An Official Journal of The Society for Healthcare Epidemiology of America

# INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY®

EDITORIAL	
The Expanding Horizons of Infection Control CHARLES W. STRATTON, MD	192
ORIGINAL ARTICLES	
Occupational Risk of Human Immunodeficiency Virus, Hepatitis B Virus, and Hepatitis C Virus Infections Among Funeral Service Practitioners in Maryland ROBIN R. M. GERSHON, DRPH, DAVID VLAHOV, PHD, HOMAYOON FARZADEGAN, PHD, MIRIAM J. ALT	ER. PHD 194
An Outbreak of Handscrubbing-Related Surgical Site Infections in Vascular Surgical Procedures RENATO S. GRINBAUM, MD, JOAO SILVA DE MENDONCA. MD, PHD, DENISE M. CARDO, MD, PHD	198
Validation of a Bacteremia Prediction Model JOSEPH M. MYLOTTE, MD, MARIO A. PISANO, PHARMD, SANJAY RAM, MD, SHARLENE NAKASATO, PH DENISE ROTELLA, PHARMD	HARMD, 203
Conjunctivitis in a Long-Term Care Facility E. BOUSTCHA, L. E. NICOLLE, MD	210
Infections Caused by Staphylococcus aureus in a Veterans' Affairs Nursing Hom	ne Care Unit:
A 5-Year Experience STEVEN J. SPINDEL, MD, LARRY J. STRAUSBAUGH, MD, CLEONE JACOBSON, RN, CIC	217
Characterization of Nosocomial Strains of Enterobacter aerogenes by	
Arbitrarily Primed-PCR Analysis and Ribotyping FLORENCE GRATTARD. MD, BRUNO POZZETTO, MD, LIONEL TABARD, MARIANNNE PETIT, ALAIN RO ODETTE G. CAUDIN. PHD	OS, MD, 224
READERS' FORUM	
FDA Labeling Requirements for Disinfection of Endoscopes: A Counterpoint WILLIAM A. RUTALA PHD, MPH, DAVID J. WEBER, MD, MPH	231
PRACTICAL HEALTHCARE EPIDEMIOLOGY	
Preparing for and Surviving a JCAHO Inspection MARY D. NETTLEMAN, MD, MS	236
STATISTICS FOR HOSPITAL EPIDEMIOLOGY	
An Introduction to Utility Measurement in Health Care	240

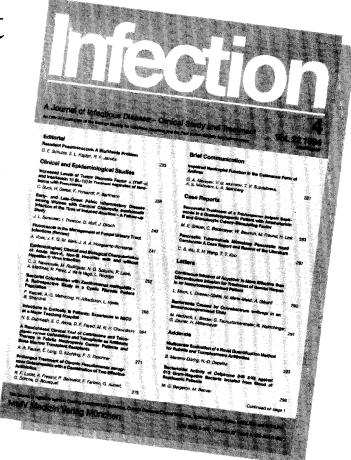
Continued inside.

# Have you thought of subscribing?

is a leading international journal tailored for the clinician that deals with the aetiology, diagnosis, pathogenesis and epidemiology of infection and infectious disease.

Infection encompasses modern diagnostics, patient-related mechanisms of infections, preventive measures including immuno-prophylaxis and immunosubstitutes. Changing and emerging pathogens and the different clinical course of diseases make it essential to obtain the latest information.

Infection originates in Europe and has an international staff and editorial board, which ensures the high quality of its peer-reviewed, original contributions.



Infection is an official publication of the German Society for Infectious Diseases and the Paul-Ehrlich-Society for Chemotherapy. It is regularly listed in Current Contents/Life Sciences, Current Contents/Clinical Medicine, Science Citation Index, MEDLARS and MEDLLNE.

Prof. Dr. med. Walter Marget (University of Munich), founder and Editor-in-Chief.

A complete overview can only be gained by reading Infection regularly!

Order Form Infection	Please enter my subscription for one year (6 issues plus free supplements)
Name	
	at DM 240,−
Address	☐ at DM 195,-*
	please send me a free trial copy
City/State	
	plus postage (Germany DM 1&-/other countries DM 18,-
Date/Signature	Dishama maland
	cheque enclosed
<u>Cut out and mail to:</u>	☐ please invoice
MMVMedizinVerlagGmbH	
81664 Munich - Germany	*special rate for members of PEG, DGI, IDSA, ESPID

Vol. 16 No. 4 April 1995

# INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY ®

### CONTENTS

Continued from cover.

### **MEDICAL NEWS**

Gina Pugliese, RN, MS	248
US Approves First Vaccine for Hepatitis A	202
Seventy-Nine New Drugs and Vaccines Are Being Developed for Infectious Diseases	209
HIV Testing of Inpatients Not Cost-Effective in Preventing HIV Infections	
of Healthcare Workers	216
Transmission of Pertussis from Adult to Infant	230
GAO Releases Report on VA Hospitals and Use of Safer Needle Devices	235
EPA Begins Testing Hospital Disinfectants as Sterilant Testing Program Nears Completion	248
Tuberculosis-Related Hospitalizations Double in 3 Years and Cost Up to \$8 Billion—	
HIV Infection Adds to Price Tag	248
Remarkable Discovery Has Implications for HIV Treatment	249
HEA NEWS	
C. GLEN MAYHALL. MD	252
Surveillance of Pathogens of Epidemiologic Importance	252

THE PUBLICATION OF ADVERTISING IN THE JOURNAL DOES NOT CONSTITUTE ANY GUARANTEE "II 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 MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE POLICY RECOMMENDATIONS OR RENDERS THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE POLICY RECOMMENDATIONS OR RENDERS THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIALINTHE JOURNAL DOES NOT NECESSARILY REPRESENT THE PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIAL PUBLICATION OF ARTICLES AND OTHER EDITORIAL MATERIAL PUBLICATION OF ARTICLES AND OTHER EDITOR OTHER EDITOR OF ARTICLES AND OTHER EDITOR OTHER EDITOR

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 1995 The Society for Healthcare Epidemiology of America, Inc., and SIACK 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 war-895.00: Two years—\$130.00; Three wars-\$160.00: Institutional: One year—\$105.00; Two years—\$185.00; Three years-\$185.00: Fellows: \$35 per year with proof of training status. Canada: \$18.00 additional each year plus 7% for Canadian Goods & Services tax: all other countries: \$36.00 additional each year. Single copies of current issues may be obtained for \$15.00. United States and possessions; \$30.00 all other countries.

REPRINTS: All requests to reprint or use material published herein should be addressed to Dan Boyden, SIACK Incorporated. 6900 Grove Rd., Thorofare, NJ 08086. For reprint orders and prices, contact Dan Boyden 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 SIACK 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 SIACK 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. and laboratory Performance Information Exchange System.



## Reduce Infection, Reduce Cost... We **Promise**<sup>™</sup>

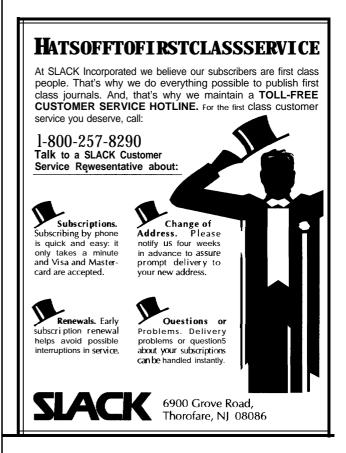
Introducing **The Bardex**<sup>®</sup> **I.C. Foley Catheter** Bard's newest coating technology, combining silver and hydrogel, is *clinically proven*<sup>†</sup> to reduce the incidence of Nosocomial Urinary Tract Infections.

Stop by the Bard Urological Booth #17 at the SHEA exhibit hall, or call your Bard Representative at 1-800-526-4455 to learn more about our **Promise.** 



Bard Urological Division 8195 Industrial Blvd Covington, GA 30209

Bard and Bardex are registered trademarks of C. R. Bard, Inc. or an affiliate. Bard Promisio is a service mark of C.R. Bard, Inc. or an affiliate C 1995 C. R. Bard Inc. (all rights reserved) † Data on file at C. R. Bard, Inc. R3/95 9503-07 P3/95 Harris





## FRONTLINE HEALTHCARE WORKERS:

NATIONAL CONFERENCE ON PREVENTION OF

SHARPS INJURIES AND BLOODBORNE EXPOSURES

Hyatt Regency Atlanta

August 14 - 16, 1995

#### Co-sponsored by:

Centers for Disease Control and Prevention, CDC American Conference of Governmental Industrial Hygienists, ACGIH

In collaboration with:

# Society for Healthcare Epidemiology of America, SHEA

For information on:

- Exhibiting
- **Registration**

- **W** Conference Agenda
- Submitting Abstracts

Contact ACGIH at (513) **X2-2020**; Fax (513) 742-3355; Internet ACGIH\_\_mem@pol.com

#### **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

Paul Arnow, MD Graham A.J. Ayliffe, MD Paris, France Cincinnati, Ohio Chicago, Illinois

Creteil, France

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

Greenville, South Carolina

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

Freiburg, Federal Republic of Germany

Shreveport, Louisiana

Neil L. Barg, MD

Birmingham, United Kingdom Yakima, Washington Atlanta, Georgia

Elizabeth Ann Bolyard, RN, MPH, CIC

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

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

Chicago, Illinois Greifswald, Federal Republic of Germany 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

Beijing, People's Republic of China

Michael LoPresti Advertising Sales Representative

Classified/Recruitment Sales Manager Michele Burch