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INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY™

EDITORIAL

Reducing Occupational Exposure to Bloodborne Pathogens: Where Do We Stand a Decade Later?
JANINE JAGGER, MPH, PHD 573

ORIGINAL ARTICLES

Risk Factors for Mortality Associated With Enterococcal Bloodstream Infections
LEONARDO STROUD, MD, MPH; JONATHAN EDWARDS, MS; LISA DANZIG, MD; DAVID CULVER, PHD; ROBERT GAYNES, MD 576

Rapid Identification of Respiratory Viruses: Impact on Isolation Practices and Transmission Among Immunocompromised Pediatric Patients
SUSAN E. BEEKMANN, MPH; HOWARD D. ENGLER, PHD; AMY S. COLLINS, RN; JEANNE CANOSA, BS; DAVID K. HENDERSON, MD; ALISON FREIFELD, MD 581

An Outbreak of Viral Gastroenteritis in a Nursing Home: Importance of Excluding Ill Employees
EVELYN M. RODRIGUEZ, MD, MPH; COLLEEN PARROTT, RN, MS; HENRY ROLKA, MS; STEPHAN S. MONROE, PHD; DIANE M. DWYER, MD 587

CONCISE COMMUNICATIONS

Initial Worker Evaluation of a New Safety Syringe
STEPHANIE MULHERIN; LELAND S. RICKMAN, MD; MARGUERITE MCMILLAN JACKSON, RN, PHD 593

PRACTICAL HEALTHCARE EPIDEMIOLOGY

Epidemiologic Typing Systems
JOEL MASLOW, MD, PHD; MAURY ELLIS MULLIGAN, MD 595

STATISTICS FOR HOSPITAL EPIDEMIOLOGY

Exploratory Data Analysis: Data Visualization or Torture?
MARK A. SHELLY, MD 605

ISSUES IN SURGERY

Surgical Outcome Information and the Media
JAMES T. LEE, MD, PHD, FACS 613

THE INTERNATIONAL PERSPECTIVE

Prevention and Control of Nosocomial Infections in Spain: Current Problems and Future Trends
ANTONI TRILLA, MD; JOSEP VAQUÉ, MD; JOSE ROSELLÓ, MD; MONTSERRAT SALLES, RN; FRANCESC MARCO, MD; ANDREU PRAT, MD; JOSE M. BAYAS, MD; MARIA TERESA JIMENEZ DE ANTA, MD; MIGUEL A. ASENJO, MD 617

Continued inside.

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INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY™

CONTENTS

Continued from cover

LETTERS TO THE EDITOR

Dumpster Diving in Sharps Disposal Containers: What's Really Inside?
MARGUERITE MCMILLAN JACKSON, RN, PHD; STEPHANIE MULHERIN; LELAND S. RICKMAN, MD 570

Educational Needs and Opportunities for the Hospital Epidemiologist
DAVID BIRNBAUM, PHD, MPH; LOUISE-MARIE DEMBRY, MD; WALTER J. HIERHOLZER, JR, MD 571

CORRECTION

Understaffing: A Risk Factor for Infection in the Era of Downsizing? 572

MEDICAL NEWS
GINA PUGLIESE, RN, MS
MARTIN S. FAVERO, PHD

CDC Restricts Transfer of Biohazards 572
HIV Origins 594
Prevalence of *C difficile* 616
9,000 *E coli* Cases in Japan 622
Correction: CDC's New HCV Exposure Guidelines 624
Hospital Infections Program Home Page 624
Spontaneous Combustion of Exam Gloves 624
CDC's NNIS System Evolves Into the 21st Century 624
Joint Commission Discusses Cooperative Accreditation Agreements 625
Needle-Swap Programs Debated 625
Animal to Human Transplants 625
AMA Guide on AIDS 626

CLASSIFIED MARKETPLACE 627

SHEA NEWS
MURRAY D. BATT, MD 628

Improving Health Care Through Clinical Epidemiology and Quality Improvement 628
Web Links for the Epidemiologically Curious 628
SHEA Convenes Consensus Panel on Infection Control Programs 628

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Letters to the Editor

Dumpster Diving in Sharps Disposal Containers: What's Really Inside?

To the Editor:

Sharps injuries have plagued healthcare workers (HCWs) since needles were invented, but it was not until the human immunodeficiency virus pandemic that many HCWs took these risks seriously. Until relatively recently, intervention strategies have focused almost exclusively on not recapping used needles as the major strategy to reduce injury risks. This approach historically is based largely on a study conducted at the University of Wisconsin from 1975 to 1979.[1] Almost 20% of injuries reported in that study occurred during needle disposal or while recapping used needles. The investigators believed that installation of more and better needle disposal units, combined with education regarding the risk of recapping, would result in a reduction of injuries from those practices. A 14-year follow-up study[2] found that sharps injuries had not declined with the emphasis on proper disposal and eliminating recapping; in fact, there was a 3.5-fold increase in recapping injuries, and there were over three times as many total injuries per 1,000 HCWs as reported in the 1975 to 1979 period. These investigators concluded that the greatest impact in reducing sharps injuries in HCWs might be by innovative technology-based approaches, but cautioned that most new devices needed critical analysis using epidemiologic methods. As part of a study at the University of California, San Diego Medical Center-Hillcrest Emergency Department to evaluate a safety syringe,[3] we examined the contents of sharps disposal containers and noted the proportion of needles that were recapped.

In the Emergency Department, 14-quart sharps disposal containers were attached near each of the 17 beds, either on the headwall or above the bedside sink counter. Each of the 12 examination rooms also had at least one intravenous-start/blood collection caddy that included a 1.4-quart sharps disposal container. Additional sharps disposal containers were in other strategic locations.

Each day during the study, a member of the study team visited the Emergency Department and replaced any container that was two-thirds to three-fourths full with a new container. Full containers then were filled with a 1:10 solution of sodium hypochlorite and allowed to soak for at least 24 hours. Containers were drained of liquid, and contents were emptied onto a large table in the medical center's trash room. Members of the study team sorted items with long tongs while another team member recorded item counts. Counted contents were discarded as biohazardous waste, in accord with policy.

Data were recorded on a standardized data sheet and input into Epi Info 6.0 (Epi Info, version 6.0, Centers for Disease Control and Prevention, Atlanta, GA) for analysis.

A total of 39 14-quart and 54 1.4-quart sharps disposal containers were collected during the 38-day period. Over 6,800 needled devices were dis-

TABLE

NUMBERS AND TYPES OF NEEDLED DEVICES IN SHARPS DISPOSAL CONTAINERS FROM THE UNIVERSITY OF CALIFORNIA SAN DIEGO MEDICAL CENTER-HILLCREST EMERGENCY DEPARTMENT, JULY 18 TO AUGUST 24, 1994

Device	Total Used*	Recapped	Uncapped	Percentage Recapped
3-cc safety syringe†	390	50*	340	12.8
50/60-cc syringe	123	29	60	23.6
20-cc syringe	162	33	89	20.4
10-cc syringe	790	149	433	18.9
5-cc syringe	732	177	445	24.2
3-cc syringe	636	196	351	30.8
1-cc syringe	281	115	135	48.0
Loose needles	1,357	932	425	68.7
Angiocath stylette	744	79	665	10.6
Blood collection needle	597	431	166	72.2
Spinal needle	114	31	83	27.2
Cartridge with needle	621	170	451	27.4
"Butterfly" needle	306	NA‡	NA	
Totals	6,853	2,392	3,643	35.0

Abbreviation: NA, data not recorded, although the majority were not capped.

* Total used may not equal number recapped plus number uncapped, as some syringes were discarded without needles attached.

† See McCormick RD, Maki DM[1] for description of this device.

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