



# The Journal of NUCLEAR MEDICINE

Volume 21, Number 3: March 1980

Official Publication of the Society of Nuclear Medicine

---

*Editor*

FRANK H. DELAND, M.D.

*Associate Editors—Clinical Sciences*

S. JAMES ADELSTEIN M.D., PH.D.  
WILLIAM H. BEIERWALTES, M.D.  
PAUL B. HOFFER, M.D.  
DOUGLAS A. ROSS, M.D., PH.D.

*Associate Editors—Basic Sciences*

THOMAS F. BUDINGER, M.D., PH.D.  
EDWARD M. SMITH, SC.D.  
GOPAL SUBRAMANIAN, PH.D.  
ALFRED P. WOLF, PH.D.

*Consulting Editorial Board*

GOULD A. ANDREWS, M.D.  
HAROLD L. ATKINS, M.D.  
M. DONALD BLAUFOX, M.D.  
A. BERTRAND BRILL, M.D., PH.D.  
JOHN A. BURDINE, JR., M.D.  
N. DAVID CHARKES, M.D.  
TREVOR D. CRADDUCK, PH.D.  
MICHAEL A. DAVIS, PH.D.  
WILLIAM C. ECKELMAN, PH.D.  
SEBASTIAN GENNA, PH.D.  
C. CRAIG HARRIS, M.S.  
THOMAS P. HAYNIE, M.D.  
MARGUERITE T. HAYS, M.D.  
WILLIAM R. HENDEE, PH.D.

B. LEONARD HOLMAN, M.D.  
RICHARD A. HOLMES, M.D.  
MERLE K. LOKEN, M.D.  
WILLIAM J. MACINTYRE, PH.D.  
C. DOUGLAS MAYNARD, M.D.  
WIL B. NELP, M.D.  
WILLIAM H. OLDENDORF, M.D.  
RICHARD C. REBA, M.D.  
BARRY A. SIEGEL, M.D.  
RICHARD P. SPENCER, M.D., PH.D.  
W. NEWLON TAUXE, M.D.  
HEINZ W. WAHNER, M.D.  
HENRY N. WELLMAN, M.D.  
HARRY S. WINCHELL, M.D., PH.D.

---

*Coordinating Editor*

KAREN SCHOOLS

*Editorial Assistant*

ROBERTA MASTERSON

*Advertising Manager*

JOANNE MCCAFFERY

*Advertising Assistant*

KAREN LOMBARDI

*Senior Editor*

DAVID KELLNER

*Executive Director*

HENRY L. ERNSTHAL

---

**EDITORIAL COMMUNICATIONS:** All editorial correspondence should be sent to the Editor, Frank H. DeLand, M.D., University of Kentucky Medical Center, Medical Annex 5, Lexington, KY 40506; Phone (606) 254-1803. **Books and monographs** covering the use of nuclear phenomena in the diagnosis and treatment of disease and allied fields will be reviewed as space is available. Send copies to the Editor.

**BUSINESS COMMUNICATIONS:** Send all correspondence concerning business (advertising, subscriptions, change of address, etc.) to the publisher, Society of Nuclear Medicine, 475 Park Ave. South, New York, NY 10016; Phone: (212) 889-0717. Advertising rates are available from the publisher. Advertising is accepted subject to approval by an editorial committee. Forms close on the first of the month preceding date of issue.

THE JOURNAL OF NUCLEAR MEDICINE (ISSN 0161 5505) is published monthly by the Society of Nuclear Medicine, Inc., 475 Park Avenue South, New York, NY 10016. Second-class postage paid at New York, NY and additional mailing offices. POSTMASTER: send address changes to the JOURNAL OF NUCLEAR MEDICINE, 475 Park Avenue South, New York, NY 10016. Subscription rates for 1980 are \$80 per year within the United States; \$90 elsewhere. Student subscriptions

\$40 (proof of student status required). Single copies \$8; foreign \$8.50; convention issue (June) \$10; foreign \$10.50; postage will be added. Subscriptions are on a calendar-year basis. Remittance should be made by check, draft, or postal or express money order, made payable to the Society of Nuclear Medicine. Notify the Society of change of address and telephone number at least 30 days before date of issue by sending both the old and the new addresses. Postmaster: send Form 3579 to 475 Park Ave. South, New York, NY 10016.

© Society of Nuclear Medicine, Inc. 1980. Multiple reproduction of any material in this journal is permitted only under license from the Society of Nuclear Medicine with the written permission of the authors. *Fair use* of such material by individual readers and nonprofit libraries, such as making single copies of an article for use in teaching or research is allowed. Consent of the authors and the Editor must be obtained to reprint figures, tables, or excerpts from printed matter.

The copyright on articles published in *The Journal of Nuclear Medicine* is held by the Society of Nuclear Medicine. It is therefore necessary that each co-author of accepted manuscripts sign a statement transferring copyright. See Information for Authors for further explanation. The Information for Authors appears on the page preceding the first Calendar page.