

The Journal of Nuclear Medicine

Official Publication of The
Society of Nuclear Medicine

Volume 28, Number 2
February 1987

THE JOURNAL OF NUCLEAR MEDICINE (ISSN 0161-5505) is published monthly by The Society of Nuclear Medicine, Inc., 136 Madison Avenue, New York, NY 10016-6760. Second Class Postage paid at New York, NY and additional mailing offices. *Postmaster*, send address changes to *The Journal of Nuclear Medicine*, 136 Madison Avenue, New York, NY 10016-6760.

EDITORIAL COMMUNICATIONS should be sent to the Editor: Thomas P. Haynie, MD, The Journal of Nuclear Medicine, Office of Special Publications, The University of Texas M. D. Anderson Hospital, 6723 Bertner Avenue, Houston, TX 77030 (713)792-6015. *Books and monographs* covering the use of nuclear medicine and its allied disciplines will be reviewed as space is available. *Send review copies to the Editor.*

BUSINESS COMMUNICATIONS concerning advertising, subscriptions, change of address, and permission requests should be sent to the publisher, The Society of Nuclear Medicine, 136 Madison Avenue, New York, NY 10016-6760 (212)889-0717. Advertisements are subject to editorial approval and are restricted to products or services pertinent to nuclear medicine. Advertising rates are available from the publisher. Closing date is the first of the month preceding the date of issue.

SUBSCRIPTION RATES for 1987 calendar year are \$120 within the United States; \$130 for Canada and Pan American countries; \$150 elsewhere. Student subscriptions are \$70 (with proof of student status). Single copies \$10.00; foreign \$11.00; convention issue (April) \$12.00; foreign \$13.00. Make checks payable, in U.S. dollars drawn on U.S. banks, 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 new addresses.

COPYRIGHT © 1987 by The Society of Nuclear Medicine, Inc. All rights reserved. No part of this work may be reproduced or translated without permission from the copyright owner. Because the copyright on articles published in *The Journal of Nuclear Medicine* is held by the Society, each author of accepted manuscripts must sign a statement transferring copyright. See Information for Authors for further explanation, which appears on the second page preceding the Calendar.

SNM NEWSLINE

- Investigators Review Potential of Antibodies in Cancer Detection and Therapy; Scientists Discuss Advances in Labeling and Dosimetry
Suresh C. Srivastava 143
- Commentary: *Newsline* Begins Third Year in *JNM*
Stanley J. Goldsmith 148
- Physician DRG Payment Plan Aimed at Radiology, Anesthesiology, and Pathology; Reagan Administration Seeks to Change Physician Reimbursement Schemes
Linda E. Ketchum 149
- Sadatake Kato Honored with Service Award from Radiopharmaceutical Science Council
Joan D. Simon 150
- NRC Simplifies Regulations for Medical Use of Byproduct Material (10 CFR Part 35)
Jillian E. Frohman 151
- Clarifying the New NRC Misadministration Reporting Rules
Norman L. McElroy 153
- News Briefs: SNM Computer Council Plans Buyers' Guide; IOM Council on Health Care Technology; Osmium-191/Iridium-191m Generator Awarded Orphan Product Grant; Scintillation Camera Quality Assurance 154

CLINICAL SCIENCES

- Diagnostic Significance of Indium-111 Granulocyte Scintigraphy in Febrile Patients
Martti T. Syrjälä, Ville Valtonen, Kristian Liewendahl, and Gunnar Myllylä 155
- Scintigraphic Monitoring of Mucociliary Tracheo-Bronchial Clearance of Technetium-99m Macroaggregated Albumin Aerosol
S. Tzila Zwas, Ido Katz, Benjamin Belfer, Gerald L. Baum, and Ephraim Aharonson 161
- SPECT Thallium-201 Scintigraphy for the Detection of Left Ventricular Aneurysm
Kathryn A. Morton, Naomi P. Alazraki, Andrew T. Taylor, and Frederick L. Datz 168
- Effects of Spontaneous Respiration on Right and Left Ventricular Function: Evaluation by Respiratory and ECG Gated Radionuclide Ventriculography
Bong-Ha Kim, Yoshio Ishida, Yutaka Tsuneoka, Noboru Matsubara, Toshihiko Hiraoka, Hiroshi Takeda, Michitoshi Inoue, Takenobu Kamada, Kazufumi Kimura, and Takahiro Kozuka 173
- Cerebral Blood Imaging with Thallium-201 Diethyldithiocarbamate SPECT
E.A. van Royen, J.F. de Bruine, Th.C. Hill, A. Vyth, M. Limburg, B.L. Byse, D.H. O'Leary, J.M.B.V. de Jong, A. Hijdra and J.B. van der Schoot 178

Detecting Bone Marrow Metastases at the Time of Examining the Liver with Radiocolloid <i>Brian C. Lentle, Tannis Kotchon, Zolly Catz, and Heather F. Penney</i>	184
Colloid Shift Following Blunt Trauma <i>Russell C. Briggs and Steven M. Amberson</i>	188

BASIC SCIENCES

Technetium-99m d,l-HM-PAO: A New Radiopharmaceutical for SPECT Imaging of Regional Cerebral Blood Perfusion <i>Rudi D. Neirinckx, Lewis R. Canning, Ian M. Piper, David P. Nowotnik, Roger D. Pickett, Richard A. Holmes, Wynn Volkert, Alan M. Forster, Peter S. Weisner, Janet A. Marriott, and Sue B. Chaplin</i>	191
--	-----

Evaluation of [Iodine-125] N,N,N'-Trimethyl- N'-[2-Hydroxy-3-Methyl-5-Iodobenzyl]-1, 3-Propanediamine Lung Uptake Using an Isolated- Perfused Lung Model <i>Daniel O. Slosman, Aaron B. Brill, Barbara S. Polla, and Philip O. Alderson</i>	203
---	-----

Radiometric Assay of Bacterial Growth: Analysis of Factors Determining System Performance and Optimization of Assay Technique <i>Vipa Boonkitticharoen, James C. Ehrhardt, and Peter T. Kirchner</i>	209
---	-----

Technical Notes

Digital Autoradiography: Design, Development, and Evaluation of a Solid-State Image Analyzer <i>James L. Lear, Jeffrey Plotnick, and Stuart Rumley</i>	218
--	-----

Effects of Chelates and Incubation Media on Platelet Labeling with Indium-111 <i>Robin L. Hill-Zobel, Susan Gannon, Brian McCandless, and Min-Fu Tsan</i>	223
---	-----

Toxicity of Indium-111 on the Radiolabeled Lymphocyte <i>Edward P. Balaban, Theodore R. Simon, and Eugene P. Frenkel</i>	229
---	-----

Radiation Dose to Upper Airways from Inhaled Oxygen-15 Carbon Dioxide <i>Ernst Meyer, Lucas Y. Yamamoto, Alan C. Evans, Jane L. Tyler, Mirko Diksic, and William Feindel</i>	234
--	-----

Radiation Absorbed Dose from Technetium-99m DTPA <i>T. Smith, G.D. Zanelli, and N. Veall</i>	240
---	-----

Case Reports

Ribbing's Disease: Radiographic-Scintigraphic Correlation and Comparative Analysis with Engelmann's Disease <i>Christopher K. Shier, Gary A. Krasicky, Burton I. Ellis, and Sambasiva R. Kottamasu</i>	244
--	-----

Scintigraphic Manifestations of Infraction of the Second Metatarsal (Freiberg's Disease) <i>Gerald A. Mandell and H. Theodore Harcke</i>	249
--	-----

The Journal of Nuclear Medicine

Volume 28, Number 2
February 1987

DEPARTMENTS

Letters to the Editor

Technetium-99m(V)-DMSA in the Imaging of Medullary
Thyroid Carcinoma
*K. Endo, H. Ohta, K. Torizuka, K. Horiuchi, I. Yomoda,
and A. Yokoyama* 252

Technetium-99m(V)-DMSA in the Imaging of Medullary
Thyroid Carcinoma
*Susan E.M. Clarke, Colin R. Lazarus, Ignac Fogelman,
and Michael M. Maisey* 253

Reply
T.E. Hilditch 253

Subclavian Vein Obstruction Demonstrated with
Thallium-201
Allan Belzberg and Marla Kiess 254

Reply
Rami Gal and Steven Port 254

Anterior View on Bone Scan for the Early Diagnosis of
Bacterial Lumbar Spondylitis
*Salvatore Amico, Jean-Paul Gougeon, Jean-Claude Liehn,
Jacques Valeyre* 254

Indium-111 Chloride Imaging of Infected Prostheses
M. Lichtenstein 255

Problem with Mouse Neuroblastoma for Iodine-131
MIBG Studies
Hassan Y. Aboul-Enein 255

Book Reviews

Radiopharmacy and Radiopharmacology Yearbook
Reviewed by Henry M. Chilton 257

Patient Irradiation in Diagnostic Nuclear Medicine, 1985
Reviewed by James S. Robertson 257

Radioactive Waste—Proceedings of the Twenty-first
Annual Meeting of the National Council on
Radiation Protection and Measurements
Reviewed by Anthony R. Benedetto 258

The Nuclear Waste Primer—A Handbook for Citizens
Reviewed by Anthony R. Benedetto 258

Immunoscintigraphy
Reviewed by Tarnum Ghose 258

Abstracts 260

Information for Authors 23A

Calendar 25A

Classified Advertising 31A

Index to Advertisers 36A