

PREHOSPITAL and DISASTER MEDICINE

Volume 4, Number 1

July-September 1989

Original Research

Nitroglycerin Lingual Aerosol in Prehospital Emergency Care
A Comparative Study of Five Transcutaneous Pacing Devices
Socioeconomic and Psychological Aspects of Disasters

CME Paper

Analgesia in the Field

Brief Report

Patient Selection for Advanced Prehospital Care in a
Two-Level Emergency Medical System

Controversy

Medical Anti-Shock Trousers

Editorials

The Past, Present and Future of EMS
Disaster Medicine: Future Challenges
The Prehospital EMS Provider in the 1990s

Position Paper

EMS Base Station Function and Design:
On-Line Medical Control

Venue

Meeting Venue and Abstracts for the
5th Annual NAEMSP Conference

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

ARE YOU READY FOR A CARDIAC ARREST?

Early defibrillation is the key!

Getting to the patient in time is essential. You know that every minute delayed in delivering a defibrillator shock reduces a cardiac arrest victim's chance for survival. If your community has effectively addressed the challenges of quick response, then maybe you're ready to take the next step – equipping your system with an automated defibrillator that is specifically designed for first response.

First Medic's 610 semi-automatic defibrillator is highly sophisticated but simple to use. It analyzes a patient's

cardiac rhythm and then guides the operator through the treatment with both visual messages and audible voice prompts.

It documents each event during its use, including ECG waveforms, in a solid state memory module for later printout or database analysis and stores voice and backup ECG on tape. And it's rugged enough to stand up to the punishment of field use.

There's much more to tell about the First Medic 610. If you're ready to look seriously at the most advanced instrument of its kind, call us toll-free for a demonstration.



**FIRST
MEDIC**

2445 140th Avenue NE, Bellevue, WA 98005
(206) 641-4774, Toll-free 1(800)874-4666

TABLE OF CONTENTS

Premiere Issue
July - September, 1989
Vol. 4, No. 1

Editor's Welcome.....	7
<i>Marvin L. Birnbaum, MD, Editor</i>	
ORIGINAL RESEARCH	
Nitroglycerine Lingual Aerosol in Prehospital Emergency Care	11
<i>Steven Rottman, MD, Baxter Larmon, EMT-P</i>	
A Comparative Study of Five Transcutaneous Pacing Devices in Unanesthetized Human Volunteers.....	15
<i>Michael B. Heller, MD, Joseph Peterson, MD, Keveh Ilkahrampour, MD, Richard Kaplan, MS, Paul M. Paris, MD</i>	
Socioeconomic and Psychological Aspects of Disasters.....	21
<i>JoAnn Glittenberg, Ph.D</i>	
COLLECTIVE REVIEW	
Analgesia in the Field.....	31
<i>Ronald D. Stewart, MD</i>	
CME Examination Section.....	35
BRIEF REPORTS	
Patient Selection for Advanced Prehospital Care in a Two-Level Emergency Medical System.....	36
<i>David Applebaum, MD</i>	
CONTROVERSY	
Medical Anti-Shock Trousers:	
Blind Faith, Poor Judgment and Patient Jeopardy.....	39
<i>Kenneth L. Mattox, MD</i>	
Pneumatic Anti-Shock Garment: Does It Work?.....	42
<i>Norman McSwain, Jr., MD</i>	
EDITORIALS/COMMENTS	
Mission Statements of the Sponsoring Organizations.....	45
The Past, Present and Future of Emergency Medical Services.....	47
<i>Paul E. Pepe, MD, FACP, FCCP, FACEP</i>	
Disaster Medicine: Future Challenges.....	50
<i>Morgan Fahey, OBE, MBChB(NZ), FRNZCG</i>	
The Prehospital EMS Provider in the 1990's: The Third Decade of Paramedics.....	51
<i>Michael R. Gunderson, REMT-Pures</i>	
FEATURES	
We Believe:	
EMS Base Station Function and Design: On-Line Medical Control.....	53
VENUE	
5th Annual Meeting of the National Association of Emergency Medical Services Physicians:	
General Information.....	57
Abstracts to Scientific Sessions.....	61
<hr/>	
Calendar.....	88
On-Line.....	91
Professional Classifieds.....	94
Editorial Index.....	95
Advertiser Index.....	96
Information to Authors.....	97

The ZOLLNTP[®] Noninvasive Temporary Pacemaker

■ Proven in Clinical Medicine

■ Chosen by Leading Air Medical Services

Now, the ZOLL NTP, that benefited thousands of patients in Emergency Rooms and other hospital critical care sites, is the overwhelming choice for airborne medical services.

This new generation cardiac pacing device combines speed, ease-of-use and portability with patient tolerance, and is effective in a way no other device can match. Published clinical data documents this superior performance.^{1,2,3}

EFFECTIVE

The ZOLL NTP is effective in producing electrical ventricular responses. Pacing is accomplished with a clearly recognized ECG response.

SAFE

No arrhythmias or other complications were observed during clinical trials, nor have any been subsequently reported in the literature.

COMFORT TESTED

The ZOLL NTP is well tolerated by the conscious patient.

DESIGNED WITH AIR MEDICINE IN MIND

ZMI designed special anti-vibration controls and recently introduced a carrying case made especially for airborne use. These important product enhancements were the direct result of our close involvement with leading Air Medical Services.

Prove It To Yourself. Find out more about the ZOLL NTP[®] and noninvasive pacing. Call our marketing service department today at 800-348-9011 (in Massachusetts (617) 933-9150). Or, complete and send the coupon below to:

ZMI Corporation

500 West Cummings Park, Woburn, MA 01818

ZMI Corporation, 500 West Cummings Park, Woburn, MA 01818

Yes, I'd like to receive information on the ZOLL NTP[®] as well as reprints in the efficacy of noninvasive temporary pacing.

I am interested in a demonstration of the ZOLL NTP[®]

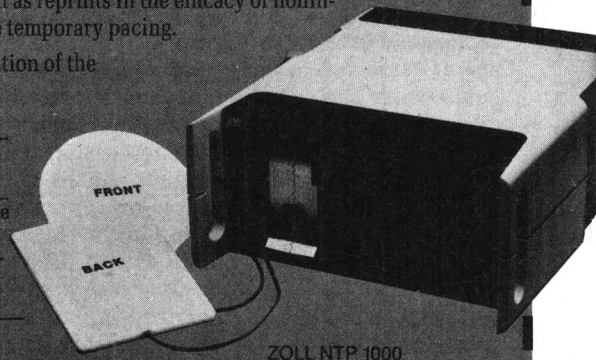
Name & Title _____

Department _____ Telephone _____

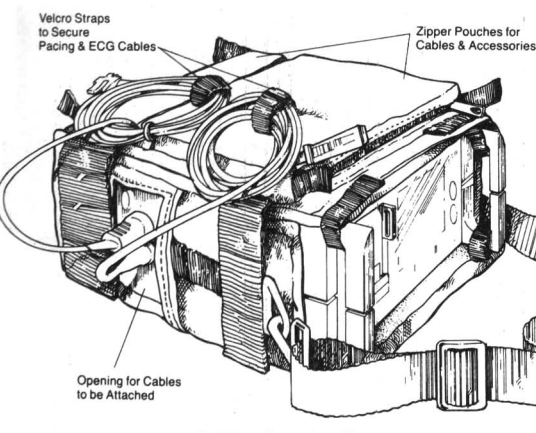
Institution _____

Address _____

City, State, Zip _____



ZOLL NTP 1000



AirMed Carrying Case

References:

- 1 Zoll PM, Zoll RH, Falk RH, Clinton JE, Eitel DR, Antman EM. External noninvasive temporary cardiac pacing: clinical trials. *Circulation* 1985; 71: 937-44.
- 2 Falk RH, Zoll PM, Zoll RH. Safety and efficacy of noninvasive cardiac pacing: A preliminary report. *New Eng J Med* 1983; 309: 1166-8.
- 3 Clinton JE, Zoll PM, Zoll RH, Ruiz E. Emergency noninvasive external cardiac pacing. *J Emerg Med* 1985; vol 2: 155-62.

PREHOSPITAL and DISASTER MEDICINE

*THE OFFICIAL JOURNAL OF THE
NATIONAL ASSOCIATION OF EMERGENCY MEDICAL SERVICES PHYSICIANS
WORLD ASSOCIATION FOR EMERGENCY AND DISASTER MEDICINE
IN ASSOCIATION WITH THE
ACUTE CARE FOUNDATION

Editor

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

Ronald L. Krome, MD
Department of Emergency Medicine
William Beaumont Hospital
Royal Oak, Michigan, USA

Steven Rottman, MD
Department of Emergency Medicine
University of California-Los Angeles
Los Angeles, California, USA

Past Editors

R Adams Cowley, MD
Maryland Institute for EMS Systems
University of Maryland
Baltimore, Maryland, USA

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

Michael R. Gunderson, REMT-P
Pinellas County EMS System
Acute Care Foundation
Tampa, Florida, USA

Consulting Editors

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

Martin Silverstein, MD
Tucson, Arizona, USA

Ronald Stewart, MD
Sunnybrook Medical Center
Toronto, Ontario, Canada

Editorial Board

Jakob Adler, MD
Shaare Zedec Hospital
Jerusalem, Israel

Fritz Ahnefeld, MD
University of Ulm
Ulm, West Germany

Jack Ayres, JD
Dallas, Texas, USA

Peter Baskett, MB, B.Ch.
Frenchay Hospital
Bristol, United Kingdom

Michael Callahan, MD
University of California—San Francisco
San Francisco, California, USA

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
George Washington Univ. Med. Ctr.
Washington, D.C., USA

Eelco H. Dykstra, MD
Intl. Academy of Health Care Management
Wiesbaden, West Germany

Michael Eisenberg, MD
University Hospital
Seattle, Washington, USA

Judith Fisher, MD
British Association of Immediate Care
London, United Kingdom

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 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, MICP
UCLA Medical Center
Los Angeles, California, USA

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

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

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

Michael Moles, MD
Prince Philip Hospital
Hong Kong

Judy Olson, BSN
EMS Program
University of Wisconsin
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
Post-Graduate Medical School
Prague, Czechoslovakia

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

Lawrence W. Rose, MD
Bethesda, Maryland, USA

Sandra M. Schnieder, MD
University of Pittsburgh
Pittsburgh, Pennsylvania, USA

Victor Semenov, MD
Academy of Medical Sciences
Moscow, USSR

John Shea, MD, PhD
Loyola University
Maywood, Illinois, USA

Kenneth Stults, PA-C
University of Iowa
Iowa City, Iowa, USA

Connie Walleck, MSN
University of Maryland
Baltimore, Maryland, USA

Publication Editor

Tracy Will

Jems Publishing Co., Inc.

James O. Page, Publisher
Keith Griffiths, Executive Editor

Dana Jarvis Bies, Production Manager
Bob Schmitt, Art Director
Lorraine Ortiz, Graphics

Rick Miner, Associate Publisher
Lisa J. Cota, Account Executive
Martin R. Lipp, 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, Suite 200, P.O. Box 1026, 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 Ave., Rm. 434, Madison, WI 53706; 608/263-2069 or 608/263-7094; FAX 608/263-2069.

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 for postage; International subscribers add \$20 per year (in U.S. funds). 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 86 72. All other subscriptions should be directed to Jems Publishing Co., 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.

Indexes: Abstracts available in the National Association of Emergency Medical Services Physicians Electronic Database System 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, and the Journal of Prehospital Medicine

July - September, 1989

Prehospital and Disaster Medicine

6th World Congress on Emergency & Disaster Medicine 10-15 September 1989 Hong Kong

Sponsors

World Association for Emergency and Disaster Medicine

Host sponsors

Society of Anaesthetists of Hong Kong
Hong Kong Orthopaedic Association
Hong Kong Society for Emergency Medicine and Surgery

Invited co-sponsors

Australasian College for Emergency Medicine
Canadian Association of Emergency Physicians
Casualty Surgeons Association
International Research Institute for Emergency Medicine
University Association for Emergency Medicine
World Health Organisation

Theme

Addressing the theme, "Present Status, Future Strategies" the Congress will review current research, epidemiology and clinical practice across the spectrum of emergency and disaster medicine and will consider strategies for future development.

For More Information:

Dr. Michael Moles, Chairman
6WCEDM Secretariat
Meeting Planners (HK) Ltd.
701 Tung Wai Commercial Building
109 Gloucester Road
Wanchai
Hong Kong
Telephone 5-8916972
Telex 72022 PICOHX
Fax 5-8345400

**National Association
of
EMS Physicians**



Membership Information

Full Membership

Full members shall be physicians who are actively engaged in the planning, supervision, teaching or clinical practice of prehospital emergency care. Full members shall enjoy all the privileges of the Association, including voting rights, committee membership, election of officers, conduction of business on behalf of the Association, and the right to advise and guide the Association in the conduct of its affairs. \$125.00/yr.

Organizational Membership

Each organizational member is allowed up to five (5) physician representatives. Organizational members shall enjoy the same privileges as full members but are permitted only one vote. Application must be accompanied by curriculum vitae of all five (5) physicians. \$500.00/yr.

Resident/Medical Student Membership

Open to all residents/medical students interested in EMS. Application must be accompanied by a letter from residency program director or medical school dean verifying residency/student status and anticipated graduation date. Residents and medical students will enjoy all privileges of the Association as full members, however, only residents shall have the right to vote. \$35.00/yr.

Associate Membership

Associate members shall be those persons who have demonstrated an interest in prehospital care and the aims of the Association through their writings, research, public pronouncements or activities. Associate members may be requested to sit on committees, to advise or to conduct research or investigations at the discretion of the Executive Committee. They shall have no right to vote, hold office or chair committees. \$35.00/yr.

For a membership application form
write to:

National Association of EMS Physicians
EXECUTIVE AND NATIONAL RESOURCE CENTER
230 McKee Place, Suite 500
Pittsburgh, PA 15213

1-800-228-3677

