# INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY®

### **EDITORIAL** Understaffing: A Risk Factor for Infection in the Era of Downsizing? 147 BARRY M. FARR, MD, MSc ORIGINAL ARTICLES The Role of Understaffing in Central Venous Catheter-Associated Bloodstream Infection SCOTT K. FRIDKIN, MD; SUZANNE M. PEAR, RN, MS, CIC; THERESA H. WILLIAMSON, RN, BSN, CIC; JOHN N. GALGIANI, MD; 150 WILLIAM R. JARVIS, MD Tuberculosis in the Workplace: OSHA's Compliance Experience MELISSA McDiarmid, MD, MPH; Melissa J. Gamponia, MD, MPH; Margaret A.K. Ryan, MD, MPH; 159 JON MARK HIRSHON, MD, MPH; N.A. GILLEN, BS; MAUREEN COX, CIH CONCISE COMMUNICATIONS Staphylococcus aureus Bacteremia: Factors Predicting Hospital Mortality 165 JOSEPH M. MYLOTTE, MD, CIC; JEFFREY R. AESCHLIMANN, BSC; DENISE L. ROTELLA, PHARMD Knowledge of the Transmission of Tuberculosis and Infection Control Measures for **Tuberculosis Among Healthcare Workers** KWAN KEW LAI, DMD, MD; SALLY A. FONTECCHIO, RN, BSN, CIC; ANITA L. KELLEY, RN, MSN, CIC; 168 ZITA S. MELVIN, RN, BSN, CIC An Outbreak of Cutaneous Aspergillosis in a Tertiary-Care Hospital E.A. BRYCE, MD, FRCPC; M. WALKER, RN, CIC; S. SCHARF, RN, BA, CIC; A.T. LIM, RN; A. WALSH, RN, CIC; N. SHARP; J.A. SMITH, MD, FRCPC 170 Blood and Body Fluid Exposures Among Surgeons: A Survey of Attitudes and Perceptions Five Years Following Universal Precautions 172 FARRIN A. MANIAN, MD, MPH Unrecognized HIV-1 Infection in Inner-City Hospital Emergency Department Patients TIPPAVAN NAGACHINTA, MD, DRPH; CLAUDIA R. GOLD, MD; FENNY CHENG, PHD; 174 PETER N.R. HESELTINE, MD; PETER R. KERNDT, MD A Cluster of Legionnaires' Disease in a Community Hospital—A Clue to a Larger Epidemic 177 ISABEL C. GUERRERO, MD; CHRISTINE FILIPPONE, MSN, CIC Comparative Killing Kinetics of Methicillin-Resistant Staphylococcus aureus by Bacitracin or Mupirocin EDWARD K. CHAPNICK, MD; JEREMY D. GRADON, MD; BARRY KREISWIRTH, PHD; LARRY I. LUTWICK, MD; 178 BENJAMIN C. SCHAFFER, MD; THOMAS D. SCHIANO, MD; MICHAEL H. LEVI, SCD Clostridium difficile Contamination of Blood Pressure Cuffs: A Call for a Closer Look at Gloving Practices in the Era of Universal Precautions 180 FARRIN A. MANIAN, MD, MPH; LYNN MEYER, RN, MPH; JOAN JENNE, RN READERS' FORUM High-Level Disinfection or "Sterilization" of Endoscopes?

Continued inside.

183

LAWRENCE FREED MUSCARELLA, PhD

Vol. 17 No. 3 March 1996

## INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY®

### CONTENTS

Continued from cover

CLASSIFIED MARKETPLACE	158
PRACTICAL HEALTHCARE EPIDEMIOLOGY	
Educational Needs and Opportunities for the Hospital Epidemiologist	100
Louise M. Dembry, MD; Walter J. Hierholzer, Jr., MD	188
SYMPOSIUM: NOSOCOMIAL COLONIZATION	
The Role of Colonization in the Pathogenesis of Nosocomial Infections	
MARC J.M. BONTEN, MD, PhD; ROBERT A. WEINSTEIN, MD	193
MEDICAL NEWS	
Gina Pugliese, RN, MS	201
High Mortality for HIV Patients Following Cryptosporidiosis	164
TB Guideline Slides Available	182
Report on Antibiotic-Resistant Bacteria	187
Conference on Reuse of Medical Devices	200
Droplet Spread of Ebola Virus	201
Inactivated Polio Vaccine Recommended	201
Hepatitis A Linked to Clotting Factor Concentrates	201
Staphylococcus aureus Genome Mapped	202
Guidelines for Xenotransplants	202
Block Grants May Weaken State Public Health Programs	202
FDA on Internet	203
Managed Care and Public Health	203
Kentucky Guidelines on VRE	203
SHEA NEWS	
Murray D. Batt, MD	204
Update on Sixth Annual Meeting	204
SHEA Board and Strategic Planning Meetings	204
Liaison Reports: From the ASOC Healthcare Division	204

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-0899-823X, Canadian GST#129780466) is published exclusively by SLACK Incorporated 12 times a year. Address: 6900 Grove Rd., Thorofare, NJ 08086. Telephone: (609) 848-1000.

COPYRIGHT 1996 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-\$136.00; Three year-\$136.00; Institutional: One year-\$115.00; Two year-\$150.00; Three year-\$150.00; T

REPRINTS: All requests to reprint or use material published herein should be addressed to Les Robeson, SLACK Incorporated, 6900 Grove Rd., Thorofare, NJ 08086. For reprint orders and prices, contact Les Robeson at (609) 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 \$.15 per page is paid directly to Copyright Clearance Center, 27 Congress St., Salem, MA 01970. 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 six weeks in advance of effective date. Include old and new addresses with zip codes. The publisher cannot accept responsibility for undelivered copies. Second-class postage is paid at Thorofare, New Jersey 08086, and additional entry points. POSTMASTER: Send address changes to SLACK Incorporated, 6900 Grove Rd., 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 OFFICES**

Vanderbilt University School of Medicine A-1131 Medical Center North Nashville, TN 37232-2637 (615) 343-1095; (615) 343-1882 (FAX) Email: iche@mcmail.vanderbilt.edu

**EDITOR** 

Michael D. Decker, MD, MPH

MANAGING EDITOR

Susan Cantrell

STATISTICAL EDITOR

Beverly G. Mellen, PhD

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

Bryan P. Simmons, MD

Stephen B. Kritchevsky, PhD

Memphis, Tennessee

Wing Hong Seto, MD

Hong Kong

**Disinfection and Sterilization** 

William A. Rutala, PhD, MPH

Chapel Hill, North Carolina

Emerging Infectious Diseases Larry J. Strausbaugh, MD

Portland, Oregon

Robert W. Pinner, MD

Atlanta, Georgia

From the Laboratory

Marcus Zervos, MD

Royal Oak, Michigan Fred C. Tenover, PhD

Atlanta, Georgia

**Information Management** 

John A. Sellick, DO Buffalo, New York

The International Perspective

Mary D. Nettleman, MD, MS Richmond, Virginia

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

**SHEA News** 

Murray D. Batt, MD

Clarksburg, West Virginia

**Statistics for Hospital Epidemiology** 

David Birnbaum, PhD, MPH

Sidney, British Columbia, Canada

**Topics in Long-Term Care** Philip W. Smith, MD

Publisher

John C. Carter

**Editorial Director** 

**Production Editor** 

Shirley P. Strunk, ELS

Jennifer Kilpatrick

Omaha, Nebraska

**Topics in Occupational Medicine** 

Vice President/Group Publisher Richard N. Roash

David Weber, MD, MPH

Chapel Hill, North Carolina

### INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY®

### EDITORIAL ADVISORY BOARD

Jacques F. Acar, MD

J. Wesley Alexander, MD

Cincinnati, Ohio Chicago, Illinois

Paul Arnow, MD Graham A.J. Ayliffe, MD

Birmingham, United Kingdom

Paris, France

Neil L. Barg, MD

Yakima, Washington Atlanta, Georgia

Creteil, France

Columbia, South Carolina

Freiburg, Federal Republic of Germany

Boston, Massachusetts

Charlottesville, Virginia

Milwaukee, Wisconsin

Manhasset, New York

Denver, Colorado

St. Louis, Missouri

Beer Sheva, Israel

Atlanta, Georgia

Black Butte, Oregon

Nashville, Tennessee

Bethesda, Maryland

San Diego, California

Nashville, Tennessee Nashville, Tennessee

Nashville, Tennessee

Brussels, Belgium

Bronx, New York

Madison, Wisconsin

Bethesda, Maryland

Atlanta, Georgia

Brussels, Belgium

Buffalo, New York

Helsinki, Finland

Iowa City, Iowa

Houston, Texas

Vienna, Austria

Ierusalem, Israel

San Antonio, Texas

Trenton, New Jersey

Mexico City, Mexico

Madison, Wisconsin New York City, New York

Prahran Victoria, Australia

New York, New York

Brentwood Tennessee Minsk, Republic of Belarus

Millwood, Virginia

Barcelona, Spain

Toronto, Ontario, Canada

Montreal, Quebec, Canada

Pittsburgh, Pennsylvania

Minneapolis, Minnesota

Winnepeg, Manitoba, Canada

Munich, Federal Republic of Germany

Atlanta, Georgia

Taipei, Taiwan

Charlottesville, Virginia

Farmington, Connecticut

Los Angeles, California Chapel Hill, North Carolina

Shreveport, Louisiana

Elizabeth Ann Bolyard, RN, MPH, CIC

John M. Boyce, MD Providence, Rhode Island Munich, Federal Republic of Germany

Professor Dr. Ilja Braveny

Charles Bryan, MD

Christian Brun-Buisson, MD

Donald E. Craven, MD

Sue Crow, MSN, RN, CIC

Franz Daschner, MD

Leigh G. Donowitz, MD

Charles E. Edmiston, Jr., PhD

Theodore C. Eickhoff, MD

Bruce Farber, MD

Victoria J. Fraser, MD

Peter C. Fuchs, MD, PhD

Richard A. Garibaldi, MD

Velvl Greene, PhD, MPH

Robert Gaynes, MD

David W. Gregory, MD

David K. Henderson, MD

Peter N.R. Heseltine, MD

Karen Hoffmann, RN, CIC, MS

Marguerite McMillan Jackson, RN, PhD

Janine Jagger, MPH, PhD William R. Jarvis, MD

Douglas S. Kernodle, MD Robert H. Latham, MD

Lewis B. Lefkowitz, MD

Hsieh-Shong Leu, MD, MSc Jack Levy, MD

Victor Lorian, MD Dennis G. Maki, MD

Professor Dr. Walter Marget

William J. Martone, MD Allison McGeer, MD

John E. McGowan, Jr., MD Jonathan L. Meakins, MD, DSc

Raf Mertens, MD

Robert R. Muder, MD Joseph M. Mylotte, MD, CIC

Lindsay Nicolle, MD

Juhani Ojajärvi, MD Michael T. Osterholm, PhD, MPH

Jan Evans Patterson, MD

Sindy M. Paul, MD

Michael A. Pfaller, MD Samuel Ponce de Leon, MD, MSc

Isaam Raad, MD

Manfred L. Rotter, MD, DipBact Theodore Sacks, MD

William E. Scheckler, MD

Kent Sepkowitz, MD

Denis Spelman, MD Michael L. Tapper, MD

Clyde Thornsberry, PhD Professor Leonid P. Titov

Timothy R. Townsend, MD

Antoni Trilla, MD, PhD

Professor Wang Shu-Qun

J. John Weems, Jr., MD

Robert A. Weinstein, MD

Professor Dr. W. Weuffen

Sergio B. Wey, MD

Rebecca Wurtz, MD

Greenville, South Carolina Chicago, Illinois Greifswald, Federal Republic of Germany

Beijing, People's Republic of China

São Paulo, Brazil Evanston, Illinois

SLACK Incorporated 6900 Grove Road Thorofare, New Jersey 08086 (609) 848-1000

**Assistant Editor** Eileen C. Anderer

Circulation Manager Lester J. Robeson, CCCP

**Production Director** Christine Malin

**Production Coordinator** Joanne Patterson

**Publishing Director/ Advertising** Wayne McCourt

Pharmaceutical Group Sales Director

Michael LoPresti Advertising Sales Representative

Classified/Recruitment Sales Manager Michele Burch