

PREHOSPITAL and DISASTER MEDICINE

Médecine Pré-Hospitalière et Médecine de Catastrophe

Medicina Prehospitalaria y de Catástrofes

病院にかかる前の処置と
災害医療

Volume 22, Number 3

May-June 2007



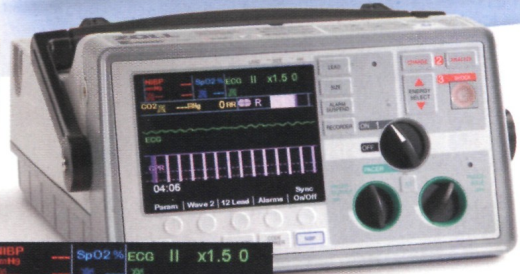
<http://pdm.medicine.wisc.edu>

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

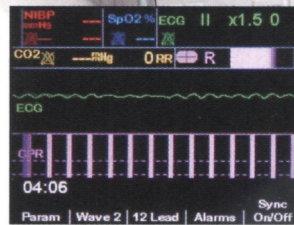
Now with
real CPR help



Rugged soft-pack
carry case



E Series



Simple, easy-to read screen
with CPR feedback

Ruggedness. Plus Real CPR Help. It's that simple.

Now Real CPR Help™ comes standard on E Series™, making this remarkably rugged defibrillator the strongest tool ever developed for use by professional rescuers. Designed to help users provide proper CPR compression rate and depth, it functions in a way that is simple, smart and intuitive. A sensor is integrated into our exclusive one-piece **CPR-D•padz™** and new two-piece CPR **stat•padz®**. CPR prompts only occur as needed, eliminating excessive audio prompts and screen clutter. On-screen, visual cues guide the user to optimize compression depth and rate. A graphic bar acts as an easy-to-read CPR Index that compares the rate and depth of compressions to defined protocols.

Powered by rechargeable lithium ion batteries, E Series is just one more example of the ways in which ZOLL® is looking beyond defibrillation, to help rescuers save more lives. For more information, visit www.zoll.com/realcprhelp or call 1-800-804-4356.

ZOLL®
Advancing Resuscitation. Today.™

©2006 ZOLL Medical Corporation, Chelmsford, MA, USA. "Advancing Resuscitation. Today.", E Series, **CPR-D•padz**, and Real CPR Help are trademarks of ZOLL Medical Corporation. ZOLL and **stat•padz** are registered trademarks of ZOLL Medical Corporation.

Table of Contents

Editor's Corner

- What's in a Word?** 155
Marvin L. Birnbaum, MD, PhD

Original Research

- Traumatic Brain Injuries after Mass-Casualty Incidents: Lessons from the 11 September 2001 World Trade Center Attacks**157
Wesley Rutland Brown, MPH; Jean A. Langlois, ScD, MPH; Leze Nicaj, MPH; Robert G. Thomas, Jr., MSIM; Susan A. Wilt, DrPH; Jeffrey J. Bazarian, MD, MPH
- Factors Associated with High-Rise Evacuation: Qualitative Results from the World Trade Center Evacuation Study**165
Robyn R.M. Gershon, MHS, DrPH; Kristine A. Qureshi, RN MSN, DNSc; Marcie S. Rubin, MPH, MPA; Victoria H. Raveis, PhD
- Factors that May Influence the Preparation of Standards of Procedures for Dealing with Mass-Casualty Incidents**175
Bruria Adini, MA; Avishay Goldberg, MA, MPH, PhD; Danny Laor, MD, MHA; Robert Cohen, PhD; Col. Yaron Bar-Dayana, MD, MHA
- Managing Mild Casualties in Mass-Casualty Incidents: Lessons Learned from an Aborted Terrorist Attack**181
Yuval H. Bloch, MD, MHA; Adi Leiba MD; Nurit Veaacnin, RN; Yohanan Paizer, MD; Dagan Schwartz, MD; Ahuva Kraskas, RN; Gali Weiss, RN, MHA; Avishay Goldberg, PhD; Yaron Bar-Dayana, MD, MHA
- Distribution of Casualties in a Mass-Casualty Incident with Three Local Hospitals in the Periphery of a Densely Populated Area: Lessons Learned from the Medical Management of a Terrorist Attack**186
Yuval H. Bloch, MD, MHA; Dagan Schwartz, MD; Moshe Pinkert, MD, MHA; Amir Blumenfeld, MD, MHA; Shkolnick Avinoam, MD; Giora Hevion, MA; Meir Oren, MD; Avishay Goldberg, PhD; Yehezkel Levi, MD; Yaron Bar-Dayana, MD, MHA
- Impact of a Category-3 Hurricane on the Need for Surgical Hospital Care**194
Lina Sjöberg, MD; Robert Yearwood, MD
- Mental Health Emergency Preparedness: The Need for Training and Coordination at the State Level**199
Suzanne R. Hawley, PhD, MPH; Gary C. Hawley, PsyD; Elizabeth Ablah, PhD, MPH; Theresa St. Romain, MA; Craig A. Molgaard, PhD, MPH; Shirley A. Orr, MHS, ARNP, CNA
- Establishing a High Level of Knowledge Regarding Bioterrorist Threats in Emergency Department Physicians: Methodology and the Results of a National Bio-Preparedness Project**207
Adi Leiba, MD, MHA; Nir Drayman, BA; Yoram Amsalem, MD; Adi Aran, MD; Gali Weiss, RN, MHA; Ronit Leiba, MA; Dagan Schwartz, MD; Yehezkel Levi, MD; Avishay Goldberg, PhD; Yaron Bar-Dayana, MD, MHA
- Critical Assessment of Statewide Hospital Pharmaceutical Surge Capabilities for Chemical, Biological, Radiological, Nuclear, and Explosive Incidents**214
Edbert B. Hsu, MD, MPH; Julie A. Casani, MD, MPH; Al Romanosky, MD, PhD; Michael G. Millin, MD, MPH; Christa M. Singleton, MD, MPH; John Donohue, BS, EMT-P; E. Robert Feroli, PharmD; Melvin Rubin, PharmD; Italo Subbarao, DO, MBA; Dianne M. Whyne, RN, MS; Thomas D. Snodgrass, BSN; Gabor D. Kelen, MD

Special Report

- Management of Evacuee Surge from a Disaster Area: Solutions to Avoid Non-Emergent, Emergency Department Visits**220
Charlene B. Irvin, MD, FACEP; Jenny G. Atas, MD, FACEP

- Field Triage and Patient Maldistribution in a Mass-Casualty Incident**224
Richard M. Zoraster, MD, FAAEM; Cathy Chidester, RN; William Koenig, MD, FACEP

Brief Report

- Precision and Reliability of Glasgow Coma Scale Score among a Cohort of Latin American Prehospital Emergency Care Providers**230
Amado Alejandro Báez; Ediza M. Giráldez; Julio M. DePeña

- Simple Triage and Rapid Decontamination of Mass Casualties with Colored Clothes Pegs (STARDOM-CCP) System against Chemical Releases**233
Tetsu Okumura, MD; Hisayoshi Kondo, MD; Hitomi Nagayama, MD; Toshiro Makino, MD; Toshiharu Yoshioka, MD; Yasuhiro Yamamoto, MD

- Epidemic and Bioterrorism Preparation among Emergency Medical Services Systems**237
Brian J. Maguire, DrPH, MSA, EMT-P; Stephen Dean, PhD; Richard A. Bissell, PhD; Bruce J. Walz, PhD; Andrew K. Bumbak, MS

Author Response

- Soft Tissue Infection after Missile Injuries to the Extremities—A Non-Randomized, Prospective Study in Gaza City**243
Eivind Witsø, MD; Øystein P. Nygaard, PhD; Hazem Hamouda, PhD

Special Report

- KAMEDO Report 89: Terrorist Attack in Bali, 2002**246
Pepe Brolén; Per Örtengren; Håkan Österhed; Helge Brändström (ed)

- KAMEDO Report 90: Terrorist Attacks in Madrid, Spain, 2004**252
Roger Bolling; Ylva Ehrlin; Rebecca Forsberg; Anders Rüter; Vivian Soest; Tore Vikström; Per Örtengren; Helge Brändström (ed)

Erratum

- Abstracts of Scientific and Invited Papers for the 15th World Congress for Disaster and Emergency Medicine, Amsterdam, The Netherlands**258

STATEMENT OF OWNERSHIP

Statement of Ownership—Management and Circulation—Required by 39 U.S.C. 3685

1. Publication title: Prehospital and Disaster Medicine
2. Publication number 1049-023X
3. Filing date: September 18, 2006
4. Issue frequency: Bi-Monthly
5. Number published annually: 6
6. Annual subscription price: \$120.00 Individual/\$400.00 Institution
7. Mailing address of known office of publications: 3330 University Avenue, Suite 300 (Dane County) Madison, WI 53705-2167 USA
8. Mailing address of the headquarters of the general business office of the publisher: Same.
9. Publisher: World Association for Disaster and Emergency Medicine, 3330 University Avenue, Suite 300 (Dane County) Madison, WI 53705-2167 USA
10. Owner: World Association for Disaster and Emergency Medicine, 3330 University Avenue, Suite 300 (Dane County) Madison, WI 53705-2167 USA
11. Known: bondholders, mortgages, and other security holders owning or holding 1 percent or more of total amounts of bonds, mortgages or other securities: None.
12. The purpose and function and nonprofit status of this organization and the exempt status for federal income tax purposes have not changed during the preceding 12 months.

Extent and Nature of Circulation:

1. Total copies: 2,600-avg. per issue during preceding 12 months/1,000 last issue.
2. Paid/Requested Circulation: Outside country mail subscriptions 373
3. Others mailed through USPS 224
4. Free distribution outside the mail 97
5. Copies not immediately distributed 206 (used for education and promotion)

I certify that all information furnished is true and complete.

Marvin L. Birnbaum, MD PhD, Editor-in-Chief and Director of the WADEM Business Office

INFORMATION FOR READERS

Subscription Prices (6 issues)

Institutional	[US]	\$400
Individual		\$120

"Institutional Subscribers" are defined as multiple reader subscribers and include public and private libraries, schools, hospitals, and clinics; city, county, 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 and questions to: *Prehospital and Disaster Medicine*, PO Box 55158, Madison, WI 53705-8958 USA.

Subscription by E-mail: pdm@medicine.wisc.edu; call (+1) (608) 263-2069; or fax (+1) (608) 265-3037. Credit cards are welcome.

Editorial Office

University of Wisconsin-Madison USA

Editor-in-Chief

Marvin L. Birnbaum, MD, PhD

Production Editor

Dana Schmidman

Editorial Assistant

Dana Schmidman

Advertising

Anthony Keith

Subscriptions

Anthony Keith

Web Editors

Jackson Helmer
Dana Schmidman

Editorial Interns

Jackson Helmer, *Lead Intern*
Josie Caves
Sarah Covington
Katarina Grande
Ross Viland
Andrew Wachtel

Publisher

World Association for Disaster and
Emergency Medicine
Madison, Wisconsin USA

Change of Address or Missing Issues

Inform the *Prehospital and Disaster Medicine* office as soon as possible when you plan to move. (Four to six weeks notice is required for uninterrupted service.) Send: (1) old address; (2) new address; and (3) effective date of change.

Back Issues

A limited supply of back issues not included in your subscription is available. Contact the Editorial Office for availability.

Online Version

Issues are posted on the *Prehospital and Disaster Medicine* 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 the most recent volume are available on the *Prehospital and Disaster Medicine* Website.

Prehospital and Disaster Medicine (ISSN 1049-023X) is published bimonthly in the months of January, March, May, July, September, and November 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 Ave, Mail Code 6733, Madison, WI 53792 USA; Telephone (+1) (608) 263-9641; Facsimile (+1) (608) 265-3037; E-mail: mlb@medicine.wisc.edu or pdm@medicine.wisc.edu.

Subscription Information: One year (six issues)—Institutions: [US] \$400; Individuals: \$120; International subscribers 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: Anthony Keith *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (6733), Madison, WI 53792 USA; E-mail: ack@medicine.wisc.edu.

Comprehensively indexed 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 DIA-LOG, 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 © 2007 by the World Association for Disaster and Emergency Medicine. Periodicals postage paid at Madison, WI and at additional mailing offices.

Cover Artwork: *Calm After the Storm*
Medium: Photograph
By: Lynda Redwood-Campbell

This photo was taken in Banda Aceh Indonesia in Feb (2007), two years after the Tsunami. The significance is that it is now underwater but used to be a residential neighborhood. It reflects the new normal. Lynda would like the Syiah Kuala Medical School, Rotary Clubs in Banda Aceh and Rotary Club in Dundas Canada to be recognized because they are doing ongoing work there.

INSTRUCTIONS FOR AUTHORS

Organization of Manuscripts

Manuscripts in one of five different categories can be submitted for review and publication in *Prehospital and Disaster Medicine* (PDM): (1) Original Research; (2) Special Report; (3) Comprehensive Review; (4) Case Report; or (5) Brief Report. All manuscripts submitted for publication must include an abstract that summarizes the work. Other types of manuscripts must have the approval of the Editor before being submitted or may be invited by the Editor or a member of the Editorial Board. All Abstracts submitted by the Secretariat of a Congress will be edited by the Editorial Staff into the best English possible prior to publication. The characteristics specific to each of these categories are described briefly below:

1. **Original Research**—structured research that uses quantitative and/or qualitative data collection and processing methods to establish a hypothesis or prove a cause:effect relationship(s) is included in this category. The manuscript must be structured as follows:

Abstract—Concise summary in the following format (*not to exceed 375 words*):

Introduction: need for the study.

Hypothesis/Problem: what was tested (experimental studies only) If qualitative, statement of problem addressed.

Methods: summary of methods used with subsections as appropriate (type of subjects, number of subjects, study design, statistical tests). If the work is qualitative, the types of instruments used and the scope and type of work must be described. *If a disaster is involved, the dates, type of event, location, scope, magnitude, and numbers of casualties and deaths must be summarized in tabular form for indexing.*

Results: summary of principal findings.

Conclusion: implications of findings.

Introduction—Provide justification for the effort with appropriate references annotated. If quantitative, the concluding sentence should define the hypothesis. If qualitative, the problem being addressed should be stated clearly.

Methods—Descriptive to a degree that other investigators would be able to reproduce the study. Statistical methods used must be annotated. Approval by an Institutional Review Committee **must** be included when appropriate.

Results—Results must be written in text and may be accompanied by tables and figures. The text **must** explain all data included in tables and figures, but should not be redundant. All direct results from the study must appear in this section. *No discussion of the results may be included.*

Discussion—The Discussion should provide an interpretation of the Results in terms of meaning and application. Results should not be repeated. Computations or extrapolations that may help explain the results may be provided. Limitations of the study should be defined and suggestions for future research should be included. References that support or negate explanations provided are appropriate.

Conclusion—The findings in terms of implications for the practice of prehospital, emergency, and/or disaster medicine should be summarized in a few sentences.

2. **Special Report**—Describes some aspect of our science or activities that provide information necessary for the progression of the science. The *Introduction* should highlight the problem being addressed and the reasons that it needs to be addressed. Sections of

the report should be subtitled. The presentation should include citations as to the sources of the material and should be followed by a *Discussion* that includes the significance of the report in terms of the science. The manuscript should be finished with the *Conclusions* reached.

3. **Comprehensive Review**—A review of the literature to be used to clarify areas in which there seems to be disagreement. Comprehensive Reviews seek to establish the evidence-base for the area being addressed. The format used should be identical to that described for Special Reports.
4. **Case Report**—Uses one or more cases of specific patients or events/responses to highlight a current aspect of medical care or of a phenomenon. Case Reports also may have value in the development of definitive research projects by the same or other investigators. The *Introduction* should describe the reasons for the report. The actual *Case Report(s)* should be described in the next section, and like the above, the *Discussion* should describe the significance of the reports including a comprehensive review of the pertinent literature. The *Conclusion* should be similar to the format noted above.
5. **Brief Report**—A short report that may predict a trend, but the work does not meet all of the criteria required for Original Research. Preliminary reports also are included in this category. The format used should be identical to that used for the Original Research described above.

General Submission Requirements

Manuscripts—Manuscripts are preferred in electronic form (disk, CD, or e-mail) with a cover letter, cover page, and manuscript. Electronic format: the cover letter, cover page, and manuscript should be sent as separate electronic files on one diskette or CD in Microsoft Word. Please label the diskette or CD and include the paper's title and the primary author's surname. Electronic files may be submitted to our office via e-mail to the following address: ds5@medicine.wisc.edu or pdm@medicine.wisc.edu. If the manuscript is submitted by mail, please include paper version of the cover letter, cover page, and one paper copy of the manuscript to accompany the disk. If submitting the article in paper form only, please send one cover letter, the cover page, and manuscript. If electronic format is not available, we will accept manuscripts in paper form.

Previous Publication—A manuscript will be considered only if it has not been published previously and is not under consideration for publication elsewhere.

Copyrights—After acceptance for publication, the copyright to the manuscript, including all tables and figures, rests with *Prehospital and Disaster Medicine*.

Cover Letter—Each manuscript should be accompanied by a signed cover letter from the primary author who attests to the original nature of the material, that the paper has not been published elsewhere, is not under consideration by any other publication, and that the authors agree to transfer copyright to *Prehospital and Disaster Medicine* if

accepted for publication. The institution(s) in which the work was performed, the sponsoring institution(s), and the respective departments must be annotated. If the work was supported all or in part by grants or endowments, the granting institution(s) should be indicated. If the paper has been, or is to be presented in a forum orally or as a poster, indicate the title of the forum, sponsoring institution, and the date of presentation. Specify the name of the author with whom any correspondence should be directed, and, correspondence street address, telephone number, facsimile (fax) number, and e-mail address if appropriate.

Cover Page—Include a cover page that includes the title of the paper, first names, middle initials, last names, and highest academic degrees of all authors. Reiterate from the cover letter the name of the author with whom any correspondence should be directed and the street address, telephone number, facsimile (fax) number, and e-mail address if appropriate. Do not indicate author names or institutions anywhere in the manuscript other than on the cover page.

Language—All manuscripts must be submitted in English. Also, do not use *I*, *We*, or *Our* when describing the researchers. The fact that the research was conducted by the authors is implicit.

Abbreviations for groups of words may be used only for unusually cumbersome titles or for commonly accepted abbreviations. Whenever such abbreviations are used, they must be annotated with the initial mention of words within the manuscript followed by the abbreviation in parentheses. In addition, list eight or more keywords or phrases in alphabetical order separated by semicolons to facilitate indexing or electronic searches.

Paper, Margins, and Type Style—Manuscripts should be submitted on plain white paper, letter size up to A4, 8.27" by 11.69" (210 mm by 297 mm). Do not right justify the margins. Use standard type styles. Double space all text.

Generic Names—Whenever possible, use generic names. Brand names may be indicated parenthetically and the name and location of the manufacturer must be provided in parentheses followed by a generic description of the medication, drug, product, or equipment.

References—References must be cited in the sequential order in which they appear in the text. All references should be parenthetically cited by full-sized Arabic numbers in the text, tables, and legends for illustrations. Repeated use of a reference must bear the number of the first time this reference is used. Titles of journals

referenced must be annotated using standard *Index Medicus* abbreviations and must be underscored. Unpublished data or personal communications should be indicated in parentheses directly following the reference and should include the dates of such correspondence (Personal Communication, Safar P, October 1989). The following format for references must be used:

Journals—White SJ, Hamilton WA, Veronesi JF: Comparison of field techniques used to pressure infuse intravenous fluids. *Prehosp Disast Med* 1991;6:429–434.

Books—Schwartz GR, Safar P, Stone JH, et al (eds), *Principles and Practice of Emergency Medicine*. 2d ed. Philadelphia: WB Saunders Co., 1985, pp 1198–1202.

Chapters—Lindberg R: Pathology of Head Injuries. In: Cowley RA, Trump BF (eds), *Pathophysiology of Shock*. Baltimore: Williams and Wilkins, 1982, pp 588–592.

Website—International Crisis Group: Impact of the Bali bombings. Available at http://www.crisisweb.org/projects/asia/indonesia/reports/A400804_24102002.pdf. Accessed 09 June 2003.

Tables—Tables must be numbered as referenced in the text and each typed on a separate page, placed at the end of the manuscript. Do not include tables in the body of the text.

Figures—Illustrative materials must be of professional quality, should be submitted as large as possible, up to 8.27" by 11.69" (A4 210 mm by 297 mm), and be at least 600 dpi resolution. Color illustrations must be discussed with the editor. All graphs and charts must be saved in a JPG/TIFF format and are to include a legend. Photos also can be mailed to the PDM office. They must be high gloss and 600 dpt.

Permissions—Illustrations or tables from other publications must be accompanied by written permission from the author and publishers of the document in which they originally appeared.

Publication Schedule—Manuscripts should be published within 4 to 6 months of acceptance and receipt of revisions.

Additional Information

Contact Marvin L. Birnbaum, MD, PhD, Editor, *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (6733), Madison, WI 53792 USA, Express Mail/FedEx, mail to: 3330 University Avenue, Suite 300, Madison, WI 53705 (+1) (608) 263-9641; E-mail: mlb@medicine.wisc.edu.

Visit our Website: <http://pdm.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**P. Gregg Greenough, MD,
MPH**Director of Research, Harvard
Humanitarian Initiative
Boston, Massachusetts USA**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**PAST EDITORS****Peter Safar, MD**Deceased
(JWAEDM 1981-1985)**R. Adams Cowley, MD**Deceased
(JWAEDM 1986-1987)**CONSULTING EDITORS****Peter Baskett, MD**Editor: *Resuscitation*
Frenchay Hospital
Bristol, UK**S. William A. Gunn, MD**European Centre for Disaster
Medicine
Geneva, Switzerland**Ronald Stewart, MD**Victoria Hospital
Halifax, Nova Scotia Canada**EDITORIAL BOARD****Jakov Adler, MD**

Jerusalem, Israel

Ahmed Ammar, MDKing Fahd Medical Complex
Riyadh, Saudi Arabia**V. Anantharaman, MD**Singapore General Hospital
Singapore**Paul Arbon**School of Nursing and
Midwifery
Flinders University
Adelaide, South Australia**Frank Archer, MD**Monash University
Melbourne, Australia**Jeffrey Arnold, MD**Medical Director, Emergency
Department
Medical Director of Quality
Natividad Medical Center
Salinas, California USA**Col. Dr. Yaron Bar-Dayan,
MD, MHA**Israeli Defense Forces Home
Front Command
Or-Yehuda, Israel**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
Harvard Humanitarian
Initiative
Honolulu, Hawaii USA**Felipe Cruz-Vega, MD**Social Security
Mexico City, Mexico**Craig DeAtley, PA-C**George Washington University
Medical Center
Washington, DC USA**Claude de Ville de Goyet**Consultant WHO/PAHO
Washington, DC USA**Judith Fisher, MD**Consultant, Disaster Medicine
Pleasant Hill, California USA**Malcolm Fisher, MD**Royal North Shore Hospital
Sydney, Australia**Erik S. Gaull**George Washington University
Washington, DC USA**Michael Gunderson**President, Integral Performance
Solutions
Lakeland, Florida USA**Keith Holtermann, MD**George Washington University
Washington, DC USA**Mark S. Johnson, MPA**Retired Chief of EMS
Juneau, Alaska USA**Mark Keim, MD**Centers for Disease Control
and Prevention
Atlanta, Georgia USA**Mark Klyachko, PhD**Center on Earthquake
Engineering
Petropavlovsk, Kam, Russia**Per Kulling, MD**National Board of Health and
Welfare
Stockholm, Sweden**Baxter Larmon, PhD,
EMT-P**University of California-
Los Angeles Medical Center
Los Angeles, California USA**Todd J. LeDuc, EMT-P**Deputy Fire Chief
Broward Sheriff Fire Rescue
Ft. Lauderdale, Florida USA**Gloria Leon, PhD**Professor of Psychology
University of Minnesota
Minneapolis, Minnesota USA**Mauricio Lynn, MD**University of Miami, Jackson
Health System
Miami, Florida USA**Graeme McColl**Ministry of Health
New Zealand**Susan D. McHenry**National Highway Traffic
Safety Administration
Washington, DC USA**Eric Noji, MD**Centers for Disease Control
and Prevention, Atlanta,
Georgia
Washington, DC USA**Jerry Overton**Executive Director,
Richmond Ambulance
Authority,
Richmond, Virginia USA**Paul Paris, MD**Center for Emergency
Medicine
University of Pittsburgh
Pittsburgh, Pennsylvania USA**Georg Petroianu, MD**University of Heidelberg
Mannheim, Germany**Edward Ricci, PhD**University of Pittsburgh
Pittsburgh, Pennsylvania USA**Daniel Rodriguez, MD**Jefe Medico Cuidado Intensivo
Hospital Calderon Guardia
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**Edita Stok, MD**Ministry of Health
Ljubljana, Slovenia**Knut Ole Sundnes, MD**Baerum Hospital
Oslo, Norway**Takashi Ukai, MD**Hyogo Emergency Medical
Center
Hyogo, Japan**Michael Van Rooyen, MD**Associate Professor, Harvard
Medical School, Brigham
and Women's Hospital
Boston, Massachusetts USA**Darren Walter**University Hospital of South
Manchester
Manchester, UK**Yasuhiro Yamamoto, MD**Department of Emergency and
Critical Care Medicine
Tokyo, Japan