



MAYO CLINIC PROCEEDINGS

www.mayoclinicproceedings.org



Mission

To promote the best interests of patients by advancing the knowledge and professionalism of the physician community.

Editor-in-Chief

William L. Lanier, MD
Mayo Clinic, Rochester, MN

Associate Editors

Todd H. Baron, Sr, MD
University of North Carolina,
Chapel Hill, NC

Lori A. Erickson, MD
Mayo Clinic, Rochester, MN
Thomas C. Gerber, MD, PhD
Mayo Clinic, Rochester, MN

S. Vincent Rajkumar, MD
Mayo Clinic, Rochester, MN
Ayalew Tefferi, MD
Mayo Clinic, Rochester, MN

Carl J. Lavie, MD
John Ochsner Heart and Vascular
Institute, New Orleans, LA

Section Editors

David R. Andes, MD
Infectious Diseases
University of Wisconsin-Madison
David J. Ballard, MD, MSPH, PhD
Healthcare Policy
Baylor Scott & White Health, Dallas, TX
Keith H. Berge, MD
Medical Ethics
Mayo Clinic, Rochester, MN
J. Michael Bostwick, MD
Psychiatry
Mayo Clinic, Rochester, MN

Mark Denis P. Davis, MD
Dermatology
Mayo Clinic, Rochester, MN
Jennifer E. DeVoe, MD, DPhil
Family Medicine
Oregon Health & Science University,
Portland, OR
Matthew T. Gettman, MD
Urology, Men's Health
Mayo Clinic, Rochester, MN
Mark T. Keegan, MD
Intensive Care Medicine
Mayo Clinic, Rochester, MN

Manish Kohli, MD
Medical Oncology
Mayo Clinic, Rochester, MN
Eric L. Matteson, MD
Rheumatology
Mayo Clinic, Rochester, MN
James F. Meschia, MD
Neurologic Diseases, Stroke
Mayo Clinic, Jacksonville, FL
Kannan Ramar, MBBS, MD
Pulmonary Medicine
Mayo Clinic, Rochester, MN

Priya Sampathkumar, MD
Infection Control
Mayo Clinic, Rochester, MN
Gary L. Schwartz, MD
Genitourinary Diseases
Mayo Clinic, Rochester, MN
Ruth S. Weinstock, MD
Endocrinology
SUNY Upstate Medical University,
Syracuse, NY
Barbara P. Yawn, MD, MSc
Epidemiology
Olmsted Medical Center, Rochester, MN

Members-At-Large

Samuel J. Asirvatham, MD
Cardiovascular Diseases
Mayo Clinic, Rochester, MN
Douglas B. Coursin, MD
Anesthesiology, Critical Care Medicine
University of Wisconsin-Madison
Philip R. Fischer, MD
Pediatric and Adolescent Medicine
Mayo Clinic, Rochester, MN
Susan Galandiuk, MD
Surgery, Gastroenterology
University of Louisville, Louisville, KY
W. Michael Hooten, MD
Pain (Neurology)
Mayo Clinic, Rochester, MN
Paul B. Klaas, JD
Legal
North Coast Arbitration Chambers, Minneapolis, MN

Kendall H. Lee, MD, PhD
Biotechnology, Neurologic Surgery
Mayo Clinic, Rochester, MN
David L. Levin, MD, PhD
Radiology
Mayo Clinic, Rochester, MN
Jay Mandrekar, PhD
Biomedical Statistics and Informatics
Mayo Clinic, Rochester, MN
John G. Mastrorarde, MD
Pulmonary Medicine, Critical Care Medicine
Ohio State University, Columbus, OH
Michael K. Popkin, MD
Psychiatry
Hennepin County Medical Center, Minneapolis, MN

Joseph I. Sirven, MD
Neurologic Diseases, Epilepsy
Mayo Clinic, Phoenix, AZ
Robert J. Spinner, MD
Neurologic Surgery, Orthopedics
Mayo Clinic, Rochester, MN
Jennifer St. Sauver, PhD
Epidemiology
Mayo Clinic, Rochester, MN
Adrian Vella, MD
Endocrinology
Mayo Clinic, Rochester, MN
Christopher M. Wittich, MD
General Internal Medicine, Medical Education
Mayo Clinic, Rochester, MN

Proceedings Staff

Managing Editor: Terry Jopke, BA
Editorial Processing Specialist: Kimberly D. Sankey
Editorial Assistant: Margaret R. Wentz, BA
Business Manager: Debra M. Eagle, MBA

Editorial Offices

Mayo Clinic Proceedings
Room 770 Siebens Building
Rochester, MN 55905
Telephone: (507) 284-2094
Fax: (507) 284-0252
E-mail: proceedings@mayo.edu
Direct editorial information and inquiries to the above offices.