol

The chemical synthesis of (+)-perseanol, a diterpene with potent insecticidal properties, is reported.

- Arthur Han, Yujia Tao & Sarah E. Reisman
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Deep learning for multi-year ENSO forecasts

A statistical forecast model using a deep-learning approach produces useful forecasts of El Niño/Southern Oscillation events with lead times of up to one and a half years.

- Yoo-Geun Ham, Jeong-Hwan Kim & Jing-Jia Luo
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Aridity is expressed in river topography globally

A global dataset of river longitudinal profiles shows that river profiles become straighter with increasing aridity and numerical modelling suggests that this can be explained by rainfall–runoff regimes in different climate zones.

- Shiu-An Chen, Katerina Michaelides & Michael Bliss Singer
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Kimberlites reveal 2.5-billion-year evolution of a deep, isolated mantle reservoir

Globally distributed kimberlites have their origins in a single, homogeneous early Earth reservoir that was subsequently perturbed, probably by subduction along the margins of Pangaea, around 200 million years ago.

- Jon Woodhead, Janet Hergt & Geoff Nowell
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Wilderness areas halve the extinction risk of terrestrial biodiversity

Wilderness areas with minimal levels of human disturbance promote the persistence of biodiversity by acting as buffers against species loss, and therefore represent key targets for environmental protection.

- Moreno Di Marco, Simon Ferrier & James E. M. Watson
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A middle Cambrian arthropod with chelicerae and proto-book gills

Mollisonia plenovenatrix, a small predatory arthropod from the Burgess Shale dated to about 508 million years ago, is morphologically close to horseshoe crabs, which suggests chelicerates arose as micropredators early during the Cambrian explosion.

- Cédric Aria & Jean-Bernard Caron
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[DDX3X acts as a live-or-die checkpoint in stressed cells by regulating NLRP3 inflammasome](#)
 The RNA helicase DDX3X has a critical role in regulating both the induction of stress granules and the activation of the NLRP3 inflammasome in cells under stress conditions.
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 Restoring the function of p53 in a mouse model of pancreatic ductal adenocarcinoma leads to the accumulation of α-ketoglutarate, which increases levels of the 5-hydroxymethylcytosine chromatin modification and results in reduced tumour-cell fitness.
- John P. Morris IV, Jossie J. Yashinski & Scott W. Lowe
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 V(D)J recombination in B cells involves cohesin-mediated extrusion of chromatin loops to present DNA targets for cleavage and joining.
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- Shaobo Dai, Lisa-Marie Funk & Kai Tittmann

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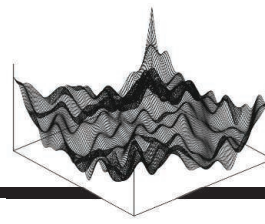
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In the Red Sea, a branching *Acropora* coral spawns pink egg-and-sperm bundles. These bundles will be carried by the currents until they encounter a match—a sperm fertilizes an egg and

new life is created. Coral spawning usually occurs once a year in a certain month, on a specific night, and at a particular hour, but environmental changes are disrupting this synchronized event. See pages 987 and 1002. *Photo: Tom Shlesinger*

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SCIENCE (ISSN 0036-8075) is published weekly on Friday, except last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals mail postage (publication No. 48446D) paid at Washington, DC, and additional mailing offices. Copyright © 2019 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership, including subscription (12 months): \$165 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$1971. Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery): \$98. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request. GST #R125488122. Publications Mail Agreement Number 1069624. Printed in the U.S.A. Change of address: Allow 4 weeks, giving old and new addresses and 8-digit account number. Postmaster: Send change of address to AAAS, P.O. Box 96178, Washington, DC 20090-6178. Single-copy sales: \$15 each plus shipping and handling, bulk rate on request. Authorization to reproduce material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act can be obtained through the Copyright Clearance Center (CCC), www.copyright.com. The identification code for Science is 0036-8075. Science is indexed in the Reader's Guide to Periodical Literature and in several specialized indexes.

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365 (6457)

Science **365** (6457), 957-1054.

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Runoff water rushes through the valley below El Altar, Ecuador's fifth-tallest volcano. The Ecuadorian Andes were the cradle of mountain science, pioneered by Alexander von Humboldt. Two centuries on, mountain

research continues to build on Humboldt's foundations, with key relevance for human society in the era of rapid climate change. See page 1092. *Photo: Ryan Heffernan/Cavan Images*

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Science

365 (6458)

Science **365** (6458), 1061-1214.

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365 (6459)

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Radiotherapy for metastatic prostate cancer

Radiotherapy for metastatic prostate cancer—Authors' reply



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Guselkumab versus secukinumab for the treatment of moderate-to-severe psoriasis (ECLIPSE): results from a phase 3, randomised controlled trial

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An artificial intelligence-enabled ECG algorithm for the identification of patients with atrial fibrillation during sinus rhythm: a retrospective analysis of outcome prediction



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A spot diagnosis! Aplasia cutis congenita in monozygotic twins

The Lancet

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p 895-978

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[Let's talk about dementia](#)

[Tuberculosis needs accelerated and continued attention](#)

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[A tuberculosis-free world: is it a delusion? – Authors' reply](#)

[Recurring acute encephalitis syndrome outbreaks in Bihar, India](#)

[Parasitic encephalitis in immunocompetent individuals](#)

[Parasitic encephalitis in immunocompetent individuals – Authors' reply](#)

[Polio vaccination controversy in Pakistan](#)

[Militaries and global health](#)

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[Militaries and global health – Authors' reply](#)

[Developing country: an outdated term in *The Lancet*](#)



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[Comparative efficacy and tolerability of 32 oral antipsychotics for the acute treatment of adults with multi-episode schizophrenia: a systematic review and network meta-analysis](#)

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The Lancet

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[Ticagrelor in patients with diabetes and stable coronary artery disease with a history of previous percutaneous coronary intervention \(THEMIS-PCI\): a phase 3, placebo-controlled, randomised trial](#)

[Planned early delivery or expectant management for late preterm pre-eclampsia \(PHOENIX\): a randomised controlled trial](#)

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Proposals to Redesign Medicare Part D — Easing the Burden of Rising Drug Prices

S.B. Dusetzina, N.L. Keating, and H.A. Huskamp
DOI: 10.1056/NEJMp1902811 | September 4, 2019

Medicare Drug-Price Negotiation — Why Now . . . and How

R.G. Frank and L.M. Nichols
DOI: 10.1056/NEJMp1909798 | September 4, 2019

Perilous Politics — Morbidity and Mortality in the Pre-*Roe* Era

L. Rosenbaum
N Engl J Med 2019;381:893-895

Toppling the Ethical Balance — Health Care Refusal and the Trump Administration

E. Sepper
N Engl J Med 2019;381:896-898 | Published Online July 31, 2019

Primary Care First — Is It a Step Back?

L.L. Sessums, S. Basu, and B.E. Landon
N Engl J Med 2019;381:898-901 | Published Online July 17, 2019

ORIGINAL ARTICLES

Trial of SAGE-217 in Patients with Major Depressive Disorder

H. Gunduz-Bruce and Others
N Engl J Med 2019;381:903-911

Five-Year Outcomes of a Randomized Trial of Treatments for Varicose Veins

J. Brittenden and Others
N Engl J Med 2019;381:912-922

Inhaled GM-CSF for Pulmonary Alveolar Proteinosis

R. Tazawa and Others
N Engl J Med 2019;381:923-932

Safety and Efficacy of Mitapivat in Pyruvate Kinase Deficiency

R.F. Grace and Others
N Engl J Med 2019;381:933-944

Antithrombotic Therapy for Atrial Fibrillation with Stable Coronary Disease

S. Yasuda and Others
DOI: 10.1056/NEJMoa1904143 | September 2, 2019

A Genotype-Guided Strategy for Oral P2Y₁₂ Inhibitors in Primary PCI

D.M.F. Claassens and Others
DOI: 10.1056/NEJMoa1907096 | September 3, 2019

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Immune Thrombocytopenia

N. Cooper and W. Ghanima
N Engl J Med 2019;381:945-955

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Frontiers in Medicine: Mobile Devices and Health

I. Sim
N Engl J Med 2019;381:956-968

IMAGES IN CLINICAL MEDICINE

Boxer's Fracture

N. Yoshida and Y. Tsuchida
N Engl J Med 2019;381:969

Vocal Cord Metastasis

P. Garrido-Abad and L. García-Martín
N Engl J Med 2019;381:e18

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A Terminal Event

A.R. Lai and Others

N Engl J Med 2019;381:970-976

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Thank You

J.M. Drazen

N Engl J Med 2019;381:978-979

The Dangerous Threat to *Roe v. Wade*

The Editors and Others

N Engl J Med 2019;381:979

New Hope for Patients with Major Depressive Disorder?

E.F. Coccaro

N Engl J Med 2019;381:980-981

Antithrombotic Therapy in Atrial Fibrillation and Coronary Artery Disease

R.C. Becker

DOI: 10.1056/NEJMe1910560 | September 2, 2019

MEDICINE AND SOCIETY

Death by Stereotype? Cancer Treatment in Unmarried Patients

J. DelFattore

N Engl J Med 2019;381:982-985

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Digital Health Support in Treatment for Tuberculosis

Heart and Lung Transplants from HCV-Infected Donors

A Temporizing Solution to “Artemisinin Resistance”

Clinical and Therapeutic Implications of Cancer Stem Cells

Muco-Obstructive Lung Diseases

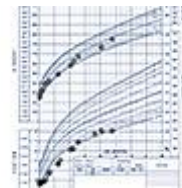


September 12, 2019

CASE CHALLENGE

A Boy with Vomiting

A 14-month-old boy was evaluated because of vomiting and insufficient weight gain. Beginning at 26 days of age, frequent emesis occurred, including once with blood in the vomitus. What is the most likely diagnosis?



Vote and comment. Find the answers in the full text of the case, to be published on September 19.

PERSPECTIVE

Sustained Animus toward Latino Immigrants — Deadly Consequences for Children and Families

B.P. Dreyer

DOI: 10.1056/NEJMp1908995 | September 11, 2019

Caught in the Web — U.S. Immigration and Compound Disadvantage

Z.D. Berger and D.S. Goldberg

N Engl J Med 2019;381:993-995

Parenting during Graduate Medical Training — Practical Policy Solutions to Promote Change

D.F. Weinstein, C. Mangurian, and R. Jagsi

N Engl J Med 2019;381:995-997

Breaching the Professional–Personal Boundary — An Unrecognized Risk for Burnout

J.D. Thomas

N Engl J Med 2019;381:998-999

ORIGINAL ARTICLES

Roxadustat for Anemia in Patients with Kidney Disease Not Receiving Dialysis

N. Chen and Others

N Engl J Med 2019;381:1001-1010 | Published Online July 24, 2019

Roxadustat Treatment for Anemia in Patients Undergoing Long-Term Dialysis

N. Chen and Others

N Engl J Med 2019;381:1011-1022 | Published Online July 24, 2019

Benralizumab for the Prevention of COPD Exacerbations

G.J. Criner and Others

N Engl J Med 2019;381:1023-1034 | Published Online May 20, 2019

A Randomized Trial of Prenatal n-3 Fatty Acid Supplementation and Preterm Delivery

M. Makrides and Others

N Engl J Med 2019;381:1035-1045

Serine and Lipid Metabolism in Macular Disease and Peripheral Neuropathy

M.L. Gantner and Others

DOI: 10.1056/NEJMoa1815111 | September 11, 2019

Brief Report: CRISPR-Edited Stem Cells in a Patient with HIV and Acute Lymphocytic Leukemia

L. Xu and Others

DOI: 10.1056/NEJMoa1817426 | September 11, 2019

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Treatment of Hypertension in Patients with Asthma

S.C. Christiansen and B.L. Zuraw

N Engl J Med 2019;381:1046-1057

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Palmar Squamous-Cell Carcinoma

A. Campanelli and J. Lubbe

N Engl J Med 2019;381:1058

Disseminated Varicella Infection

A.K. Pannu and G. Manikandan
N Engl J Med 2019;381:e21

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Case 28-2019: A 22-Year-Old Woman with Dyspnea and Chest Pain

T.M. Kremer and Others
N Engl J Med 2019;381:1059-1067

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Changing Principals, Keeping Principles

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N Engl J Med 2019;381:1069-1070

Roxadustat and Anemia of Chronic Kidney Disease

J. Kaplan
N Engl J Med 2019;381:1070-1072 | Published Online July 24, 2019

A Metabolic Vulnerability of Vision

H. Tynismaa
DOI: 10.1056/NEJMe1910322 | September 11, 2019

Emerging Use of CRISPR Technology — Chasing the Elusive HIV Cure

C.H. June
DOI: 10.1056/NEJMe1910754 | September 11, 2019

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Medicaid Work Requirements — Results from the First Year in Arkansas

B.D. Sommers and Others
N Engl J Med 2019;381:1073-1082 | Published Online June 19, 2019

CLINICAL IMPLICATIONS OF BASIC RESEARCH

The Cellular Determinants of Adaptive Immunity

R.N. Germain

N Engl J Med 2019;381:1083-1085 | Published Online September 10, 2019

HER2 and Breast Cancer — A Phenomenal Success Story

D.F. Hayes

DOI: 10.1056/NEJMcibr1909386 | September 10, 2019

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Medical Marijuana Miscalculation

Canagliflozin and Renal Outcomes in Diabetic Nephropathy

A Shorter Regimen for Rifampin-Resistant Tuberculosis

One Month of Rifapentine plus Isoniazid to Prevent HIV-Related Tuberculosis

Open versus Endovascular Repair of Abdominal Aortic Aneurysm



The NEW ENGLAND
JOURNAL of MEDICINE

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CLINICAL DECISIONS

Anticoagulation for Subsegmental Pulmonary Embolism?

A. Fernandes, J.M. Connors, M. Carrier | N Engl J Med 2019;381:1171-1174

This interactive feature about a patient with a single subsegmental pulmonary embolus offers a case vignette accompanied by essays that either support or discourage the use of anticoagulation therapy for this type of embolism.

PERSPECTIVE

Case Studies in Social Medicine: Contingent Knowledge and Looping Effects — A 66-

Year-Old Man with PSA-Detected Prostate Cancer and Regrets

R. Aronowitz and J.A. Greene
N Engl J Med 2019;381:1093-1096

Why Is a Cow? Curiosity, Tweetorials, and the Return to Why

A.C. Breu
N Engl J Med 2019;381:1097-1098

All In

L. Rosenbaum
N Engl J Med 2019;381:1099-1101

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Antithrombotic Therapy for Atrial Fibrillation with Stable Coronary Disease

S. Yasuda and Others
N Engl J Med 2019;381:1103-1113 | Published Online September 2, 2019

Polypill for Cardiovascular Disease Prevention in an Underserved Population

D. Muñoz and Others
N Engl J Med 2019;381:1114-1123

Gemcitabine and Cisplatin Induction Chemotherapy in Nasopharyngeal Carcinoma

Y. Zhang and Others
N Engl J Med 2019;381:1124-1135 | Published Online May 31, 2019

Maribavir for Preemptive Treatment of Cytomegalovirus Reactivation

J. Maertens and Others
N Engl J Med 2019;381:1136-1147

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Anemia of Inflammation

T. Ganz
N Engl J Med 2019;381:1148-1157

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Closed Reduction of a Fractured and Dislocated Ankle

A.G. von Keudell and Others
N Engl J Med 2019;381:e25

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Acquired Methemoglobinemia

O.U. Warren and B. Blackwood
N Engl J Med 2019;381:1158

Orbital Metastasis in Breast Cancer

A. Salinas-Bostrán and M.J. Guarín-Corredor
N Engl J Med 2019;381:e26

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Case 29-2019: A 14-Month-Old Boy with Vomiting

C. Di Lorenzo and Others
N Engl J Med 2019;381:1159-1167

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R.C. Becker
N Engl J Med 2019;381:1169-1170 | Published Online September 2, 2019

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A. Fernandes, J.M. Connors, M. Carrier | N Engl J Med 2019;381:1171-1174

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Creating a Learning Health System through Rapid-Cycle, Randomized Testing

L.I. Horwitz, M. Kuznetsova, and S.A. Jones
N Engl J Med 2019;381:1175-1179

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Syncope Due to Ventricular Arrhythmia Triggered by Electronic Gaming

Targeting Huntingtin in Patients with Huntington's Disease

Partial Oral Therapy for Osteomyelitis and Endocarditis

Glutaminase Deficiency Caused by Short Tandem Repeat Expansion in *GLS*

Heatstroke

Management of Burns

Trends in Adolescent Vaping, 2017–2019



The NEW ENGLAND
JOURNAL of MEDICINE

September 26, 2019

INTERACTIVE MEDICAL CASE

The Element of Surprise

M. Vallurupalli and Others | N Engl J Med 2019;381:e28

This interactive case features a 64-year-old woman who presents with symptoms of fatigue, shortness of breath, nausea, weight loss, and loose stools.



PERSPECTIVE

Losing Hahnemann — Real-Life Lessons in “Value-Based” Medicine

L. Rosenbaum

N Engl J Med 2019;381:1193-1195 | Published Online August 28, 2019

Sustained Animus toward Latino Immigrants — Deadly Consequences for Children and Families

B.P. Dreyer

N Engl J Med 2019;381:1196-1198 | Published Online September 11, 2019

Unsteady Thoughts — Telling the Truth of Psychosis

C.A. Conn

N Engl J Med 2019;381:1198-1199

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Ustekinumab as Induction and Maintenance Therapy for Ulcerative Colitis

B.E. Sands and Others

N Engl J Med 2019;381:1201-1214

Vedolizumab versus Adalimumab for Moderate-to-Severe Ulcerative Colitis

B.E. Sands and Others

N Engl J Med 2019;381:1215-1226

Step-Up Therapy in Black Children and Adults with Poorly Controlled Asthma

M.E. Wechsler and Others

N Engl J Med 2019;381:1227-1239

Brief Report: CRISPR-Edited Stem Cells in a Patient with HIV and Acute Lymphocytic Leukemia

L. Xu and Others

N Engl J Med 2019;381:1240-1247 | Published Online September 11, 2019

Dapagliflozin in Patients with Heart Failure and Reduced Ejection Fraction

J.J.V. McMurray and Others

DOI: 10.1056/NEJMoa1911303 | September 19, 2019

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Update on the Pathogenesis of Chronic Obstructive Pulmonary Disease

A. Agustí and J.C. Hogg

N Engl J Med 2019;381:1248-1256

Update on Clinical Aspects of Chronic Obstructive Pulmonary Disease

B.R. Celli and J.A. Wedzicha
N Engl J Med 2019;381:1257-1266

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Diphtheria

R. Sah and S. Neupane
N Engl J Med 2019;381:1267

Livedo Reticularis in Cold Agglutinin Disease

K. Sharma and A. Patel
N Engl J Med 2019;381:e27

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N Engl J Med 2019;381:e28

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T.E. Guiney and Others
N Engl J Med 2019;381:1268-1277

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R.J. Farrell
N Engl J Med 2019;381:1279-1281

Emerging Use of CRISPR Technology — Chasing the Elusive HIV Cure

C.H. June
N Engl J Med 2019;381:1281-1283 | Published Online September 11, 2019

Heart-Failure Therapy — New Drugs but Old Habits?

J.C. Fang

DOI: 10.1056/NEJMe1912180 | September 19, 2019

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HER2 and Breast Cancer — A Phenomenal Success Story

D.F. Hayes

N Engl J Med 2019;381:1284-1286 | Published Online September 10, 2019

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A Study of Telecontraception

Clinical and Genomic Risk in Adjuvant Therapy for Breast Cancer

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Intensive Glucose Control and Type 2 Diabetes — 15 Years On

Contrast-Associated Acute Kidney Injury

Real-Time Digital Surveillance of Vaping-Induced Pulmonary Disease