

ARCHIVES OF NEUROLOGY

The ARCHIVES OF NEUROLOGY 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 NEUROLOGY (ISSN 0003-9942) 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 NEUROLOGY reaches more than 13 800 readers in over 79 countries each month. Periodicals postage 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. 318973.

Printed in the USA.

SUBSCRIPTION RATES—The personal subscription rates for the ARCHIVES OF NEUROLOGY are \$195 for 1 year (12 issues) in the United States and US possessions; \$295 in the Americas; £175 outside the Americas. The institution rates for 1 year are \$325 in the United States; \$425 in the Americas; £275 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 NEUROLOGY, 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: Subscription Department, JAMA & Archives Journals, American Medical Association, Tower House, Sovereign Park, Market Harborough, Leicestershire LE15 9EF, England. Phone: +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 Reprints 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>

NEUROLOGY HOME PAGE—<http://www.archneurol.com>

Publication Staff

Offices: 515 N State St, Chicago, IL 60610

Editorial Processing Department

Division Director: Cheryl Iverson
Director: Paula Glitman
Copyediting Manager: Lise M. Stevens
Freelance Copyediting Manager: Diane L. Cannon

Freelance Copyediting Coordinators: Gwen Chaffin
Connie Manno

Electronic Editing Specialist: Paul Frank

Assistant Electronic Editing Specialist: Monica Mungle

Senior Copy Editors: Dee E. Egger
Vickey Golden

Copy Editors: Jean Kang
John McFadden
Jennifer L. Reddy

Editorial Assistant: Wanda Hill

Scientific Publications & Multimedia Applications

Assistant to the Editor: Helga Fritz

Scientific Online Resources

Director: Margaret Winker, MD
Electronic Media Department Director: Michelle Kurzynski

Web Development Editor: Keith Huff
Assistant Editor: Nikhil Torsekar
Staff Assistant: Marla A. Hall

Production & Distribution Division

Director: Vanessa Hayden
Manager, Journal Manufacturing: Diane Darnell
Journal Manufacturing Analyst: Nona Malchin
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 Ann Donley
Sarah Powell
Denise Steinhauer
Jo Anne Turner
Carmela Ware

Distribution

Distribution Manager: Paul Gasielcki
Distribution Analyst: Michelle Robinson

Advertising

National Sales Manager: Peter G. Messina
AMA Classified Advertising Department: Thalia Moss, 800-262-2260.



Specialty Journal Division Office

Manager, Marketing Services: Geoffrey A. Flick
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
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: Karl Elvin
Electronic Production Specialists: Brenda Chandler-Grayer
Amy Evers
Fred Furtner
Mary Ann Kuranda
Sandra Lopez
Manager, Graphics: Charl Richey
Electronic Imaging Specialists: Joe Amft
Noel Chaparro
Carolyn Hall
Maria Kowalkowski
Chris Meyer
JoAnne Weiskopf
Manager, Proofreading: David Antos
Proofreaders: Daniel James
Rachel Novickas
Teresa H. Omiotek
Mary Kay Timerella
Barbara Wojtowicz
Manager, Database & New Media: Mary Ellen Johnston
Indexer: Bruce McGregor
New Media Specialists: Clifford O. Barrett
Gail Barrett
Joel Brammeier
Regina Brownlee
La son J. Diggs
Melanie Parenti
Angela Smits
Production Assistant: Ruth Sprague

Advertising Office:

East: Kelly Lezynski,
119 Cherry Hill Rd, 3rd Fl,
Parsippany, NJ 07054
(973) 263-9191.
Midwest/West: J. P. Cahill & Associates,
341 S Waiola Ave
La Grange, IL 60525
(708) 352-1450.

ARCHIVES OF NEUROLOGY

JULY 2000

VOLUME 57, NUMBER 7

PAGES 909-1096

EDITORIALS

- Treatment of McArdle Disease** 923
Ronald G. Haller, MD
- Leukoaraiosis: Reifying Rarefaction** 925
José G. Merino, MD, MPhil;
Vladimir Hachinski, MD, DSc
- To Treat, or Not to Treat:
The Therapeutic Dilemma
of Idiopathic Monosymptomatic
Demyelinating Syndromes** 930
Elliot M. Frohman, MD, PhD;
Michael Racke, MD; Stanley van den Noort, MD

NEUROLOGICAL REVIEWS

- β -Peptide Immunization: A Possible
New Treatment for Alzheimer Disease** 934
Dale B. Schenk, PhD; Peter Seubert, PhD;
Ivan Lieberburg, MD, PhD; Jan Wallace, MD
- Current Treatment
of Neuromuscular Diseases** 939
Lisa Kokontis, MD; Ludwig Gutmann, MD

BASIC SCIENCE SEMINARS IN NEUROLOGY

- Immunological Assays for Understanding
Neuroimmune Interactions** 948
Ma-Li Wong, MD; Esther M. Sternberg, MD

ORIGINAL CONTRIBUTIONS

- Creatine Therapy in Myophosphorylase
Deficiency (McArdle Disease):
A Placebo-Controlled Crossover Trial** 956
M. Vorgerd, MD; T. Grehl, MD; M. Jäger, PhD;
K. Müller, MD; G. Freitag, MSc;
T. Patzold, MD; N. Bruns, MD; K. Fabian, MD;
M. Tegenthoff, MD; W. Mortier, MD;
A. Luttmann, PhD; J. Zange, PhD;
J. P. Malin, MD
- What Is the Significance of Leukoaraiosis
in Patients With Acute Ischemic Stroke?** 967
Malgorzata Wiszniewska, MD;
Gérald Devuyt, MD;
Julien Bogousslavsky, MD;
Joseph Ghika, MD;
Guy van Melle, PhD
- Multiple Sclerosis—From Probable
to Definite Diagnosis:
A 7-Year Prospective Study** 974
Anat Achiron, MD, PhD;
Yoram Barak, MD
- Levodopa Withdrawal After Bilateral
Subthalamic Nucleus Stimulation
in Advanced Parkinson Disease** 983
José L. Molinuevo, MD;
Francesc Valldeoriola, MD;
Eduardo Tolosa, MD; Jordi Rumià, MD;
Josep Valls-Solé, MD; Héctor Roldán, MD;
Enric Ferrer, MD

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.

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

Robert L. Kennett
Vice President, Publishing

Peter L. Payerli
Publisher

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

- Triphasic Perfusion Computed Tomography in Acute Middle Cerebral Artery Stroke: A Correlation With Angiographic Findings** 990
Kwang Ho Lee, MD; Soo-Jin Cho, MD; Hong Sik Byun, MD; Dong Gyu Na, MD; Nak-Cheon Choi, MD; Soo Joo Lee, MD; In-Seon Jin, RN; Te Gyu Lee, MD; Chin-Sang Chung, MD
- Usefulness of Triphasic Perfusion Computed Tomography for Intravenous Thrombolysis With Tissue-Type Plasminogen Activator in Acute Ischemic Stroke** 1000
Kwang Ho Lee, MD; Soo Joo Lee, MD; Soo-Jin Cho, MD; Dong Gyu Na, MD; Hong Sik Byun, MD; Yong-Beom Kim, MD; Hee-Jeong Song, MD; In-Seon Jin, RN; Chin-Sang Chung, MD
- Diffusion-Weighted Magnetic Resonance Imaging Identifies the "Clinically Relevant" Small-Penetrator Infarcts** 1009
Jamary Oliveira-Filho, MD; Hakan Ay, MD; Pamela W. Schaefer, MD; Ferdinando S. Buonanno, MD; YuChiao Chang, PhD; R. Gilberto Gonzalez, MD, PhD; Walter J. Koroshetz, MD
- A Quantitative Study of Water Diffusion in Multiple Sclerosis Lesions and Normal-Appearing White Matter Using Echo-Planar Imaging** 1017
Massimo Filippi, MD; Giuseppe Iannucci, MD; Mara Cercignani, PhD; Maria Assunta Rocca, MD; Arianna Pratesi; Giancarlo Comi, MD
- Autonomic Performance and Dehydroepiandrosterone Sulfate Levels in HIV-1-Infected Individuals: Relationship to T_H1 and T_H2 Cytokine Profile** 1027
Giovanni Schifitto, MD; Michael P. McDermott, PhD; Thomas Evans, MD; Theresa Fitzgerald, BSc; Joshua Schwimmer, MD; Lisa Demeter, MD; Karl Kiebertz, MD, MPH
- Human Immunodeficiency Virus-Associated Pure Motor Lumbosacral Polyradiculopathy** 1034
Michael G. Benatar, MBChB, DPhil; Roland W. Eastman, MBChB, FRCP
- Confirmation of Subtle Motor Changes Among Presymptomatic Carriers of the Huntington Disease Gene** 1040
Sandra Close Kirkwood, PhD; Eric Siemers, MD; Cherie Bond, BS; P. Michael Conneally, PhD; Joe C. Christian, MD, PhD; Tatiana Foroud, PhD

ARCHIVES OF NEUROLOGY

Editor:

Roger N. Rosenberg, MD
Department of Neurology
University of Texas Southwestern
Medical Center
5323 Hines Blvd
Dallas, TX 75390-9108

Associate Editors:

Hassan M. Fathallah-Shaykh, MD
Dallas, Tex

Christopher G. Goetz, MD
Chicago, Ill

Susan T. Iannaccone, MD
Dallas, Tex

David E. Pleasure, MD
Philadelphia, Pa

E. S. Roach, MD
Dallas, Tex

Ira Shoulson, MD
Rochester, NY

John N. Whitaker, MD
Birmingham, Ala

Assistant Editors:

Lawrence S. Honig, MD, PhD
Dallas, Tex

Matthew Menken, MD
Somerset, NJ

Editorial Assistant:

Jenny Kang
Dallas, Tex

Editorial Office
(214) 648-9383
fax: (214) 648-9388
e-mail: archneuro@mednet.swmed.edu

Section Editors:

Neurological Review Editor:
David E. Pleasure, MD
Philadelphia, Pa

*Controversy in Neurology/
Consensus in Neurology Editor:*

John N. Whitaker, MD
Birmingham, Ala

*Basic Science Seminars
in Neurology Editor:*
Hassan M. Fathallah-Shaykh, MD
Dallas, Tex

NeuroTherapeutics Editor:
Ira Shoulson, MD
Rochester, NY

History of Neurology Editor:
Christopher G. Goetz, MD
Chicago, Ill

Neurology and Public Health Editor:
Matthew Menken, MD
Somerset, NJ

Book Review Editor:
Susan T. Iannaccone, MD
Dallas, Tex

Web Editor:
Lawrence S. Honig, MD, PhD
Dallas, Tex

CME Editor
Matthew Menken, MD
Somerset, NJ

Editorial Board

James I. Ausman, MD, PhD
Chicago, Ill

Louis R. Caplan, MD
Boston, Mass

Steven T. DeKosky, MD
Pittsburgh, Pa

Mahlon R. DeLong, MD
Atlanta, Ga

James A. Ferrendelli, MD
Houston, Tex

John H. Growdon, MD
Boston, Mass

Vladimir Hachinski, MD, DSc
London, Ontario

Audrey S. Penn, MD
Bethesda, Md

Stanley B. Prusiner, MD
San Francisco, Calif

Bruce R. Ransom, MD, PhD
Seattle, Wash

Thomas R. Swift, MD
Augusta, Ga

Kenneth L. Tyler, MD
Denver, Colo

Paul C. Van Ness, MD
Dallas, Tex

International Advisory Committee

Johan A. Aarli, MD
Bergen, Norway

Oded Abramsky, MD, PhD
Jerusalem, Israel

Samir F. Atweh, MD
Beirut, Lebanon

Paula Coutinho, MD, PhD
Porto, Portugal

Alexandra Dürr, MD
Paris, France

Bruno Estanol, MD
Mexico City, Mexico

Cesare Fieschi, MD
Rome, Italy

Hans J. Freund, MD
Düsseldorf, Germany

Wang Guo-Xiang, MD
Beijing, China

Sang-Bok Lee, MD, PhD
Seoul, Korea

Colin Masters, MD
Melbourne, Victoria, Australia

Sergio Novis, MD
Rio de Janeiro, Brazil

Michael Piradov, MD
Moscow, Russia

Nippon Pongvarin, MD, FRCP
Bangkok, Thailand

Anthony H. V. Schapira, DSc, MD, FRCP
London, England

Bhim S. Singhal, MD
Bombay, India

Erik Stalberg, MD
Uppsala, Sweden

Eduardo Tolosa, MD
Barcelona, Spain

Shoji Tsuji, MD, PhD
Niigata, Japan

OBSERVATIONS

Familial Progressive Vestibulocochlear Dysfunction Caused by a COCH Mutation (DFNA9) 1045
Wim I. M. Verhagen, MD, PhD;
Steven J. H. Bom, MD; Patrick L. M. Huygen, PhD;
Erik Fransen, PhD; Guy Van Camp, PhD;
Cor W. R. J. Cremers, MD, PhD

Gait Disturbances in Patients With Pontine Medial Tegmental Lesions: Clinical Characteristics and Gait Analysis 1048
Hiroshi Mitoma, MD; Ryoichi Hayashi, MD;
Nobuo Yanagisawa, MD; Hiroshi Tsukagoshi, MD

Novel Prion Protein Gene Mutation in an Octogenarian With Creutzfeldt-Jakob Disease 1058
Steven Collins, MD, FRACP;
Alison Boyd, DipGenCouns; Ashley Fletcher, BSc;
Keith Byron, PhD; Clive Harper, MD, FRCPA;
Catriona A. McLean, MB, BS, FRCPA;
Colin L. Masters, MD, FRCPA

Valproate, Hyperandrogenism, and Polycystic Ovaries: A Report of 3 Cases 1064
Jouko I. T. Isojärvi, MD, PhD;
Juha S. Tapanainen, MD, PhD

IMAGES IN NEUROLOGY

Tick Paralysis in the United States: A Photographic Review 1071
Michael W. Felz, MD; Thomas R. Swift, MD;
Wesley Hobbs, MD

Souvenir From War 1073
John T. Paul, MD, PhD

CONTROVERSIES IN NEUROLOGY

Trauma to the Central Nervous System May Result in Formation or Enlargement of Multiple Sclerosis Plaques 1074
Charles M. Poser, MD, FRCP

Trauma Does Not Precipitate Multiple Sclerosis 1077
Stuart D. Cook, MD

Trauma and Multiple Sclerosis 1078
Valdimir Hachinski, MD, DSc

HISTORY OF NEUROLOGY

Neurology Was There: 1945 1079
Edward J. Fine, MD; Tara Manteghi, BA

BOOK REVIEWS

Genetics of Mental Disorders: A Guide for Students, Clinicians, and Researchers 1081
Chris Heath, MD

The Developing Mind: Toward a Neurobiology of Interpersonal Experience 1081
Daniel I. Kaufer, MD

Neurologic Complications in Organ Transplant Recipients (Blue Books of Practical Neurology, vol 21) 1082
Michael R. Sperling, MD

Muscle Diseases (Blue Books of Practical Neurology, vol 24) 1082
Susan T. Iannaccone, MD, FAAN

Neurologic Catastrophes in the Emergency Department 1083
Robert A. Wiebe, MD

Neurology in Clinical Practice, 3rd ed 1084
Lewis P. Rowland, MD

LETTERS TO THE EDITOR

Hyperammonia Possibly due to Corticosteroids 1085
Rollin J. Hawley, MD, RACP

In Reply 1085
Gerard T. Berry, MD; Paige B. Kaplan, MB, BCh;
Gary R. Lichtenstein, MD

Dipyridamole Plus Aspirin in Cerebrovascular Disease 1086
Stanley N. Cohen, MD

In Reply 1087
J. Donald Easton, MD; Janet L. Wilterdink, MD

REGULAR DEPARTMENTS

This Month in Archives of Neurology 921

Call For Papers 973, 1057

Calendar 1088

ARCHIVES CME 1089

Classified Advertising 1092

Index to Advertisers 1096

Instructions for Authors—
See January 2000 issue, page 145, or visit the
Web site at www.archneurolog.com.