

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY[®]

EDITORIAL

Resolving the Controversy on Environmental Cultures for *Legionella*: A Modest Proposal

VICTOR L. YU, MD

893

ORIGINAL ARTICLES

More than 10 Years of Unrecognized Nosocomial Transmission of *Legionnaires' Disease* Among Transplant Patients

JACOB L. KOOL, MD, MSc; ANTHONY E. FIORE, MD; CLARE M. KIOSKI, MPH; ELLEN W. BROWN;
ROBERT F. BENSON, MS; JANET M. PRUCKLER, BA; CONSTANCE GLASBY, DRPH; JAY C. BUTLER, MD; GARY D. CAGE, MS;
JOSEPH C. CARPENTER, PE; RICHARD M. MANDEL, MD; BOB ENGLAND, MD, MPH; ROBERT F. BREIMAN, MD

898

A Recurrent Outbreak of Nosocomial *Legionnaires' Disease* Detected by Urinary Antigen Testing: Evidence for Long-Term Colonization of a Hospital Plumbing System

LISA A. LEPINE, MD; DANIEL B. JERNIGAN, MD, MPH; JAY C. BUTLER, MD; JANET M. PRUCKLER, BA; ROBERT F. BENSON, MS;
GRACE KIM, MD; JAMES L. HADLER, MD; MATTHEW L. CARTTER, MD; BARRY S. FIELDS, PhD

905

Controlling *Legionella* in Hospital Water Systems: Experience With the Superheat-and-Flush Method and Copper-Silver Ionization

JANET E. STOUT, PhD; YU-SEN E. LIN, MS; ANGELLA M. GOETZ, MNEd; ROBERT R. MUDER, MD

911

Tuberculosis, Hepatitis B, Rubella, Rubeola, and Varicella Infection and Immunity Among Medical School Employees

PAUL B. L'ECUYER, MD; MARILYN MILLER, BSN; KAREN WINTERS, MD; VICTORIA J. FRASER, MD

915

Detection of *Bordetella pertussis* and Respiratory Syncytial Virus in Air Samples From Hospital Rooms

NECTAR AINTABLIAN, MD; PRAMILA WALPITA, PhD; MARK H. SAWYER, MD

918

Epidemiological Analysis Defining Concurrent Outbreaks of *Serratia marcescens* and Methicillin-Resistant *Staphylococcus aureus* in a Neonatal Intensive-Care Unit

JUDITH R. CAMPBELL, MD; ELENA ZACCARIA, MASCP, CIC; EDWARD O. MASON, JR, PhD; CAROL J. BAKER, MD

924

LETTERS TO THE EDITOR

Personalized Education Improves Hepatitis B Vaccination Rate Among Physicians in Saudi Arabia

ZIAD A. MEMISH, MD, CIC; EUNICE I. SOBAYO, RN, CIC

887

The Infection Control Practices of General Dental Practitioners (with reply)

JOHN HARDIE, BDS, MSc; GILLIAN M. MCCARTHY, BDS, MSc; JOHN K. MACDONALD, MA

888

Is Filtered or Mineral Water Good for Us and Our Patients?

FRANZ D. DASCHNER, MD

889

Continued inside.

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY™

CONTENTS

Continued from cover

PROFESSOR ALEXI PETROVICH KRASILNIKOW	923
GLOBAL THEME ISSUE	904
MEDICAL NEWS	
GINA PUGLIESE, RN, MS; MARTIN S. FAVERO, PhD	929
European Glycopeptide Susceptibility Survey of Gram-Positive Bacteria	890
Antimicrobial Threat Discussed	914
Glycopeptide-Resistant <i>Enterococcus faecium</i>	928
CDC to Take Over FDA's Evaluation of Bacterial Identification Methods	929
Nosocomial Infections in CCUs	929
Selective Screening for Control of MRSA	929
Biofilms: New Research at CDC	929
Prevention and Control of HCV Infection and Chronic Disease	930
ANNUAL INDEX	931
SHEA NEWS	
MURRAY D. BATT, MD	944

*To view abstracts of these articles,
visit us on the Internet at <http://www.slackinc.com/general/iche>*

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.

SHEA: 19 Mantua Rd., Mt. Royal, NJ 08061; telephone, 609-423-0087; fax, 609-423-3420; e-mail address, sheahq@tmg.smarthub.com.

COPYRIGHT 1998 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-\$105.00; Two years-\$143.00; Three years-\$176.00; Institutional: One year-\$128.00; Two years-\$178.00; Three years-\$228.00. Fellows: \$52.50 per year with proof of training status. Canada: \$20.00 additional each year plus 7% for Canadian Goods & Services tax; Overseas surface, \$145.00 each year; Overseas air mail, \$190.00. Single copies of current issues may be obtained for \$15.00, United States and possessions; \$20.00 all other countries.

INSTRUCTIONS TO AUTHORS: Authors may submit manuscripts prepared in accordance with the 1997 revision of the "Uniform Requirements for Manuscripts Submitted to Biomedical Journals." The Uniform Requirements has been published in several journals, including *Infect Control Hosp Epidemiol* 1997;18:457-464 and *Ann Intern Med* 1997;126:36-47. A digital version is available on our web site (<http://www.slackinc.com/general/iche/ichehome.htm>). Submit to ICHE Editorial Offices, Vanderbilt University School of Medicine, A-1131 Medical Center North, Nashville, TN 37232-2637, USA. All submissions must be accompanied by copyright form(s) signed by all authors (see January issue or our web site).

REPRINTS: All requests to reprint or use material published herein should be addressed to Karen Lambertson, SLACK Incorporated, 6900 Grove Rd., Thorofare, NJ 08086. For reprint orders and prices, contact Karen Lambertson 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 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 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

Omaha, Nebraska

Topics in Occupational Medicine

David Weber, MD, MPH

Chapel Hill, North Carolina

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY[®]

EDITORIAL ADVISORY BOARD

- Jacques F. Acar, MD Paris, France
 J. Wesley Alexander, MD Cincinnati, Ohio
 Paul Arnow, MD Chicago, Illinois
 Graham A.J. Ayliffe, MD Birmingham, United Kingdom
 Neil L. Barg, MD Yakima, Washington
 Elizabeth Ann Bolyard, RN, MPH, CIC Atlanta, Georgia
 John M. Boyce, MD Providence, Rhode Island
 Professor Dr. Ilja Braveny Munich, Federal Republic of Germany
 Charles Bryan, MD Columbia, South Carolina
 Christian Brun-Buisson, MD Creteil, France
 Donald E. Craven, MD Boston, Massachusetts
 Sue Crow, MSN, RN, CIC Shreveport, Louisiana
 Franz Daschner, MD Freiburg, Federal Republic of Germany
 Leigh G. Donowitz, MD Charlottesville, Virginia
 Charles E. Edmiston, Jr., PhD Milwaukee, Wisconsin
 Theodore C. Eickhoff, MD Denver, Colorado
 Bruce Farber, MD Manhasset, New York
 Victoria J. Fraser, MD St. Louis, Missouri
 Peter C. Fuchs, MD, PhD Black Butte, Oregon
 Richard A. Garibaldi, MD Farmington, Connecticut
 Velvl Greene, PhD, MPH Beer Sheva, Israel
 Robert Gaynes, MD Atlanta, Georgia
 David W. Gregory, MD Nashville, Tennessee
 David K. Henderson, MD Bethesda, Maryland
 Peter N.R. Heseltine, MD Los Angeles, California
 Karen Hoffmann, RN, CIC, MS Chapel Hill, North Carolina
 Marguerite McMillan Jackson, RN, PhD San Diego, California
 Janine Jagger, MPH, PhD Charlottesville, Virginia
 William R. Jarvis, MD Atlanta, Georgia
 Douglas S. Kernodle, MD Nashville, Tennessee
 Robert H. Latham, MD Nashville, Tennessee
 Lewis B. Lefkowitz, MD Nashville, Tennessee
 Hsieh-Shong Leu, MD, MSc Taipei, Taiwan
 Jack Levy, MD Brussels, Belgium
 Victor Lorian, MD Bronx, New York
 Dennis G. Maki, MD Madison, Wisconsin
 Professor Dr. Walter Marget Munich, Federal Republic of Germany
 William J. Martone, MD Bethesda, Maryland
 Allison McGeer, MD Toronto, Ontario, Canada
 John E. McGowan, Jr., MD Atlanta, Georgia
 Jonathan L. Meakins, MD, DSc Montreal, Quebec, Canada
 Raf Mertens, MD Brussels, Belgium
 Robert R. Muder, MD 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
 Jan Evans Patterson, MD San Antonio, Texas
 Sindy M. Paul, MD Trenton, New Jersey
 Michael A. Pfaller, MD Iowa City, Iowa
 Samuel Ponce de Leon, MD, MSc Mexico City, Mexico
 Isaam Raad, MD Houston, Texas
 Manfred L. Rotter, MD, DipBact Vienna, Austria
 Theodore Sacks, MD Jerusalem, Israel
 William E. Scheckler, MD Madison, Wisconsin
 Kent Sepkowitz, MD New York City, New York
 Denis Spelman, MD Prahran Victoria, Australia
 Michael L. Tapper, MD New York, New York
 Clyde Thornsberry, PhD Brentwood, Tennessee
 Professor Leonid P. Titov Minsk, Republic of Belarus
 Timothy R. Townsend, MD Millwood, Virginia
 Antoni Trilla, MD, PhD Barcelona, Spain
 Professor Wang Shu-Qun Beijing, People's Republic of China
 J. John Weems, Jr., MD Greenville, South Carolina
 Robert A. Weinstein, MD Chicago, Illinois
 Professor Dr. W. Weuffen Greifswald, Federal Republic of Germany
 Sergio B. Wey, MD São Paulo, Brazil
 Rebecca Wurtz, MD Evanston, Illinois

SLACK Incorporated

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

Vice President/Group Publisher

Richard N. Roash

Publisher

John C. Carter

Editorial Director

Jennifer Kilpatrick

Production Editor

Shirley P. Strunk, ELS

Assistant Editor

Eileen C. Anderer

Circulation Manager

Lester J. Robeson, CCCC

Production Director

Christine Malin

Production Coordinator

Joanne Patterson

Publishing Director/ Advertising

Wayne McCourt

Pharmaceutical Group Sales Director

Michael LoPresti

Advertising Sales Representative

Jennine Kane

Classified/Recruitment Sales Manager

Michele Burch