

ARCHIVES

OF

OTOLARYNGOLOGY— HEAD & NECK SURGERY

The ARCHIVES OF OTOLARYNGOLOGY—HEAD & NECK SURGERY 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 OTOLARYNGOLOGY—HEAD & NECK SURGERY (ISSN 0886-4470) is published monthly by the American Medical Association, 515 N State St, Chicago, IL 60610-0946, and is an official publication of the Association. The ARCHIVES OF OTOLARYNGOLOGY—HEAD & NECK SURGERY reaches more than 11 000 readers in over 80 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. 319066.

Printed in the USA.

Official publication for American Academy of Facial Plastic and Reconstructive Surgery, Inc, American Society for Head and Neck Surgery, and American Society of Pediatric Otolaryngology.

SUBSCRIPTION RATES—The personal subscription rates for the ARCHIVES OF OTOLARYNGOLOGY—HEAD & NECK SURGERY are \$195 for 1 year (12 issues) in the United States and US possessions; \$245 in the Americas; £145 outside the Americas. The institution rates for 1 year are \$295 in the United States; \$395 in the Americas; £245 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 OTOLARYNGOLOGY, 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 JAMA & Archives Journals, American Medical Association, Tower House, Sovereign Park, Market Harborough, Leicestershire LE15 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>

OTOLARYNGOLOGY HOME PAGE—<http://www.archoto.com>

Publication Staff

Offices: 515 N State St, Chicago, IL 60610

**Editorial Processing Department,
Archives Journals**

Director: Paula Glitman

Manager: Lise M. Stevens

Freelance Manager: Diane L. Cannon

Freelance Coordinator:

Connie Manno

Electronic Editing Specialist:

Paul Frank

Assistant Electronic Editing Specialist:

Monica Mungle

Senior Copy Editors:

Dee E. Egger

Vickey Golden

Copy Editors:

Keith Huff

John McFadden

Jennifer L. Reddy

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:

Brandt Martin

Neil Shankman

Staff Assistant: Marla A. Hall

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

Production & Distribution Division

Manager, Budgets & Costs:

Bonnie Van Clevon

Publishing Manufacturing Analyst:

Diane Darnell

Office Manager: Karen Branham

Production Assistant: Shannon Epplett

**Advertising & Production
Department**

Director: Karen Adams-Taylor

Production Specialist: Terri Hanley

Manager, Advertising Services:

Carole Piszker

Manager, Production Services:

Susan Price

Supervisor, Production Services:

Betty Frigerio

Production Associates:

Mary Anne Donley

Sarah Powell

Denise Steinhauer

Jo Anne Turner

Production Assistant:

Bryan Irzyk

Distribution

Distribution Manager: Paul Gasielcki

Distribution Analyst:

Michelle Robinson

Traffic Control Specialist:

Victoria Buckner

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

Manager, Proofreading:

Teresa H. Omiotek

Proofreaders:

David Antos

Daniel James

Rachel Novickas

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

OTOLARYNGOLOGY- HEAD & NECK SURGERY

VOL 126 NO. 1, JANUARY 2000

EDITORIALS

- Millennial Milestones That Matter** 13
Michael M. E. Johns, MD
- Reflections on the Renewal of Certification** 15
Neil O. Ward, MD
- New Leadership and New Initiatives at the National Institute on Deafness and Other Communication Disorders** 17
James F. Battey, Jr, MD, PhD;
Donald H. Luecke, MD

ORIGINAL ARTICLES

- Pediatric Vocal Fold Paralysis: A Long-term Retrospective Study** 21
Hamid Daya, FRCS; Asaad Hosni, FRCS;
Ignacio Bejar-Solar, MD; John N. G. Evans, FRCS;
C. Martin Bailey, FRCS
- Paradoxical Vocal Cord Dysfunction in Juveniles** 29
David M. Powell, MD; Boris I. Karanfilov, MD;
Kerrie B. Beechler, MA; Kathleen Treole, PhD;
Michael D. Trudeau, PhD; L. Arick Forrest, MD
- Ankyloglossia: Incidence and Associated Feeding Difficulties** 36
Anna H. Messner, MD; M. Lauren Lalakea, MD;
Janelle Aby, MD; James Macmahon, MD;
Ellen Bair, MS, PNP

- Superimposed High-Frequency Jet Ventilation for Laryngeal and Tracheal Surgery** 40
Eva Lanzenberger-Schragl, MD; Andrew Donner, MD;
Matthaeus C. Grasl, MD; Michael Zimpfer, MD;
Alexander Aloy, MD
- Quality of Life and Health Status in Pediatric Tonsil and Adenoid Disease** 45
Michael G. Stewart, MD, MPH;
Ellen M. Friedman, MD; Marcelle Sulek, MD;
Gregory F. Hulka, MD; Ronald B. Kupper-Smith, MD;
Willard C. Harrill, MD; Marilyn H. Bautista, MPH
- Comparison of Thyroid, Auricular, and Costal Cartilage Donor Sites for Laryngotracheal Reconstruction in an Animal Model** 49
Andrew L. de Jong, MD; Albert H. Park, MD;
Eyal Raveh, MD; Mary R. Schwartz, MD;
Vito Forte, MD
- Treatment of Intractable Diseased Tissue in the Maxillary Sinus After Endoscopic Sinus Surgery With High-Pressure Water Jet and Preservation of the Periosteum** 55
Toru Kikawada, MD; Takeo Nonoda, MD;
Mariko Matsumoto, MD; Mikino Kikura, MD;
Keiko Kikawada, MD
- Pollen Immunotherapy Inhibits T Helper 1 and 2 Cell Responses, but Suppression of T Helper 2 Cell Response Is a More Important Mechanism Related to the Clinical Efficacy** 63
Yasushi Kakinoki, MD; Yoshihiro Ohashi, MD;
Yoshiaki Nakai, MD; Ayaki Tanaka, MD;
Yushi Washio, 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.

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 Division

Advertising Offices:
East: Philip G. Soufferis, 119 Cherry Hill Rd, 3rd Flr, Parsippany, NJ 07054 (973) 263-9191.

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

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

Use of an Electronic Nose to Distinguish Cerebrospinal Fluid From Serum 71
Erica R. Thaler, MD; Francisca C. Bruney; David W. Kennedy, MD; C. William Hanson, MD

Histopathologic Features of the Temporal Bone in Patients With Cystic Fibrosis 75
Nadir Yildirim, MD; Michihiko Sone, MD; Cemil Mutlu, MD; Patricia A. Schachern; Michael M. Paparella, MD; Chap T. Le, PhD

CLINICAL NOTES

Respiratory Difficulty Following Bismuth Subgallate Aspiration 79
Alan D. Murray, MD; Scott R. Gibbs, MD; Kathleen R. Billings, MD; Michael J. Biavati, MD

Microangiopathy of the Inner Ear, Retina, and Brain (Susac Syndrome): Report of a Case 82
Denis Ayache, MD; Isabelle Plouin-Gaudon, MD; Pierre Bakouche, MD; Pierre Elbaz, MD; Olivier Gout, MD

Hemangioblastoma of the Internal Acoustic Canal in a Patient With von Hippel–Lindau Disease: A Case Report and Review of the Literature 85
Vicente A. Resto, BA; Lawrence R. Lustig, MD

Thalidomide for the Treatment of Acquired Immunodeficiency Syndrome–Associated Refractory Oral Ulcers 89
Pedro Diz Dios, MD, DDS, PhD; Bernardo Sopena, MD, PhD; Jorge Cameselle, MD, PhD; Mercedes Butrón, MD; Manuel Crespo, MD; Antonio Ocampo, MD

RADIOLOGY FORUM

Quiz Case 1 94
David Goldenberg, MD; Renee Flax-Goldenberg, MD; Henry Zvi Joachims, MD; Nathan Peled, MD

Quiz Case 2 95
Christiane I. Messias, MD; Carlos A. Oliveira, MD, PhD

CLINICAL CHALLENGES IN OTOLARYNGOLOGY

History of Frontal Sinus Surgery 98
Hassan H. Ramadan, MD, MSc

Osteoplastic Flap With Obliteration: Is This an Ideal Procedure for Chronic Frontal Sinusitis? 100
Joseph B. Jacobs, MD

Surgical Treatments for Symptomatic Chronic Frontal Sinusitis 101
Charles W. Gross, MD

REGULAR DEPARTMENTS

Instructions for Authors 103

Classified Advertising 108

Index to Advertisers 120

ARCHIVES

OF
OTOLARYNGOLOGY–
HEAD & NECK SURGERY

Editor:
Michael E. Johns, MD
Emory University
Woodruff Health Sciences
Administration Building
Suite 408
1440 Clifton Rd NE
Atlanta, GA 30322
Assistant Editors:
John K. Niparko, MD
Baltimore, Md
William J. Richtsmeier, MD, PhD
Durham, NC
K. Thomas Robbins, MD
Memphis, Tenn
Editorial Assistant:
Trina L. Johns
Production Manager:
Teresa Brewton
(404) 778-2322
(404) 778-3100 FAX
e-mail: aohns@emory.edu

Editorial Board:
Elliot Abemayor, MD, PhD
Los Angeles, Calif
John G. Batsakis, MD
Houston, Tex
Margaret S. Brandwein, MD
New York, NY
Robin T. Cotton, MD
Cincinnati, Ohio
Marvin P. Fried, MD
Boston, Mass
Patrick J. Gullane, MD
Toronto, Ontario
Lauren D. Holinger, MD
Chicago, Ill
Paul R. Lambert, MD
Charlottesville, Va
Wayne F. Larrabee, Jr, MD
Seattle, Wash
Paul A. Levine, MD
Charlottesville, Va

Robert H. Miller, MD
New Orleans, La
H. Bryan Neel III, MD, PhD
Rochester, Minn
Jay F. Piccirillo, MD
St Louis, Mo
Clarence T. Sasaki, MD
New Haven, Conn
Richard J. H. Smith, MD
Iowa City, Iowa
Fred J. Stucker, MD
Shreveport, La
Section Editors:
Clinical Challenges in Otolaryngology
Karen H. Calhoun, MD
Galveston, Tex
Ronald B. Kupper-Smith, MD (Assistant)
Seattle, Wash
Online Editor
Michael A. Rothschild, MD
New York, NY

Radiology Forum
R. Nick Bryan, MD
S. James Zinreich, MD
Baltimore, Md
Pathology Forum
Frederic B. Askin, MD
William H. Westra, MD
Baltimore, Md
American Academy of Facial Plastic and Reconstructive Surgery News
Becky McGraw-Wall, MD
Houston, Tex
Maisie Shindo, MD
Los Angeles, Calif
American Head and Neck Society News
David W. Eisele, MD
Baltimore, Md
American Society of Pediatric Otolaryngology News
Sally R. Shott, MD
Cincinnati, Ohio