

# PREHOSPITAL and DISASTER MEDICINE

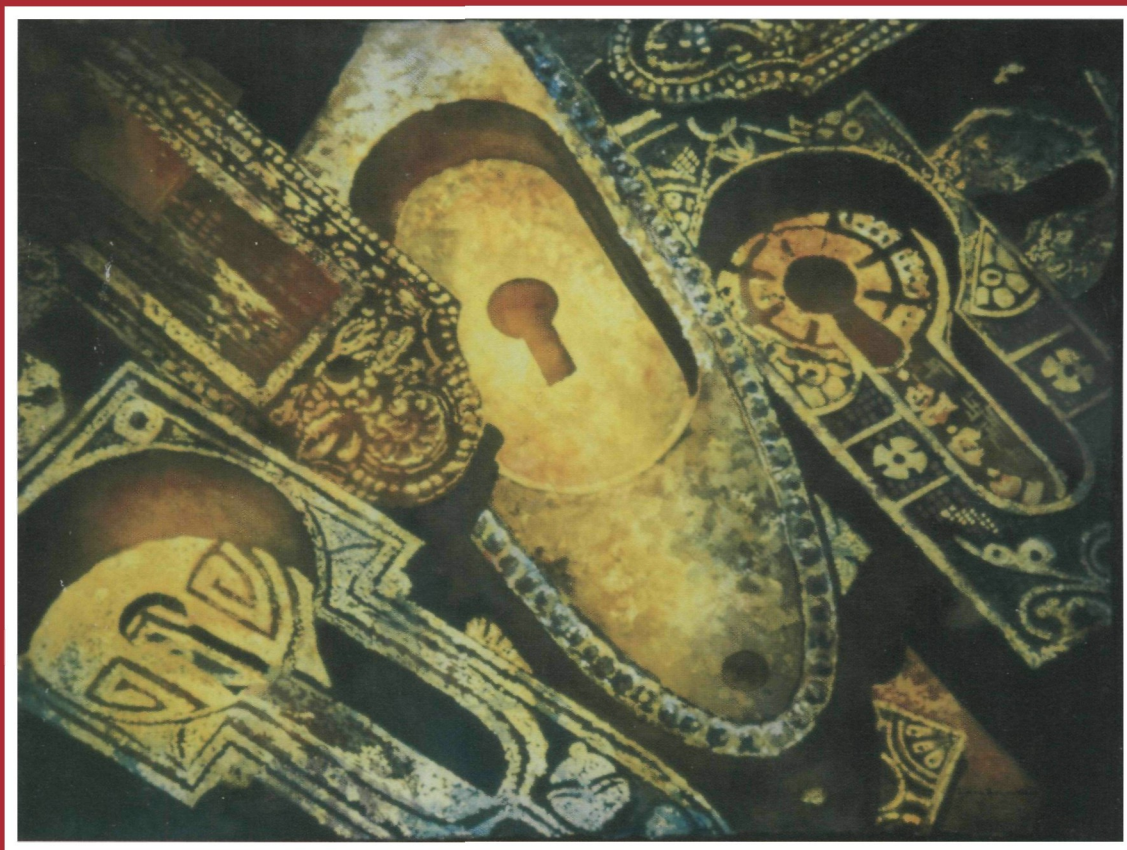
Médecine Pré-Hospitalière et Médecine de Catastrophe

Medicina Prehospitalaria y de Catástrofes

病院にかかる前の処置と  
災害医療

Volume 20, Number 5

September–October 2005



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

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





**⚠ THE "DIDN'T YOU PUT THE DEFIBRILLATOR AWAY?" TEST ⚠**

Test subject is the first defibrillator designed specifically to endure the crash-tumble-bounce world of EMS. Test subject's efficient shape and size make it easier to stow and carry, while rugged roll bars help ensure its survival when left unstowed and prone to the occasional accident. Today's test is designed to illustrate the ability of the E Series™ to meet extreme shock and vibration challenges—like the kind that might be experienced if it's left behind on the road.



Unique roll bar protects electronics and ensures the E Series will roll with the toughest punches.



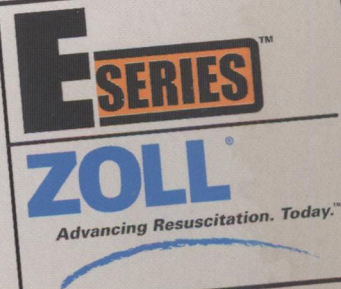
ZOLL's Rapid Cable Deployment System™ eliminates those annoying "cable spaghetti" problems.



ZOLL's EasyRead Tri-Mode Display™ offers maximum readability even in the most adverse conditions. Choose from three different screen options on-the-fly to optimize visibility for any given situation.



**E Series—We put it through the wringer in the lab so you can be sure it will survive whatever you put it through in the field.**



**⚠ For additional details on how the new E Series can stand up to—and live up to—your "worst case scenarios," contact your ZOLL sales rep today or call 800-804-4356.**

©2005 ZOLL Medical Corporation, Chelmsford, MA. "Advancing Resuscitation. Today.", E Series, EasyRead Tri-Mode Display, and Rapid Cable Deployment System are trademarks of ZOLL Medical Corporation. ZOLL is a registered trademark of ZOLL Medical Corporation.



# Table of Contents

## Editor's Corner

- The 2005 London Bombings and the Haddon Matrix** ..... 278  
*Jeffrey L. Arnold, MD*

## Theoretical Discussions

- Model Describing the Effect of Employment of the United States  
 Military in a Complex Emergency** .....282  
*Lt. Donald S. MacMillan, MSC, USNR*

- Recommended Modifications and Applications of the Hospital Emergency Incident  
 Command System for Hospital Emergency Management** .....290  
*Jeffrey L. Arnold, MD; Louise-Marie Dembry, MD; Ming-Che Tsai, MD, MPH; Nicholas Dainiak, MD;  
 Ulkumen Rodoplu, MD; David J. Schonfeld, MD; Vivek Parwani, MD; James Paturas, EMT-P;  
 Christopher Cannon, MPH, MSN, FACHE; Scott Selig, MAT*

- Symptom-Based, Algorithmic Approach for Handling the Initial Encounter with Victims  
 of a Potential Terrorist Attack** .....301  
*Italo Subbarao, DO, MBA; Christopher Johnson, DO; William F. Bond, MD; Howard A. Schwid, MD;  
 Thomas E. Wasser, PhD, Med; Greg A. Deye, MD, Major USAF; Keith K. Burkhardt, MD*

## Original Research

- Disaster Modeling: Medication Resources Required for Disaster Team Response** .....309  
*Marc S. Rosenthal, PhD, DO; Kelly Klein, MD; Kathleen Cowling, DO; Mary Grzybowski, PhD, MPH;  
 Robert Dunne, MD*

- Assessment of Major and Minor Events that Occurred in Italy during the Last Century  
 Using a Disaster Severity Scale Score** .....316  
*Giorgia Ferro, MD, EMDM*

- Thiopental vs. Etomidate for Rapid Sequence Intubation in Aeromedicine** .....324  
*Charles J. Sondag, BSN, CFRN; Jennifer Axelband, DO; Jeanne Jacoby, MD;  
 Robert Higgins, RN, EMT-P; Duane Crider, PhD*

## Special Reports

- Strategies in Evaluation and Management of Bam Earthquake Victims** .....327  
*Mohammad J. Emami, MD; Ali R. Tavakoli, MD; Hossein Alemzadeh, MD; Farzad Abdinejad, MD;  
 Gholambossain Shabcheraghi, MD, FRCS(C); Mohammad A. Erfani, MD; Kamran Mozafarian, MD;  
 Saeed Solooki, MD; Sorena Rezazadeh, MD; Ahmad Ensafadaran, MD; Hormoz Nourai, MD;  
 Feriedoon M. Jaber, MD; Maryam Sharifian*

- Benchmarking for Hospital Evacuation: A Critical Data Collection Tool** .....331  
*Carl H. Schultz, MD, FACEP; Kristi L. Koenig, MD, FACEP;  
 Erik Auf der Heide, MD, MPH, FACEP; Robert Olson*

## Brief Report

- Blackout 2003: Preparedness and Lessons Learned from the Perspectives of Four Hospitals** .....343  
*Kelly R. Klein, MD; Marc S. Rosenthal, DO, PhD; Howard A. Klausner, MD*

## Forum

- Letter to the Editor** .....350  
*Viroj Wiwanitkit, MD*

## Abstracts

- Spanish Translations of Selected Abstracts** .....351  
*Translated by Graciela Zapata*

## Supplement

- Abstracts of Scientific and Invited Papers** .....s156  
*First Yale-New Haven International Congress on Disaster Medicine and Emergency Management*

- Instructions For Authors** .....iv

### Editorial Office

University of Wisconsin-Madison USA

#### Editor-in-Chief

Marvin L. Birnbaum, MD, PhD

#### Editorial Assistant

Wendy Dopkin

#### Production Editor

Wendy Dopkin

#### Production Consultant

Donna Schaan

#### Advertising

Mary Duss

#### Subscriptions

Mary Duss

#### Web Editor

Wendy Dopkin

#### Editorial Interns

Dana L. Schmidman, *Lead Intern*  
 Patrice Kohl

#### Publisher

World Association for Disaster and  
 Emergency Medicine  
 Madison, Wisconsin USA

*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) 265-9290; E-mail: mlb@medicine.wisc.edu or pdm@medicine.wisc.edu.

**Subscription Information:** One year (six issues)—Institutions: [US] \$400; Individuals: \$100; 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:** Mary Duss; *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (6733), Madison, WI 53792 USA; E-mail: pdm@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 © 2005 by the World Association for Disaster and Emergency Medicine. Periodicals postage paid at Madison, WI and at additional mailing offices.

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: 10 September 2004
4. Issue frequency: Bimonthly
5. Number of issues published annually: 6
6. Annual subscription price: \$100.00 Individual/\$400.00 Institution
7. Mailing address of known office of publication: 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: The World Association for Disaster and Emergency Medicine, 3330 University Avenue, Suite 300, (Dane County) Madison, WI 53705-2167 USA, Editor: Marvin L. Birnbaum, 3330 University Avenue, Suite 300, Madison, WI 53705-2167 USA
10. Owner: World Association for Disaster and Emergency Medicine, 3330 University Avenue, Suite 300, Madison, WI 53705 USA
11. Known: bondholders, mortgages, and other security holders owning or holding 1% or more of total amount 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:

- A. Total copies: 900-avg. per issue during proceeding 12 months/1,000 last issue
- B. Paid/Requested Circulation: Outside country mail subscriptions 398
- C. Others mailed through USPS 373
- D. Free distribution outside the mail 20
- E. Copies not immediately distributed 109 (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

## 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 Board 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; (+1) (608) 263-9641;

E-mail: [mlb@medicine.wisc.edu](mailto:mlb@medicine.wisc.edu).

## INFORMATION FOR READERS

### Subscription Prices (6 issues)

<b>Institutional</b>	[US]	\$400
<b>Individual</b>		\$100

"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 to: *Prehospital and Disaster Medicine*, PO Box 55158, Madison, WI 53705-8958 USA.**

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

### 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.

Address other questions about your subscription to *Prehospital and Disaster Medicine*.

### Back Issues

A limited supply of back issues not included in your subscription is available. Available back issues are listed on the website or a list can be obtained without charge from the *Prehospital and Disaster Medicine* office.

### On-Line 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.

Cover Artwork: *Secrets Within*

By: Linda Baker

# 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 methods and analyses 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 unnecessarily 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 (humanitarian) 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 Word or WordPerfect. 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: [pdm@medicine.wisc.edu](mailto: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. 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.

**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.

**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 should 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. 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 should 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. In: *Indonesia Briefing*, Jakarta/ Brussels. Available at [www.crisisweb.org/projects/asia/indonesia/reports/A400804\\_24102002.pdf](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 format and are to include a legend.

**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 6 to 9 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, (+1) (608) 263-9641; E-mail: [mlb@medicine.wisc.edu](mailto: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

**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)

**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

**Frank Archer, MD**  
Monash University  
Melbourne, Australia

**Ahmed Ammar, MD**  
King Fahd Medical Complex  
Riyadh, Saudi Arabia

**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**  
Editor: *Resuscitation*  
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

**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

**Claude de Ville de Goyet**  
Consultant WHO/PAHO

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

**Judith Fisher, MD**  
Consultant, Disaster Medicine  
Pleasant Hill, California USA

**Malcolm Fisher, MD**  
Royal North Shore Hospital  
Sydney, Australia

**Alain Flaujat, MD**  
Editor, *Ameliasp*  
Olonzaio, 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

**Keith Holtermann**  
George Washington University  
Washington, DC 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  
Petropavlovek, 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**  
Broward County Fire Rescue  
Ft. Lauderdale, Florida USA

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

**Mauricio Lynn, MD**  
Miami, Florida USA

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

**Graeme McColl**  
St. John Ambulance Service  
Christchurch, 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

**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

**Edward Ricci, PhD**  
University of Pittsburgh  
Pittsburgh, Pennsylvania USA

**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

**Edita Stok, MD**  
Ministry of Health  
Ljubjana, Slovenia

**Knut Ole Sundnes, MD**  
Baerum Hospital  
Oslo, Norway

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

**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

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

**Harsh Wardhan, MD**  
Sundar Lal Jain Hospital  
Delhi, India



# Prehospital and Disaster Medicine

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

*Prehospital and Disaster Medicine* (PDM) is a peer-reviewed international medical journal devoted to the publication of Disaster and Humanitarian Medicine research and education. The principal mission of PDM is the distribution of information relevant to the practice of out-of-hospital and in-hospital emergency medical care, disaster medicine, and public health and safety. PDM provides an international forum for the reporting and discussion of scientific studies, both quantitative and qualitative, that have relevance to the above practices. Its major objectives are: (1) the improvement of the types and quality of the care delivered to patients with perceived medical emergencies and to victims of mass-casualty incidents or disasters, including the public health and safety aspects of such events; and (2) the prevention and/or mitigation of the occurrence of such events and of the effects of these events upon the human population and environment.

---

Subscription rates [US]:	One Year (6 Issues)
Individual (non-WADEM member)	\$100 <sup>a,b</sup>
Institutional	\$400 <sup>a</sup>

---

<sup>a</sup>Outside the US, add [US] \$6 for international shipping charges.

<sup>b</sup>WADEM-affiliated Organization members receive 25% off individual subscription prices.

#### Affiliated Organizations include:

Association de Medicine Liberaux Sapeur (AMELISAP)  
Japanese Medical Team for Disaster Relief  
Mediterranean Club for Burns and Fire Disasters  
Nordic Society for Disaster Medicine  
Pan-American Society for Disaster and Emergency Medicine  
Save Accident Victims Association of Nigeria (SAVAN)  
Society of Emergency Medicine-Singapore  
Swedish Society of Disaster Medicine

#### Please send inquiries to:

Editorial Office  
*Prehospital and Disaster Medicine*  
PO Box 55158  
Madison, WI 53705-8958 USA

Telephone: (+1) (608) 263-2069  
Fax: (+1) (608) 265-3037  
E-mail: pdm@medicine.wisc.edu