VOLUME 13, NUMBER 1 JANUARY 1992

An Official Journal of The Society for Healthcare Epidemiology of America

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY™

EDITORIAL

Resistance of *Pseudomonas aeruginosa* to Imipenem 7
HAROLD C. NEU, MD, FACP

ORIGINAL ARTICLES

Resistance to Imipenem Among Selected Gram-Negative Bacilli in the United States 10
ROBERT ROBERT P. GAYNES, MD; DAVID H. CULVER, PHD; THE NATIONAL NOSOCOMIAL INFECTIONS SURVEILLANCE SYSTEM

Cross-Sectional Epidemiology of Phlebitis and Catheter-Belated Infections 15
JAVIER ENA, MD; EMILIA CERCENADO, PHD; DAVID MARTINEZ, MD; EMILIO BOUZA, MD, PHD

Intervention to Discontinue Parenteral Antimicrobial Therapy in Patients Hospitalized With Pulmonary Infections: Effect on Shortening Patient Stay 21
N. JOEL EHRENKRANZ, MD; DEBRA E. NERENBERG, RN; JAMES M. SHULTZ, MS, PHD; KENNETH C. SLATER, MD

Clonal Diversity of Methicillin-Resistant *Staphylococcus aureus* in an Acute-Care Institution 33
L.E. NICOLLE, MD, H. BIALKOWSKA-HOBRZWSKA, PHD; L. ROMANCE, RN; V.S. HARRY, BSC; S. PARKER, MD

SHEA POSITION PAPER

Medical Waste 38
WILLIAM A. RUTALA, PHD, MPH, C. GLEN MAYHAIL, MD; THE SOCIETY FOR HOSPITAL EPIDEMIOLOGY OF AMERICA

TOPICS IN LONG-TERM CARE

Prevention and Control of Influenza A Outbreaks in Long-Term Care Facilities 49
STEFAN GRAVENSTEIN, MD; BARBARA A. MILLER, RN; PAUL DRINKA, MD

STATISTICS FOR HOSPITAL EPIDEMIOLOGY

Proving the Null Hypothesis 55
LEON F. BURMEISTER, PHD

SHEA NEWS 59

https://doi.org/10.1086/646415 Published online by Cambridge University Press

Twenty-eight years ago
we declared germ warfare.

Cidex.*

https://doi.org/10.1086/646415

Meet our newest weapons.



Twentyeight years ago, Johnson &Johnson Medical, Inc. revolutionized disinfection with the introduction of CIDEX* Activated Dialdehyde Solution. And now, we're offering two new additions to the CIDEX Solution Family of Products.

Introducing ENZOL* Enzymatic Detergent – it breaks down and removes tough, dried-on organic matter from instruments. Plus, easy rinsing means no clogging of scopes.

And, new CIDEX Solution Test Strips – developed exclusively for monitoring the effectiveness of CIDEX Solution. It's the easiest, most reliable way to detect unintentional dilution. Simply dip a test strip in CIDEX Solution, remove and read.

Depend on Johnson &Johnson Medical to lead the charge in asepsis and infection control. For additional product information, call l-800433-5009, or contact your Johnson &Johnson Medical sales representative.

With our two newest additions, the CIDEX Solution Family of Products is the most powerful weapon you have.



Johnson & Johnson
MEDICAL INC.

*TRADEMARK © JJM, INC. 1991

https://doi.org/10.1086/646415 Published online by Cambridge University Press

SOME PEOPLE TAKE DRUG ABUSE TO HEART.



Most cocaine users are so dedicated to the drug that what it does to their hearts never enters their minds. They don't realize that every time they use cocaine, they put themselves at risk for such potentially fatal cardiovascular complications as hypertensive crisis.. . myocarditis.. . myocardial infarction . . . ventricular tachycardia.. . ventricular fibrillation.. .even cardiac arrest.

Chances are, at least some of these people are your patients. And many of them may feel more comfortable telling a nurse what they can't-or won't-tell a doctor. That's why your role becomes critical in helping suspected drug abusers understand what illegal drug use does to their bodies.

As key members of the health care team, nurses *can* make a difference in helping to curb drug abuse, and in preventing some of its deadliest consequences. The next time you suspect a patient may be using cocaine-or any illegal substance—have a heart-to-heart talk about the damage these drugs can do.

A short talk can go a long way.

partnership for a Drug-Free America

https://doi.org/10.1086/646415 Published online by Cambridge University Press

Vol. 13 No. 1 January 1992

INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY

CONTENTS

EDITORIAL

Resistance of *Pseudomonas* aeruginosa to Imipenem 7

HAROLD C. NEU, MD, FACP

ORIGINAL ARTICLES

Resistance to Imipenem Among Selected Gram-Negative Bacilli in the United States 10

ROBERT P. GAYNES, MD; DAVID H. CULVER, PHD; THE NATIONAL NOSOCOMIAL INFECTIONS SURVEILLANCE SYSTEM

Cross-Sectional Epidemiology of Phlebitis and Catheter-Related Infections 15

JAVIER ENA, MD, EMILIA CERCENADO, PHD; DAVID MARTINEZ, MD; EMILIO BOUZA, MD, PHD

Intervention to Discontinue Parenteral Antimicrobial Therapy in Patients Hospitalized With Pulmonary Infections: Effect on Shortening Patient Stay 21

N. JOEL EHRENKRANZ, MD; DEBRA E. NERENBERG, RN; JAMES M. SHULTZ, MS, PHD; KENNETH C. SLATER, MD

Clonal Diversity of Methicillin-Resistant Staphylococcus aureus in an Acute-Care Institution 33

L.E. NICOLLE, MD; H. BIALKOWSKA-HOBRZANSKA, PHD; L. ROMANCE, RN; V.S. HARRY, BSc S. PARKER, MD

SHEA POSITION PAPER

Medical Waste 38

WILLIAM A. RUTALA, PHD, MPH; C. GLEN MAYHALL, MD; THE SOCIETY FOR HOSPITAL EPIDEMIOLOGY OF AMERICA

TOPICS IN LONG-TERM CARE

Prevention and Control of Influenza A Outbreaks in Long-Term Care Facilities 49

STEFAN GRAVENSTEIN, MD; BARBARA A. MILLER, RN; PAUL DRINKA, MD

STATISTICS FOR HOSPITAL EPIDEMIOLOGY

Proving the Null Hypothesis 55

LEON F. BURMEISTER, PHD

DEPARTMENTS

Copyright and Republication Policy 6

SHEA News 59

Medical News 61

Information for Authors 63

THE PUBLICATION OF ADVERTISING IN THE JOURNAL DOES NOT CONSTITUTE ANY GUARANTEE OR ENDORSEMENT BY THE SOCIETY FOR HOSPITAL 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) is published exclusively by SLACK Incorporated 12 times a year. Address: 6900 Grove Rd., Thorofare. NJ 08086. Telephone: (609) 848-1000.

COPYRIGHT 1992 by The Society for Hospital Epidemiology of America. Inc. and SLACK Incorporated. All rights reserved. No part of this publication may be reproduced without written permission from the publisher.

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-$80.00; Two year-$115.00, Three years-$145.00; Institutional: One year—$90.00; Two years—$130.00; Three years—$170.00. Fellows: $40 per year. Canada: $18.00 additional each year; all other countries: $36.00 additional each year. Single copies of current issues may be obtained for $15.00, United States and possessions; $20.00 all other countries.

REPRINTS: All requests to reprint or use material published herein should be addressed to Lester J. Robeson, SLACK Incorporated, 6900 Grove Rd., Thorofare, NJ 08086. For reprint orders and prices, contact Lester T. Robeson at (609) 8481000. 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, and Laboratory Performance Information Exchange System.

https://doi.org/10.1086/646415 Published online by Cambridge University Press

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	Winnepeg, Manitoba, Canada
Juhani Ojajärvi, 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, CCCP

Production Director
Christine Malin

Production Coordinator
Joanne Patterson

Publishing Director/ Advertising
Wayne McCourt

Pharmaceutical Group Sales Director
Michael LoPresti

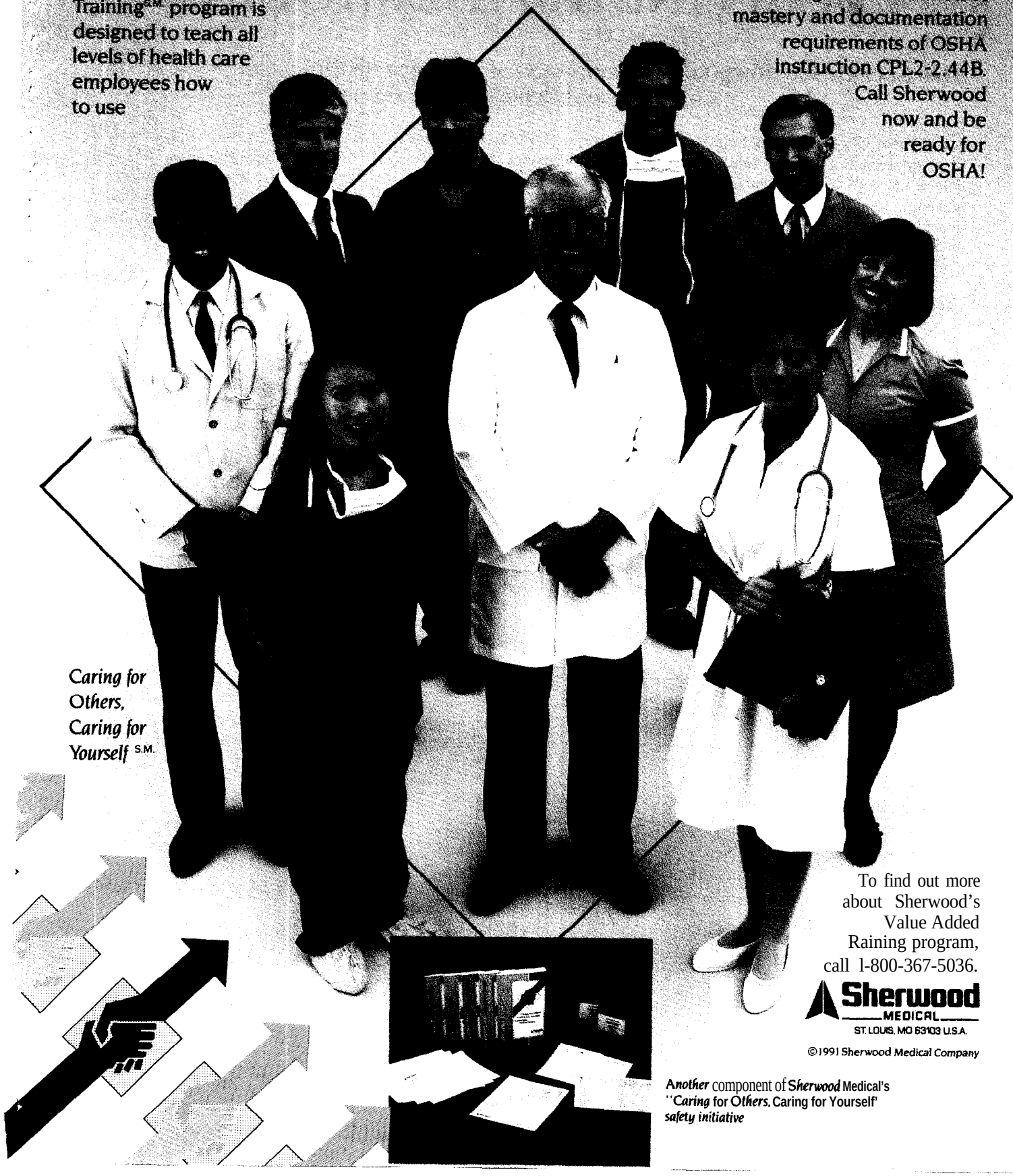
Advertising Sales Representative
Jennine Kane

Classified/Recruitment Sales Manager
Michele Burch

https://doi.org/10.1086/646415 Published online by Cambridge University Press

ARE YOU READY FOR OSHA?

Sherwood Medical can help your health care facility comply with the OSHA rules regarding occupational exposure to bloodborne pathogens. Our new Value Added Training[S.M.] program is designed to teach all levels of health care employees how to use Universal Precautions for self-protection. It's comprehensive, easy to administer, and very effective. And most important, it meets the training, demonstration of mastery and documentation requirements of OSHA instruction CPL2-2.44B. Call Sherwood now and be ready for OSHA!



Caring for Others, Caring for Yourself S.M.

To find out more about Sherwood's Value Added Raining program, call 1-800-367-5036.

Sherwood MEDICAL
ST. LOUIS, MO 63103 U.S.A.

©1991 Sherwood Medical Company

Another component of *Sherwood* Medical's "*Caring* for *Others*, Caring for Yourself" *safety initiative*

https://doi.org/10.1086/646415 Published online by Cambridge University Press