

ARCHIVES

OF
GENERAL PSYCHIATRY

The ARCHIVES OF GENERAL PSYCHIATRY is a member of the consortium of AMA journals listed below. The complete text of all AMA journals is available online from Dialog Information Services and Ovid Technologies, Inc.

The Journal of the American Medical Association (JAMA)

Archives of Dermatology
Archives of Facial Plastic Surgery
Archives of Family Medicine
Archives of General Psychiatry
Archives of Internal Medicine
Archives of Neurology
Archives of Ophthalmology
Archives of Otolaryngology-Head & Neck Surgery
Archives of Pathology & Laboratory Medicine
Archives of Pediatrics & Adolescent Medicine
Archives of Surgery

The ARCHIVES OF GENERAL PSYCHIATRY (ISSN 0003-990x) is published monthly by the American Medical Association, 515 N State St, Chicago, IL 60610, and is an official publication of the Association. The ARCHIVES OF GENERAL PSYCHIATRY reaches more than 27 700 readers in over 79 countries each month. Periodicals postage rates paid at Chicago, IL, and at additional mailing offices. GST registration number: 12622 5556 RT. Canada Post International Publications Mail (Canadian Distribution) Sales Agreement No. 318633.

Printed in the USA.

SUBSCRIPTION RATES—The personal subscription rates for the ARCHIVES OF GENERAL PSYCHIATRY are \$145 for 1 year (12 issues) in the United States and US possessions; \$195 in the Americas; £125 outside the Americas. The institution rates for 1 year are \$245 in the United States; \$345 in the Americas; £195 outside the Americas. Special rates for residents and medical students are available. Address all subscription communications to: Subscriber Services Center, American Medical Association, PO Box 10946, Chicago, IL 60610-0946. Phone: (800) 262-2350. Fax: (312) 464-5831. E-mail: ama-subs@ama-assn.org. For mailing addresses outside the United States and US possessions, see International Subscription Information.

CHANGE OF ADDRESS—POSTMASTER, send all address changes to ARCHIVES OF GENERAL PSYCHIATRY, c/o Subscriber Services, American Medical Association, 515 N State St, Chicago, IL 60610. Please notify us of address change at least 6 weeks in advance to ensure uninterrupted service. Include both old and new addresses, a recent mailing label, and new ZIP code. For mailing addresses outside the United States and US possessions, see International Subscription Information.

SUBSCRIBER SERVICES—For information about subscribing to any of the AMA publications, change of address, missing issues, or purchasing back issues, please contact Subscriber Services Center, American Medical Association, PO Box 10946, Chicago, IL 60610-0946, or call (800) 262-2350 or (312) 670-SUBS (670-7827) between 8:30 AM and 4:30 PM CST. Fax: (312) 464-5831. E-mail: ama-subs@ama-assn.org. For mailing addresses outside the United States and US possessions, see International Subscription Information.

INTERNATIONAL SUBSCRIPTION INFORMATION—Subscriptions outside the United States and US possessions are served according to geographic region. Please address correspondence to the following 2 offices based on delivery address: (1) For delivery in North America, Central America, and South America, contact Subscriber Services, AMA, PO Box 10946, Chicago, IL 60610-0946. Phone: (312) 670-7827. Fax: (312) 464-5831. E-mail: ama-subs@ama-assn.org. (2) For delivery outside the Americas, contact Subscription Department, JAMA & Archives Journals, American Medical Association, Tower House, Sovereign Park, Market Harborough, Leicestershire LE16 9EF, England, Telephone: +44 (0) 1858-438880, Fax: +44 (0) 1858-434958.

REPRINTS—Authors place their reprint order at the time the edited typescript is reviewed and should allow 4 to 6 weeks for delivery following publication. Requests for individual reprints should be sent directly to the author at the address shown in the article.

For bulk reprint orders for distribution by commercial organizations, please contact Wanda Bartolotta, 500 Fifth Ave, #2210, New York, NY 10110. Phone: (212) 354-0050. Fax: (212) 354-1169. E-mail: wanda_bartolotta@ama-assn.org. For reprint orders in limited quantities for distribution by educational organizations and for author reprints, please contact Reprint Coordinator, 515 N State St, Chicago, IL 60610. Phone: (312) 464-4594. Fax: (312) 464-4849.

PERMISSIONS—Contact Rhonda Bailey, Permissions Assistant, 515 N State St, Chicago, IL 60610. Phone: (312) 464-2513.

ADVERTISING PRINCIPLES—Each advertisement in this issue has been reviewed and complies with the principles governing advertising in AMA scientific publications. A copy of these principles is available on request. The appearance of advertising in AMA publications is not an AMA guarantee or endorsement of the product or the claims made for the product by the manufacturer.

WORLD WIDE WEB ADDRESS—<http://www.ama-assn.org>

GENERAL PSYCHIATRY HOME PAGE—<http://www.archgenpsychiatry.com>

Publication Staff

Offices: 515 N State St, Chicago, IL 60610

Editorial Processing Department, Archives Journals

Director: Paula Glitman
Manager: Brenda Gregoline
Freelance Manager: Diane L. Cannon
Freelance Coordinators:
Gwen Chaffen
Connie Manno

Electronic Editing Specialist:
Paul Frank

Assistant Electronic Editing Specialist:
Monica Mungle

Senior Copy Editor:
Vickey Golden

Copy Editors:
Lauren L. Bomberger
Erin M. Giannini
Michelle Kurzynski

Editorial Assistant: Wanda Hill

Scientific Publications & Multimedia Applications

Staff Assistant: Helga Fritz

Scientific Online Resources

Director: Margaret Winker, MD

Electronic Media Department
Director: Marty Suter

Assistant Editors:

Brande Martin
Neil Shankman

Staff Assistant: Marla A. Hall

Production & Distribution Division

Manager, Budgets & Costs:

Bonnie Van Cleven

Publishing Manufacturing Analyst:

Diane Darnell

Office Manager: Karen Branham

Production Assistant: Shannon Epplert

Advertising & Production Department

Director: Karen Adams-Taylor

Production Specialist: Terri Hanley

Manager, Advertising Services:

Carole Piszker

Manager, Production Services:

Susan Price

Supervisor, Production Services:

Debbie Camp

Production Associates:

Mary Anne Donley
Sarah Powell
Denise Steinhauer
Jo Anne Turner
Carmela Ware

Production Assistants:

Bryan Irzyk
Amelia Zamudio

Distribution

Distribution Manager: Paul Gasielki

Distribution Analyst:

Michelle Robinson

Traffic Control Specialist:

Victoria Buckner



Specialty Journal Division Office

Assistant to the Publisher:
Christine Hearne

**Circulation & Content
Marketing Division**

Administrative Assistant:
Millette Jackson-Bates

Circulation Processing Department

Director: Robert Herling

Subscriber Services Manager:
Susan Stoken

Circulation Systems Manager:

Alfred Tomaselli

Circulation Specialists:

Reginald Jordan
Kathryn Osten

Circulation Development Department

Director: Bina Oza

Circulation Marketing Managers:

Audrey Mathies
Timothy Ryan

Circulation Marketing Specialists:

Sandra Garzon
Michael McGraw

Licensing & Permissions Department

Director: Norman Frankel

Permissions: Rhonda Bailey

International Coordinator: Sharon Ali

Electronic Production Department

Manager, Composition & Pagination:

Phil Arko

Electronic Production Specialists:

Brenda Chandler-Grayer
Heather Crego
Karl Elvin
Amy Evers
Mary Ann Kuranda
Sandra Lopez

Manager, Graphics: Charl Richey

Electronic Imaging Specialists:

Joe Amft
Noel Chaparro
Carolyn Hall
Maria Kowalkowski
Chris Meyer
JoAnne Weiskopf

Proofreaders:

David Antos
Daniel James
Rachel Novickas
Teresa H. Omietek
Mary Kay Tinerella
Barbara Wojtowicz

Manager, Database & New Media:

Mary Ellen Johnston

Indexer: Kathy Gaydar

New Media Specialists:

Gail Barrett
Joel Brammeier
Regina Brownlee
La'son J. Diggs
Melanie Parenti
Angela Smits

Production Assistant: Ruth Sprague

ARCHIVES

OF

GENERAL PSYCHIATRY

VOL 57 NO. 2, FEBRUARY 2000

ORIGINAL ARTICLE

- Reduced Prefrontal Gray Matter Volume and Reduced Autonomic Activity in Antisocial Personality Disorder** 119
Adrian Raine, DPhil; Todd Lencz, PhD; Susan Bihrlle, PhD; Lori LaCasse, BA; Patrick Colletti, MD

COMMENTARY

- A Neural Basis for Sociopathy** 128
Antonio R. Damasio, MD

ORIGINAL ARTICLES

- Effects of Supraphysiologic Doses of Testosterone on Mood and Aggression in Normal Men: A Randomized Controlled Trial** 133
Harrison G. Pope, Jr, MD, MPH; Elena M. Kouri, PhD; James I. Hudson, MD, SM
- A Double-blind, Placebo-Controlled Trial of Testosterone Therapy for HIV-Positive Men With Hypogonadal Symptoms** 141
Judith G. Rabkin, PhD, MPH; Glenn J. Wagner, PhD; Richard Rabkin, MD

- Time Course of Effects of Testosterone Administration on Sexual Arousal in Women** 149
Adriaan Tuiten, PhD; Jack Van Honk, MA; Hans Koppeschaar, MD, PhD; Coen Bernaards, MA; Jos Thijssen, PhD; Rien Verbaten, PhD

COMMENTARY

- Testosterone in Psychiatry: Risks and Benefits** 155
William R. Yates, MD

ORIGINAL ARTICLES

- Extended-Release Physostigmine in Alzheimer Disease: A Multicenter, Double-blind, 12-Week Study With Dose Enrichment** 157
Christopher H. van Dyck, MD; Paul Newhouse, MD; William E. Falk, MD; Jeffrey A. Mattes, MD; for the Physostigmine Study Group

American Medical Association

Physicians dedicated to the health of America



Copyright 2000 by the American Medical Association. All rights reserved. Reproduction without permission is prohibited.

All articles published, including editorials, letters, and book reviews, represent the opinions of the authors and do not reflect the policy of the American Medical Association, the Editorial Board, or the institution with which the author is affiliated, unless this is clearly specified.

E. Ratcliffe Anderson, Jr, MD
Executive Vice President,
Chief Executive Officer

Lynn E. Jensen, PhD
Chief Operating Officer

Robert A. Musacchio, PhD
Senior Vice President,
Publishing & Business Services

Catherine D. DeAngelis, MD, MPH
Editor in Chief, Scientific Publications
& Multimedia Applications

Robert L. Kennett
Vice President, Publishing

Peter L. Payerli
Publisher

Peter G. Messina
National Sales Manager

Geoffrey A. Flick
Manager, Marketing Services

Cheryl Iverson
Director, Editorial Processing Division

Vanessa Hayden
Director, Production &
Distribution Division

James A. Skowrenski
Director, Circulation &
Content Marketing

Advertising Office:
J. P. Cahill & Associates, 341 S Waiola Ave,
La Grange, IL 60525 (708) 352-0322.

AMA Classified Advertising Department:
Thalia Moss, 800-262-2260.

**A Randomized Controlled Trial
of Cognitive-Behavioral Therapy
for Persistent Symptoms in
Schizophrenia Resistant to Medication**

Tom Sensky, PhD, FRCPSych;
Douglas Turkington, FRCPSych;
David Kingdon, MD, MRCPsych;
Janine L. Scott, MD, FRCPSych;
Jonathan Scott, MRCPsych;
Ronald Siddle, BSc, RMN, RGN;
Madeline O'Carroll, MSc, RMN;
Thomas R. E. Barnes, MD, FRCPSych

**Brain Serotonin_{1A} Receptor Binding
Measured by Positron Emission Tomography
With [¹¹C]WAY-100635: Effects of Depression
and Antidepressant Treatment**

Peter A. Sargent, MRCPsych;
Karen Husted Kjaer, MSc;
Christopher J. Bench, MRCPsych;
Eugenii A. Rabiner, FCPsych;
Cristina Messa, MD; Jeff Meyer, MD;
Roger N. Gunn, PhD;
Paul M. Grasby, MRCPsych;
Philip J. Cowen, FRCPSych

**Neurologic Soft Signs in Chronic
Posttraumatic Stress Disorder**

Tamara V. Gurvits, MD, PhD;
Mark W. Gilbertson, PhD;
Natasha B. Lasko, PhD;
Alexandra S. Tarhan, MD, PhD;
Daphne Simeon, MD;
Michael L. Macklin, BA;
Scott P. Orr, PhD;
Roger K. Pitman, MD

165

174

181

NEWS AND VIEWS

**Does Lithium Treatment Still Work?
Evidence of Stable Responses
Over Three Decades** 187

Ross J. Baldessarini, MD;
Leonardo Tondo, MD

LETTERS TO THE EDITOR

Discrepancies in the Efficacy of Lithium 191
Paul Grof, MD, PhD; Martin Alda, MD

**Social Phobia or Social Anxiety
Disorder: What's in a Name?** 191

Michael R. Liebowitz, MD;
Richard G. Heimberg, PhD;
David M. Fresco, MA;
John Travers, MD;
Murray B. Stein, MD

REGULAR DEPARTMENTS

This Month in Archives of General Psychiatry 115

Classified Advertising 193

Index to Advertisers 196

**Instructions for Authors—
See January 2000 issue, page 98, or visit the
Web site at <http://www.archgenpsychiatry.com>.**

ARCHIVES
OF
GENERAL PSYCHIATRY

Editor:

Jack D. Barchas, MD
Department of Psychiatry
Cornell Medical Center
525 E 68th St, Box 171
New York, NY 10021
Phone: (212) 746-3771
Fax: (212) 746-3772

Associate Editor:

Peter M. Marzuk, MD
New York, NY

Web Site Editor:

Francis S. Lee, MD, PhD
New York, NY

Editorial Administrator:

Sheena Rumnit
New York, NY

Editorial Board:

Huda Akil, PhD
Ann Arbor, Mich
Ross J. Baldessarini, MD
Belmont, Mass
Malcolm B. Bowers, Jr, MD
New Haven, Conn
David L. Braff, MD
San Diego, Calif
William T. Carpenter, Jr, MD
Baltimore, Md
C. Robert Cloninger, MD
St Louis, Mo
Joseph T. Coyle, MD
Boston, Mass
Glen R. Elliott, PhD, MD
San Francisco, Calif
Ellen Frank, PhD
Pittsburgh, Pa

Richard M. Glass, MD
Chicago, Ill
Frederick K. Goodwin, MD
Bethesda, Md
Fritz A. Henn, PhD, MD
Mannheim, Germany
Steven E. Hyman, MD
Bethesda, Md
Kenneth S. Kendler, MD
Richmond, Va
Kenneth K. Kidd, PhD
New Haven, Conn
Donald F. Klein, MD
New York, NY
Helena Chmura Kraemer, PhD
Stanford, Calif
David J. Kupfer, MD
Pittsburgh, Pa
Eric J. Nestler, MD, PhD
New Haven, Conn

Grayson S. Norquist, MD
Bethesda, Md
Charles P. O'Brien, MD, PhD
Philadelphia, Pa
William Z. Potter, MD, PhD
Indianapolis, Ind
Judith L. Rapoport, MD
Bethesda, Md
Alan F. Schatzberg, MD
Stanford, Calif
Gary L. Tischler, MD
New York, NY
Stanley J. Watson, Jr, PhD, MD
Ann Arbor, Mich
Myrna M. Weissman, PhD
New York, NY
Kenneth B. Wells, MD, MPH
Los Angeles, Calif