

Diabetes Care[®]

THE JOURNAL OF CLINICAL AND APPLIED RESEARCH AND EDUCATION

January 2023 Volume 46, Supplement 1

[T]he simple word *Care* may suffice to express [the journal's] philosophical mission. The new journal is designed to promote better patient care by serving the expanded needs of all health professionals committed to the care of patients with diabetes. As such, the American Diabetes Association views *Diabetes Care* as a reaffirmation of Francis Weld Peabody's contention that "the secret of the care of the patient is in caring for the patient."

—Norbert Freinkel, *Diabetes Care*, January-February 1978

EDITOR IN CHIEF

Steven E. Kahn, MB, ChB

DEPUTY EDITORS

Cheryl A.M. Anderson, PhD, MPH, MS

John B. Buse, MD, PhD

Elizabeth Selvin, PhD, MPH

AD HOC EDITORS

Mark A. Atkinson, PhD
George Bakris, MD

Frank B. Hu, MD, MPH, PhD
Stephen S. Rich, PhD

Matthew C. Riddle, MD

ASSOCIATE EDITORS

Sonia Y. Angell, MD, MPH, DTM&H, FACP
Vanita R. Aroda, MD
Jessica R. Castle, MD
Alice Y.Y. Cheng, MD, FRCPC
Thomas P.A. Danne, MD
Justin B. Echouffo Tcheugui, MD, PhD, MPhil
Jose C. Florez, MD, PhD
Meghana D. Gadgil, MD, MPH
Amalia Gastaldelli, PhD

Jennifer B. Green, MD
Ania M. Jastreboff, MD, PhD
Alka M. Kanaya, MD
Namratha R. Kandula, MD, MPH
Csaba P. Kovessy, MD, FASN
Neda Laiteerapong, MD, MS
Kristen J. Nadeau, MD, MS
Rodica Pop-Busui, MD, PhD
Camille E. Powe, MD

Casey M. Rebholz, PhD, MS, MNSP, MPH, FAHA
Michael R. Rickels, MD, MS
Naveed Sattar, FMedSci, FRCPath, FRCPath, FRSE
Jonathan E. Shaw, MD, MRCP (U.K.), FRACP
Emily K. Sims, MD
Kristina M. Utzschneider, MD
Adrian Vella, MD, FRCP (Edin)
Cuilin Zhang, MD, MPH, PhD

EDITORIAL BOARD

David Aguilar, MD
Mohamed K. Ali, MD, MSc, MBA
Fida Bacha, MD
A. Sidney Barritt IV, MD, MSCR, FACG, FAASLD
Rita Basu, MD
Tadej Battelino, MD, PhD
Fiona Bragg, MBChB, MRCP, DPhil, FFPH
Sonia Caprio, MD
April Carson, PhD, MSPH
Ranee Chatterjee, MD, MPH
Mark Emmanuel Cooper, MB BS, PhD
Matthew J. Crowley, MD, MHS
Ian de Boer, MD, MS
John M. Dennis, PhD
J. Hans DeVries, MD, PhD
Alessandro Doria, MD, PhD, MPH
Denice Feig, MD, MSc, FRCPC
Stephanie L. Fitzpatrick, PhD
Hermes J. Florez, MD, PhD, MPH
Juan Pablo Frias, MD
Emily J. Gallagher, MB BCh BAO, MRCPI, PhD
Edward W. Gregg, PhD
Per-Henrik Groop, MD, DMSc, FRCPE

Ahmad Haidar, PhD
Michael J. Haller, MD
Jessica Lee Harding, PhD
Stewart B. Harris, CM, MD, MPH, FCFP, FACPM
Marie-France Hivert, MD, MMSc
Silvio E. Inzucchi, MD
Linong Ji, MD
Alice Pik Shan Kong, MD
Kamlesh Khunti, MD
Richard David Graham Leslie, MD, FRCP, FAoP
Ildiko Lingvay, MD, MPH, MSCS
Andrea Luk, MD
Viswanathan Mohan, MD, PhD, DSc, FACE, MACP
Helen R. Murphy, MBBChBAO, FRACP, MD
Michael A. Nauck, MD
Katherine Ogurtsova, PhD
Neha J. Pagidipati, MD, MPH
Ewan Pearson, PhD, MA MB, BChir, FRCP, FRSE
Monica E. Peek, MD, MPH, MS
Frederik Persson, MD, DMSc
Jeremy Pettus, MD
Richard E. Pratley, MD
David Preiss, PhD, FRCPath, MRCP

Jonathan Q. Purnell, MD, FTOS
Qibin Qi, PhD
Maria J. Redondo, MD, PhD, MPH
Ravi Retnakaran, MD, MSc
Peter Rossing, MD, DMSc
Archana R. Sadhu, MD, FACE
Desmond Schatz, MD
Guntram Schernthaner, MD
Jennifer Sherr, MD, PhD
Jung-Im Shin, MD, PhD
David Simmons, MA (Cantab), MB BS, FRCP, FRACP, MD (Cantab)
Cate Speake, PhD
Samy Suissa, PhD
Kohjiro Ueki, MD, PhD
Daniel van Raalte, MD, PhD
Eva Vivian, PharmD, MS, PhD, CDCES, BC-ADM
Pandora L. Wander, MD, MS, FACP
Nicholas J. Wareham, FMedSci, FRCP, FFPH
Deborah J. Wexler, MD, MSc
Joseph Wolfsdorf, MB, BCh
Geng Zong, PhD



The mission of the American Diabetes Association is to prevent and cure diabetes and to improve the lives of all people affected by diabetes.

Diabetes Care®

THE JOURNAL OF CLINICAL AND APPLIED RESEARCH AND EDUCATION

Diabetes Care is a journal for the health care practitioner that is intended to increase knowledge, stimulate research, and promote better management of people with diabetes. To achieve these goals, the journal publishes original research on human studies in the following categories: Clinical Care/Education/Nutrition/ Psychosocial Research, Epidemiology/Health Services Research, Emerging Technologies and Therapeutics, Pathophysiology/Complications, and Cardiovascular and Metabolic Risk. The journal also publishes ADA statements, consensus reports, clinically relevant review articles, letters to the editor, and health/medical news or points of view. Topics covered are of interest to clinically oriented physicians, researchers, epidemiologists, psychologists, diabetes educators, and other health professionals. More information about the journal can be found online at diabetesjournals.org/care.

Copyright © 2022 by the American Diabetes Association, Inc. All rights reserved. Printed in the USA. Requests for permission to reuse content should be sent to Copyright Clearance Center at www.copyright.com or 222 Rosewood Dr., Danvers, MA 01923; phone: (978) 750-8400; fax: (978) 646-8600. Requests for permission to translate should be sent to Permissions Editor, American Diabetes Association, at permissions@diabetes.org.

The American Diabetes Association reserves the right to reject any advertisement for any reason, which need not be disclosed to the party submitting the advertisement.

Commercial reprint orders should be directed to Sheridan Content Services, (800) 635-7181, ext. 8065.

Single issues of *Diabetes Care* can be ordered by calling toll-free (800) 232-3472, 8:30 A.M. to 5:00 P.M. EST, Monday through Friday. Outside the United States, call (703) 549-1500. Rates: \$75 in the United States, \$95 in Canada and Mexico, and \$125 for all other countries.

Diabetes Care is available online at diabetesjournals.org/care. Please call the numbers listed above, e-mail membership@diabetes.org, or visit the online journal for more information about submitting manuscripts, publication charges, ordering reprints, subscribing to the journal, becoming an ADA member, advertising, permission to reuse content, and the journal's publication policies.

Periodicals postage paid at Arlington, VA, and additional mailing offices.

PRINT ISSN 0149-5992
ONLINE ISSN 1935-5548
PRINTED IN THE USA

AMERICAN DIABETES ASSOCIATION OFFICERS

CHAIR OF THE BOARD
Christopher Ralston, JD

CHAIR OF THE BOARD-ELECT
Rone Luczynski

CHIEF EXECUTIVE OFFICER
Charles D. Henderson

PRESIDENT, MEDICINE & SCIENCE
Guillermo Umpierrez, MD, CDCES

PRESIDENT-ELECT, MEDICINE & SCIENCE
Rodica Pop-Busui, MD, PhD

CHIEF SCIENTIFIC & MEDICAL OFFICER
Robert A. Gabbay, MD, PhD

PRESIDENT, HEALTH CARE & EDUCATION
Otis Kirksey, PharmD, RPh, CDCES, BC-ADM

PRESIDENT-ELECT, HEALTH CARE & EDUCATION
Janet Brown-Friday, RN, MSN, MPH

SECRETARY/TREASURER
Marshall Case

SECRETARY/TREASURER-ELECT
Todd F. Brown, PMP

AMERICAN DIABETES ASSOCIATION PERSONNEL AND CONTACTS

VICE PRESIDENT & PUBLISHER,
PROFESSIONAL PUBLICATIONS
Christian S. Kohler

DIRECTOR, PEER REVIEW
Shannon C. Potts

PHARMACEUTICAL & CONSUMER ADVERTISING
Tina Auletta
Senior Account Manager
tauletta@diabetes.org

DIRECTOR, SCHOLARLY JOURNALS
Heather Norton Blackburn

MANAGER, PEER REVIEW
Larissa M. Pouch

PHARMACEUTICAL & DEVICE DIGITAL ADVERTISING
eHealthcare Solutions
R.J. Lewis
President and CEO
rlewis@ehsmail.com
(609) 882-8887, ext. 101

ASSOCIATE DIRECTOR, PRODUCTION & DESIGN
Keang Hok

DIRECTOR, MEMBERSHIP/
SUBSCRIPTION SERVICES
Donald Crowl

DIGITAL PRODUCTION MANAGER
Amy Moran

ASSOCIATE DIRECTOR, EDITORIAL
Theresa M. Cooper

SENIOR ADVERTISING MANAGER
Julie DeVoss Graff
jgraff@diabetes.org
(703) 299-5511

SENIOR MANAGER, BILLING & COLLECTIONS
Jim Harrington
jharrington@diabetes.org

TECHNICAL EDITOR
Sandro Vitaglione