

PREHOSPITAL and DISASTER MEDICINE

Volume 4, Number 2

October-December 1989

Special Report

Disaster Reanimatology Potentials:
A Structured Interview Study in Armenia

Original Research

The Rapid Prehospital Estimation of Blood Glucose
Occult Hypoxemia During Aeromedical Transport
A New Method for Simulated Mass Casualty Evaluation

Controversy

Prehospital Fluid Administration in Trauma

CME Paper

Ten Golden Rules for Urban Multiple Casualty Incident Management

The Administrator

The Role of Veterinary Sciences in Chemical Disasters & Emergencies

Venue

Meeting Venue and Abstracts for the Sixth World Congress
on Emergency and Disaster Medicine
Hong Kong

Abstracts for the Contributed Papers to the International Conference on
Emergency Health Care Development
Washington, DC

The Official Journal of the
National Association of EMS Physicians and the
World Association for Emergency and Disaster Medicine
in association with the
Acute Care Foundation

In 1986 we built the better automatic defibrillator.

In 1989 we outdid ourselves.

1986



Heartstart 2000®

In 1986 we began building the Heartstart 2000® Semi-Automatic Defibrillator for Laerdal Medical Corporation. It included features like continuous monitoring, liquid crystal ECG display and solid state memory that revolutionized the defibrillator industry and made the product an instant success. We are very proud of that achievement.

But in 1989 we stopped building the Heartstart 2000 and introduced the First Medic 610 Semi-Automatic Defibrillator, the next step in the evolution of defibrillator technology. Simplified packaging for increased reliability and ease of use, "crash bar" reinforced packaging for dramatically increased durability and breakthrough advances in protocol control technology for flexible programmability of the defibrillator.

1989



First Medic™ 610

We've come a long way since 1986. But we haven't left any Heartstart 2000 customers behind. The First Medic 610 is fully compatible with Heartstart 2000 medical control modules, tapes, batteries and general operation. And First Medic's new accessories offer both compatibility and enhanced capability: Model 210 Tape Player, Model 220 Memory Module Reader, Model 270 AC/DC battery charger, long-life defibrillator electrodes and Data Manager computer software for patient tracking.

Call us for a demonstration of the next generation.

 **FIRST®**
MEDIC
First Medical Devices Corp.

2445 140th Ave. NE
Bellevue, WA 98005-1879 USA
(206) 641-4774
(800) 874-4666
(206) 641-8816 FAX

TABLE OF CONTENTS

Volume 4, Number 2
October-December, 1989

Editor's Corner: Disaster Medicine: Fact or Fiction?	107
<i>Marvin L. Birnbaum, MD, PhD, Editor</i>	
ORIGINAL RESEARCH	
The Rapid Prehospital Estimation of Blood Glucose Using Chemstrip bG.	109
<i>Paul T. Hogle, MD, Donald M. Yealy, MD, Paul M. Paris, MD, Ronald D. Stewart, MD</i>	
Occult Hypoxemia During Aeromedical Transport:	
Detection by Pulse Oximetry.	115
<i>James D. Melton III, MD, Michael Heller, MD, Richard Kaplan, MS, Karen Mohan-Klein, RN, MSN</i>	
A New Method for Simulated Mass Casualty Evaluation: The Beilinson Hospital Exercise.	122
<i>D. Simon, MD, Y.L. Danon, MD, C. Chaimoff, MD, A. Shachar, MD</i>	
CONTROVERSY	
Prehospital Fluid Administration in Trauma.	127
<i>Steven J. Rottman, MD</i>	
Ineffective Therapy and Delayed Transport.	129
<i>Frank R. Lewis, MD</i>	
COLLECTIVE REVIEW	
Ten Golden Rules for Urban Multiple Casualty Incident Management.	131
<i>Paul E. Pepe, MD, Ronald D. Stewart, MD, Michael K. Copass, MD</i>	
CME Examination Section.	134
SPECIAL REPORT	
Disaster Reanimatology Potentials: A Structured Interview Study in Armenia.	135
<i>Miroslav Klain, MD, PhD, Edmund Ricci, PhD, Peter Safar, MD, Victor Semenov, MD, Ernesto Pretto, MD, Samuel Tisherman, MD, Joel Abrams, PhD, Louise Comfort, PhD, Disaster Reanimatology Study Group</i>	
THE ADMINISTRATOR	
The Role of Veterinary Sciences in Chemical Disasters and Emergencies.	155
<i>A. Mantovani</i>	
BRIEF REPORT	
Cellular Telecommunications at Amtrak's Worst Crash.	160
<i>Charles E. Wiles III, MD, Ameen I. Ramzy, MD, Howard Belzberg, MD</i>	
FEATURES	
We Believe: Emergency Medical Dispatching	163
EDITORIALS/COMMENTS	
Disaster Medicine: A New Discipline or a New Approach?	167
<i>Corrado Manni, Sergio Magalini</i>	
VENUE	
6th World Congress of Emergency and Disaster Medicine	
Invitation.	171
Scientific Program.	172
Abstracts to Scientific Sessions.	177
Abstracts of the Contributed Papers to the ICEHCD.	197
Calendar.	209
Advertiser Index.	210
Professional Classifieds.	211
Letters to the Editor.	213
Editorial Index.	214

DEMAND. THE BEST.

THE LSP DEMAND VALVE – THE ONLY CPR VALVE THAT MEETS THE AHA GUIDELINES

At LSP, we know assisting a patient's ventilation is a critical prehospital skill. So, we engineered the LSP Demand Valve with Audible Alarm to provide the best solutions for in-field patient resuscitation.

A standard of pulmonary resuscitation for the past 10-15 years, the LSP Demand Valve has been designed and calibrated to meet—or exceed—the most recent American Heart Association standards.* But while meeting these standards, we also engineered in solutions for almost every common area of concern during emergency resuscitation.

For instance, the LSP Demand Valve limits or controls inspiratory pressure to a maximum of 55 cm H₂O while providing a constant 40 LPM flow. This minimizes the potential for pneumothorax or gastric distention. All the while, the patient is guaranteed 100% source gas. And the gas is conserved, not lost, because the gas is delivered to the patient only during inspiration.

What all this means is, when combined with a patent airway, the LSP Demand Valve's patient safety features eliminate human variables inherent with manual resuscitation procedures. Features like the audible alarm, the maximum pressure limit and the ability to provide consistent and repeatable ventilations all help protect the patient.

In a critical situation you need technology you can trust. So, demand the best—The LSP Demand Valve. Call us now for more information (714) 727-2000.

*Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC); JAMA, June 6, 1986, Vol. 255, No. 21

**LIFE
SUPPORT
PRODUCTS, INC.**

One Mauchly, Irvine, California 92718 USA
714/727-2000, Telex 3716388, FAX 714/727-1796

PREHOSPITAL and DISASTER MEDICINE

*THE OFFICIAL JOURNAL OF THE
WORLD ASSOCIATION FOR EMERGENCY AND DISASTER MEDICINE (WAEDM)
(FORMERLY "CLUB OF MAINZ")
NATIONAL ASSOCIATION OF EMERGENCY MEDICAL SERVICES PHYSICIANS (NAEMSP)
IN ASSOCIATION WITH THE ACUTE CARE FOUNDATION

EDITOR

Marv Birnbaum, MD, PhD
EMS Program
University of Wisconsin-Madison
Madison, Wisconsin, USA

ASSOCIATE EDITORS

Michael Copass, MD
Harbor View Medical Center
University of Washington
Seattle, Washington, USA

Michael Gunderson, REMT-P
Palm Harbor Fire Dept.
Pinellas County EMS System
Tampa, Florida, USA

Steven Rottman, MD
Department of Emergency Medicine
UCLA Hospitals and Clinics
Los Angeles, California, USA

PAST EDITORS

R. Adams Cowley, MD
Former Dir—Maryland Inst.
for EMS Systems
University of Maryland
Baltimore, Maryland, USA
(JWAEDM 1986-87)

Peter Safar, MD
International Resuscitation
Research Center
University of Pittsburgh
Pittsburgh, Pennsylvania, USA
(JWAEDM 1981-85)

Michael Gunderson, REMT-P
Palm Harbor Fire Dept.
Pinellas County EMS System
Tampa, Florida, USA
(JPM 1987-88)

CONSULTING EDITORS

Peter Safar, MD
International Resuscitation
Research Center
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Martin Silverstein, MD
Department of Surgery
Uniformed Services
Univ. of the Health Sciences
Tucson, Arizona, USA

Ronald Stewart, MD
Sunnybrook Medical Center
University of Toronto
North York, Ontario, Canada

EDITORIAL BOARD

Jakov Adler, MD,
Shaare Zedec Medical Center
Jerusalem, Israel

Fritz Ahnefeld, MD
University of Ulm
Ulm, West Germany

Jack Ayres, JD
Dallas, Texas, USA

Peter Baskett, MD
Frenchay Hospital
Bristol, UK

Jeff Clawson, MD
Salt Lake City Fire Department
Salt Lake City, Utah, USA

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

Craig DeAtley, PA-C
Geo. Washington Univ. Med. Ctr.
Washington, DC, USA

Eelco Dykstra, MD
Int'l. Academy of Health
Care Management.
Wiesbaden, West Germany

Mickey Eisenberg, MD
University Hospital
Seattle, Washington, USA

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

Malcolm Fisher, MD
Royal North Shore Hospital
Sydney, Australia

George Garnett, MD
Soldotna, Alaska, USA

William R Gemma, PhD
International Society for EMS
Potomac, Maryland, USA

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

Michael King, REMT
Acute Care Foundation
Tampa, Florida, USA

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

Baxter Larmon, EMT-P
UCLA Medical Center
Los Angeles, California, USA

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

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

Kimball Maull, MD
University of Tennessee
Knoxville, Tennessee, USA

Michael Moles, MD
Prince Philip Hospital
Hong Kong

Judy Olson, BSN
EMS Program
University of Wisconsin-Madison
Madison, Wisconsin, USA

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

Paul Paris, MD
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Jiri Pokorny, MD, DrSc
Post-Graduate Medical School
Prague, Czechoslovakia

Ameen I Ramzy, MD
University of Maryland
Baltimore, Maryland, USA

Lawrence W Rose, MD
Bethesda, Maryland, USA

Sandra M Schneider, MD
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Victor Semenov, MD
Reanimatology Institute
Academy of Medical Sciences
Moscow, USSR

John Shea, MD
Loyola University Medical Center
Maywood, Illinois, USA

Kenneth Stults, PA-C
Harris Methodist Fort Worth
Fort Worth, Texas, USA

Connie Walleck, RN, MS
University of Maryland
Baltimore, Maryland, USA

PUBLICATION EDITOR

R. T. Will II

Jems Publishing Co. Inc.
James O. Page, Publisher
Keith Griffiths, Executive Editor
Dana Jarvis Bies, Production Manager
Robert Schmidt, Art Director
L. Ortiz Art Service, Graphics
Rick Miner, Associate Publisher
Lisa J. Cota, Account Executive
Marte Reavis, Account Executive
Janene Long, Advertising Coordinator
Jay Hillis, Director of Circulation
Steven W. Phillips, Fulfillment Manager

Prehospital and Disaster Medicine (ISSN 0882-7397) is published quarterly in the months of December, March, June, and September by Jems Publishing Co., Inc., 674 Via de la Valle, Solana Beach, CA 92075; 619/481-1128. 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, 1552, University Avenue, Room 434, Madison, WI 53705, USA; 608/263-7094, 608/263-2069, Fax 608/262-2069.

Subscription Information: One year (four issues)—Institutions: \$78; Individuals: \$48; Residents/In Training: \$35; Paramedic, Nurse, EMT: \$35. Canadian subscribers must add \$10 per year, and international subscribers add U.S. \$20 per year for postage. For European subscriptions: IOS, Van Diemenstraat 94, 1013 CN Amsterdam, Netherlands; Fax: +31 20 22 60 55; and for Japanese subscriptions: IOS Japan Dept., Highway Developments Co., Ltd., 1st Golden Bldg., 8-2-9 Ginza, Tokyo—Chuoku, Japan 104; Fax +81 3 572 8672. All other subscriptions should be directed to Jems Publishing Co., 674 Via de la Valle, Suite 200, P.O. Box 1026, Solana Beach, CA 92075; 619/481-1128; Fax 619-481-2711. Claims of non-receipt or damaged issues must be filed within three months of cover date.

Advertising Information: Contact Jems Publishing Co., 674 Via de la Valle, Suite 200, P.O. Box 1026, Solana Beach, CA 92075; 619/481-1128; Fax 619-481-2711.

Abstracts: Abstracts available in the National Association of EMS Physicians Electronic Database and the Emergency Care Information Center (ECIC).

Copyright © 1989 by the National Association of Emergency Medical Services Physicians (USA), World Association for Emergency and Disaster Medicine, and the Acute Care Foundation.

Postmaster (USA): Return form 3579 to Jems Publishing Co., P.O. Box 1026, Solana Beach, CA 92075.

*Incorporating the Journal of the World Association for Emergency and Disaster Medicine (JWAEDM) and the Journal of Prehospital Medicine (JPM)

Service makes the difference

Coping with emergencies is very demanding. You need to take control and be prepared. What better way to do this than with Aero Products.

In business for over 10 years, we know how to provide our customers with the best quality products to handle emergency situations. Many EMS professionals have chosen us because of the service we provide and the quality of our products.

Don't hesitate, call us now and expect the best.

Distributor of leading medical manufacturers nationwide:

FERNO-WASHINGTON • ABBOTT • JOHNSON & JOHNSON • CALIFORNIA MEDICAL • HUDSON • LAERDAL
RESPIRONICS • PURITAN BENNETT • SURVIVAL TECHNOLOGY • RUSCH • MED TECH SWEDEN
BAXTER • THOMAS • IMPACT • MINTO • MARK CLARK • POSEY • RICO • JUNKIN • HERMITAGE
ROEHAMPTON • COLD CYCLE • NORTH • MORRISON • PLANO • TYCOS • NASCO • FEDERAL SIGNAL
OPTRONICS • UNITY • VANNER • VORTEC • UNOMED • WINFIELD • KNICKERBOCKER • JOBST
AJAX • STREAMLIGHT • FLAMBEAU • SOUTHERN VEHICLE PRODUCTS • CRITICARE • LYPHOMED
TRENTON • WELDON • MAG INSTRUMENT • SIMULAIDS • WHELEN • ANSELL • CEDERROTH
TERUMO • CONMED • LIFE SUPPORT PRODUCTS • POLAMEDCO • SAUNDERS • VERIFLO
BMS • VESTAL • ZEP • ALLIED • GRAHAM FIELD • SCHELL • PUBLIC SAFETY • RAJOWALT



AEROTM
PRODUCTS CORPORATION

LIFE SUPPORT GROUP • EMERGENCY VEHICLE GROUP • RESCUE SYSTEMS GROUP

708 Industry Road, Longwood, Florida 32750
Nationwide 1-800-327-8887 • Florida 1-800-432-8674 • Telefax 407-331-3528