

PREHOSPITAL and DISASTER MEDICINE

Médecine Pré-Hospitalière et Médecine de Catastrophe
Medicina Prehospitalaria y de Cártaftros

病院にかかる前の処置と
災害医療

Volume 11, Number 1

January–March 1996

Editorial

Leadership

Feature Article

Consequence of Land Mines on Public Health

Original Research

Burnout in Firefighter/Paramedics
Treatment of Chest Pain Without Medical Control
Triage of Pediatric Trauma Victims
Sepsis Following Motor-Vehicle Crashes
Paramedic-Staffed Mobile Intensive Care

Special Reports

Casualties of Military Conflicts
Medical Aid at Public Event

Brief Reports

Randomization of Prehospital Patients
Esophageal Detector Device
In-Field Amputations

Case Report

Pet Ownership Following Tornado

Continuing Education

Droughts

The Official Journal of the
National Association of EMS Physicians and the
World Association for Disaster and Emergency Medicine
in association with the
National Association of State EMS Directors

SOME IDEAS ARE TIMELESS

Forty years ago our founder had an idea that evolved and resulted in the manufacture of the first light-weight, elevating cot with roll-in technology.

Since that time, we've tested, researched and refined the cot. And, today, we offer several models all of which have been proven both in our testing facilities and in your ambulances.

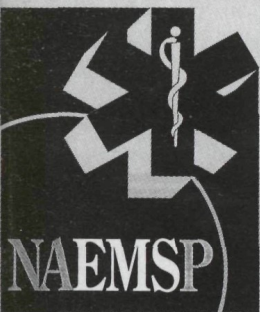
And because there's more to EMS than transporting patients, over the years we've expanded our line to include hundreds of products for the Emergency Medical Services provider, always keeping in mind three important factors; safety and ease of use, ambulance storage limitations and product durability.

We've dedicated the past forty years to supplying you with the tools of your trade. Just watch what we have planned for the next forty years.



ANYONE ELSE
IS JUST REINVENTING THE WHEEL

ALWAYS ON DUTY

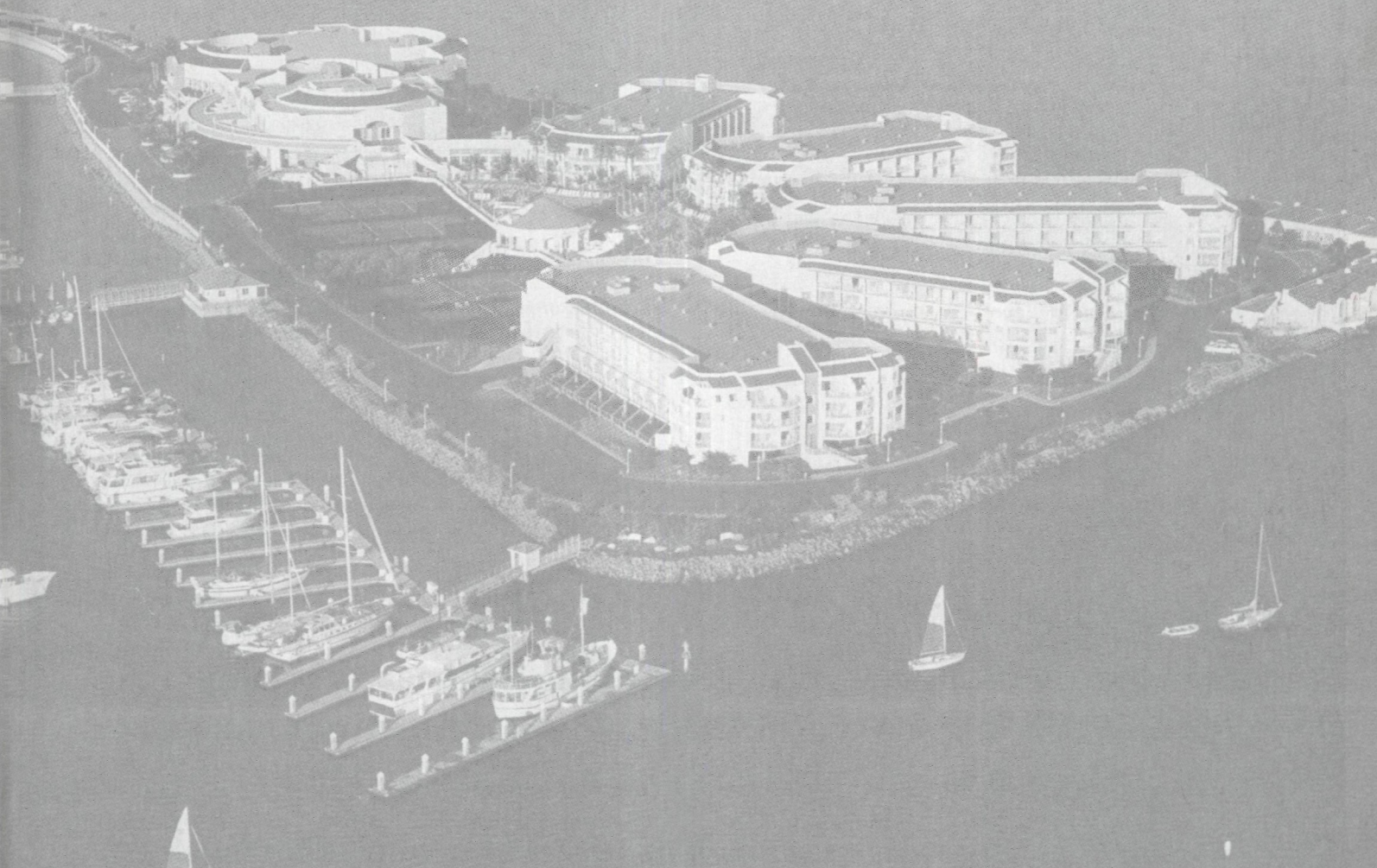


NAEMSP 1996 Mid-Year Meeting and Scientific Assembly

EMS Research: Charting The Future

Join Us At
The Loews Coronado Bay Resort
San Diego, CA

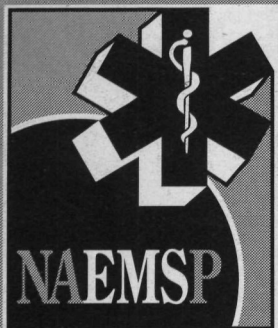
July 10-15, 1996



NAEMSP Research Meeting: July 13-15, 1996

National EMS Medical Director Course: July 10-12, 1996

For meeting information, call (412) 578-3222. For hotel reservations and discounted room rates, contact the Loews at (619) 424-4000. A special rate has been extended to NAEMSP guests. NAEMSP reserves the right to cancel hotel rooms for parties not affiliated with its meetings and events. [9023X00042242](https://doi.org/10.1002/9781118191111.ch10) Published online by Cambridge University Press



NAEMSP

Even though the organization is called the National Association of EMS Physicians, paramedics, EMTs, educators, nurses and other EMS professionals have always played a role in NAEMSP.

NAEMSP is the leading national professional organization today for out-of-hospital emergency medical care. It brings together physicians from all specialties in the House of Medicine and non-physicians from every discipline, to work on a common goal:

Improving the Quality of Out-of-Hospital Emergency Medical Care

Editor's Corner

Where Have All the Leaders Gone?1
Marvin L. Birnbaum, MD, PhD

Feature Article

The Consequence of Land Mines on Public Health.....2
Faiz Kakar, PhD, Fabrizio Bassani, MD, C.J. Romer, MD, S.W.A. Gunn, MD

Original Research

**Authoritarianism, Inner/Other Directedness, and Sensation Seeking in Firefighter/Paramedics:
Their Relationship with Burnout**11
Ronald G. Palmer, MSW, Wanda M. Spaid, DSW

Safe Out-of-Hospital Treatment of Chest Pain Without Direct Medical Control.....16
Mara McErlean, MD, Nancy Raccio-Robak, RN, MPH, Joel M. Bartfield, MD, Daniel Hermes, MD

**Evaluation of the Pediatric Trauma Checklist
as a Prehospital Pediatric Trauma Triage Tool for the State of Florida**.....20
William P. Johnson, RN, MS

Early Predictors of Sepsis in the Motor-Vehicle Crash Trauma Victim27
Jeanette K. Previdi, RN, BSN, MPH, CEN, C. Gene Cayten, MD, MPH, Daniel W. Byrne, MS

**The Development and Evaluation of a Paramedic-Staffed
Mobile Intensive Care Unit for Interfacility Patient Transport**.....37
Robert M. Domeier, MD, FACEP, James D. Hill, EMT-P, Roger D. Simpson, EMT-P

Special Reports

**Treatment of Casualties of Military Conflicts
at the Critical Medicine Clinic of the Central Hospital in Georgia**.....44
Zurab Kheladze, Samson Kajaia, George Gorgoshidze, Vladimir Bendeliani

An Analysis of Demand for First-Aid Care at a Major Public Event.....48
Arthas Flabouris, MBBS, FANZCA, Franklin Bridgewater, OSTJ, MB, FRACS, FRCS (Eng)

Brief Reports

**Use of On-Line Medical Command to Randomize Patients
in a Prehospital Research Study**55
*Bartholomew J. Tortella, MTS, MD, FACS, Robert F. Lavery, MA, MICP, Mark Quadrel, MD, Ronald P. Cody, EdD,
Greg Heyt, BA, MS-4*

The Esophageal Detector Device: Accuracy and Reliability in Difficult Airway Settings.....60
*Christopher E. Kapsner, MD, David C. Seaberg, MD, FACEP, Charles Stengel, MD, Kaveh Ilkhanipour, MD, FACEP,
James Menegazzi, PhD*

In-Field Extremity Amputation: Prevalence and Protocols in Emergency Medical Services.....63
*Kathryn E. Kampen, MD, Jon R. Krohmer, MD, FACEP, Jeffery S. Jones, MD, FACEP, J.M. Dougherty, MD, FACEP,
Robert K. Bonness, MD, FACEP*

Case Report

Human Health Concerns from Pet Ownership After a Tornado.....67
Sebastian E. Heath, VetMB, MVetSci, Max Champion, BS

Continuing Education

Natural Hazards: Causes and Effects—Drought.....71
Eddie Perez, Paul Thompson

Forum	80
Guidelines for Advertisers.....	97
Guidelines for Authors.....	98

Editorial Office

University of Wisconsin-Madison, USA

Marvin L. Birnbaum, MD, PhD, Editor-in-Chief

James Pointer, MD, Associate Editor-in-Chief

Donna Schaan, Editorial Assistant

Auburn Daily, Editorial Assistant

Advertising, Production, Subscription

Jems Communications, Carlsbad, Calif., USA

Tracy Michael, Managing Editor

Max Weaver, Technical Editor

Ruth Avery, Editorial Secretary/Reprints

Elizabeth Coyne DiPinto, Art Director

Christine Kloss, Graphic Designer

Veronica Baisley, Director, Sales

Sheri Pearson, Associate Account Manager

Michele Barth, Director, Marketing

Debbie Murray, Marketing Manager

Kevin Petrie, Manager, Circulation

Michael Julson, Fulfillment Coordinator

Janene Long-Forman, Manager, Production

Sue McElhane, Production Coordinator

Kevin Flanagan, Advertising Coordinator

Ariel Handley, Classified Sales

Dotty Stratton, Associate Publisher

Keith Griffiths, Publisher

James O. Page, Publisher

Prehospital and Disaster Medicine (ISSN 1049-023X) is published quarterly in the months of January, April, July, and October by Jems Communications, 1947 Camino Vida Roble, Carlsbad, CA 92008-6513, USA; (619)431-9797. *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, MD, Editor, *Prehospital and Disaster Medicine*, Clinical Science Center, 600 N. Highland (E5/615), Madison, WI 53792, USA; Phone/Fax (608) 263-9641; e-mail: mlb@genie.medicine.wisc.edu

Subscription Information: One year (four issues)—Institutions: (U.S.)\$78; Individuals: \$55; Residents/In Training: \$39; Paramedic, Nurse, EMT: \$39. Canadian subscribers must add \$10 per year, and international subscribers add (U.S.) \$20 per year for postage. Claims of non-receipt or damaged issues must be filed within three months of cover date.

Advertising Information: Contact Jems Communications, P.O. Box 2789, Carlsbad, CA 92018 USA; (619) 431-9797; Fax (619) 431-8176

Abstracts: Abstracts available in the National Association of EMS Physicians Electronic Database and the Emergency Care Information Center (ECIC). Indexed in the Cumulative Index to Nursing and Allied Health (CINAHL). The database is available online via BRS, Data-Star, and DIALOG, and on CD-ROM through CD Plus, Compact Cambridge and Silver Platter.

Copyright © 1996 by the National Association of Emergency Medical Services Physicians (USA) and the World Association for Disaster and Emergency Medicine.

Postmaster: Send address changes to *Prehospital and Disaster Medicine*, P.O. Box 2789, Carlsbad, CA 92018 USA.

Second-class circulation postage paid at Carlsbad, California, and at additional mailing offices.

MEMBERSHIP APPLICATION

APPLICATION FOR MEMBERSHIP TO THE NATIONAL ASSOCIATION OF EMS PHYSICIANS (NAEMSP)

FILL OUT ALL INFORMATION & CHECK APPROPRIATE BOXES

NAME _____ TITLE/POSITION _____

(Please check preferred address) BUSINESS ADDRESS HOME ADDRESS

CITY _____ STATE _____ ZIP + 4 _____ CITY _____ STATE _____ ZIP + 4 _____

PROVINCE _____ COUNTRY _____ PROVINCE _____ COUNTRY _____

PHONE _____ FAX _____ PHONE _____ FAX _____

EMS ORGANIZATION _____

MEDICAL SPECIALTY (PHYSICIANS) _____

NON-PHYSICIAN PRIMARY MEDICAL SPECIALTY: Paramedic EMT Nurse Research
 Education Student Administrative Physician Assistant

EMPLOYER TYPE: Fire Private Ambulance Hospital 3rd Service Industrial Commercial Other

ARE YOU CURRENTLY AN EMS MEDICAL DIRECTOR? YES NO

If YES, how were you selected to become Medical Director?

Ambulance Service Solicitation Volunteer Medical Community Appointed
 Competitive Application Hospital Appointed Government Appointed
 Other (specify) _____

ENROLL ME IN THE NAEMSP AS A: (PLEASE INCLUDE CURRICULUM VITAE INFORMATION AND/OR RESUME WITH APPLICATION)

FULL MEMBER: (\$195)* Physicians who are engaged in the planning, supervision, teaching or clinical practice of out-of-hospital emergency medical care.

RESIDENT PHYSICIAN FELLOW MEDICAL STUDENT MEMBER: (\$75)* Resident Physicians or Medical Students interested in EMS. EXPECTED GRADUATION DATE: _____

PROFESSIONAL MEMBERS: (\$75)* Non-physicians who have demonstrated an interest in out-of-hospital emergency medical care and the aims of the Association. (Nurse, EMT, EMT-P, etc.)

In addition to my NAEMSP annual dues, I have enclosed/charged enrollment fees to the NAEMSP Computer Database in the amount of: \$30* MEMBER FEE \$75* MEMBER INSTITUTION FEE

Although I am not interested in NAEMSP membership at this time, I have enclosed/charged enrollment fees to the NAEMSP Computer Database in the amount of: \$100* NON-MEMBER FEE \$200* NON-MEMBER INSTITUTION FEE

I understand the information on the database and bulletin board belongs to the National Association of EMS Physicians (NAEMSP) and should be confirmed with the direct source before clinically applied. I will not hold the NAEMSP or Montefiore Hospital responsible for its content or use.

Please enclose check, money order or credit card information for payment (in U.S. Funds) and return to:

NATIONAL ASSOCIATION OF EMS PHYSICIANS (NAEMSP)
230 MCKEE PLACE, SUITE 500 PITTSBURGH, PA 15213
(412) 578-3222

CARD # _____ EXP. DATE _____

SIGNATURE _____ DATE _____

* ADD ADDITIONAL POSTAGE COSTS OF \$15 FOR ALL FOREIGN MEMBERSHIPS AND \$10 FOR ALL CANADIAN MEMBERSHIPS

Your dues include the annual subscription to Prehospital and Disaster Medicine.
The subscription rate is \$36 for domestic, \$44 for Canadian and \$53 for foreign memberships.

NAEMSP Merchandise

Show your true colors by wearing our new NAEMSP line of apparel, available for sale at any NAEMSP meeting or by special order. Quantities are limited, so order today!

Flannel Lined Pullhood: NEW for 1996, NAEMSP is offering this pullhood in navy with islander plaid in the hood, placket and pocket linings. The NAEMSP logo is embroidered in white, grey, red and navy. This item will be available in January 1996 for only \$48!

Baby Rompers: We didn't want future NAEMSP members to go unnoticed, so we offer these quality Oneita baby rompers for our little ones. This item will be available in January in a rainbow of colors (ash, bubble gum, mellow yellow and navy) for \$16.

Baseball Caps: They were so popular in 1995 that we are extending the availability of these caps into 1996! These attractive baseball caps will be available in January in grey canvas with a navy brim and a navy, grey and white NAEMSP logo for \$13.



Golf Shirts: Show your allegiance to the EMS community while you're on the green with the NAEMSP 100% combed cotton golf shirt! The 2" logo is printed in grey, white and aqua on the upper left side of the shirt. This item makes a great gift for the golfer physician at \$27.

T-Shirts: The NAEMSP long sleeved t-shirt is a very hot item with our members...so hot we only have a few left. The shirt is 100% cotton with "NAEMSP National Association of EMS Physicians" printed in aqua on the upper left side of the shirt. The back of the shirt boldly displays a large NAEMSP logo in grey, white and aqua. These shirts are available for just \$15.



Pins: A new addition to the NAEMSP clothing line is our enamel logo pins which can be proudly displayed almost anywhere. These pins are classically designed in aqua and grey with gold trim and lettering. Show that you have a touch of class by wearing your NAEMSP logo pin everywhere you go! Member price is only \$4.

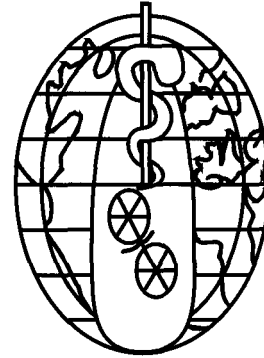
All of the above items are available by calling the NAEMSP offices at (412) 578-3222; by faxing your request to (412) 578-3241; by e-mail at NAEMSP@ISD.UPMC.EDU or by mail at:

NAEMSP
230 McKee Place, Suite 500
Pittsburgh, PA 15213.

1997

M

W



D

C

E

Celebratory

10th World Congress on Emergency and Disaster Medicine

on the occasion of

The 20th Anniversary of
The World Association for Disaster
and Emergency Medicine

W A D E M

(Founded in 1976 as the Club of Mainz)

September 24th – 27th, 1997 Mainz, Germany

W A D E M

PREHOSPITAL and DISASTER MEDICINE

Médecine Préhospitalière et Médecine de Catastrophe
Medicina Prehospitalaria y de Castàstrofes

EDITOR-IN-CHIEF

Marvin L. Birnbaum, MD, PhD
University of Wisconsin – Madison
Madison, Wisconsin USA

ASSOCIATE

EDITOR-IN-CHIEF

James Pointer, MD
North Broward Medical Center
Pompano Beach, Florida USA

ASSOCIATE EDITORS

Wolfgang Dick, Dr Med
Johannes Gutenberg Universität
Mainz, Germany

Kimball Maull, MD
Loyola University
Maywood, Illinois USA

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

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

PAST EDITORS

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

Peter Safar, MD
Safar Center
University of Pittsburgh
Pittsburgh, Pennsylvania USA
(JWAEDM 1981–1985)

Michael Gunderson, REMT-P
Rural Metro Corporation
Scottsdale, Arizona USA
(JPM 1987–88)

CONSULTING EDITORS

S. William A. Gunn, MD
European Centre for Disaster
Medicine
Medical Society of the World
Health Organization
Geneva, Switzerland

Peter Safar, MD
Safar Center
University of Pittsburgh
Pittsburgh, Pennsylvania USA

Ronald Stewart, MD
Victoria Hospital
Halifax, Nova Scotia Canada

EDITORIAL BOARD

James Adams, MD
Brigham and Women's Hospital
Boston, Massachusetts USA

Jakov Adler, MD
United Nations
New York, New York USA and
Jerusalem, Israel

Ahmed Ammar, MD
King Fahd University Hospital
Al-Khobar, Saudi Arabia

V. Anantharaman, MD
Singapore General Hospital
Singapore

Paul B. Anderson
Lincoln Medical Education
Foundation
Rural EMS Institute
Lincoln, Nebraska USA

Jack Ayres, JD, REMT-P
University of Texas Health
Science Center
Dallas, Texas USA

Peter Baskett, MD
Frenchay Hospital
Bristol, UK

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

Fredrick M. Burkle, MD, MPH
John A. Burns School of Medicine
and School of Public Health
University of Hawaii
Honolulu, Hawaii USA

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

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

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

Norm Dinerman, MD
Eastern Maine Medical Center
Bangor, Maine 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

George Foltin, MD
Bellevue Hospital Center
New York University Medical
Center
New York, New York USA

Michael Gunderson, REMT-P
Rural Metro Corporation
Scottsdale, Arizona USA

Borje Hallen, MD
Karolinska sjukhuset
Stockholm, Sweden

Richard C. Hunt, MD
East Carolina University
Greenville, North Carolina USA

Connie A. Jastremski, RN, MS
Syracuse, New York USA

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

Alexander Kuehl, MD, MPH
Cornell University Medical College
New York, New York USA

Per Kulling, MD
Swedish Poison Information
Centre
Stockholm, Sweden

John C. Lane, MD
University of Campinas Medical
Center
São Paulo, Brazil

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

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

Susan D. McHenry
Virginia Department of Health
Richmond, Virginia USA

Norman E. McSwain Jr. MD
Tulane University Medical
Center
New Orleans, Louisiana USA

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

Ronald F. Maio, DO
University of Michigan
Medical Center
Ann Arbor, Michigan USA

Michele Masellis, MD
Osp. Reg. Civico
Palermo, Italy

Edward A. Michelson, MD
Northwestern University
Chicago, Illinois USA

Michael Moles, MD
Prince Philip Hospital
Hong Kong University
Hong Kong

Eric Noji, MD
United States Centers for Disease
Control and Prevention
Atlanta, Georgia USA

Judy Olson, BSN
University of Wisconsin –
Madison
Madison, Wisconsin USA

James O. Page, JD
Emergency Care Information
Center
Carlsbad, California USA

Paul Paris, MD
University of Pittsburgh
Pittsburgh, Pennsylvania USA

Ernesto A. Pretto, MD
University of Pittsburgh
Pittsburgh, Pennsylvania USA

R Abdul Radjak, MD
Ministry of Health
Jakarta, Indonesia

Lawrence W. Rose, MD
Bethesda, Maryland USA

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

Sandra M. Schneider, MD
University of Rochester Medical
Center
Rochester, New York USA

Knut Ole Sundnes, MD
Baerum Hospital
Baerum, Norway

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

Shao Xiaohong, MD
Peking Union Medical College
Chinese Academy of Medical
Science
Beijing, China

Daniel Spaite, MD
University of Arizona
Tucson, Arizona USA

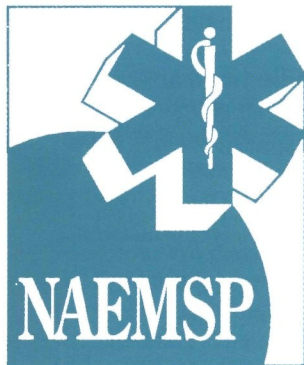
Sam Stratton, MD
County of Los Angeles
Los Angeles, California USA

Takashi Ukai, MD
Osaka City General Hospital
Osaka, Japan

Vincent Verdile, MD
Albany Medical Center
Albany, New York USA

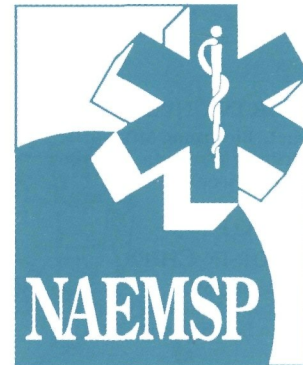
Yasuhiro Yamamoto, MD
Department of Emergency and
Critical Medicine
Tokyo, Japan

Donald Yealy, MD
University of Pittsburgh
Pittsburgh, Pennsylvania USA



NAEMSP

1996 Mid-Year Meeting
July 10 - 15, 1996
Loews Coronado Bay Resort
San Diego, California



CALL FOR ABSTRACTS

General Information

Submission Deadline: April 15, 1996

The National Association of EMS Physicians is now accepting abstracts for review for oral and poster presentation at the NAEMSP 1996 Mid-Year Meeting. Authors are urged to submit original work involving EMS or resuscitation research. The full spectrum of EMS and resuscitation research will be considered including basic science, clinical, health services research, epidemiological, operational and educational studies. Physicians, research scientists, out-of-hospital care providers and administrators are all encouraged to submit their work.

Manuscripts resulting from submitted abstracts must not appear in a refereed journal prior to the publication of the meeting abstracts in *Prehospital and Disaster Medicine*. Abstracts presented at other national meetings within 90 days of the NAEMSP Mid-Year Meeting will be considered for presentation.

All abstracts must be submitted on the official abstract form, and must be received no later than **April 15, 1996**.

Cash Award Information

Cash awards will be given for Best Resident/Fellow Presentation, Best Scientific Presentation, and Best Poster Presentation. Awards will be presented at the 1996 Mid-Year Meeting.

To obtain official NAEMSP abstract forms, call the National Association of EMS Physicians at (412) 578-3222 or (412) 578-3245.