



MAYO CLINIC PROCEEDINGS

www.mayoclinicproceedings.org



Table of Contents

July 2018 Volume 93 Number 7

The August online issue of *Proceedings* will be available by Wednesday, August 1. Sign up for an alert to the online Table of Contents at www.mayoclinicproceedings.org

Editorials

- 815 **Telomeres in the Clinic, Not on TV**
Mary Armanios
- 818 **Hey Goglexiri, Do I Have Coronary Artery Disease?**
Alan Sugrue, Jillian Mahowald, and Samuel J. Asirvatham
- 821 **Estimated Cardiorespiratory Fitness Assessment as a Patient Vital Sign**
Paul D. Loprinzi
- 824 **Understanding the Patterns of Multimorbidity**
Janet E. Olson, Paul Y. Takahashi, and Jennifer M. St. Sauver

Commentary

- 826 **Guide to Considering Nonpsychiatric Medical Intervention Over Objection for the Patient Without Decisional Capacity**
Jonah Rubin and Kenneth M. Prager

Perspectives and Controversies

- 830 **A Deeper Dive Into the CANTOS "Responders" Substudy**
Rhanderson Cardoso, Sanjay Kaul, David R. Okada, Roger S. Blumenthal, and Erin D. Michos

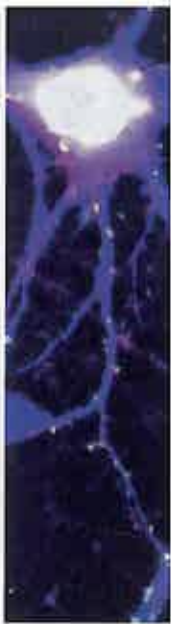
Brief Report

- 834 **Clinical Correlates and Treatment Outcomes for Patients With Short Telomere Syndromes**
Abhishek A. Mangaonkar, Alejandro Ferrer, Filippo Pinto e Vairo, Margot A. Cousin, Ryan J. Kuisle, Eric W. Klee, Cassie C. Kennedy, Steve G. Peters, J.P. Scott, James P. Utz, Misbah Baqir, Hiroshi Sekiguchi, Shakila P. Khan, Vilmarie Rodriguez, Douglas A. Simonetto, Patrick S. Kamath, Roshini S. Abraham, Mark E. Wylam, and Mrinal M. Patnaik

Original Articles

- 840 **Voice Signal Characteristics Are Independently Associated With Coronary Artery Disease**
Elad Maor, Jaskanwal D. Sara, Diana M. Orbelo, Lilach O. Lerman, Yoram Levanon, and Amir Lerman
Voice features analysis holds the potential to help physicians estimate the probability of coronary artery disease among patients presenting with chest pain, especially in the setting of telemedicine.

Continued



ty in an
inding,
these
scribed
ading,
ed with
newly
reated
708) of
ast 12
_UENT
on site

50 mg
hibited
g-term
4b are

every
nce of
scribed

inform
to-fetal
esis al
of 150
served
1 dose
every
served
ry two
teys at
ry IgG
dies in
r, they
insider
cribing

ts and

I were
tle on
of 150







limpet
when
yweek
at the
C. The
e it is
llenge
atal or
erved,
nding
ose of

r milk,
health
ed for
r from
data
sion in


d 241
ety or
ported
unger

n. No
(12.3)

o data
2.3) in

- 848** **Nonexercise Estimated Cardiorespiratory Fitness and All-Cancer Mortality: the NHANES III Study**
Ying Wang, Shujie Chen, Jijia Zhang, Yanan Zhang, Linda Ernstsén, Carl J. Lavie, Steven P. Hooker, Yuhui Chen, and Xuemei Sui
 A higher level of estimated cardiorespiratory fitness was protective for all-cancer mortality.
- 857** **Patterns of Multimorbidity in Middle-Aged and Older Adults: An Analysis of the UK Biobank Data**
Dawit T. Zemedikun, Laura J. Gray, Kamlesh Khunti, Melanie J. Davies, and Nafeesa N. Dhalwani 
 Using data from more than half a million people, this study found that almost one-fifth of the population had multimorbidity.
- 867** **Bilateral Sustained Nephrograms After Parenteral Administration of Iodinated Contrast Material: A Potential Biomarker for Acute Kidney Injury, Dialysis, and Mortality**
Jennifer S. McDonald, Erik M. Steckler, Robert J. McDonald, Richard W. Katzberg, Eric E. Williamson, Joseph G. Cernigliaro, Abdurrahman M. Hamadah, Kamel Gharaibeh, David F. Kallmes, and Nelson Leung 
 The presence of a persistent bilateral global nephrogram may be a good marker of renal injury after intravenous contrast material exposure.
- 877** **Evidence-Based Screening Recommendations for Occult Cancers in the Setting of Newly Diagnosed Extramammary Paget Disease**
Adam R. Schmitt, Beverly J. Long, Amy L. Weaver, Michaela E. McGree, Jamie N. Bakum-Gomez, Jerry D. Brewer, and William A. Cliby 
 At minimum, evaluation should include age-appropriate screening and the addition of urine cytology, mammography, and prostate-specific antigen blood test.
- 884** **Racial Differences in the Association Between Nonexercise Estimated Cardiorespiratory Fitness and Incident Stroke**
Xuemei Sui, Virginia J. Howard, Michelle N. McDonnell, Linda Ernstsén, Matthew L. Flaherty, Steven P. Hooker, and Carl J. Lavie  
 Nonexercise estimated cardiorespiratory fitness was a strong independent predictor of future stroke for whites, but not for blacks, while the results were similar for men and women.
- 895** **Hemodynamic Assessment of Patients With and Without Heart Failure Symptoms Supported by a Continuous-Flow Left Ventricular Assist Device**
Rabea Asleh, Tal Hasin, Alexandros Briasoulis, Sarah D. Schettle, Barry A. Borlaug, Atta Behfar, Naveen L. Pereira, Brooks S. Edwards, Alfredo L. Clavell, Lyle D. Joyce, Simon Maltais, John M. Stulak, and Sudhir S. Kushwaha 
 Recipients of left ventricular assist devices who have recurrent symptoms of heart failure display an adverse hemodynamic profile that is associated with adverse outcomes and greater burden of right ventricular dysfunction.

Reviews

- 904** **Short Telomere Syndromes in Clinical Practice: Bridging Bench and Bedside**
Abhishek A. Mangaonkar and Mrinal M. Patnaik 
- 917** **Pharmacologic Modulation of Human Immunity in the Era of Immuno-oncology: Something Old, Something New**
Anagha Bangalore Kumar, Rachel Maus, and Svetomir N. Markovic


Concise Review for Clinicians—CME Credit Offered

- 937** **Opioid-Induced Adrenal Insufficiency**
Diane Donegan and Irina Bancos

Continued

Please note that articles with an "e" page designation are available only in the online version of the Journal at www.mayoclinicproceedings.org

Residents' Clinic

- 945** 28-Year-Old Man With Fever, Malaise, and Diarrhea
Lukas W. Richards and Christopher M. Wittich
- 950** 76-Year-Old Man With New Bilateral Shoulder Pain
Miguel Teixeira and Laura S. Greenlund
- e69** 30-Year-Old Man With Outside-of-Hospital Cardiac Arrest
Georgios Christopoulos, Christopher V. DeSimone, and Nandan S. Anavekar 

Letters to the Editor

- 955** Additional Safety Considerations Before Prescribing Opioids to Manage Restless Legs Syndrome
Aaron S. Geller
- 955** In Reply—Additional Safety Considerations Before Prescribing Opioids to Manage Restless Legs Syndrome
Michael H. Silber, Philip M. Becker, Mark J. Buchfuhrer, Christopher J. Earley, William G. Ondo, Arthur S. Walters, and John W. Winkelman
- 956** Electrocardiographic Finding in Zika Virus Infection
Sora Yasri and Viroj Wiwanitkit
- 956** In Reply—Electrocardiographic Finding in Zika Virus Infection
Alfonso J. Rodriguez-Morales, Wilmer E. Villamil-Gómez, Edier Hernel Loaiza-Maya, and Eduardo Ramirez-Vallejo
- 957** An Outbreak of Brodifacoum Coagulopathy Due to Synthetic Marijuana in Central Illinois
Nooreen Hussain, Faiz Hussain, Danish Haque, Sarah Saeed, and Rohith Jesudas
- 958** End-Stage Renal Disease Risk in Different Glomerulonephropathies
Macauley Amechi Chukwukadibia Onuigbo
- 959** In Reply—End-Stage Renal Disease Risk in Different Glomerulonephropathies
John J. Sim and Yu-Hsiang Shu


Medical Images

- 961** Chorea and Calcifications: Atypical Presentation of Microscopic Polyangiitis
Sadaf Iftikhar

Path to Patient Image Quiz

- 963** Endometrial Adenocarcinoma, Endometrioid Type
Lori A. Erickson

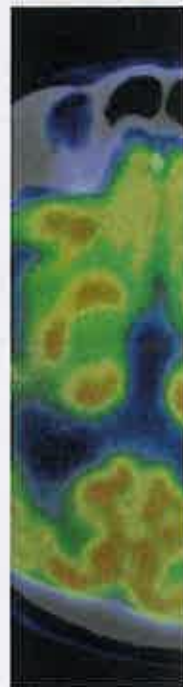
Stamp Vignette on Medical Science

- e75** Henry David Thoreau's Final Journey: Minnesota
David P. Steensma, Carol A. Roede, and Robert A. Kyle 

Art at Mayo Clinic

- e77** *Minnesota Birds and Flora* by Emily Wilson
Margaret R. Wentz 

Continued



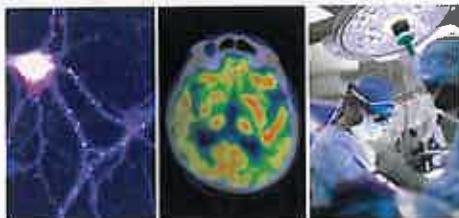
Other Features

- 43A Professional Opportunities
- 960 Correction

Coming Soon...

- | | |
|---|---|
| The Importance of Economic Tradeoffs in Cancer Drug Pricing | C3 Glomerulopathy: 10 Years' Experience at Mayo Clinic |
| Tumor Burden Reduction and Survival in Epithelioid Malignant Pleural Mesothelioma | Hemopericardium: Impact of Changing Trends in Invasive Cardiology |
| Efficacy of Therapies for Postural Tachycardia Syndrome | Outcomes in Atrial Fibrillation Patients Taking Vitamin K Antagonists |
| Pre-Dialysis Kidney Function and Mortality and Hospitalizations After Starting Dialysis | Gut Microbial Carbohydrate Metabolism Hinders Weight Loss |
| Clinical Implications of Clonal Hematopoiesis | Cardiovascular and Other Health Benefits of Sauna Bathing |
| Ablation Therapy for Thyroid Nodules | |

Cover Image



The composite cover image highlights 3 salient themes: the wide-ranging effects of human biomedical research and discovery in driving progress in understanding and treating human disease (symbolized, on the left, by a neuron and its ramifying dendrites and axons); state-of-the-art investigation in evaluating human disease (symbolized, in the middle, by a positron emission tomographic image of the brain); and the indispensability of teamwork and the coalescence of expertise in providing the best possible care for patients (symbolized, on the right, by a collaborating surgical/interventional team).

Icon Key

- This article has been given "Editor's Choice" distinction.
- An author interview accompanies this article.
- This article is online only at www.mayoclinicproceedings.org.
- Supplemental material accompanies this article at www.mayoclinicproceedings.org.



"Mayo Clinic Proceedings," "Mayo," "Mayo Clinic," and the triple-shield Mayo Clinic logo are all registered marks of Mayo Foundation for Medical Education and Research.

MAYO CLINIC PROCEEDINGS (ISSN 0025-6196) is published monthly by Elsevier on behalf of Mayo Foundation for Medical Education and Research. Periodicals postage paid at New York, NY, and additional mailing offices. POST MASTER: Send address changes to Elsevier, Journal Returns, 1799 Highway 50 East, Linn, MO 65051, USA.



© 2018 Mayo Foundation for Medical Education and Research

Supplemental material attached to journal articles has not been edited, and the authors take responsibility for the accuracy of all data.