

PREHOSPITAL and DISASTER MEDICINE

Médecine Pré-Hospitalière et Médecine de Catastrophe

Medicina Prehospitalaria y de Catástrofes

病院にかかると
災害医療

Volume 18, Number 4

October–December 2003

SPECIAL REPORTS

Use of Foreign Field Hospitals
Humanitarian Mission to Kosovo
In-Hospital Disasters

TERRORISM SECTION

Mid-Spectrum Chemicals in Warfare
Preparedness Planning for Smallpox
Vaccinations Using Paramedics
Homeland Security

ORIGINAL RESEARCH

Medical Utilization Rates at Mass Gatherings
Field Triage Criteria for Mass Gatherings
Use of Visual Pain Scale
Nurses in Disasters
Critical Incident Stress Management
Policies in Disaster Preparedness

<http://pdm.medicine.wisc.edu>

The Official Journal of the
World Association for Disaster and Emergency Medicine
and the
Nordic Society of Disaster Medicine

Super Light. Super Powers.



ZOLL M Series
Defibrillator Monitor Pacemaker

**Same lightweight unit.
Dynamic new powers.**

When you are off to the rescue, you need a lot of capabilities. 12-lead. EtCO₂. AED. Pulse Oximetry. And Rectilinear Biphasic waveform. Get them all in one small unit. The M Series. Ready to go anywhere. Easy to use anytime. Equipped to handle any situation. The M Series Defibrillator Monitor Pacemaker. It's eleven pounds of superpower. From ZOLL. Call **800-348-9011** or visit **www.zoll.com**

©2000 ZOLL Medical Corporation, Burlington, MA 01803

ZOLL
It's about time.

Table of Contents

Editor's Corner

- Times Have Changed**276
Marvin L. Birnbaum, MD, PhD

Special Reports

- PAHO-Guidelines for the Use of Foreign Field Hospitals in the Aftermath of Sudden-Impact Disaster**278
Department of Emergency and Humanitarian Action, the World Health Organization; Area on Emergency Preparedness and Disaster Relief, the Pan-American Health Organization

- Planning for Resilience in Hospital Internal Disaster**291
Ernest Sternberg

- Israeli Defense Forces Medical Corps Humanitarian Mission for Kosovo's Refugees**301
Howard Amital, MD, MHA; Michael L. Alkan, MD; Jakov Adler, MD; Iyzhak Kriess, MD; Yehezkel Levi, MD

Terrorism Section

- The Threat of Mid-Spectrum Chemical Warfare Agent**306
Pål Aas, PhD

- Standardized Emergency Management System and Response to a Smallpox Emergency**313
Robert J. Kim-Farley, MD, MPH; John T. Celentano, MD; Carol Gunter, RN; Jessica W. Jones, MD, MPH; Rogelio A. Stone, MPA, MA; Raymond D. Aller, MD; Laurene Mascola, MD, MPH; Sharon F. Grigsby, MBA; Jonathan E. Fielding, MD, MPH

- Vaccine Administration by Paramedics: A Model for Bioterrorism and Disaster Response Preparation**321
Bruce J. Walz, PhD, NREMT-P; Richard A. Bissell, PhD; Brian Maguire, Dr PH; James A. Judge II, BPA, CEM, EMT-P

- Homeland Security and Public Health: Role of the Department of Veterans Affairs, the US Department of Homeland Security, and Implications for the Public Health Community**327
Kristi L. Koenig, MD, FACEP

Original Research

- Variables Influencing Medical Usage Rates, Injury Patterns, and Levels of Care for Mass Gatherings**334
Andrew M. Milsten, MD, MS, FACEP; Kevin G. Seaman, MD FACEP; Peter Liu, MD; Rick A. Bissell, PhD; Brian J. Maguire, MSA, PhD, EMT-P

- Use and Analysis of Field Triage Criteria for Mass Gatherings**347
Steven D. Salbanick, MD; William Sheahan, BS, AEMT-P; Jeffery J. Bazarian, MD, MPH

- Measurement of Pain in the Prehospital Setting Using a Visual Analogue Scale**353
Bill A. Lord, MD; Brian Parsell, GDipHSM

Nursing in Sudden-Onset Disasters: Factors and Information that Affect Participation	359
<i>Satoko Mitani, RN, MSc; Kazutoshi Kuboyama, MD, PhD; Taro Shirakawa, MD, PhD</i>	
Randomized, Controlled Trial of Three Levels of Critical Incident Stress Intervention	365
<i>Andrew Macnab, MD; Charles Sun, MD; John Lowe</i>	
Policies in Disaster Preparedness	370
<i>Rannveig Bremer</i>	
Instructions for Authors	iii
Guidelines for Advertisers	v
Index	383

Editorial Office
Editorial Assistant
Wendy Dopkin

University of Wisconsin-Madison USA
Marvin L. Birnbaum, MD, PhD, Editor-in-Chief

Production Editor
Donna Schaan

Advertising
Mary Duss

Subscriptions
Mary Duss

Web Editors
Wendy Dopkin
Erin K. Rushmer
University of Wisconsin-Madison

Editorial Interns
Elizabeth R. Eigenberger (lead issue editor)
Tao Lam (Dora) Fung
Erin K. Rushmer

Publisher
World Association for Disaster and
Emergency Medicine
Madison, Wisconsin USA

Prehospital and Disaster Medicine (ISSN 1049-023X) is published quarterly in the months of January, April, July, and October by the World Association for Disaster and Emergency Medicine. *Prehospital and Disaster Medicine* incorporates the *Journal of the World Association for Emergency and Disaster Medicine* and the *Journal of Prehospital Medicine*.

Editorial Information: Submit manuscripts and editorial inquiries to: Marvin L. Birnbaum, PhD, MD, Editor, *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (6733), Madison, WI 53792, USA; Telephone (01) (608) 263-9641 Facsimile (01) 608-265-9290; E-mail: mlb@medicine.wisc.edu.

Subscription Information: One year (four issues)—Institutions: (U.S.) \$250; Individuals: \$95; Canadian and international subscribers must add \$6 per year for postage. Claims of non-receipt or damaged issues must be filed within three months of cover date. POSTMASTER: Send address changes to *Prehospital and Disaster Medicine*, PO Box 55158, Madison, WI 53705-8958 USA.

Advertising Information: Mary Duss; *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (6733), Madison, WI 53792 USA.

Abstracts: Comprehensively abstracted by the National Library of Medicine (Medline), Cumulative Index to Nursing and Allied Health (CINAHL) and Health Star Cumulative Index. The database is available online via BRS, Data-Star, and DIALOG, and on CD-ROM through CD Plus, Compact Cambridge and Silver Platter. Abstracts and search capability available on the Internet at <http://pdm.medicine.wisc.edu>.

Copyright © 2003 by the World Association for Disaster and Emergency Medicine. Periodicals postage paid at Madison, WI and at additional mailing offices.

SUBSCRIPTION PRICES

	(4 issues)
Institutional	[US] \$250
Individual	\$95

Note: "Institutional Subscribers" are defined as multiple reader subscribers and include public and private libraries, schools, hospitals, and clinics; city, county, and state, Provincial, and national government bureaus and departments; and all commercial and private institutions and organizations.

Individual subscriptions must be in the name of, billed to, and paid by individuals.

Send all subscription orders to: **Prehospital and Disaster Medicine, P.O. Box 55158, Madison, WI 53705-8958 USA.**

Subscription by E-mail: pdm@medicine.wisc.edu; call (01) 608-263-2069; or fax (01) 608-265-9290. Credit cards are welcome.

CHANGE OF ADDRESS or MISSING ISSUES

Please let our central office know as soon as possible when you plan to move. We need four to six weeks advance notice for uninterrupted service. Send us (1) your old address; (2) your new address; and (3) effective date of change.

If you have other questions about your subscription, please address them to: central office, Prehospital and Disaster Medicine at the above contact addresses.

BACK ISSUES

A limited supply of back issues not included in your subscription is available. In order to complete your library, contact the central office. Back issues that are available are listed on the PDM website:

<http://pdm.medicine.wisc.edu/> or a list can be obtained without charge by contacting the PDM office.

ON-LINE VERSION

Issues are posted on the PDM website. Except for the two most current issues, articles can be downloaded without charge. The two most current issues are password protected for subscribers.

ABSTRACTS

All of the abstracts of papers through Volume 18 are available on the PDM website.

EDITORIAL and SUBSCRIPTION INFORMATION

Please address all manuscripts and editorial inquiries and comments to: Marvin L. Birnbaum, Editor, *Prehospital and Disaster Medicine*, Suite 300, 3330 University Avenue, Madison, WI 53792 USA:

(01) (608) 263-9641 or (01) (608) 263-2069; FAX: (01) (608) 265-9290. See *Instruction to Authors* included in this issue. Papers accepted for publication generally will be published within six months of receipt of the revised manuscript.

INDEXES AND ABSTRACTS

PDM is indexed by National Library of Medicine (Medline), CINAHL, HealthStar, and on the PDM Website: <http://pdm.medicine.wisc.edu>.

ADVERTISING GUIDELINES

Advertising Policy and Guidelines

General Statement

Prehospital and Disaster Medicine (PDM) is a scientifically based, peer-reviewed, medical journal. It is the policy of the editorial office of PDM that all advertising material be sound scientifically, and thus, meet the following guidelines:

- 1) Claims must be supported scientifically, and references provided — either within the advertisement or made available upon request;
- 2) Every effort must be directed to minimize the likelihood of possible erroneous interpretations of the claims; and
- 3) Advertisements should be aimed at a sophisticated, medical audience. Further information and rates available at our website: <http://pdm.medicine.wisc.edu>.

Review

Each advertisement considered for publication is submitted to the Editorial Office for review. Any advertisement that does not meet the guidelines will be returned to the advertiser with suggestions for revisions; the Editorial Office is available for consultation at any time.

Use of these guidelines and the process used for review add to the credibility of PDM and of the product.

Questions may be directed to Marvin L. Birnbaum, MD, PhD, Editor-in-Chief; (01) 608-263-9641;

E-mail: mlb@medicine.wisc.edu.

EDITOR-IN-CHIEF

**Marvin L. Birnbaum, MD,
PhD**

University of
Wisconsin–Madison
Madison, Wisconsin USA

ASSOCIATE EDITORS

Wolfgang Dick, Dr Med
Johannes Gutenberg Universität
Mainz, Germany

Kimball Maull, MD
Carraway Injury Control
Institute
Birmingham, Alabama USA

Steven Rottman, MD
University of California–
Los Angeles
Los Angeles, California USA

Samuel Stratton, MD
University of California–Irvine
Los Angeles, California USA

SECTION EDITORS

*International Health Law and
Ethics*

Michael Hoffman, JD
Washington, DC USA

*Terrorism and Emergency
Medicine*

Jeffrey Arnold, MD
Yale New Haven Center for
Emergency and Terrorism
Preparedness
New Haven, Connecticut USA

PAST EDITORS

Peter Safar, MD
Deceased
(JWAEDM 1981–1985)

R Adams Cowley, MD
Deceased
(JWAEDM 1986–1987)

**Michael Gunderson,
REMT-P**
Health Analytics, UC
Lakeland, Florida USA
(JPM 1987–1988)

CONSULTING EDITORS

S. William A. Gunn, MD
European Centre for Disaster
Medicine
Geneva, Switzerland

Martin Silverstein, MD
Uniformed Services University
of the Health Sciences
Bethesda, Maryland USA

Ronald Stewart, MD
Victoria Hospital
Halifax, Nova Scotia, Canada

EDITORIAL BOARD

Jakov Adler, MD
Jerusalem, Israel

Ahmed Ammar, MD
Cairo, Egypt

V. Anantharaman, MD
Singapore General Hospital
Singapore

Bishara Atiyeh, MD
American University
Beirut, Lebanon

Jan Babik, MD
Kosice Burn Center
Kosice-Saca, Slovakia

Peter Baskett, MD
Frenchay Hospital
Bristol, UK

Richard A. Bissell, PhD
University of Maryland–
Baltimore County
Baltimore, Maryland USA

David A. Bradt, MD, MPH
Royal Melbourne Hospital
Melbourne, Australia

**Fredrick M. Burkle, MD,
MPH**
Johns A. Burns School of
Medicine
Houston, Texas and Honolulu,
Hawaii, USA

Jeff Clawson, MD
Medical Priority Consultants,
Inc.
Salt Lake City, Utah USA

Felipe Cruz-Vega, MD
Social Security
Mexico City, Mexico

Richard O. Cummins, MD
University of Washington
Seattle, Washington USA

Craig DeAtley, PA-C
George Washington University
Medical Center
Washington, DC USA

James DuCharme, MD
Royal Victoria Hospital
Montréal, Québec, Canada

Judith Fisher, MD
British Association for
Immediate Care
London, UK

Malcolm Fisher, MD
Royal North Shore Hospital
Sydney, Australia

Alain Flaujat, MD
Editor, Amelisap
Olonzao, France

Erik S. Gaull
George Washington University
Washington, DC USA

Sergey Goncharov, MD
All-Russian Disaster Medicine
Center
Moscow, Russia

Michael Gunderson
Health Analytics
Lakeland, Florida USA

Mark S. Johnson
Alaska Department of Public
Health
Juneau, Alaska USA

Mark Keim, MD
Centers for Disease Control
and Prevention
Atlanta, Georgia USA

Mark Klyachko, PhD
Center on Earthquake
Engineering
Petrovavlovek, Kam, Russia

Per Kulling, MD
Stockholm, Sweden

**Baxter Larmon, PhD,
EMT-P**
University of California–
Los Angeles Medical Center
Los Angeles, California USA

Todd J. LeDuc
Broward County Fire Rescue
Ft. Lauderdale, Florida USA

Prof. Li Zhong-Hao, MD
Beijing Emergency Medical
Center
Beijing, China

Sergio Magalini, MD
Universita Cattolica del Sacro
Cuore
Rome, Italy

Susan D. McHenry
National Highway Traffic
Safety Administration
Washington, DC USA

Eric Noji, MD
Office of the Surgeon General
Washington, DC USA

Muneo Ohta, MD
Senri Medical Center
Osaka, Japan

Paul Paris, MD
Center for Emergency
Medicine
University of Pittsburgh
Pittsburgh, Pennsylvania USA

Georg Petroianu, MD
University of Heidelberg
Mannheim, Germany

R. Abdul Radjak, MD
Ministry of Health
Jakarta, Indonesia

Daniel Rodriguez, MD
San Jose, Costa Rica

Leonid B. Roshal, MD
Institute of Pediatrics
Academy of Medical Sciences
Moscow, Russia

Don Schramm
University of Wisconsin–Madison
Madison, Wisconsin USA

Shao Xiaohong, MD
Peking Union Medical College
Beijing, China

Knut Ole Sundnes, MD
Baerum Hospital
Oslo, Norway

Frank Thomas, MD
Latter Day Saints Hospital
Salt Lake City, Utah USA

Takashi Ukai, MD
Osaka City General Hospital
Osaka, Japan

Michael Van Rooyen, MD
Johns Hopkins University
Baltimore, Maryland USA

Yasuhiro Yamamoto, MD
Department of Emergency and
Critical Medicine
Tokyo, Japan

Harsh Wardhan, MD
Sundar Lal Jain Hospital
Delhi, India