

AJR

American
Journal of
Roentgenology

November 2006



Thick-slab volume-rendered image shows longitudinal linear ulcerations along mesenteric border of multifocal small intestines and pseudosacculations in patient with Crohn's disease.

See "MDCT of Small-Bowel Disease: Value of 3D Imaging" on pages 1212-1221



JOURNAL OF THE AMERICAN ROENTGEN RAY SOCIETY

www.arrs.org ■ www.ajronline.org

Editor in Chief

Robert J. Stanley, MD, *Birmingham, AL*
University of Alabama at Birmingham

Deputy Editor

Eric J. Stern, MD, *Seattle, WA*

Associate Editors

Felix S. Chew, MD, *Seattle, WA*
Howard P. Forman, MD, *New Haven, CT*
Marcia C. Javitt, MD, *Washington, DC*
James M. Provenzale, MD, *Durham, NC*

Editors Emeriti

Melvin M. Figley, MD, *Grantham, NH*
Robert N. Berk, MD, *La Jolla, CA*
Lee F. Rogers, MD, *Tucson, AZ*

Assistant Editors

Chairpersons of Editorial Subcommittees

<i>Abdominal Imaging</i>	Deborah A. Baumgarten	<i>Interventional—General</i>	Daniel B. Brown	<i>At-Large</i>	Theodore J. Dubinsky
<i>Breast Imaging</i>	Kathryn Evers	<i>Interventional—Vascular</i>	Kyung J. Cho		James F. Glockner
<i>Cardiac Imaging</i>	Patrick M. Colletti	<i>Magnetic Resonance Imaging</i>	Evan S. Siegelman		Harold Litt
<i>Computed Tomography</i>	John A. Pezzullo	<i>Medico-Legal</i>	Leonard Berlin		Elias R. Melhem
<i>Computers in Radiology</i>	Charles E. Kahn, Jr.	<i>Molecular Imaging</i>	John V. Crues, III		David J. Ott
<i>Departmental Administration</i>	Mervyn D. Cohen	<i>Musculoskeletal Imaging</i>	King C. Li		James G. Ravenel
	C. Douglas Maynard	<i>Neuroradiology</i>	William A. Murphy, Jr.		Gary J. Whitman
<i>Education</i>	Jannette Collins	<i>Neuroradiology—Interventional</i>	Mauricio Castillo	<i>International</i>	Christoph R. Becker
<i>Emergency Radiology</i>	Stephen R. Baker	<i>Nuclear Radiology</i>	Tony P. Smith		Hans Blickman
<i>Gastrointestinal Imaging</i>	Brian C. Lucey	<i>Pediatric Imaging</i>	Michael F. Hartshorne		Albert de Roos
<i>Genitourinary Imaging</i>	N. Reed Dunnick	<i>PET/CT</i>	Brian D. Coley		Thomas F. Hany
<i>Head and Neck Imaging</i>	Hugh D. Curtin	<i>Radiological Physics</i>	Barry A. Siegel		Jeong Min Lee
<i>Health Policy and Medical Economics</i>	Jonathan H. Sunshine	<i>Sonography</i>	Terry T. Yoshizumi		Kyung Soo Lee
<i>Informatics</i>	John David N. Dionisio	<i>Thoracic Imaging</i>	Levon N. Nazarian		Osamu Matsui
		<i>Women's Imaging</i>	Michael B. Gotway		Kiyoshi Murata
			Daniel M. Golding		S. A. Sohaib

Editorial Advisory Panel

Gerald R. Aben	Thomas S. Chang	Arnold C. Friedman	David Gur	Dean D.T. Maglinte	Joel D. Rubenstein
Marco A. Amendola	Peter Choyke	Morris L. Gavant	Thomas E. Hartman	Mahadevappa Mahesh	Himanshu Shah
Nilo A. Avila	Paige B. Clark	Wladyslaw Gedroyc	Anton N. Hasso	Theresa C. McLoud	Alan H. Siegel
Joshua A. Becker	Lawrence Crooks	Glen Geremia	Hiroto Hatabu	Jeffrey A. Miller	Priscilla J. Slanetz
Carol Benson	Nancy S. Curry	Debra A. Gervais	Roger J. Jackman	Robert Miller	Sat Somers
Barton F. Branstetter IV	Murray K. Dalinka	Leonard M. Glassman	Jon A. Jacobson	Craig Mitchell	Gary S. Sudakoff
Rachel F. Brem	Georges Y. El-Khoury	J. David Godwin	Maxine Jochelson	Debra L. Monticciolo	Edward V. Staab
Michael A. Bruno	Arthur Fleischer	Edward G. Grant	Douglas S. Katz	Daniel T. Myers	Jane Weissman
Thomas M. Calvy	W. Dennis Foley	W. Bonner Guilford	Marie E. Lee	Karen I. Norton	
Cheri L. Canon	Andrew Fried	Ashok K. Gupta	Jessica W.T. Leung	Mahesh R. Patel	

Department of Publications

G. Rebecca Haines

Peer Review and Production

Diane Trafton, Ann Earwood, John M. Finney, Paul Wiegmann,
Thomas Dahlén and Tammy Weiser

Editorial

Frances E. Schuweiler, Mid Scanlon,
Jill M. Peters, Michael Nuckols, and Catherine Judge Allen

Member and Subscriber Services

Linda Thomas, Sharon Huffman,
Sara Leu, Stephanie Traylor, and Connie Wolfe

Advertising and Corporate Reprints

Denell Deavers

Permissions and Author Reprints

Shannon L. Hamilton

AJR, AMERICAN JOURNAL OF ROENTGENOLOGY (ISSN 0361-803X) is published monthly by the American Roentgen Ray Society, 44211 Slatestone Ct., Leesburg, VA 20176-5109; www.arrs.org.

Annual dues include \$70 for journal subscription. Periodical postage paid at Leesburg, VA, and at additional mailing offices.

POSTMASTER, send address changes (Form 3579) to Subscription Fulfillment, AJR, American Journal of Roentgenology, 44211 Slatestone Ct., Leesburg, VA 20176-5109.

Subscription rates \$289 (\$363 international); institutions \$462 (\$536 international); multiyear discounts available; in-training rates available through ARRS membership; single copy, members: \$24 (\$28 international); nonmembers: \$28 (\$32 international).

Airmail rates furnished on request.

For single-issue sales contact Ron Dennis at rdennis@arrs.org.

Indexed by *Current Contents* and *Index Medicus*.
Copyright 2006
by American Roentgen Ray Society.
0361-803X/06 Printed in the U.S.A.



AJR Author and Submission Information

Authors must submit manuscripts using the online peer review system. We do NOT accept submissions by mail.

AJR Author Guidelines

Detailed *AJR* Author Guidelines can be viewed or downloaded as a PDF from the ARRS Web site (www.arrs.org) at the following URL: <http://www.arrs.org/StaticContent/pdf/ajr/authorguide.pdf>.

Submission and peer review questions should be addressed to:

American Roentgen Ray Society
Peer Review Manager, Publications Department
44211 Slatestone Ct • Leesburg, VA 20176-5109
Telephone: 703-729-3353 or 1-800-438-2777 • Fax: 703-729-4839
Email: AJRsubmit@arrs.org

Submitting Manuscripts

Once you have prepared your manuscript to conform to the author guidelines:

- Go to the ARRS Web site and click on Journals—*AJR*.
- Click on Manuscript Submission. This will take you to the online submission and peer review portal.
- Type in your username and password for the corresponding author's account. (First-time authors will need to create a corresponding author account in the system.)
- Follow the online instructions for filling out the submission form and uploading your manuscript.

Once the manuscript is submitted, you will need to fax or mail the Transfer of Copyright Agreement and Conflict of Interest Acknowledgment form with all of the author signatures to the ARRS Publications Department at the above address.

Article Types

The *AJR* publishes specific types of articles. Each type serves a distinct and separate purpose and is judged by different criteria. Manuscripts should be constructed according to specific guidelines for that type of article found in the Author Guidelines and Maximums for Articles Table.

General Submission & Peer Review Information

The *AJR* publishes original contributions to the advancement of medical diagnosis and treatment.

- Submitted manuscripts should not contain previously published material and must not be under consideration for publication elsewhere.
- The *AJR* follows the guidelines of the International Committee of Medical Journal Editors (ICMJE). The guidelines may be viewed at www.icmje.org.
- Manuscripts that do not conform to the *AJR* Author Guidelines or exceed the Maximums for Articles Submitted to the *AJR* may be sent back to the author without review or put on hold until the submission is deemed in compliance with the requirements.
- Manuscript decisions are based on peer review and editorial discretion. Reviewers receive manuscripts with blind title pages to ensure an unbiased review.
- Statements made in the article, including changes made by the Editor or manuscript editor, are the responsibility of the author and not of the *AJR* or ARRS.

AJR Business and Subscriber Information

The American Roentgen Ray Society

AJR, the *American Journal of Roentgenology*, is published monthly to disseminate research on current developments in the radiologic sciences and commentary on topics related to radiology. It is published by the American Roentgen Ray Society (ARRS), 44211 Slatestone Ct., Leesburg, VA 20176-5109; 703-729-3353; www.arrs.org. Address inquiries regarding Society business, the annual ARRS meeting, and membership in the Society to the above address. Correspondence regarding editorial matters should be addressed to Editorial Office, *AJR*, 500 22nd St. S, Whitaker Building, Ste. 504A, Birmingham, AL 35233; telephone: 205-731-6068; or fax: 205-731-6069.

Subscriber Information

ARRS annual dues include \$70 for journal subscription. Nonmember subscription rates are as follows: \$289/year (\$363 international); institutions, \$462/year (\$536 international). Special in-

training rates are available through Society membership. Single issue copies of the journal may be purchased if available in inventory. The member price is \$24 for domestic and \$28 for international. The nonmember price is \$28 for domestic and \$32 for international. Airmail rates will be furnished on request.

Call toll-free, 800-438-2777, with subscription inquiries or problems. Please have the mailing label from your latest issue available when you call.

Report changes of address to Subscription Fulfillment, *AJR*, 44211 Slatestone Ct., Leesburg, VA 20176-5109. Damaged or unreceived issues must be reported within 90 days of publication for replacement.

Advertising Information

All advertising is subject to approval by the publisher. Acceptance of advertising does not indicate endorsement of the products or services advertised or the claims made. For display and classified advertising information,

contact the Publications Department, ARRS, Attn: Denell Deavers, 44211 Slatestone Ct., Leesburg, VA 20176-5109; telephone 703-729-3353; fax 703-729-4839; e-mail ddeavers@arrs.org; www.arrs.org.

Copyrights, Permissions, and Reprints

Contents of the *AJR* are copyrighted by the ARRS. No part of this publication may be reproduced without permission. Requests for such permission should be addressed to the Publications Department, ARRS, Attn: Permissions Editor, 44211 Slatestone Ct., Leesburg, VA 20176-5109; www.arrs.org. For reprints of a particular article, please contact Shannon Hamilton at reprints@arrs.org, 703-729-3353, ext. 301.

Indexes

AJR articles are indexed in *Current Contents*, *Index Medicus*, and the cumulative index published online by the Radiological Society of North America.

Transfer of Copyright Agreement, Conflict of Interest Acknowledgment, Certification of Coauthors, Exclusive Publication Statement, and Disclosure of Commercial Interest

**This page must be signed by all the authors and faxed or mailed to:
ARRS Publications Department, 4421 I Slatestone Court, Leesburg, Virginia 20176; Fax to 703-729-5913.**

COMPLETE COPYRIGHT to the article entitled: _____

MANUSCRIPT NUMBER: _____

PART A: Copyright Transfer Agreement, Conflict of Interest Acknowledgment, Coauthor Certification and Exclusive Publication Statement

(Herein, "the article") is hereby transferred to the American Roentgen Ray Society (for United States government employees to the extent transferable), effective if and when the article is accepted for publication in the *American Journal of Roentgenology*.

The copyright that the authors assign to the American Roentgen Ray Society encompasses all rights to exploit the article in any manner throughout the world. These rights include, but are not limited to, all print reproduction and publication rights and electronic publication rights, such as CD-ROM and online publication, as well as dissemination by any technology now known or later devised.

The author(s) retain all patent and other proprietary rights to the article, with exception of the copyright. If an author wishes to reproduce the article in any medium for distribution purposes, the author must obtain permission from the American Roentgen Ray Society and, if permission is granted, the author must credit the original source of publication when the article is reproduced.

The author(s) certify that:

1. The article does not infringe any personal or proprietary rights of others;
2. The editor of the *American Journal of Roentgenology* has been or will be informed of any proprietary or commercial interest or conflicts of interest the authors may have that related directly or indirectly to the subject of this article. This information must be noted in the cover letter submitted with the article and disclosed below;
3. The scientific content of Radiologic images has not been altered, and that disclosure has been made regarding computer enhancement or other electronic manipulation of Radiologic images;
4. The authors have made substantive and specific intellectual contributions to this article and assume full responsibility for its content;
5. The article has not been previously published and is not currently under consideration for publication elsewhere; and
6. This agreement has been signed by all the authors who contributed to the article.

This agreement must be signed by ALL authors in order for the manuscript to be published. Reprints of your article may be ordered by e-mail to reprints@arrs.org, or by phone at 703-729-3353, ext. 301.

PART B: Disclosure of Commercial Interest

The American Roentgen Ray Society (ARRS) is accredited by the Accreditation Council on Continuing Medical Education (ACCME) to sponsor continuing medical education activities to physicians.

ACCME Definition of a Financial Relationship

Financial relationships are those relationships in which the individual benefits by receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, ownership interest (e.g., stocks, stock options or other ownership interest, excluding diversified mutual funds), or other financial benefit. Financial benefits are usually associated with roles such as employment, management position, independent contractor, (including contracted research), consulting, speaking and teaching, membership on advisory committees or review panels, board membership, and other activities from which remuneration is received or expected. The ACCME considers relationships of the person involved in the CME activity to include financial relationships of a spouse or partner.

Authors submitting manuscripts to the AJR must appropriately disclose any financial relationship with a commercial organization that may have an interest in the content.

Disclosure

- I **now have** or within the past 12 months have had financial interests or other relationship as defined in the paragraph above with a commercial organization that may have an interest in the content of the educational activity.
- I **do not now have** and have not within the past 12 months had a financial interest or other relationship as defined in the paragraph above with a commercial organization that may have an interest in the content of the educational activity.

Please list the manufacturers and/or service providers with whom you have a financial relationship, and describe the nature of your relationship. Please be specific.

- I understand that the educational activity I am providing must be free of commercial bias for or against any product and if the activity I am presenting is concerned with a commercial product(s) I will present objective information about these products, based on scientific methods generally accepted in the medical community. I will make these disclosures as part of the articles to which they apply.

_____ First Author	_____ Second Author	_____ Third Author	_____ Fourth Author
_____ Printed Name/Date	_____ Printed Name/Date	_____ Printed Name/Date	_____ Printed Name/Date
_____ Fifth Author	_____ Sixth Author	_____ Seventh Author	_____ Eighth Author
_____ Printed Name/Date	_____ Printed Name/Date	_____ Printed Name/Date	_____ Printed Name/Date

Corresponding Author Name: _____ E-mail: _____ (Please Print Legibly)

If this submission is accepted for publication, may we include your e-mail address? YES NO