

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY[®]

EDITORIALS

New Insights for Improving Hand Hygiene Practices

JOHN M. BOYCE, MD

187

Gram-Negative Bacillary Bacteremia and Intravenous Therapy Practices

ISSAM RAAD, MD, FACP, FIDSA

189

ORIGINAL ARTICLES

Dynamics of Bacterial Hand Contamination During Routine Neonatal Care

CARMEM LÚCIA PESSOA-SILVA, MD; SASI DHARAN, MT; STÉPHANE HUGONNET, MD, MSc; SYLVIE TOUVENEAU, RN; KLARA POSFAY-BARBE, MD; RICCARDO PFISTER, MD; DIDIER PITTET, MD, MS

192

Patterns of Handwashing Behavior and Visits to Patients on a General Medical Ward of Healthcare Workers

JANET RABOUD, PhD; REFIK SASKIN, MSc; KURT WONG, BSc; CHRISTINE MOORE, BSc; GRACE PARUCHA, BSc; JOCELYN BENNETT, BSc; KAREN GREEN, BSc; DON LOW, MD; MARK LOEB, MD, MSc; ANDY SIMOR, MD, MSc; ALLISON MCGEER, MD, MSc

198

Differences in Hand Hygiene Behavior Related to the Contamination Risk of Healthcare Activities in Different Groups of Healthcare Workers

CONSTANZE WENDT, MD; DONALD KNAUTZ, MD; HEIKE VON BAUM, MD

203

Alcohol-Based Handrub: Evaluation of Technique and Microbiological Efficacy With International Infection Control Professionals

ANDREAS F. WIDMER, MD, MS; MARC DANGEL, RN

207

Outbreak of Extended-Spectrum Beta-Lactamase-Producing *Klebsiella pneumoniae* in a Neonatal Intensive Care Unit Linked to Artificial Nails

ARCHANA GUPTA, MD; PHYLLIS DELLA-LATTA, PhD; BETSY TODD, RN, MPH; PABLO SAN GABRIEL, MD, MPH; JANET HAAS, RN, BSN; FANN WU, MD, PhD; DAVID RUBENSTEIN, MD; LISA SAIMAN, MD, MPH

210

Conjunctival Colonization of Infants Hospitalized in a Neonatal Intensive Care Unit: A Longitudinal Analysis

CRAIG H. RASKIND, MD; BARBARA E. SABO, APRN; DEBORAH A. CALLAN, MT; PATRICIA A. FARREL, MT; LOUISE-MARIE DEMBRY, MD; PATRICK G. GALLAGHER, MD

216

Klebsiella pneumoniae Bloodstream Infections Among Neonates in a High-Risk Nursery in Cali, Colombia

CHESLEY RICHARDS, MD; JUAN ALONSO-ECHANOVE, MD; YOLANDA CAICEDO, MD; WILLIAM R. JARVIS, MD

221

Nosocomial Pediatric Bacteremia: The Role of Intravenous Set Contamination in Developing Countries

ALEJANDRO E. MACÍAS, MD, MSc; JUAN M. MUÑOZ, MD, MSc; LAURA E. HERRERA, MD; HUMBERTO MEDINA, BSc; ISABEL HERNÁNDEZ, MD, MPH; DOLORES ALCÁNTAR, PhD; SAMUEL PONCE DE LEÓN, MD, MSc

226

Outbreak of *Burkholderia cepacia* Bacteremia Traced to Contaminated Hospital Water Used for Dilution of an Alcohol Skin Antiseptic

RANA M. NASSER, MD; AMAL C. RAHI, MS; MONA F. HADDAD, BS; ZIAD DAOUUD, PhD; NOHA IRANI-HAKIME, MD; WASSIM Y. ALMAWI, PhD

231

Timing of Intravenous Administration Set Changes: A Systematic Review

DONNA GILLIES, BAppSc, PhD; LIBBA O'RIORDAN, RN, MN, PhD; MARGARET WALLEN, BAppSc, MA; KAREN RANKIN, RN, CM; ANNE MORRISON, RN, BN (HONS); SUE NAGY, RN, PhD

240

Continued inside.

**GIVE ME
FIVE.**

**STREPTOCOCCUS.
MRSA.
STAPHYLOCOCCUS.
E. COLI.
VRE.**



Never fear. PURELL® kills 99.99% of most common germs that may cause illness, like MRSA. And the CDC says

eliminating germs on hands is the single most important factor in preventing the spread of dangerous germs.

Powerful defense against germs.

www.PURELL.com
©2004 GOJO Industries, Inc.
All Rights Reserved

<https://doi.org/10.1017/S019594170007692X> Published online by Cambridge University Press

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY™

CONTENTS

Continued from cover

ORIGINAL ARTICLES

Device-Associated Nosocomial Infection Rates in Intensive Care Units of Argentina

VICTOR DANIEL ROSENTHAL, MD, CIC; SANDRA GUZMÁN, RN, ICP; CHRISTOPHER CRNICH, MD

251

Epidemic Parenteral Exposure to Volatile Sulfur-Containing Compounds at a Hemodialysis Center

DEJANA SELENIC, MD; FRANCISCO ALVARADO-RAMY, MD; MATHEW ARDUINO, MS, DRPH; STACEY HOLT, MMSC; FRED CARDINALI, BA; BENJAMIN BLOUNT, PhD; JEFF JARRETT, MS; FORREST SMITH, MD; NEIL ALTMAN, BS, MPH; CHARLOTTE STAHL, MSN, RN, CIC; ADELISA PANLILIO, MD, MPH; MICHELE PEARSON, MD; JEROME TOKARS, MD, MPH

256

CONCISE COMMUNICATIONS

Ineffectiveness of Handwashing With Lotion Soap to Remove Nosocomial Bacterial Pathogens Persisting on Fingertips: A Major Link in Their Intrahospital Spread

EDWARD J. BOTTONI, PhD, D, ABMM, CIC; MARK CHENG, BS; SAUL HYMES, BS

262

Cost Implications of Successful Hand Hygiene Promotion

DIDIER PITTET, MD, MS; HUGO SAX, MD; STÉPHANE HUGONNET, MD, MS; STEPHAN HARBARTH, MD, MS

264

Unnecessary Use of Central Venous Catheters: The Need to Look Outside the Intensive Care Unit

WILLIAM E. TRICK, MD; MICHAEL O. VERNON, DRPH; SHARON F. WELBEL, MD; MARY F. WISNIEWSKI, MSN; JOHN A. JERNIGAN, MD; ROBERT A. WEINSTEIN, MD

266

LETTER TO THE EDITOR

Use of an Alcohol-Based Handrub and Quality Improvement Interventions to Improve Hand Hygiene in a Russian Neonatal Intensive Care Unit

SAMUEL M. BROWN, MD; ANNA V. LUBIMOVA, MD; IYA TEKHOVA, MD; LUDMILA P. ZUEVA, MD; NATALYA M. KHRUSTALYEVA, MD; SVETLANA V. SHULAEVA, RN; DONALD GOLDMANN, MD; EDWARD J. O'ROURKE, MD

191

INFORMATION FOR AUTHORS

183

Full-text articles available online at ICHEJournal.com

THE PUBLICATION OF ADVERTISING IN THE JOURNAL DOES NOT CONSTITUTE ANY GUARANTEE OR ENDORSEMENT BY THE SOCIETY FOR HEALTHCARE EPIDEMIOLOGY OF AMERICA OR SLACK INCORPORATED OF THE ADVERTISED PRODUCT OR SERVICE OR OF CLAIMS MADE BY THE ADVERTISER. THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIAL IN THE JOURNAL DOES NOT NECESSARILY REPRESENT THE POLICY RECOMMENDATIONS OR ENDORSEMENT BY THE SOCIETY.

PUBLISHER: Infection Control and Hospital Epidemiology (ISSN-0195-9417, Canadian GST#129780466) is published exclusively by SLACK Incorporated 12 times a year. Address: 6900 Grove Road, Thorofare, NJ 08086. Telephone: (856) 848-1000.

SHEA: 66 Canal Center Plaza, Suite 600, Alexandria, VA 22314; telephone, 703-299-0200; fax, 703-299-0204; e-mail address, sheahq@talley.com.

COPYRIGHT 2004 The Society for Healthcare Epidemiology of America, Inc., and SLACK Incorporated. All rights reserved. No part of this publication may be reproduced without written permission from the publisher. Printed in the USA.

SUBSCRIPTIONS: Requests should be addressed to the publisher (except Japan). In Japan, contact Woodbell Incorporated, 4-22-11, Kitakasai, Edogawaku, Tokyo 134, Japan. Subscription rates in the United States and possessions: Individual: One year-\$139.00; Two years-\$259.00; Three years-\$259.00; Institutional: One year-\$269.00; Two years-\$459.00; Three years-\$639.00. Fellows: \$54.50 per year with proof of training status. Canada: add 7% Goods & Services tax; Overseas: add \$49.00 each year for delivery by air service. Single copies of current issues may be obtained for \$24.00.

INSTRUCTIONS TO AUTHORS: Authors may submit manuscripts prepared in accordance with the 2001 revision of the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals." A digital version it available at www.icmje.org. Submit to RapidReview.com. All submissions must be accompanied by copyright form(s) signed by all authors.

REPRINTS: All requests to reprint or use material published herein should be addressed to John Kain, SLACK Incorporated, 6900 Grove Road, Thorofare, NJ 08086. For reprint orders and prices, contact John Kain at (856) 848-1000. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by SLACK Incorporated, provided that the base fee of \$1.00 per copy, plus \$.20 per page is paid directly to Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923; phone (978) 750-8400. This consent does not extend to other kinds of copying, such as for general distribution, resale, advertising and promotional purposes, or for creating new collective works.

CHANGE OF ADDRESS: Notice should be sent to the publisher 6 weeks in advance of effective date. Include old and new addresses with zip codes. The publisher cannot accept responsibility for undelivered copies. Periodicals postage paid at Thorofare, New Jersey 08086-9447 and at additional mailing offices. POSTMASTER: Send address changes to SLACK Incorporated, 6900 Grove Road, Thorofare, NJ 08086.

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY is listed in Index Medicus, Current Contents-Clinical Practice, Hospital Literature Index, Cumulative Index to Nursing & Allied Health Literature, Nursing Abstracts, Laboratory Performance Information Exchange System, and RNDex Top 100.

EDITORIAL OFFICE

SLACK Incorporated
6900 Grove Road
Thorofare, NJ 08086
(856) 848-1000; (856) 848-6091 (FAX)
E-mail: iche@slackinc.com

EDITOR

Barry M. Farr, MD, MSc

DEPUTY EDITORS

David P. Calfee, MD, MS
William R. Jarvis, MD

SENIOR ASSOCIATE EDITORS

C. Glen Mayhall, MD
Gina Pugliese, RN, MS
William Schaffner, MD

ASSOCIATE EDITORS

Donald A. Goldmann, MD
Didier Pittet, MD, MS
Andreas Widmer, MD, MS

SECTION EDITORS**Beyond Infection Control:****The New Hospital Epidemiology**

Wing Hong Seto, MD

Hong Kong

Disinfection and Sterilization

William A. Rutala, PhD, MPH
Chapel Hill, North Carolina

From the Laboratory

Marcus Zervos, MD
Royal Oak, Michigan

Infections in Immunocompromised Patients

Kent Sepkowitz, MD
New York City, New York

Information Management

John A. Sellick, DO
Amherst, New York

Issues in Surgery

James T. Lee, MD, PhD
St. Paul, Minnesota

Medical News

Gina Pugliese, RN, MS
Chicago, Illinois
Martin S. Favero, PhD
Irvine, California

Practical Healthcare Epidemiology

Loreen A. Herwaldt, MD
Iowa City, Iowa

Statistics for Hospital Epidemiology

David Birnbaum, PhD, MPH
Sidney, British Columbia, Canada

Topics in Long-Term Care

Philip W. Smith, MD
Omaha, Nebraska

Topics in Occupational Medicine

David Weber, MD, MPH
Chapel Hill, North Carolina

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY[®]

EDITORIAL ADVISORY BOARD

- | | |
|---------------------------------|------------------------------------|
| J. Wesley Alexander, MD | Cincinnati, Ohio |
| Miriam Alter, PhD | Atlanta, Georgia |
| Hilary Babcock, MD | St. Louis, Missouri |
| Elise M. Beltrami, MD, MPH | Decatur, Georgia |
| Richard E. Besser, MD | Atlanta, Georgia |
| Marc J. M. Bonten, MD, PhD | Utrecht, The Netherlands |
| John M. Boyce, MD | New Haven, Connecticut |
| Christian Brun-Buisson, MD | Creteil, France |
| John P. Burke, MD | Salt Lake City, Utah |
| Yehuda Carmeli, MD, MPH | Tel Aviv, Israel |
| Carol Chenoweth, MD | Ann Arbor, Michigan |
| Sara E. Cosgrove, MD, MS | Baltimore, Maryland |
| Donald E. Craven, MD | Burlington, Massachusetts |
| Erika D'Agata, MD, MPH | Boston, Massachusetts |
| Franz Daschner, MD | Freiburg, Germany |
| Patch Dellinger, MD | Seattle, Washington |
| Charles E. Edmiston, Jr., PhD | Milwaukee, Wisconsin |
| Theodore C. Eickhoff, MD | Denver, Colorado |
| Jean Yves Fagon, MD, MPH | Paris, France |
| Mark Farrington, MA, FRCPath | Cambridge, England, United Kingdom |
| Victoria J. Fraser, MD | St. Louis, Missouri |
| Richard A. Garibaldi, MD | Farmington, Connecticut |
| Petra Gastmeier, MD | Hanover, Germany |
| Dale N. Gerding, MD | Hines, Illinois |
| Stephan Harbarth, MD, MS | Geneva, Switzerland |
| Anthony D. Harris, MD, MPH | Baltimore, Maryland |
| David K. Henderson, MD | Bethesda, Maryland |
| Peter N.R. Heseltine, MD | San Juan, California |
| Karen Hoffmann, RN, CIC, MS | Chapel Hill, North Carolina |
| Janine Jagger, MPH, PhD | Charlottesville, Virginia |
| John A. Jernigan, MD, MS | Atlanta, Georgia |
| Jacob L. Kool, MD, PhD | Fort Collins, Colorado |
| Ebbing Lautenbach, MD, MPH | Philadelphia, Pennsylvania |
| Allison McGeer, MD | Toronto, Ontario, Canada |
| John E. McGowan, Jr., MD | Atlanta, Georgia |
| Leonard A. Mermel, DO, ScM | Providence, Rhode Island |
| Robert R. Muder, MD | Pittsburgh, Pennsylvania |
| Carlene A. Muto, MD, MS | Pittsburgh, Pennsylvania |
| Joseph M. Mylotte, MD, CIC | Buffalo, New York |
| Lindsay Nicolle, MD | Winnipeg, Manitoba, Canada |
| Juhani Ojajarvi, MD | Helsinki, Finland |
| Michael T. Osterholm, PhD, MPH | Minneapolis, Minnesota |
| David L. Paterson, MBBS, FRACP | Pittsburgh, Pennsylvania |
| Jan Evans Patterson, MD | San Antonio, Texas |
| Sindy M. Paul, MD | Yardley, Pennsylvania |
| David A. Pegues, MD | Los Angeles, California |
| Michael A. Pfaller, MD | Iowa City, Iowa |
| Samuel Ponce de Leon, MD, MSc | Mexico City, Mexico |
| Isaam Raad, MD | Houston, Texas |
| Jordi Rello, MD, PhD | Tarragona, Spain |
| Manfred L. Rotter, MD, DipBact | Vienna, Austria |
| Henning Rüden, MD | Berlin, Germany |
| Lisa Saiman, MD, MPH | New York, New York |
| Syed A. Sattar, PhD | Ottawa, Ontario, Canada |
| William E. Scheckler, MD | Madison, Wisconsin |
| Lynne M. Sehulster, PhD | Atlanta, Georgia |
| Andrew E. Simor, MD | Toronto, Ontario, Canada |
| Denis W. Spelman, FRACP | Melbourne, Victoria, Australia |
| V. Susan Springthorpe, BSc, MSc | Ottawa, Ontario, Canada |
| Jeffrey R. Starke, MD | Houston, Texas |
| Janet E. Stout, PhD | Pittsburgh, Pennsylvania |
| Clyde Thornsberry, PhD | Franklin, Tennessee |
| Jerome Tokars, MD, PhD | Atlanta, Georgia |
| Timothy R. Townsend, MD | Baltimore, Maryland |
| Antoni Trilla, MD, PhD | Barcelona, Spain |
| Robert A. Weinstein, MD | Chicago, Illinois |
| Sergio B. Wey, MD | São Paulo, Brazil |

SLACK Incorporated, 6900 Grove Road, Thorofare, New Jersey 08086. (856) 848-1000

**Executive Vice President**

Richard N. Roash

Vice President, Publishing Operations

John C. Carter

Editorial Director

Jennifer Kilpatrick

Executive Editor

Shirley P. Strunk, ELS

Assistant Editor

Jaime Underwood

Circulation Manager

Lester J. Robeson, CCCC

Production Director

Christine Malin

Production Coordinator

Joanne Patterson

Vice President, U.S. Advertising

Wayne McCourt

Pharmaceutical Group Sales Director

Robin Geller

Advertising Sales Representative

Scotty Turner

Advertising Sales Administrator

Theresa Ficarra

Classified/Recruitment Sales Manager

Kristy Irwin

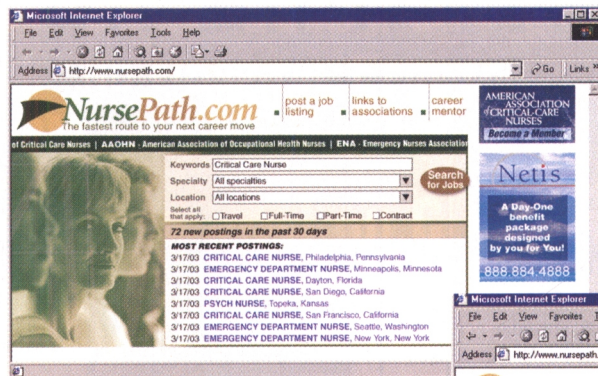
Classified/Recruitment Sales

Anabella O'Brien

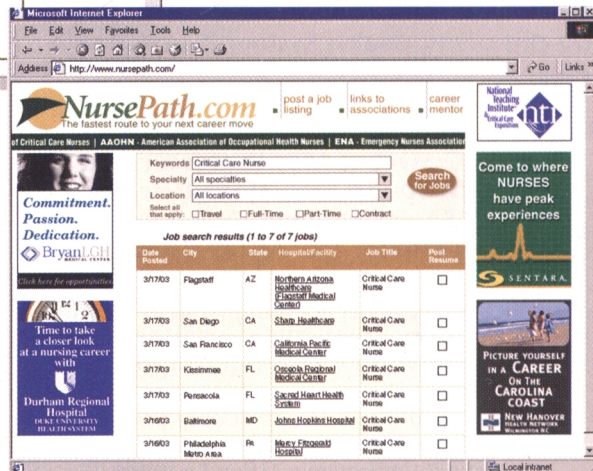
Director of Reprint Sales

John Kain

**Step 1:
Log On.**



**Step 2:
See Jobs.**



**Step 3:
Get Job.**

It's that easy!

NursePath.com
The fastest route to your next career move

- Daily job postings on the home page
- Search hundreds of jobs by title, location or hospital/facility
- Choose from the best career opportunities in nursing



Brought to you by

AMERICAN ASSOCIATION OF CRITICAL-CARE NURSES

JOURNAL OF Psychosocial Nursing AND MENTAL HEALTH SERVICES

JOURNAL OF NURSING EDUCATION

The Journal of Continuing Education in Nursing

JOURNAL OF GERONTOLOGICAL NURSING

The Official Journal of The Society for Healthcare Epidemiology of America INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

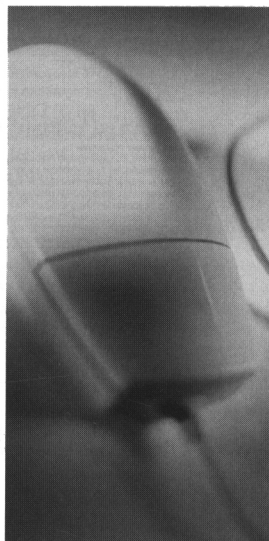
The Division of Infectious Diseases in the Department of Medicine at The University of Texas Health Science Center at San Antonio has a position immediately available for a BC or BE ID physician at the assistant or associate level. Candidate should have training and interest in infection control and hospital epidemiology. Duties would include medical direction of a well-established infection control program at the South Texas Veterans Health Care System and University Health System, San Antonio, Texas.

Please send letter of interest and CV to:
George Crawford MD, Professor and Chief, Division of Infectious Diseases, UTHSCSA, 7703 Floyd Curl Drive, San Antonio, TX 78229-3900.

All faculty appointments are designated as security-sensitive positions. Application materials may be sent electronically (crawfordg@uthscsa.edu).

The University of Texas Health Science Center at San Antonio is an Equal Employment Opportunity/Affirmative Action Employer.

Submit Manuscripts Online



INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY is pleased to announce it is now processing manuscript submissions via **Rapid Review** – a comprehensive tool to manage manuscripts, reviewers, correspondence and workflow. Submitting manuscripts has never been easier!

Take advantage of these benefits:

- Quicker and easier manuscript submission
- Immediate acknowledgement of submissions
- Authors can check an article status online
- Password-protected site for privacy

To submit your manuscripts online, visit **RapidReview.com**

The Official Journal of The Society for Healthcare Epidemiology of America

INFECTION CONTROL AND
HOSPITAL EPIDEMIOLOGY®

SHEA

The Society for Healthcare Epidemiology of America

2004 SHEA/CDC Training Course in Hospital Epidemiology

Program

The program will be held May 22-25, 2004, at the Boston Cambridge Marriott. Denise Cardo, MD, Loreen A. Herwaldt, MD, Timothy W. Lane, MD, and Gina Pugliese, RN, MS, will co-chair this program. The program, developed by the Society for Healthcare Epidemiology of America (SHEA) and the Centers for Disease Control and Prevention (CDC), is intended for infectious disease fellows and new hospital epidemiologists. It emphasizes hands-on exercises in which participants work in small groups to detect, investigate, and control epidemiological problems encountered in the hospital setting. These work sessions are supplemented with lectures and seminars covering fundamental aspects of hospital epidemiology and surveillance, epidemic investigation, transmission, and control of nosocomial infections, disinfection and sterilization, employee health, isolation systems, regulatory compliance, and quality improvement.

Who Should Attend

You should attend if you are a hospital epidemiologist or an infection control practitioner or if you are looking for a course that will provide you with the most current information concerning infection control practices and epidemiological methods in health care. This fundamental program will provide you with opportunities to find solutions in real situations that will occur in the hospital setting. Intensive problem solving sessions are supplemented with lectures and seminars presented by leading authorities.

Jonathan Freeman Scholarships

Five (5) Jonathan Freeman Scholarships in the amount of \$500 each will be awarded to infectious disease fellows to defray expenses incurred in attending the training program. In addition to the \$500 amount, each scholarship winner will receive complimentary registration in the training course.

Interested fellows must submit a letter of no more than one (1) page describing why they would like to have additional training in hospital epidemiology. A letter

from the fellow's program director outlining the applicant's qualifications and suitability for the course also is required. The deadline for receipt of scholarship applications for the course is April 9, 2004. The SHEA Educational Activities Committee will select the scholarship recipients based on review of these letters. Winners will be notified before the end of April.

Nominations

Please send scholarship applications to:
SHEA/CDC
66 Canal Center Plaza, Suite 600
Alexandria, VA 22314

Fees

Individual Registrants	\$625
Fellows in Infectious Disease	\$450

Credits

The Society for Healthcare Epidemiology of America (SHEA) is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The Society for Healthcare Epidemiology of America designated this continuing education activity for up to 27 hours in Category 1 of the Physician's Recognition Award of the American Medical Association.

General Course Information

Information regarding the schedule, hotel and travel accommodations, discount airfare, and course fees are available from SHEA (703) 684-1006. NOTE THAT APPLICATION FOR A SCHOLARSHIP DOES NOT CONSTITUTE ENROLLMENT IN THE PROGRAM. This must be done separately.

Build your searchable library

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY
1988-1998 CD-ROM

Full-text online
1999 TO PRESENT
available at ICHEJournal.com

Get 11 years of our journal on CD for ONLY \$59!

SHEA Member: Reg. \$147, **NOW only \$59** ■ Individual Non-Member: Reg. \$197, **NOW only \$79**
Institution: Reg. \$217, **NOW only \$99**

Simplifying your reference library is easy, with 11 years of INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY on CD-ROM. As the official journal of the Society for Healthcare Epidemiology of America (SHEA), this ready reference will allow the user to quickly and easily access articles and studies from 1988-1998 that can help put current issues of epidemiology and infection control in perspective.

Easy and Convenient CD-ROM Technology

The INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY CD-ROM takes full advantage of the latest CD-ROM technology, including:

- searchable text
- annual indexes organized by category, page number, subject, and author
- PC and Mac compatibility

The INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY CD-ROM packs an enormous amount of information in a small space at a comparably small price! Adding 11 years of this informative journal to your library is a bargain, at special prices starting as low as \$59.

Money-Back Guarantee

The Society for Healthcare Epidemiology of America is always looking for innovative ways to keep you informed of important developments in infection control and hospital epidemiology. We are sure you will refer to the information in the INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY CD-ROM often. If you aren't satisfied, we offer a 30-day money-back guarantee.*

To order, call us at

800-257-8290

or **856-848-1000** (in NJ or outside the U.S.);

or write to

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY
6900 Grove Rd.
Thorofare, NJ 08086

Yes! Please send me the INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY CD-ROM. Enclosed is a check or money order for the amount/quantity checked below.

- | | | |
|---|-----------------|------------|
| <input type="checkbox"/> SHEA Member: | \$59.00 ea..... | Qty: _____ |
| <input type="checkbox"/> Individual Non-Member: | \$79.00 ea..... | Qty: _____ |
| <input type="checkbox"/> Institution: | \$99.00 ea..... | Qty: _____ |

Please add \$20 for shipping outside the United States

Send CD-ROM to:

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ FAX _____

Send order and make check payable to:

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY ■ 6900 Grove Rd. ■ Thorofare, NJ 08086
or FAX your order to: 856-848-6091

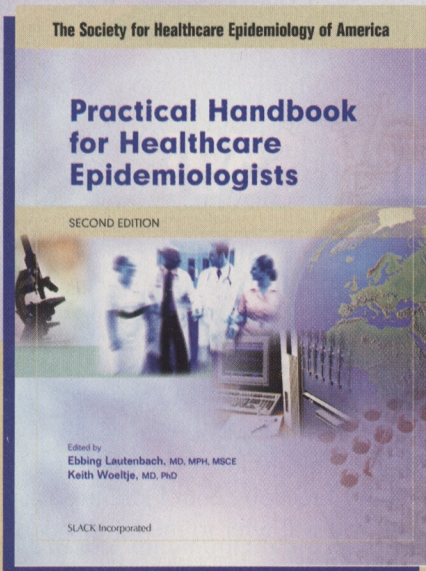
For fastest service, call today: 1-800-257-8290 or 856-848-1000 (in NJ or outside the U.S.)

The Official Journal of The Society for Healthcare Epidemiology of America
INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

*If not completely satisfied with the INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY CD-ROM, just return it within 30 days and your money will be refunded.

Where Do You Begin?

NEW EDITION!



Practical Handbook for Healthcare Epidemiologists, Second Edition

Ebbing Lautenbach, MD, MPH, MSCE, *University of Pennsylvania, Philadelphia, PA* and
Keith Woeltje, MD, PhD, *Medical College of Georgia, Augusta, GA*

352 pp., Hard Cover, **Due Fall 2004**, ISBN 1-55642-677-1,
Order #16771, **\$94.95**

If you work in today's healthcare epidemiology programs you will need the latest edition of *Practical Handbook for Healthcare Epidemiologists, Second Edition*. Situations that are encountered daily can be challenging, and now the answers needed are available in one solid resource.

Updated and revised, this **best selling** handbook is concise, user-friendly and will provide practical information regarding many aspects of establishing and managing a healthcare epidemiology program.

The Society for Healthcare Epidemiology of America (SHEA) has recruited recognized leaders in the field to share their expertise. They discuss overarching goals, as well as successful strategies for handling specific situations and problems. *This is the most complete hands-on source about healthcare epidemiology and infection prevention and control.*

A straight forward and practical guide, *Practical Handbook for Healthcare Epidemiologists, Second Edition* will be critical to establishing and operating a successful healthcare epidemiology and infection control program. Students, residents, fellows, and faculty will benefit as they learn in a productive manner what to expect in their future roles.

Topics Inside:

- How to negotiate with administration
- How to implement exposure workups
- Ethical decisions and application to infection control
- Extend infection control programs into long term care & outpatient facilities
- How to survive JCAHO and OSHA inspections

New to this edition:

- Patient safety
- Bioterrorism preparedness
- Antimicrobial resistance
- Hand hygiene

Buy the Book on CD-ROM!

Practical Handbook for Healthcare Epidemiologists, Second Edition PDF CD-ROM

CD-ROM, Due August 2004, ISBN 1-55642-699-2, Order #16992, \$94.95

Practical Handbook for Healthcare Epidemiologists, Second Edition is also available in a PDF CD-ROM format. The CD-ROM contains all the text, all the images, every single element of the book available in an easy-to-carry CD-ROM!

Buy the Book or Buy the CD-ROM – same great info, two great formats!

Pre-Order and Save 10%!

Order Form

QUANTITY	TITLE	ORDER #	PRICE
	Practical Handbook for Healthcare Epidemiologists	16671	\$94.95
	Practical Handbook for Healthcare Epidemiologists, Second Edition PDF CD-ROM	16992	\$94.95
		Subtotal	\$
		Discount (if applicable)	()
		Handling Charge	\$5.00
		CA, CO & NJ Sales Tax	\$
		TOTAL	\$

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____ Fax _____
Email _____

- Check enclosed (Payable to SLACK Inc)
 Purchase Order or Bill Me (Please attach this order form to purchase order)
 Charge my:

Account # _____ Exp. Date _____

Signature _____

*Purchases in CA, CO & NJ are subject to tax. Please add applicable state and local taxes.

Call to order: 800-257-8290 or 856-848-1000

Visit our Website at:
www.slackbooks.com
SLACK Incorporated
Professional Book Division
6900 Grove Road
Thorofare, New Jersey
08086-9864

FAX: 856-853-5991

Send e-mail to:
orders@slackinc.com

Prices subject to change. Shipping charges may apply. Shipping and handling charges are non-refundable.

CODE: 1A933