

July 8, 1997

Docket Number 95S-0158  
Dockets Management Branch (HFA-305)  
Food and Drug Administration  
12420 Parklawn Dr., Rm. 1-23  
Rockville, MD 20857

RE: **IDE Number G960214/9**  
CardioLogic VEST-CPR<sup>®</sup> System  
IRB Approval & Public Disclosure Plan - Medical College of Virginia (MCV)

Dear Sir/Madam:

In accordance with 21 CFR §812.42 and 21 CFR §50.25, we are enclosing copies of letters from the Committee on the Conduct of Human Research approving a clinical trial at the Virginia Commonwealth University/Medical College of Virginia under IDE #G960214, and a copy of the public disclosure plan, along with information that has been publicly disclosed by MCV, concerning research involving an exception to informed consent.

If there are any questions concerning this information, please contact me at 410/691-5200, ext.45.

Sincerely



Timothy R. Placek  
Director of Regulatory Affairs  
and Quality Assurance  
Official Correspondent

- Attachments:
1. Committee on the Conduct of Human Research letters of study approval
  2. Public disclosure plan
  3. Meeting minutes for Richmond Ambulance Authority Board of Directors Meeting
  4. Richmond Times Dispatch advertising affidavit
  5. Curriculum Vitae - Joseph P. Ornato, MD, FACC
  6. Curriculum Vitae - Mary Ann Peberdy, MD, FACC

95S-0158

sup10

# **CARDIOLOGIC SYSTEMS, INC.**

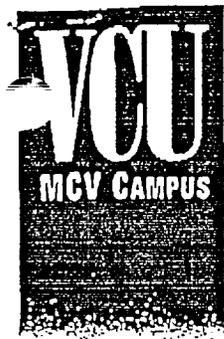
**IDE Number G960214  
Supplement Number 9  
July 8, 1997**

**VOLUME 1**

**SPONSORED BY:  
CARDIOLOGIC SYSTEM, INC.  
7455-T NEW RIDGE ROAD  
HANOVER, MARYLAND, USA 21076-3143**







Virginia Commonwealth University

Date: February 23, 1995

To: Joseph P. Ornato, M.D.  
Emergency Medicine  
Box 525

From: Robert L. Campbell, DDS, Chairman *Robert L. Campbell*  
Committee on the Conduct of Human Research

Re: CCHR Protocol: 9410-20(R)  
Randomized Multicenter Trial of Vest CPR

COMMITTEE ON THE CONDUCT  
OF HUMAN RESEARCH

SANGER HALL, Rm 1-0368  
1101 EAST MARSHALL STREET  
P.O. BOX 980568  
RICHMOND, VIRGINIA 23298-0568

804 828-0868  
FAX: 804 828-5917  
TDD: 1-800-828-1120

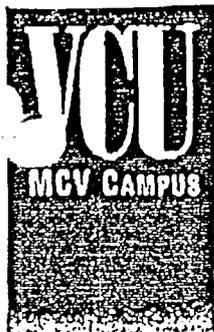
This protocol and the use of the oral short form consent was reviewed and approved by the Committee on the Conduct of Human Research on February 22, 1995 subject to the stipulation that you make the corrections to your consent forms that are noted in red (see attachment). Signature lines should be added to the one-page summary, as this is the form which the patient and witness should sign. The long (four-page) consent form should be given to the patient or family for informational purposes.

Please forward two copies of the revised consent form to the IRB at Box 568 MCV Station (Sanger Hall 1-036). Upon acceptance an approval letter will be sent to you.

Thank you for your cooperation.

cem

ROBERT L. CAMPBELL, DDS  
CHAIRMAN



Virginia Commonwealth University

MAR. 22 1995

Date: March 15, 1995

To: Joseph P. Ornato, M.D.  
Emergency Medicine  
Box 525

From: Robert L. Campbell, DDS, Chairman  
Committee on the Conduct of Human Research

Re: CCHR #9410-20  
Randomized Multicenter Trial of Vest CPR

RECEIVED  
6-7-1995  
CSC US  
COPY

The Chairman of the Committee on the Conduct of Human Research of VCU reviewed and approved the revised Short Oral Consent Form for this study on March 15, 1995. This letter constitutes your formal IRB approval to recruit subjects and initiate your investigation.

COMMITTEE ON THE CONDUCT OF HUMAN RESEARCH

SANGER HALL, RM 1-0368  
1101 EAST MARSHALL STREET  
P O BOX 910568  
RICHMOND, VIRGINIA 23298-0568

804 828-0668  
FAX: 804 828-5917  
TDD: 1-800-828-1120

ROBERT L. CAMPBELL, DDS  
CHAIRMAN

PLEASE NOTE:

1. Informed, written consent is required of each human subject or his legally qualified guardian or next-of-kin, unless specifically excluded (i.e., initials or finger print are acceptable for HIV+ volunteers). It is strongly advised that the investigator explain the consent form verbally with the family members and/or witness. The IRB requires that research on mentally impaired subjects have a consent form signed by either a knowledgeable proxy, power of attorney, or the patient prior to serious degeneration.
2. Any deviation from the submitted protocol, or unanticipated problems which may involve risk to subjects, must be reported to this Committee for review and approval.
3. It is assumed by this Committee that the principal investigator and the department chairman will be co-responsible for the proper execution of the study as written and that they will keep the Committee informed of any changes that will affect the safety of the patients or volunteers and the accuracy of the consent form.
4. All studies are subject to continued surveillance by this Committee, and will be reviewed periodically. The first review of this study is scheduled for October, 1995. At that time you must make available to the Committee a copy of the most recent consent form and a summary of the results obtained, especially any adverse or unexpected effects.
5. All requests for information related to this investigation should include the investigator's name(s) and the CCHR Protocol Number to assist us in locating your file.
6. This Institutional Review Board is in compliance with the requirements in Part 56, Subchapter D, Part 312 of the 21 Code of Federal Regulations published January 27, 1981. If this protocol is used in a Sponsored Programs proposal, the approval date and protocol number should be written on the Sponsored Programs internal approval form.
7. If this protocol is a drug study, all drugs are to be dispensed by the Investigational Drug Pharmacy. A copy of the CCHR approved protocol must be submitted to the Pharmacy. Contact the Investigational Drug Pharmacy at extension 6-0854.

# CONSENT FORM - ORAL SHORT FORM

## Randomized Multicenter Trial of Vest CPR

In some people the heart can suddenly stop beating without any warning. If this were to happen to you, you would die within just a few minutes unless emergency measures are taken to get your heart beating again. You may have heard about a procedure called CPR, which can pump blood and oxygen throughout your body if your heart stops. We usually do CPR by pushing down on your chest with our hands. We are conducting a research study to test a new way of doing CPR that squeezes the chest with an experimental device called a vest. We would like to know if you are willing to be a part of a study to find out if it is better to do CPR by hand or with the vest. If you agree to take part in this study, in the unlikely event that your heart suddenly stops beating we will choose by chance whether to do CPR by hand or with the vest. Results with use of the vest device on a small number of persons whose hearts have stopped beating have been encouraging, but we do not know whether you will personally benefit from taking part in this study. We believe that possible side effects of vest CPR (such as injury to the windpipe, lungs, ribs, or abdomen) are likely to be similar to those of CPR done by hand. If you are a woman and you are capable of being pregnant, you cannot be a part of this study. Information learned in this study may be published but we will not reveal your identity. You or your insurance carrier will not be charged for anything extra other than the costs of your regular medical care if you participate in this study. If you are injured either physically or mentally by being a part of this study, Virginia Commonwealth University will treat you at its regular fee for service rates. Participation in this study is entirely voluntary. You are free to withdraw your consent at any time. If you withdraw from this study, it will in no way affect your medical care. Finally, if you have any questions, Dr. Joseph P. Ornato or Dr. Mary Ann Peberdy will be happy to discuss these with you before you enter the study. We will also provide information about this study to your relatives if you so desire. The MCV Human Research Committee has approved use of this short consent form so we can tell you about this study as simply and clearly as possible.

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Patient name

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Date

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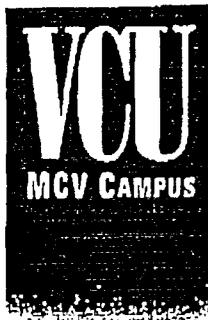
Patient signature

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Witness signature

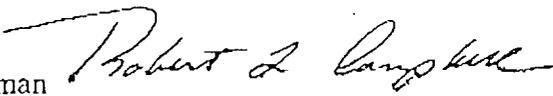
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Signature of investigator  
or designee obtaining consent



Virginia Commonwealth University

Date: July 3, 1997

To: Joseph P. Ornato, M.D.  
Emergency Medicine  
Box 980401From: Robert L. Campbell, DDS, Chairman   
Committee on the Conduct of Human Research

CCHR Protocol: 9410-20

Vest-CPR System: Randomized Multicenter Trial of Vest-CPR

COMMITTEE ON THE CONDUCT  
OF HUMAN RESEARCHSANGER HALL, ROOM 1-0368  
1101 EAST MARSHALL STREET  
P.O. BOX 980568  
RICHMOND, VIRGINIA 23298-0568804 828-0868  
FAX: 804 828-5917  
TDD: 1-800 828-1120ROBERT L. CAMPBELL, DDS  
CHAIRMAN

In response to your letter of May 19, 1997, the MCV/VCU Committee on the Conduct of Human Research has considered the researchers' request for a waiver of consent on this study. In response to your request and in accordance with the guideline issued by OPRR on October 31, 1996, we find that:

- 1) The research activity is subject to FDA regulations as outlined in 21CFR50.24, and
- 2) That these regulations, which are virtually identical to the further guidelines provided in the 10/31/96 OPRR memo, have been adequately satisfied.

Therefore, the Committee grants a waiver of informed consent for all MCV patients who experience cardiac arrest. Consent to collect follow-up information as needed should be obtained from the patient or family member as soon as circumstances (including courtesy and sensitivity to the family's emotional condition) make it feasible.

RLC/cem





May 21, 1997

To Whom it May Concern:

The Virginia Commonwealth University/Medical College of Virginia Hospital is a 1,080 bed institution located in downtown Richmond, Virginia. The Hospital will be participating in the VEST study and will randomize inpatients on certain hospital wards and intensive care units to conventional CPR versus VEST CPR for the treatment of cardiac arrest.

Because obtaining informed consent is not feasible when a patient suffers cardiac arrest and because treatment cannot be delayed while the next of kin is notified, the Hospital of the Medical College of Virginia has taken steps to provide community notification and receive input from certain community representatives in addition to those present as part of the normal institutional review board process.

Step 1: The Richmond Ambulance Authority provides all emergency care and transport within the City of Richmond. The Authority has a Board of Directors composed of elected City Council members, City attorneys, lay citizens, and one physician. This Board oversees administrative aspects of the delivery of emergency medical care to the citizens of Richmond. On April 24, 1992, the VEST protocol was explained in detail to the Board of Directors by the Co-Principal Investigator (Dr. Ornato) and discussion followed. The Board members did not voice any opposition to the proposed project. Minutes from that Board meeting were forwarded to Dr. Robert Campbell, Chairman of the Committee for the Conduct of Human Research at the Medical College of Virginia Hospital. Enclosure #1 is a copy of the minutes from the Richmond Ambulance Board of Directors meeting.

Step 2: An advertisement is scheduled to be placed in the Richmond Times Dispatch newspaper during the first week of June 1997. Enclosure #2 is a copy of the advertisement scheduled to be in the local newspaper (Richmond Times-Dispatch). The community will have two weeks to respond to the article and voice comments regarding the study. All comments will be sent to the Committee for the Conduct of Human Research at the Medical College of Virginia Hospital, Cardiologic, and then forwarded to the FDA. Assuming we receive final approval from the Committee for the Conduct of Human Research after the public comment period, we should be ready to begin the study by the end of June. At that time a second advertisement will be run in our local newspaper containing the actions of the Committee for the Conduct of Human Research, including responses to specific comments.

Please let us know if we can provide any further information on this proposed project implementation.

Very truly yours,

  
Joseph P. Ornato, MD, FACC  
Co-Principal Investigator  
Professor of Emergency Medicine  
& Internal Medicine  
Chairman, Department  
of Emergency Medicine

  
Mary Ann Peberdy, MD, FACC  
Co-Principal Investigator  
Assistant Professor of Medicine

EMERGENCY MEDICAL SERVICES  
401 NORTH 12TH STREET  
ROOM G248  
P.O. Box 980525  
RICHMOND, VIRGINIA 23298-0525  
804 828-7184  
FAX: 804 828-8597  
PAGER 804 755-8192

P. ORNATO, M.D., FACC  
DIRECTOR OF INTERNAL MEDICINE,  
EMERGENCY MEDICINE & EMERGENCY  
MEDICINE



8397



### Richmond Ambulance Authority

1305 Sherwood Avenue • P.O. Box 26288  
Richmond, Virginia 23210-6288

#### MEMORIS OF MEETINGS BOARD OF DIRECTORS April 24, 1997

**Present:** Joseph P. McMenamin, Chairman  
Max Bohstedt, Director  
Connie Sawcum, Director  
Michael DeCamp, Director  
Kathy Graziano, Director  
Mary Jo Joseph, Director  
Robert Martin, Director  
Alma Martin Moore, Director  
Dr. Dean Williams, Director

**Absent:** Councilman Timothy Kaine, Director

**Staff:** Jerry Ovarton, Executive Director  
Ann Marie Luhmann, Administrative Assistant  
Phyllis Barker, Director of Administration  
Joseph P. Ornato, Medical Director

**Guests:** Stephen Dean, Chief Executive Officer,  
Mercy Ambulance, Inc.  
Norman Sales, Assistant City Attorney  
Steve Batkins, Captain, Fire EMS Coordinator,  
Department of Fire and Emergency Services

The meeting was called to order by Dr. McMenamin at 8:05 a.m.

Page Two

**I. APPROVAL OF THE MINUTES**

The minutes of the March 6, 1997, were approved.

**VI. COMMUNITY REPRESENTATION CONSULT REVIEW**

**A. CARDIOLOGIC SYSTEMS, INC. CV-III Vest-CPR System**

Mr. Overton reviewed the CV-III Vest-CPR protocol with the Board of Directors. Dr. Ornato further explained that Vest-CPR System is currently used in England and other countries. The study proposed by the Medical College of Virginia is to prove that the Vest-CPR is a safer and more effective to use than manual CPR. The vest delivers even pressure by squeezing the entire breast cage. During the study, 50 percent of the cardiac arrest patients will receive manual CPR and the other 50 percent will receive CPR using the vest. If it is proven that one procedure is more effective, the researchers will use that method for the patients. Dr. Ornato asked for questions and reactions from the board. Dr. McMenamin asked how long has the vest been in use in England. Dr. Ornato responded one to one and one half years. It is working very well in the hospitals in England, even though those hospitals do not have the sophisticated Emergency Departments as the United States. Dr. Williams asked if CPR is similar in England. Dr. Ornato responded that the protocols are similar in both countries, but England does not use drugs that are used in the United States. The United States' protocols have proven to be more successful because of the resources found in this country. Mr. McMenamin felt that Richmond would be an ideal location for the CPR-Vest when it is put into the pre-hospital care setting. Mr. Sales would like to know other participant's comments if available. Dr. Ornato will inform the board of the outcome of the study.

**VII. MEDICAL DIRECTION REPORT**

No report was given.

**II. EXECUTIVE DIRECTORS REPORT**

**A. Partnership Project.** Mr. Overton reported that the partnership projects are moving along at a rapid pace. Turkmenistan has opened its training center and Richmond Ambulance Authority medics are currently teaching the first course. The United Nations Ambassador to Turkmenistan is interested in visiting Richmond to view the Emergency Medical Services system. The Vladivostok partnership is in its final stages. A paramedics training program and a Quality Assurance program is being implemented and is the first of its kind in the New Independent States. The Vladivostok program will end in June.

**RICHMOND AMBULANCE AUTHORITY  
BOARD OF DIRECTORS**

**President**

Joseph P. McMenamin, M.D.  
Lawyer  
McGuire, Woods, Battle & Boothe  
Richmond, Virginia 23219

**Vice-President**

C. Michael DeCamps  
Lawyer  
Sands, Anderson, Marks & Miller  
Richmond, Virginia 23216

**Secretary**

Robert C. Bobb, City Manager  
City of Richmond  
Richmond, Virginia 23219

**Board**

Max Bohnstedt  
Treasurer  
City of Richmond  
Richmond, VA 23219

Alma Martin Moore  
Retired  
Richmond, VA 23225

Councilman Timothy M. Kaine  
Lawyer at  
Mezzullo & McCandlish  
and City Council Member  
Richmond, VA 23219

Mary Jo Joseph  
Retired from the University of the  
District of Columbia, Washington, D.C.

Robert H. Martin  
Retired from Mobile Area Chamber of Commerce

Dean Williams, MD  
Medical Director at Richmond Community Hospital  
Richmond, VA 23223

Kathy Graziano  
Government Relations  
Richmond, VA 23219

- \* Connie Bawcum, Deputy City Manager for Administration, serves as Robert Bobb's designee.



# Richmond Times-Dispatch

An Affiliate of Media General

P. O. Box 85333  
Richmond, Virginia 23293-0001  
(804) 649-6000

Account Num.

706834

Date

06/12/97

Advertising Affidavit  
(This is not a bill, please pay from invoice)

ORNATO  
VCU-MCV  
ROOM G-248  
401 N 12TH STREET  
RICHMOND, VA

DR JOSEPH  
  
23298

Date	Code	Description	Ad Size	Total Cos
06/12/97	111	VIRGINIA COMMONWEALTH UNIVERSITY / MEDIC	1 x 76	

VIRGINIA COMMONWEALTH  
UNIVERSITY / MEDICAL  
COLLEGE OF VIRGINIA  
VEST - CPR STUDY

Virginia Commonwealth University/Medical College of Virginia anticipates that it will be participating in an investigational study to evaluate a new VEST-CPR resuscitation device. The new technology consists of a vest device that can be wrapped around the chest. If a person's heart stops beating, rhythmic inflation and deflation of the vest with air can maintain circulation until the heart can be restarted. Thus, the device is designed to replace the chest compressions of conventional cardiopulmonary resuscitation (CPR).

In the event that a person's heart stops beating suddenly and unexpectedly while in the hospital, all appropriate means (including standard medications and techniques) will be used to return the normal heart beat. During the study, some persons will receive conventional CPR and others will have chest compressions performed by the vest device.

The device is approved for sale in Europe and preliminary studies indicate that it may be substantially more effective and safer than conventional CPR. The current investigation is designed to compare results with this device vs. conventional CPR in terms of the number of lives saved and any possible adverse effects such as injury to the chest or other structures. The study is being conducted under a recent ruling by the Food & Drug Administration which allows that under strict circumstances, patients in life threatening situations (and for whom there is no one available to give their consent) may be given investigational treatment if there is no acceptable alternative with a good chance of success. Results of this study will be used by the Food & Drug Administration to determine whether the device will be approved for sale in the United States.

Public comments on the proposed investigation are welcomed and should be directed in writing to both:

Joseph P. Ornato, MD  
Dept. of Emergency Medicine  
Virginia Commonwealth University  
Medical College of Virginia  
Box 980525  
Richmond, VA 23298 0525  
Robert L. Campbell, DDS  
Chairman  
Committee on Human Research  
Virginia Commonwealth University  
Medical College of Virginia  
Box 980566  
Richmond, VA 23298 0525

Richmond Newspapers, Inc.

Publisher of

THE RICHMOND TIMES-DISPATCH

This is to certify that the attached LEGAL NOTICE was published by Richmond Newspapers, Inc., in the City of Richmond, State of Virginia, on the following dates:

06/12/97

The first insertion being given . . . . 06/12/97

Sworn to and subscribed before me this 6-11-97

*Myra Sparrowe Jones*  
Notary Public

State of Virginia  
City of Richmond  
My Commission expires 03/31/01

*Theradio Johnson*  
Supervisor

IS NOT A BILL, PLEASE PAY FROM INVOICE. THANK YOU



# Joseph P. Ornato, MD, FACC

## CURRICULUM VITAE

RECEIVED  
9/5/96  
est 1/6,

### Short Biographical Sketch

Dr. Joseph Ornato is Professor of Internal Medicine (Cardiology) and Director of Research in the Department of Emergency Medicine at the Medical College of Virginia in Richmond, Virginia. He is also Medical Director of the Richmond Ambulance Authority, the Prehospital Paramedic System serving the City of Richmond, Virginia.

Born in New Haven, Connecticut, he graduated from Boston University Medical School magna cum laude and completed his training in Internal Medicine at New York City's Mount Sinai Hospital and in Cardiology at New York Hospital-Cornell University Medical Center.

Dr. Ornato is an active researcher in the field of cardiopulmonary resuscitation. Dr. Ornato is American Editor of the journal Resuscitation and is on the editorial board of the American Journal of Emergency Medicine. He is immediate past Chairman of the American Heart Association's National Emergency Cardiac Care Committee and the AHA Advanced Cardiac Life Support Subcommittee. Dr. Ornato is a member of the American College of Cardiology's Emergency Cardiac Care Committee. He is a member of the National Heart, Lung, and Blood Institute's National Heart Attack Alert Program's Coordinating Committee and he is Chairman of its Science Base Subcommittee. Dr. Ornato is also a Special Consultant to the Circulatory System Devices Panel of the Food and Drug Administration.

CURRENT POSITION

Professor of Internal Medicine (Cardiology)  
Director of Research, Department of Emergency Medicine  
Medical College of Virginia  
Richmond, Virginia

PERSONAL INFORMATION

Born	December 30, 1947 - New Haven, Connecticut
Citizenship	United States.
Social Security	041-40-2836.
Home Address	2400 Islandview Drive Richmond, Virginia 23232
Home Phone	(804) 740-3344
Office Address	Medical College of Virginia Box 525 Richmond, Virginia 23298
Office Phone	(804) 786-7184

LICENSURE

Medical	Virginia, 0101037685 New York, 14745
Board Certification	Internal Medicine, 1974 Cardiology, 1977

EDUCATION

College/Medical	Boston University Six-Year Medical Program Boston, Massachusetts A.B., magna cum laude M.D., magna cum laude
-----------------	---

MILITARY

1977-79	Major, United States Army Medical Corps Chief of Internal Medicine and Cardiology McDonald Army Hospital; Fort Eustis, Virginia
1979	Honorable Discharge from United States Army Medical Corps

POST-DOCTORAL TRAINING

- 1971-72 Intern, Internal Medicine  
Mount Sinai Hospital, New York, N.Y.
- 1972-74 Resident, Internal Medicine  
Mount Sinai Hospital, New York, N.Y.
- 1974-76 Fellow, Cardiology  
New York Hospital - Cornell University  
Medical Center, New York, N.Y.

ACADEMIC APPOINTMENTS & WORK EXPERIENCE

- 1996-Present Professor of Internal Medicine (Cardiology)  
Director of Research, Department of Emergency Medicine
- 1995-Present Special Consultant, Circulatory System Devices Panel  
Food and Drug Administration.
- 1990-Present Medical Director, Richmond Ambulance Authority.  
Richmond, Virginia
- 1988-Present Tenured Professor of Internal Medicine  
and Cardiology
- 1985-1996 Chief, Internal Medicine Section of  
Emergency Medical Services  
  
Graduate Faculty, Biomedical Engineering  
Medical College of Virginia, Richmond, Virginia
- 1984-1990 Co-Medical Director, Central Virginia Ambulance Service  
Richmond, Virginia
- 1985-88 Associate Professor of Internal Medicine  
and Cardiology  
Medical College of Virginia

- 1982-84 Associate Professor of Internal Medicine  
and Cardiology  
University of Nebraska Medical Center
- 1981-84 Director, Division of Emergency Medical  
Services  
Nebraska State Department of Health  
Lincoln, Nebraska
- 1981-84 Medical Director and Flight Physician  
Skymed Medical Rescue Helicopter  
Based at University of Nebraska Medical  
Center, Omaha, Nebraska
- 1984 Medical Consultant, Division of Emergency  
Medical Services  
Nebraska State Department of Health  
Lincoln, Nebraska
- 1979-85 Director of Emergency Medical Services  
University Hospital  
University of Nebraska Medical Center  
Omaha, Nebraska
- 1979-82 Assistant Professor of Internal Medicine  
and Cardiology  
University of Nebraska Medical Center
- 1977-78 Chief of Internal Medicine and Cardiology  
McDonald Army Hospital, Ft. Eustis, Va
- 1976-77 Assistant Professor of Internal Medicine  
and Cardiology  
Medical Director, Paramedic Program  
New York Hospital - Cornell University  
Medical Center, New York, N.Y.
- 1975-76 Instructor in Medicine (Cardiology)  
Medical Director, Paramedic Program  
New York Hospital - Cornell University  
Medical Center, New York, N.Y.

MEMBERSHIP IN SCIENTIFIC, HONORARY, & PROFESSIONAL SOCIETIES

Fellow, American College of Cardiology, 1978

Alpha Omega Alpha, 1969

Phi Beta Kappa, 1971

Begg Society of Boston University School  
of Medicine, 1968

Member, Richmond Academy of Medicine

Member, American College of Cardiology

Member, American College of Emergency  
Physicians (President, Nebraska  
Chapter, 1984)

Member, American Heart Association

Member, Society for Academic Emergency Medicine (SAEM)

Richmond Area Medical Society

MEDICAL AWARDS

Massachusetts Medical Society Award, 1971

Jewish Memorial Hospital Award, 1968

Virginia American Heart Association  
1985-1986, Program Service Award

Medical College of Virginia Best Faculty Teacher Award 1992-93

Medical College of Virginia Best Faculty Teacher Award 1994-95

MEMBERSHIP ON NATIONAL COMMITTEES

Member, American Heart Association Emergency Cardiac Care Business Management Committee  
1996-present.

Member, American Heart Association Cardiopulmonary/Critical Care Council Board of Directors 1996-present

Immediate Past Chairman and Member, Emergency Cardiac Care Committee (National) of the American Heart Association, 1996-present. This committee is responsible for coordinating the national standards on cardiopulmonary resuscitation and emergency cardiac care, published as the "JAMA Standards".

Chairman, Emergency Cardiac Care Committee (National) of the American Heart Association, 1993-96.

Liason Member, Committee on Electrocardiography and Arrhythmias, Council on Clinical Cardiology, American Heart Association, 1996-present.

Member, American Heart Association National Automated External Defibrillator Task Force. 1993-present.

Vice-Chairman, Emergency Cardiac Care Committee (National) of the American Heart Association, 1987-1992.

Chairman, Advanced Cardiac Life Support National Subcommittee, American Heart Association, 1987-90 (member of committee since 1985). This committee is responsible for coordinating writing of the advanced cardiac life support standards and all teaching material, including the ACLS textbook, slides, and instructor's manual.

Immediate past-Chairman, Advanced Cardiac Life Support National Subcommittee, American Heart Association, 1990-91

Member, Advisory Board, National Institutes of Health/National Heart, Lung, and Blood Institute National Heart Attack Alert Program, 1991-present.

Chairman, Science Base Subcommittee, National Institutes of Health/National Heart, Lung, & Blood Institute National Heart Attack Alert Program, 1992-present.

Member, University Association for Emergency Medicine Governance Committee 1985.

Member, American College of Cardiology Emergency Cardiac Care Committee 1988-present. This committee is responsible for coordinating the position of the American College of Cardiol-

ogy on matters relating to the evaluation and treatment of patients who have a cardiovascular emergency.

Member, American Heart Association Cardiopulmonary and Critical Care Council Executive Committee, 1995-present.

MEMBERSHIP ON OTHER MAJOR COMMITTEES

Member, New York City Regional EMS Council committee on Training of Emergency Medical Personnel for the City of New York, 1976

Chairman, Emergency Medical Services committee, UNMC, 1979-80; Member 1980-85

Chairman, CPR Committee, UNMC, 1979-85

Chairman, Paramedic Policy and Procedures Committee, (Advanced Care Committee 1983) Midlands EMS Council, 1979-85

Chairman, Statewide CPR Committee, Nebraska Chapter of American Heart Association, 1979-85

Chairman, Policy Review Committee, UNMC, 1980-82 Chairman, Medical Advisory Committee, Skymed Rescue Helicopter Service, 1981-85

Chairman, Statewide Emergency Cardiac Care Committee, Virginia Affiliate, American Heart Association, 1985-89. Member, 1989-present.

Chairman, Education and Community Programs Committee, Virginia Affiliate, American Heart Association, 1988-present.

Member, Executive Committee, University Hospital, 1980-82

Member, Midlands EMS Council Board of Directors, 1979-85

Member, Administrative Affairs Committee, Midlands EMS Council, 1979-85

Member, State of Nebraska EMS Advisory Committee, 1979-85

Member (State Representative), Rural EMS Council of Midwestern States, 1979-85

Member, Midlands EMS Council Committee on Trauma, 1980-85

Member, Medical Staff Bylaws Committee, UNMC, 1982-85

Member, Patent Committee, University of Nebraska, 1980-83

Member, Finance Committee, UNMC, 1984-85

Member, Richmond Academy of Medicine, 1985-present.

Member, Richmond Area Medical Control Committee, 1985-present

Chairman, American Heart Association Emergency Cardiac Care Committee, Virginia Affiliate, 1986-present.

Chairman, American Heart Association Advanced Cardiac Life Support, Virginia Affiliate, 1986-1989.

Member, American Heart Association Board of Directors, Virginia Affiliate, 1988-present.

Member, Richmond City Council Committee on Emergency Medical Care, 1987-89.

Member, Governor's Task Force on Emergency Medical Disaster Planning, 1989-90.

Chairman, Governor's Task Force on Emergency Medical Disaster Planning Subcommittee on Resources, 1989-90.

Member, Hospital Disaster Committee, Medical College of Virginia, 1988-present.

Member, State Emergency Medical Services Advisory Board; Richmond, Virginia, 1988-90.

Member, State Emergency Medical Services Advisory Board, Disaster Response Committee; Richmond, Virginia, 1989-Present.

Member, State Emergency Medical Services Medical Control Committee, 1991-present.

Member, Richmond Ambulance Authority Medical Control Board, 1990-present.

Member, Citizen CPR Foundation Board of Directors, 1993-present.

Member, American Heart Association Automated External Defibrillator Task Force, 1993-94.

Member, Medical College of Virginia Associated Physicians Clinical Practice Committee, 1994-7.

Member, Medical College of Virginia Cardiovascular Therapeutics Subcommittee, 1995-present.

Chairman, Medical College of Virginia Promotion and Tenure Committee for the Department of Internal Medicine, 1996-present.

OTHER SIGNIFICANT SCHOLARLY ACTIVITY - TEACHING CERTIFICATION

National Affiliate Faculty and Instructor, Advanced Cardiac Life Support American Heart Association

Instructor Trainer, Basic Cardiac Life Support American Heart Association, 1985

Instructor, Advanced Trauma Life Support American College of Surgeons, 1985

OTHER VOLUNTEER ACTIVITIES

President, American Heart Association Virginia Affiliate, 1990-91

Member, Virginia Affiliate American Heart Association Board of Directors, 1988-present.

EDITORIAL ACTIVITIES

American Editor-in-Chief, Resuscitation, 1993-present.

Member, Editorial Board of Heart Disease & Stroke, 1991-94.

Member, Editorial Board of the American Journal of Emergency Medicine, 1986-present.

Editorial Consultant, Annals Emergency Medicine, 1989-present.

Member, Editorial Board of Journal of Procedures in Emergency Medicine, 1994-present.

Member, Editorial Advisory Board of Currents In Emergency Cardiac Care a publication of the American Heart Association and the Citizen CPR Foundation, 1990-present.

Review regularly for the following journals:

New England Journal of Medicine  
Circulation  
Circulation Research

American Journal of Cardiology  
American Journal of Emergency Medicine  
Annals of Emergency Medicine  
Journal of the American Medical Association (JAMA)  
Heart Disease & Stroke  
Journal of Trauma

PATENTED SCIENTIFIC INVENTIONS

1. Electronic clipboard for recording events during cardiac arrest (Patent #4,457,312)
2. Emergency department data acquisition, event logging, and display system. Patent pending.
3. Bar code entry recording system for data acquisition by paramedics. Patent pending.

MEDICAL MISSION VOLUNTEER ACTIVITY

Catholic Medical Mission volunteer to St. Lucia, Windward Islands, for 4 weeks, 1974

GRANT ACTIVITY

Medical Advisor, Creighton-Nebraska Health Foundation HEW 789 EMS Training Grant (1978-80) - \$1.5 Million. The Advanced Trauma Life Support (ATLS) course adopted by the American College of Surgeons was developed with the Creighton-Nebraska Health Foundation and the Lincoln Medical Education Foundation under this grant.

Principal Investigator, Chancellor Seed Research Grant to develop an automated recording system for cardiac arrest documentation (1979). Total award - \$1500.

Principal Investigator, Comparison of the intramuscular analgesic activity of butorphanol and morphine in patients with Sickle Cell Disease. Bristol Laboratories. Total award - \$29,950.

Co-investigator, Dose response evaluation of oral labetalol in patients presenting to the emergency department with severe hypertension. Glaxo, Inc. Total award - \$39,900.

Co-investigator. Cost analysis of parenteral therapy with labetalol HCl vs. sodium nitroprusside in the emergency department. Glaxo, Inc. \$5,000.

Co-investigator. Evaluation of the TSI laser-flow blood perfusion monitor. TSI Laboratories. \$6,000.

Co-investigator. Evaluation of the Omni-Flow 4500 infusion system during CPR. Omni-Flow, Inc. \$9,000.

Co-investigator, Oral diltiazem for treatment of hypertensive urgency in the emergency department. Marion Laboratories. Total award - \$44,144.

Principal Investigator, FEF end-tidal CO<sub>2</sub> detector field trial. Fenem Inc. Total award -\$1,416.

Co-Principal Investigator, Development of a CPR data collection hardware & software system. Laerdal Medical Foundation. Total award -\$10,000.

Co-Principal Investigator, Time to Thrombolytic Therapy in Acute Myocardial Infarction, Health Technology Associates. Total award - \$54,932.

Co-Principal Investigator, Time to Thrombolytic Therapy in Acute Myocardial Infarction -Phase II, Beecham Laboratories, Inc. Total award - \$100,000.

Principal Investigator, A data management and acquisition system for the emergency department. SpaceLabs, Inc. Total award value (salary + equipment) approximately \$300,000.

Principal Investigator, Development of a prehospital bar code data entry system. SpaceLabs, Inc. 1992. Total award (Year 2 of continuing project) = \$17,541.

Principal Investigator, Time Insensitive Predictive Instrument NIH Grant, Subcontract from Tufts-New England Medical Center, 1993. Total award = \$114,133.

Principal Investigator, Time Insensitive Predictive Instrument NIH Grant, Subcontract from Tufts-New England Medical Center Supplemental Fund Award, 1993. Total supplemental award = \$14,621.

Principal Investigator, Thrombolytic Predictive Instrument NIH Grant Proposal, Subcontract from Tufts-New England Medical Center, \$130,072.

Principal Investigator, Collaborative Organization for RheothRx Evaluation (CORE). 1993-95.

Principal Investigator, Evaluation of the Spectral Cardiac STATus™ Assay in an Urban Emergency Medical Services Setting. Dade International, 1996. \$89,000.

Principal Investigator, Multifaceted Education Program on Critical Pathways. Genentec, 1996. \$276,350.

SCIENTIFIC PAPERS

1. Wiatt AL, **Ornato JP**. Outpatient utilization of diazepam in a military hospital. *Military Medicine* 1980; 394-396.
2. Forney J, **Ornato JP**. The mechanism of blood flow during CPR: Blood flow with ventilation alone in a child. *Ann Emerg Med* 1980; 9: 624-6.
3. Cooper MA, **Ornato JP**. Involving and educating base station physicians in paramedic programs. *Ann Emerg Med* 1980; 9: 524-6.
4. **Ornato JP**, Fennigkoh L, Jaeger CS. The electronic clipboard: an automated system for accurately recording events during a cardiac arrest. *Ann Emerg Med* 1981; 10:138-41.
5. **Ornato JP**, Hanssen CS. Training of university hospital attending staff in cardiopulmonary resuscitation. *Ann Emerg Med* 1981; 10:571-4.
6. **Ornato JP**, Bryson BL, Farquharson RR, Donovan PJ, Jaeger CS. The University of Nebraska Medical Center fixed-wing patient air transport system. *Nebraska Med J* 1982; 6:155-8.
7. **Ornato JP**, Bryson BL, Farquharson RR, Donovan PJ, Jaeger CS. Measurement of ventilation during cardiopulmonary resuscitation. *Crit Care Med* 1983; 2:79-82.
8. **Ornato JP**, Bryson BL, Elwood PC, Farquharson RR, Loeb NA. The emergency department physician perspective to management of the acute neurological problem. *Seminars in Neurology* 1983; 3:6-9.
9. **Ornato JP**, Farquharson RR, Loeb NA, Bryson BL, Elwood PC. Pre-hospital care and secondary transportation of the patient with a neurological emergency. *Seminars in Neurology* 1983; 3:1-5.
10. **Ornato JP**, Craren MA, Nelson N, Smith HD. The economic impact of cardiopulmonary resuscitation and emergency cardiac care programs. *Cardiovascular Reviews and Reports* 1983; 4:1083-88.
11. **Ornato JP**, Craren EJ, Nelson NM. Extending the "Good Life". *Emerg Med Serv* 1983; 12:45-46.
12. **Ornato JP**, Craren EJ, Nelson N, Smith HD. The impact of emergency cardiac care on the reduction in mortality from myocardial infarction. *J Cardiac Rehab* 1983; 3:863-866.
13. **Ornato JP**, Carveth WL, Windle JR. Pacemaker insertion for prehospital bradysystolic cardiac arrest. *Ann Emerg Med* 1984; 13:101-103.

14. **Ornato JP.** Life after life experiences following cardiac arrest. *Nebraska Med J* 1984;69:153-4.
15. Lester LB, **Ornato JP.** Resuscitation: Time-based flowsheets train medical personnel. *J Emerg Med Serv* 1984; 9:11.
16. **Ornato JP,** McNeill SE, Craren EJ, Nelson NM. Limitation on effectiveness of rapid defibrillation by emergency medical technicians (EMTs) in a rural setting. *Ann Emerg Med* 1984; 13:1096-99.
17. **Ornato JP,** Craren EJ, Nelson NM. EMS by the numbers, *J Emerg Med Serv* 1984; 9:68-69.
18. Wigton RS, Hoellerich VL, **Ornato JP,** Leu V, Mazzotta L, Cheng I. Use of clinical findings in the diagnosis of urinary tract infection in women. *Arch Internal Med*: 1985; 2222-27.
19. Muelleman RL, **Ornato JP.** Factors affecting the likelihood that cardiopulmonary resuscitation will be used by trained rescuers. *Nebraska Med J* 1985; 70:172-177.
20. **Ornato JP,** Lui CY, Donovan JP, Weldon DC. The difference between pulmonary artery diastolic pressure and pulmonary capillary wedge pressure as a hemodynamic sign of pulmonary embolism. *Nebraska Med J* 1985; 70:164-167.
21. **Ornato JP,** Craren EJ, Nelson NM, Kimball KF. Impact of improved emergency medical services and emergency trauma care on the reduction in mortality from trauma. *J Trauma* 1985; 25:575-9.
22. Craren EJ, **Ornato JP,** Nelson NM: The investment of EMS. *J Emerg Med Serv* 1985; 10:35-8.
23. **Ornato JP,** Ryschon TW, Gonzalez ER, Bredthauer JL. Rapid change in pulmonary vascular hemodynamics with pulmonary edema during cardiopulmonary resuscitation. *Am J Emerg Med* 1985; 3:137-42.
24. **Ornato JP,** Gorgen AL: Superiority of standing orders to start an IV during cardiac arrest over base station orders. *Nebraska Med J* 1985; 70:200-1.
25. Gonzalez ER, Christopher MA, **Ornato JP,** Starke H. Diuretic- induced hypokalemia: a possible cause of out-of-hospital cardiac arrest. *Nebraska Med J* 1985; 70:335-40.
26. **Ornato JP,** Gonzalez ER, Morkunas AR, Coyne MR, Beck CL. Treatment of presumed asystole during pre-hospital cardiac arrest: superiority of electrical countershock. *Am J Emerg Med* 1985; 3:395-9.

27. **Ornato JP**, Mlinek EJ, Craren EJ, Nelson N. Ineffectiveness of the Trauma Score and the CRAMS Scale for accurately triaging patients to trauma centers. *Ann Emerg Med* 1985; 14:1061-4.
28. **Ornato JP**, Mlinek EJ, Craren EJ, Nelson N. Ineffectiveness of the Trauma Score and the CRAMS Scale for accurately triaging patients to trauma centers (letter). *Ann Emerg Med* 1985; 15:602-3.
29. Gonzalez ER, **Ornato JP**. Procainamide induced hypotension during cardiac resuscitation. *Clin Pharm* 1985; 4:504-5.
30. **Ornato JP**, Gonzalez ER, Starke H, Morkunas A, Coyne MR, Beck CL. Incidence and causes of hypokalemia associated with cardiac resuscitation. *Amer J Emerg Med* 1985; 3:503-6.
31. **Ornato JP**, Gonzalez ER, Coyne MR, Beck CL, Collins MS: Arterial pH in out-of-hospital cardiac arrest. Response time as a determinate of acidosis. *Canadian J Prehospital Med* 1986; 1:25-30.
32. **Ornato JP**. Management of paroxysmal supraventricular tachycardia. *Circulation* 1986; 74:108-10.
33. **Ornato JP**. Special resuscitation situations: Near drowning, traumatic injury, electrical shock, and hypothermia. *Circulation* 1986; 74:23-26.
34. **Ornato JP**. Standards and Guidelines in Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC) (editorial). *Amer J Emerg Med* 1986; 4:192-3.
35. **Ornato JP**, Gonzalez ER, Garnett AR. Atrial fibrillation with high degree AV block masquerading as ventricular fibrillation masquerading as asystole during cardiac arrest. *Crit Care Med* 1986; 15:334-5.
36. **Ornato JP**. The resuscitation of near-drowning victims. *JAMA* 1986; 256:75-77.
37. **Ornato JP**. The resuscitation of near-drowning victims (letter). *JAMA* 1986; 267:87.
38. Cameron JL, Reese WA, Tayal VS, Clark, Jr. RF, Kelso D, Gonzalez ER, Garnett AR, **Ornato JP**. Bacterial contamination of ambulance oxygen humidifier water reservoirs: A potential source of pulmonary infection. *Ann Emerg Med* 1986; 15:1300-2.
39. Garnett AR, **Ornato JP**, Gonzalez ER, Johnson EB. The clinical value of end-tidal carbon dioxide monitoring during cardiopulmonary resuscitation. *JAMA* 1987; 257:512-5.

40. Lui CY, **Ornato JP**, Buell J, Grissom RL, Erickson CC: Lack of superiority of the vector-cardiogram over the electrocardiogram in detecting inferior wall myocardial infarction regardless of time since infarction. *J Electrocard* 1987; 20:241-6.

41. **Ornato JP**, Craren EJ, Gonzalez ER, Garnett AR, McClung BK, Newman MM. The cost effectiveness of emergency medical technicians and paramedics trained to defibrillate compared to basic emergency medical technicians for treating out-of-hospital ventricular fibrillation. *Amer J Emerg Med* 1988; 6:108-12.

42. **Ornato JP**, Gonzalez ER, Garnett AR, Levine RL, McClung BK. The effect of CPR compression rate on end tidal carbon dioxide concentration and arterial pressure in man. *Crit Care Med*. 1988; 16:241-5.

43. Gelfman DM, **Ornato JP**, Gonzalez ER: Dopamine-induced increase in atrioventricular conduction in atrial fibrillation- flutter. *Clinical Cardiology*, 1987; 10:671-3.

44. Talley DB, **Ornato JP**, Rittgers SE, Clarke AM. Predicted flow distribution in a simulated CPR model under various system and input configurations. *Med Comput Biol Eng*. Submitted.

45. Garnett AR, Glauser FL, **Ornato JP**. Hypercarbic arterial acidosis following resuscitation from a low cardiac output state. *Resuscitation* 1989; 17:55-61.

46. Talley DB, **Ornato JP**, Clarke AM: Computer-aided characterization and optimization of the Thumper compression waveform in closed chest CPR. *Biomed Instrum Technol* 1990; 24:283-8.

47. **Ornato JP**, Levine RL, Young DS, Garnett AR, Gonzalez ER: The effect of applied chest compression force on systemic arterial pressure and end-tidal carbon dioxide concentration during cardiopulmonary resuscitation in man. *Ann Emerg Med*, 1989 18:732-737.

48. **Ornato JP**, Hallagan LF, Reese WA, Clark RF, Tayal, Garnett AR, Gonzalez ER. Treatment of paroxysmal supraventricular tachycardia in the emergency department based on clinical decision analysis. *Am J Emerg Med* 1988; 6:555-560.

49. Gonzalez ER, **Ornato JP**, Ware D, Bull DS, Evens RP. Comparison of the intramuscular analgesic activity of butorphanol and morphine in patients with sickle cell disease. *Ann Emerg Med* 1988; 17:788-791.

50. Gonzalez ER, **Ornato JP**, Garnett AR, Racht EM, et. al. Dose-dependent vasopressor response to epinephrine during CPR in humans. *Ann Emerg Med* 1989; 18:920-926.

51. Gonzalez ER, **Ornato JP**. Cardiopulmonary resuscitation documentation: A survey of 135 medical centers. *Drug Intelligence and Clinical Pharmacy*, 1988; 22:559-562.

52. Gonzalez ER, **Ornato JP**, Levine RL. Vasopressor effect of epinephrine with and without dopamine during CPR. *Drug Intell Clin Pharm* 1988; 22:868-72.
53. Gonzalez ER, **Ornato JP**, Garnett AR, et al. Dose-response evaluation of epinephrine during cardiopulmonary resuscitation in humans. *Drug Intelligence and Clinical Pharmacy* 1987; 21:19.
54. Gonzalez ER, **Ornato JP**. Central vs. Mixed Venous Blood Gases During CPR (editorial). *Am J Emerg Med* 1988; 6:676.
55. Gonzalez ER, **Ornato JP**. Electrical countershock for prehospital bradysystolic cardiac arrest. *Emerg Med Serv* 1988; 17:42-44.
56. Hummell RS, **Ornato JP**, Weinberg SM, Clarke AM. Spark-generating properties of electrode gels used during defibrillation: A potential fire hazard. *JAMA* 1988; 260:3021-4.
57. **Ornato JP**. Providing Cardiopulmonary Resuscitation and Emergency Care During the Acquired Immune Deficiency Syndrome Epidemic. *Emerg Med Serv* 1989; 18:45-48.
58. **Ornato JP**. Role of the Emergency Department in Decreasing the Time to Thrombolytic Therapy in Acute Myocardial Infarction. *Clinical Cardiology* 1990; 13:V48-52.
59. O'Rear TL, Gonzalez EG, **Ornato JP**. Lorazepam-Induced Respiratory Depression and Symptomatic Bradycardia. *Drug Intell Clin Pharm*. Submitted for publication.
60. Gonzalez ER, Vanderheyden BA, **Ornato JP**, Comstock TG: Computer-assisted optimization of aminophylline therapy in the emergency department. *Ann Emerg Med* 1989; 7:295-401.
61. **Ornato JP**, Garnett AR, Glauser FL: Relationship between cardiac output and end-tidal carbon dioxide concentration. *Ann Emerg Med* 1990; 19:1104-6.
62. **Ornato JP**, Siegel L, Craren EJ, Nelson N: Increased incidence of sudden cardiac death attributed to acute myocardial infarction during winter. *Coronary Artery Disease* 1990; 1:199-203.
63. **Ornato JP**: The role of the emergency department in thrombolytic therapy in acute myocardial infarction (editorial). *Amer J Emerg Med* 1991; 9:86-7.
64. Heckerling PS, Tape TG, Wigton RS, Hissong KK, Leikin JB, **Ornato JP**, Cameron JL, Racht EM: Clinical prediction rule for pulmonary infiltrates. *Ann Intern Med* 1990; 113:664-70.
65. Dudley SC, Baumgarten CM, **Ornato JP**: Reversal of low voltage and infarction pattern of the surface electrocardiogram after renal hemodialysis for pulmonary edema. *J Electrocardiol* 1990; 23:341-5.

66. **Ornato JP**, Hallagan LF, McMahan SB, Peebles EH, Rostafinski AG: Attitudes of BCLS instructors about mouth-to-mouth resuscitation during the AIDS epidemic. *Ann Emerg Med* 1990; 19:151-6.
67. Gonzalez ER, **Ornato JP**, Jones LA, Bleecker GC, Strauss MJ, and the Virginia Thrombolytic Study Group: Hospital delays in thrombolytic therapy: a multicenter prospective assessment of critical factors. *Ann Emerg Med* 1992; 21:1215-21.
68. **Ornato JP**, Racht EM, Fitch JJ, Berry JF: The need for ALS in urban and suburban EMS systems. *Ann Emerg Med* (editorial) 1990; 19:1469-70.
69. **Ornato JP**, Kerber RE, Thies W: Keeping American Heart Association ACLS standards and guidelines current. *Ann Emerg Med* (editorial) 1990; 20:216-7.
70. Cummins RO, Thies W, Pepe PE, **Ornato JP**: Improving survival from sudden cardiac arrest: the "chain of survival" concept. *Circulation* 1990; 83:1832-47.
71. **Ornato JP**: The earliest thrombolytic treatment of acute myocardial infarction: ambulance or emergency department? *Clinical Cardiology* 1990; 13:27-31.
72. Tape TG, Heckerling PS, **Ornato JP**, Wigton RS: Use of clinical judgement analysis to explain regional variation in physician accuracy in diagnosing pneumonia. *Medical Decision Making* 1991; 11:189-97.
73. McMahan S, **Ornato JP**, Racht EM, Cameron J: Multiagency prehospital evaluation of the pharyngo-tracheal lumen (PTL) airway. *Prehospital and Disaster Med* 1992; 7(1):13-18.
74. **Ornato JP**: Problems faced by the urban emergency department in providing rapid triage and intervention of the patient with suspected acute myocardial infarction. *Heart and Lung* 1991; 20:584-8.
75. Gonzalez ER, **Ornato JP**: The dose of epinephrine during cardiopulmonary resuscitation in humans: What should it be? *DICP, The Ann of Pharmacotherapy* 1991 July/August; Vol. 25:773-778.
76. **Ornato JP**, Shipley JB, Racht EM, Slovis CM, Wrenn KD, Pepe PE, Almeida SL, Ginger VF, Fotre TV. Multicenter study of a portable, hand-sized colorimetric end-tidal carbon dioxide detection device. *Ann Emerg Med* 1991; 21:518-23.
77. **Ornato JP**, Shipley JB, Powell RG, Racht EM. Inappropriate electrical countershocks by an automated external defibrillator. *Ann Emerg Med* 1992. 21:1278-81.

78. Gonzalez ER, Jones LA, **Ornato JP**, Bleecker GC, Strauss MJ: Adjunctive Medications in patients receiving thrombolytic therapy: A multicenter prospective assessment. DICP, The Annals of Pharmacotherapy. January 1992; Accepted.
79. **Ornato JP**, Atkins JM, Murray J, Ramzy AI, Rodrigue RB, Shade B, McDonald M. Recommendations for staffing and equipping ambulances. NIH Symposium on the Rapid Assessment and Triage of the Patient with Acute Myocardial Infarction: Present and Future Prehospital Management. Proceedings of the National Heart, Lung, and Blood Institute Symposium on Rapid Identification and Treatment of Acute Myocardial Infarction, September 1991.
80. **Ornato JP**, Aufderheide TP, Wynn J, Anderson PB: NIH Symposium on the Rapid Assessment and Triage of the Patient with Acute Myocardial Infarction: Present and Future Prehospital Management. Proceedings of the National Heart, Lung, and Blood Institute Symposium on Rapid Identification and Treatment of Acute Myocardial Infarction, September 1991. 139-42.
81. Jones EB, Marshall E, **Ornato JP**, Romhilt DW, Vetrovec GW. Frequency of unfavorable cardiac events documented by routine telemetry monitoring after uncomplicated percutaneous transluminal. Am J Cardiol 1993; 71:1229-30.
82. **Ornato JP**: Use of adrenergic agonists during CPR in adults. Ann Emerg Med 1992; 22:411-6.
83. **Ornato JP**: Hemodynamic monitoring during cardiopulmonary resuscitation. Ann Emerg Med 1992; 22:289-95.
84. Eisenberg MS, Aghababian RV, Bossaert L, Jaffe AS, **Ornato JP**, Weaver WD: Thrombolytic therapy. Ann Emerg Med 1992; 22:417-27.
85. Gonzalez E, **Ornato JP**: When one thrombolytic agent fails, try another? J Crit Illness 1992; 7:847-8.
86. Porter TR, **Ornato JP**, Nixon JV: The role of transesophageal echocardiography in determining the mechanism of forward blood flow during closed-chest cardiopulmonary resuscitation. Resp Care 1992; 37:769-74.
87. Kerber RE, **Ornato JP**, Brown DD, Chameides L, Chandra NC, Cummins RO, Hazinski MF, Melker RJ, Weaver WD. Guidelines for cardiopulmonary resuscitation and emergency cardiac care. JAMA 1992; 268:2171-2138.
88. Porter TR, **Ornato JP**, Guard CS, Roy VG, Burns CA, Nixon JV. Transesophageal echocardiography to assess mitral valve function and flow during cardiopulmonary resuscitation. Am J Cardiol 1992; 70:1056-60.
89. **Ornato JP**. Newer concepts for data collection. Ann Emerg Med 1993; 22:62-3.

90. **Ornato JP**, Peberdy MA. Prehospital end-tidal carbon dioxide monitoring. *J Emerg Med Services* 1993; 58-61.
91. Om A, Ellaham S, **Ornato JP**. Reversibility of cocaine-induced cardiomyopathy. *Am Heart J* 1992; 124: 1639.
92. Om A, Ellaham S, **Ornato JP**, Picone C, Theogaraj J, Corretjer G, Vetrovec GW. Medical complications of cocaine: Possible relationship to low plasma cholinesterase enzyme. *American Heart Journal*. 1993; 125:1114-7.
93. Gonzalez ER, **Ornato JP**, Lawson CL. Clinical decision analysis modelling: short-term control of ventricular response rate in atrial fibrillation or atrial flutter - digoxin vs. diltiazem. *Pharmacotherapy* 1994; 14:146-51.
94. **Ornato JP**. Resuscitation - Where are we headed? (editorial). *Resuscitation* 1993. In press.
95. Lambrew CT, Smith MS, Annas GG, Bass RR, Bracken J, Califf R, Francis CK, Gibler WB, Hartman MB, Ho M, Lewis S, **Ornato JP**, Rogdrigue RB: Rapid identification and treatment of acute myocardial infarction in the emergency department. *Ann Emerg Med* 1994; 23:311-29.
96. Peberdy MA, **Ornato JP**. Recognition of electrocardiographic lead misplacements. *Am J Emerg Med* 1993; 11:403-5.
97. **Ornato JP**. Maintaining cerebral blood flow during cardiopulmonary resuscitation (editorial). *Stroke* 1994; 25:186-7.
98. **Ornato JP**. Should bystanders perform mouth-to-mouth ventilation during resuscitation? (editorial). *Chest* 1994; 12:1641-2.
99. **Ornato JP**. The Regulatory Moratorium on Clinical Resuscitation Research in the United States. *Resuscitation* 1995; 29:83-86.
100. Grillo JA, Venitz J, Gonzalez ER, **Ornato JP**. Prediction of lidocaine tissue concentrations following different dosing regimens during cardiac arrest using a physiologically based pharmacokinetic model. *Crit Care Med* 1995. Submitted.
101. **Ornato JP**, Peberdy MA. The mystery of bradysystole during cardiac arrest. *Ann Emerg Med* 1995; Submitted.
102. Idris AH, Becker LB, **Ornato JP**, Hedges JR, Bircher NG, Chandra NC, Cummins RO, Dick W, Ebmeyer U, Halperin HR, Kerber RE, Kern KB, Safar P, Steen PA, Swindle MM, Tsitlik J, von Planta I, von Planta M, Wears R, Weil MH. Utstein-Style guidelines for uniform reporting of laboratory CPR research. *Circulation* 1995; Submitted.

103. **Ornato JP**, Peberdy MA, Chandra NC, Bush DE. Seasonal pattern of acute myocardial infarction in the National Registry of Myocardial Infarction. *J Amer Coll Cardiol* 1995; Submitted.
104. Tatum JL, Jesse RL, Kontos MC, Nicholson CS, Schmidt KL, **Ornato JP**. A comprehensive strategy for the evaluation and triage of the chest pain patient. *Ann Emerg Med* 1996; Submitted.
105. **Ornato JP**, Doctor ML, Harbour LF, Peberdy MA, Racht EM, Overton J, Zauhar WG, Smith AP, Ryan K. The Need to Synchronize Emergency Medical Timepieces to the Atomic Clock. *JAMA* 1996; Submitted.
106. Kontos MC, Desai PV, Jesse RL, **Ornato JP**. Usefulness of the admission electrocardiogram to identify the infarct related artery in inferior wall acute myocardial infarction. *Am J Cardiol* 1996; Accepted.

#### SCIENTIFIC ABSTRACTS

1. Wigton RS, **Ornato JP**, Leu V, Mazzotta L, Cheng IH. The diagnosis of urinary tract infection in patients presenting to the emergency department. *Clinical Research* 1982; 30:307A.
2. **Ornato JP**, Craren EJ, Nelson N, Smith HD. The economic impact of CPR and emergency cardiac care programs. *Circulation* 1982; 66 (suppl):II-349.
3. **Ornato JP**, Craren EJ, Nelson N, Smith HD. Impact of CPR training and the EMS system on reduction in mortality from myocardial infarction. *Circulation* 1982; 66 (suppl):II-349.
4. **Ornato JP**, Craren EJ, Nelson NM, Kimball KF. The impact of improved emergency medical services and emergency trauma care on the reduction in mortality from trauma. *J Trauma* 1984; 24:674.
5. **Ornato JP**, Medina VA. A computer-derived algorithm for the diagnosis and treatment of streptococcal pharyngitis in the emergency department. *Clinical Research* 1984, 32:749A.
6. **Ornato JP**, Bredthauer J. Abnormal pulmonary hemodynamics as a cause for pulmonary edema during cardiac arrest. *Am J Emerg Med* 1984; 2:356.
7. **Ornato JP**, Gonzalez ER, Starke H, Morkunas AP, Coyne MA. The cause of hypokalemia associated with cardiac arrest. *Am J Emerg Med* 1984; 2:357.
8. **Ornato JP**, Gonzalez ER, Morkunas AP, Coyne MA. Delayed paramedic response time as the principal cause of acidosis in out-of-hospital cardiac arrest. *Am J Emerg Med* 1984; 2:356.

9. **Ornato JP**, Gonzalez ER, Morkunas AP, Coyne MA. Superiority of electrical countershock compared to ACLS for therapy of asystole during cardiac arrest. *Am J Emerg Med* 1984; 2:357.
10. **Ornato JP**, Mlinik EJ, Craren EJ, Nelson NM. Superiority of the Champion trauma score over the CRAMS scale in determining which trauma patients need immediate surgery. *Clinical Research* 1984; 32:749A.
11. Gonzalez ER, **Ornato JP**, Beck CL, et al: Effects of pH on the ability of epinephrine, atropine sulfate and calcium chloride to alter the rhythm from asystole during cardiac arrest in humans. *Drug Intelligence and Clinical Pharmacy* 1985; 19:449.
12. **Ornato JP**, Gonzalez ER, Kelso D, Cameron JL, Reese WA, Tayal VS, Clark, Jr. RF. Bacterial contamination of ambulance oxygen humidifier water reservoirs: A potential source of iatrogenic infection. *Ann Emerg Med* 1986; 15:629.
13. **Ornato JP**, Gonzalez ER, Garnett AR, McClung BK. Decline in systemic arterial pressure with increasing CPR compression rate in man. *Ann Emerg Med* 1986; 15:624-5.
14. **Ornato JP**, Gonzalez ER, Garnett AR, Levine RL, McClung BK. Hemodynamic effects of rapid CPR compression rate in man. *Am J Emerg Med* 1986; 5:421.
15. Gonzalez ER, **Ornato JP**, Garnett AR, Levine RL, McClung BK. Enhanced vasopressor response after 3 and 5 mg doses of epinephrine during CPR in man. *Am J Emerg Med* 1986; 5:418-9.
16. Garnett AR, Levine RL, **Ornato JP**, Gonzalez ER, Young DS. Real-time tracking of hemodynamic events during CPR with end Tidal carbon dioxide monitoring in man. *Am J Emerg Med* 1986; 5:418.
17. Garnett AR, Glauser FL, **Ornato JP**. End Tidal Carbon Dioxide Noninvasively Tracks Cardiac Output in a Low cardiac Output State in Sheep. *Crit Care Med* 1987; 15:420.
18. **Ornato JP**, Hallagan LF, Reese WA, Clark RF, Tayal VS, Gonzalez ER, Garnett AR: Treatment of paroxysmal supraventricular tachycardia in the emergency department based on clinical decision analysis. *Clinical Research*. Accepted.
19. Talley DB, **Ornato JP**, Clarke AM, Rittgers SE: Hemodynamic modeling of blood flow during cardiopulmonary resuscitation (CPR) using SPICE. *Clinical Research*, 1988; 38:8A.
20. **Ornato JP**, Garnett R, Talley D, Gonzalez ER, Levine R, Young D: Influence of applied chest compression force on arterial pressure and end tidal carbon dioxide concentration during CPR in man. *Clinical Research* Jan. 1988; Abstract Number B-CV-0068.

21. Farand L, **Ornato JP**, Goupil J, Kalina M, Masson P: Improved rate of return of spontaneous circulation from out of hospital ventricular fibrillation using the 1985 vs 1980 American Heart Association treatment algorithm. American Heart Association 60th Scientific Sessions. November 16, 1987.
22. Garnett R, Glauser FL, **Ornato JP**: Relationship between end tidal carbon dioxide concentration and cardiac output. Clinical Research. Clinical Research Jan. 1988; 3:1 p 4A.
23. Gonzalez ER, **Ornato JP**, Garnett AR, Levine RL, Young DS, Karlix JL, McClung BK, Racht EM. Dose-dependent vasopressor response to epinephrine during CPR in humans. Journal of the American College of Cardiology 1988; 11:42A.
24. Gonzalez ER, **Ornato JP**, Garnett AR, et al. Dose-response evaluation of epinephrine during cardiopulmonary resuscitation in humans. Drug Intelligence and Clinical Pharmacy 1987; 21:19.
25. Gonzalez ER, Vanderheyden BA, **Ornato JP**, Garnett AR, Comstock TG. Computerized pharmacokinetic dosing of theophylline in the emergency department. Annals of Emergency Medicine; 1987; 16:501
26. Tape TG, Heckerling PS, **Ornato JP**, Hissong K, Leikin J, Wigton R; Variation in physicians' decisions to admit patients with acute respiratory illness. Clinical Research, 1989; 37:783A.
27. **Ornato JP**, Shipley JB, Racht EM, Slovis CM, Pepe PE, et al. Multicenter Study of End-Tidal Carbon Dioxide in the prehospital Setting. Ann Emerg Med 19:4, abstract no. 18; 1990; presented at the Society of Academic Emergency Medicine 1990 Minneapolis, Minnesota May 21, 1990.
28. McMahan S, **Ornato JP**, Racht EM, Cameron JL. Prehospital, Multiagency Comparison of the Pharyngeotracheal Lumen (PTL) Airway Tube. Ann Emerg Med 19:4, abstract no. 116; presented at the Society of Emergency Medicine 1990 Annual meeting, Minneapolis, Minnesota May 23, 1990.
29. Levine RL, **Ornato JP**, Racht EM, Gonzalez ER: Hemodynamic Effect of Increasing Acceleration of Chest Compression During Cardiopulmonary Resuscitation in Man. Ann Emerg Med 19:4 abstract no. 155; presented at the Society of Emergency Medicine 1990 Annual meeting, Minneapolis, Minnesota May, 24, 1990.
30. **Ornato JP**: Does pre-hospital thrombolysis have a favorable benefit/risk ratio? European Congress of Cardiology, Stockholm, Sweden 1990.

31. **Ornato JP**, Gonzalez ER, Jones LA, Bleecker GC, Strauss MJ, and the Virginia Thrombolytic Study Group: Problems with thrombolytic administration and adjunctive medications in patients with AMI. American College of Cardiology 1991. Submitted.
32. Gonzalez ER, **Ornato JP**, Jones LA, Bleecker GC, Strauss MJ, and the Virginia Thrombolytic Study Group: Hospital delays in thrombolytic therapy: a multicenter prospective assessment of critical factors. American College of Cardiology 1991. Submitted.
33. Gonzalez ER, Racht EM, Peterson MA, **Ornato JP**: Dose-response evaluation of oral labetalol in patients presenting to the emergency department with accelerated hypertension. Ann Emerg Med April 1991; 20(4):333-8.
34. Porter TR, **Ornato JP**, Guard C, Roy V, Nixon JV: Transesophageal echocardiography demonstrates that mitral valve position during closed chest cardiopulmonary resuscitation is a function of cardiac rhythm. Clinical Research, Vol. 39; No. 2, 1991.
35. Porter TR, **Ornato JP**, Guard C, Roy V, Nixon JV: The relationship of body habitus to left ventricular uncton determined by transesophageal echocardiography during closed chest cardiopulmonary resuscitation in humans. Clinical Research, Vol. 39; No. 2, 1991.
36. Porter TR, **Ornato JP**, Guard C, Roy V, Nixon JV: Transesophageal doppler echocardiography to demonstrate the mechanism of blood flow during cardiopulmonary resuscitation. Amer College of Cardiology, 1991.
37. Porter TR, **Ornato JP**, Burns C, Roy V, Guard C, Nixon JV: Optimal left ventricular filing differences during cardiopulmonary resuscitation in cardiac thoracic pump mechanisms of blood flow. Amer College of Cardiology, 1992. Submitted.
38. Porter TR, **Ornato JP**, Roy V, Guard C, Burns C, Nixon JV: Increasing compression rate during cardiopulmonary resuscitation decreases left ventricular filling in humans. Amer College of Cardiology, 1992. Submitted.
39. Porter TR, **Ornato JP**, Burns C, Guard C, Roy V, Nixon JV: Increased transmitral flow independent of mitral valve position during cardiopulmonary resuscitation in humans. Amer College of Cardiology; 1991.
40. Porter, **Ornato JP**, Burns C, Guard C, Roy V, Nixon JV: Increased compression force significantly increases transmitral flow independent of mitral valve position during cardiopulmonary resuscitation in humans. Amer College of Cardiology; 1992.
41. Om A, Nixon JV, **Ornato JP**, Ellaham S, Vetovec GW. Cocaine users are predisposed to left rather than right-sided valve endocarditis 1992. Clin Res 39 (4). 1991. 872a.

42. Porter TR, Ornato JP, Nixon JV: The role of transesophageal echocardiography in determining the mechanism of forward blood flow during closed-chest cardiopulmonary resuscitation. *Respiratory Care*, Vol. 37:No. 7; July 1992.
43. Gonzalez ER, Jones LA, Ornato JP, Bleecker GC, Strauss MJ: Hospital delays and problems with thrombolytic administration in patients receiving thrombolytic therapy: A multicenter prospective assessment; *Ann Emerg Med*; 21:10; October 1992.
44. Om A, Nixon JV, Ornato JP, Ellaham S, Vetovec GW. Cocaine induced complications: possible relationship to low plasma cholinesterase enzyme. Presented at Amer College of Cardiology Annual Scientific Session. Anaheim, CA. March, 1993.
45. Ornato JP, Doctor ML, Harbour LF, Racht EM, Overton J, Zauhar WG, Smith AP, Ryan K. Correction of time inaccuracies in cardiac arrest documentation in an urban emergency medical services system: Implications for cardiac arrest research. American Heart Association Annual Scientific Sessions 1994; Presented.
46. Rogers WJ, Lambrew CT, Chandra NC, French WJ, Ornato JP. Trends in the management of acute myocardial infarction 1990-1993. American Heart Association Annual Scientific Sessions 1994; 90:I-324.
47. Tatum JL, Ornato JP, Jesse RL, Peberdy MA, Katta SR. A diagnostic strategy using Tc-99m sestamibi for evaluation of patients with chest pain in the emergency department. American Heart Association Annual Scientific Sessions 1994; 90:I367.
48. Grillo JA, Venitz J, Gonzalez ER, Ornato JP. Prediction of lidocaine tissue concentrations following different dosing regimens during cardiac arrest using a physiologically based pharmacokinetic model (PBPK). Society of Critical Care Medicine 1994; Accepted.
49. Nicholson C, Tatum J, Jesse R, Ornato J. The value of gated tomographic Tc-99m sestamibi perfusion imaging in acute ischemic syndromes. Second International Conference of Nuclear Cardiology 1994; Accepted.
50. Ornato JP, Jesse RL, Tatum JL, Nicholson CS, Peberdy MA, Roberts CS. Lack of correlation between relief of chest pain after sublingual nitroglycerin and reversible radionuclide perfusion defects or presence of significant coronary atherosclerosis on coronary angiography. American College of Cardiology 1995; Accepted.
51. Ornato JP, Peberdy MA, Jesse RL, Tatum JL, Nicholson CS, Roberts CS. Resting technitium Tc99m sestamibi SPECT myocardial perfusion imaging detects coronary disease in "low risk" emergency department chest pain patients. American Heart Association 1995.

52. Kontos MC, Nicholson CS, Ornato JP, Jesse RL, Tatum JL. Noninvasive identification of myocardium at risk in patients with nondiagnostic electrocardiograms and abnormal Technitium 99m sestamibi imaging. American Heart Association 1995; Submitted.

53. Ornato JP, Peberdy MA, Jesse RL, Tatum J, Tombul SA, Kontos MC. Value of coronary artery disease risk factors in judging whether chest pain unaccompanied by ECG changes in the emergency department is due to acute cardiac ischemia. American College of Cardiology Annual Scientific Sessions 1995.

#### BOOKS AND BOOK CHAPTERS

1. **Ornato JP** and Romankiewicz JA. Handbook of the Pharmacology of Emergency Drugs for Paramedics. Drug Intelligence Publications (Hamilton Press, Inc), 1977.

2. **Ornato JP**. Prehospital and emergency department management of acute cardiovascular emergencies. Chapter 7 in Cardiac Emergencies, 2nd Edition, edited by Eliot RS, Futura Publications, Inc. (Mount Kisco, New York), 123-146, 1981.

3. Cardiovascular Emergencies, edited by **JP Ornato**. Churchill Livingstone Publ (New York). 1986, pp 251.

4. **Ornato JP**. Computer-assisted diagnosis of chestpain in the emergency department. In Cardiovascular Emergencies, edited by **JP Ornato**. Churchill Livingstone Publ, New York. 1986, pp 1-22.

5. Gonzalez ER, **Ornato JP**. Cost effective management of hypertensive emergencies. In Cardiovascular Emergencies, edited by **JP Ornato**. Churchill Livingstone Publ, New York. 1986, pp 97-114.

6. **Ornato JP**, Gonzalez ER, Jaffe AS. The use of cardiovascular drugs during cardiopulmonary resuscitation. In Current Cardiovascular Drug Therapy, edited by FH Messerli. WB Saunders Company. 1990.

7. **Ornato JP**. Near Drowning Pulmonary and Critical Care Update. American College of Chest Physicians; Continuing Professional Education Center, Inc. (New Jersey). 1987; 3:2-7.

8. **Ornato JP**. The Emergency Department's Role in Speeding the Time to Thrombolytic Therapy in Acute Myocardial Infarction. In Modern Management of Acute Myocardial Infarction in the Community Hospital, edited by JL Anderson. Marcel Dekker, Inc. (New York). 1990.

9. Drug Therapy in Emergency Medicine, edited by **JP Ornato** and ER Gonzalez. Churchill Livingstone Publ (New York). 1990.

10. Gonzalez ER, Ornato JP: Cardiopulmonary Resuscitation. Drug Therapy in Emergency Medicine, ed. JP Ornato and ER Gonzalez. Churchill Livingstone Publ (New York), 1990.
11. Sypniewski E, Ornato JP: Emergency Management of Circulatory Shock. Drug Therapy in Emergency Medicine, ed. JP Ornato and ER Gonzalez. Churchill Livingstone Publ (New York), 1990.
12. Racht EM, Taylor DO, Ornato JP, Gonzalez ER: Cardiovascular Emergencies. Drug Therapy in Emergency Medicine, ed. JP Ornato and ER Gonzalez. Churchill Livingstone Publ (New York), 1990.
13. Ornato JP: Does pre-hospital thrombolysis have a favourable benefit/risk ratio? In Controversies in Thrombolysis and AMI, ed. DA Chamberlain and B Pitt. Royal Society of Medicine Services Limited, London and New York, 1991.
14. Ornato JP, Om A. Out-of-hospital management of cardiac arrest. In Textbook on Sudden Cardiac Death. Ed. by Akhtar M, Myerburg R, Ruskin J. Andover Med Publishers, Inc. 1994.
15. Ornato JP, Om A: Minimizing Time Delays to Thrombolytic Therapy in Patients with Acute Myocardial Infarction. CV Mosby & Co. Edited by Aufderheide TP and Gibler B. In press.
16. Ornato JP, Pollock, CL: "Preface: Implementation of an Early Defibrillator Program". SpaceLabs; 1992
17. Ornato JP, Peberdy, MA: "Delays to thrombolytic therapy in patients with acute myocardial infarction". In Challenges in Thrombolytic Therapy. Cahners Healthcare Communications (New York NY). Edited by HJC Swan. In press.
18. Ornato JP, Peberdy, MA. "The etiology, electrophysiology and myocardial mechanics of bradyasystolic states. In Cardiac Arrest: The Pathophysiology & Therapy of Sudden Death. (eds Paradis NA, Halperin HR, Nowak RM). Williams & Wilkins (Baltimore). In press.
19. Racht EM, Ornato JP. Foreword to Paramedic Protocols (ed. Westfal R). In press.
20. Ornato JP, Racht EM, Fitch J, Berry JF. "ALS in urban and suburban EMS systems". In Prehospital Care Administration (ed. Joseph J. Fitch). Mosby Lifeline (St. Louis). 1995.
21. Ornato JP, Peberdy MA: Prehospital approaches to treating sudden cardiac death and acute myocardial infarction. In The Textbook of Coronary Thrombosis and Thrombolysis (ed. Lam-brew CT). In press.

MAJOR CONTRIBUTIONS IN PUBLICATIONS CREDITED TO A COMMITTEE

1. Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC). JAMA 1986; 255:2905- 2989.
2. Basic Cardiac Life Support Heartsaver Manual. American Heart Association. Dallas, Texas. 1987.
3. Advanced Cardiac Life Support Textbook. American Heart Association. Dallas, Texas. 1987.
4. Acid-Base Balance Chapter, Advanced Cardiac Life Support Textbook. American Heart Association. Dallas, Texas. 1987.
5. Special Resuscitation Situations Chapter, Advanced Cardiac Life Support Textbook. American Heart Association. Dallas, Texas. 1987.
6. American Heart Association, Emergency Cardiac Care Committee: Risk of Infection During CPR Training and Rescue: Supplemental Guidelines; JAMA 1989 262:2714-2715.
7. American Heart Association, Emergency Cardiac Care Committee: Risk of Infection During CPR Training and Rescue: Supplemental Guidelines; JAMA 1989 262:2714-2715.
8. American College of Cardiology, Subcommittee on Emergency Cardiac Care: Guidelines for In-Hospital Cardiac Monitoring; J Amer Coll Cardiol. JACC Vol. 18. No. 6; November 15, 1991:1431-3.
9. American Heart Association ACLS Subcommittee Task Force on Early Defibrillation: Automated External Defibrillation Chapter. Textbook of Advanced Cardiac Life Support. American Heart Association 1990.
10. American Heart Association ACLS Subcommittee Task Force on Early Defibrillation: Automated External Defibrillation Instructor's Supplement. Textbook of Advanced Cardiac Life Support (Instructor Supplement). American Heart Association 1990.
11. American Heart Association ACLS Subcommittee Task Force on Early Defibrillation: Handbook on Early Defibrillation with Automated External Defibrillation. American Heart Association 1990.
12. American Heart Association Emergency Cardiac Care Committee and the Advanced Cardiac Life Support Subcommittee: A new initiative from the American Heart Association: Automated external defibrillators and the advanced cardiac life support program. Amer J Emerg Med 1990; 9:86-7.

13. American Heart Association Emergency Cardiac Care Committee and the Advanced Cardiac Life Support Subcommittee: Encouraging early defibrillation: the American Heart Association and automated external defibrillators. *Ann Emerg Med* 1990. Submitted.
14. Recommended Guidelines for Uniform Reporting of Data from Cardiac Arrest. The "Utstein Style." American Heart Association, European Resuscitation Council, Heart and Stroke Foundation of Canada and Australian Resuscitation Council. *Ann Emerg Med* 1991; 20:861-74.
15. Cummins RO, Thies W, and the members of the members of the ECC Committee and ACLS Subcommittee of the American Heart Association: Automated external defibrillators and ACLS: A new initiative from the American Heart Association. *Am J Emerg Med* 1991; 9 (Jan):91-94.
16. American Heart Association: Advanced Cardiac Life Support Algorithms and Drugs. 1993.
17. American Heart Association: Advanced Cardiac Life Support Textbook 1994.
18. American Heart Association: Advanced Cardiac Life Support Instructor's Manual. 1994.
19. National Heart Attack Alert Program Coordinating Committee Access to Care Subcommittee. Staffing and equipping emergency medical services systems: Rapid identification and treatment of acute myocardial infarction. *Amer J Emerg Med* 1995; 13:58-66.
20. National Heart Attack Alert Program Working Group on Educational Strategies to Prevent Prehospital Delay in Patients at High Risk for Acute Myocardial Infarction. Educational Strategies to Prevent Prehospital Delay in Patients at High Risk for Acute Myocardial Infarction. Submitted to JAMA.

#### REVIEW ARTICLES

1. **Ornato JP**. Silent mitral stenosis. *Pract Cardiol* 1: 50-51, 1975.
2. **Ornato JP**. Left ventricular aneurysm following myocardial infarction. *Pract Cardiol* 2: 47-49, 1976.
3. **Ornato JP**. Management of prehospital cardiac arrest. *Pract Cardiol* 2: 46-47, 1976.
4. **Ornato JP**. Management of angina pectoris. *Pract Cardiol* 2: 47-49, 1976.
5. **Ornato JP**. Advances in cardiopulmonary resuscitation. *Family Practice Recertification* 5 (9): 61-74, 1983.
6. Holmes DR, **Ornato JP**, Sinkinson CA. The risks and proper role of temporary cardiac pacing: indications, available equipment, choosing a site for insertion (Part I). *Emerg Med Reports* 5: 149-156, 1984.

7. Holmes DR, **Ornato JP**, Sinkinson CA. The risks and proper role of temporary cardiac pacing: indications, available equipment, choosing a site for insertion (Part II). *Emerg Med Reports* 5: 157-164, 1984.
8. **Ornato JP**, Gonzalez ER. Refractory ventricular fibrillation. *Emerg Decisions*: 35-42, April, 1986.
9. Gonzalez ER, **Ornato JP**. Electrical countershock for pre-hospital bradysystolic cardiac arrest. *Emerg Med Serv* 1988; Vol. 17, No. 6:42-45.
10. **Ornato JP**, Gonzalez ER, Coyne MR, Beck CL, Collins MS: Arterial pH in out-of-hospital cardiac arrest. Response time as a determinate of acidosis. *Canadian J Prehospital Med* 1986; 1:25-30.
11. **Ornato JP**, Gonzalez ER: Cardiopulmonary resuscitation: The revised approach. *Emergency Decisions* 1987; Vol. 3, No. 7:55-62.
12. Brown DD, Garson A, **Ornato JP**. Paroxysmal supraventricular tachycardia: the problem is diagnosis. *Patient Care* 1987; 21:26-48.
13. **Ornato JP**: Cardiac arrest: A cardiologist's approach. *Cardiology Illustrated*. II 4:3-13.
14. Beyda DH, Lilja P, Modell JH, **Ornato JP**. Early resuscitation in near-drowning. *Patient Care* 1989; 70-94.
15. **Ornato JP**, Smith M: Thrombolytic therapy in acute MI. *Patient Care* 1990; 76-94.
16. Peberdy MA, **Ornato JP**. Coronary artery disease in women. *Heart Disease & Stroke* 1992; September/October:315-9.
17. **Ornato JP**, Peberdy MA, Gonzalez ER. Use of thrombolytic therapy in older patients. *Journal Critical Illness* 1993; 8:865-75.
18. **Ornato JP**. Thrombolysis in the emergency department: how to optimize the time to treatment. *Emergency Medicine* 1995; 27:44-58.
19. Peberdy MA, **Ornato JP**, Overton J. Use of mechanical cardiopulmonary resuscitation in the emergency medical services setting. *CPR Innovator* 1994; In press.
20. Grauer K, **Ornato JP**, Pepe PE. Are you up-to-date on ACLS? *Patient Care*. 1995; 29:32-59.

BOOK REVIEWS

1. Ornato JP: Synopsis of Cardiac Physical Diagnosis. Am J Emerg Med September, 1989.

EDUCATIONAL TAPES AND VIDEOCASSETTES

1. Ornato JP, Loeb N. Emergency Medicine Review Self-Study Course (25 audiocassette tape course with instructional manual). University of Nebraska Medical Center. Omaha, Nebraska. 1984.
2. American Heart Association Emergency Cardiac Care Committee. Basic Cardiac Life Support Instructional Videotape. 1987.
3. Actronics, Inc. (in association with the American Heart Association): Megacode Instructional Videodisk. Release date, June 20, 1988

MAJOR LECTURES, COURSES DIRECTED, AND KEYNOTE ADDRESSES

1. Advanced Trauma Life Support Course, University of Nebraska Medical Center, July 12-13, 1979. Omaha, Nebraska.
2. Advanced Cardiac Life Support Course, Creighton University, Sept 5, 1979. Omaha, Nebraska.
3. Advanced Medical Life Support Course. "Introduction and Overall Patient Assessment - EMS System Implementation". University of Nebraska Medical Center, Sept 25, 1979. Omaha, Nebraska.
4. Advanced Medical Life Support Course. "Cardiovascular Emergencies - Part I", Sept 25, 1979. Omaha, Nebraska.
5. Advanced Medical Life Support Course. "Cardiovascular Emergencies - Part II", Sept 26, 1979. Omaha, Nebraska.
6. Advanced Medical Life Support Course. "Logic of Advanced Cardiac Life Support", Sept 26, 1979. Omaha, Nebraska.
7. Omaha Fire Division Paramedic Continuing Education Lectures, Sept 17 - Jan 14, 1979 (8 lecture hours). Omaha, Nebraska.
8. Advanced Medical Life Support Course. "General Medical Emergencies", Nov 14, 1979. Hastings, Nebraska.

9. Base Station Physicians Course, Dec 17, 1979. Omaha, Nebraska.
10. Advanced Trauma Life Support Course. "Stabilization and Transport, Trauma Indices and Upper Airway Management", March 7, 1980. Omaha, Nebraska.
11. "Dissecting Hematoma of the Aorta", University of Nebraska Medical Grand Rounds, April 18, 1980. Omaha, Nebraska.
12. "Accident Scene: Practical Demonstration of Moving and Transporting", University of Nebraska Medical Center Symposium on Neurological Emergencies, May 15, 1980. Omaha, Nebraska.
13. "Legal Issues in Emergency Care: Air Transport and Trauma Center", Continuing Education Course, University of Nebraska Medical Center, June 23 and 24, 1980. Omaha, Nebraska.
14. "Cardiac Arrhythmia Review for Internal Medicine House Staff", July 15, 1980. Omaha, Nebraska.
15. Advanced Cardiac Life Support Course. July 15, 1980. Omaha, Nebraska.
16. Advanced Trauma Life Support Course. "Shock", July 28, 1980. Omaha, Nebraska.
17. Advanced Trauma Life Support Course. "Stabilization and Transportation of the Injured" July 29, 1980. Omaha, Nebraska.
18. Advanced Trauma Life Support Course. "Initial Assessment" July 31, 1980. Omaha, Nebraska.
19. University of Nebraska Medical Center Physician's Assistant Training Course. "Basics of Evaluation and Initial Management of Blunt Trauma of Thorax and Abdomen", Aug 25 and 22, 1980. Omaha, Nebraska.
20. Advanced Trauma Life Support Course. "Stabilization and Transportation" Aug 16, 1980. Omaha, Nebraska.
21. Base Station Physicians Course, July 11, 1980. Omaha, Nebraska.
22. University of Nebraska Family Practice Review Course. "Supraventricular Arrhythmias", Oct 7, 1980. Omaha, Nebraska.
23. University of Nebraska Family Practice Review Course. "Ventricular Arrhythmias", Oct 8, 1980. Omaha, Nebraska.
24. University of Nebraska Physician's Assistant Training Course. "Enzymes in Diagnostic Procedures, Oct 8, 1980. Omaha, Nebraska.

25. "Cardiovascular Physical Examination for Medical Students", University of Nebraska Medical Center. Feb 1981 (8 - 90 min class periods). Omaha, Nebraska.
26. University of Nebraska Cardiology Grand Rounds. "Sudden Cardiac Death", Feb 18, 1981. Omaha, Nebraska.
27. Basic Cardiac Life Support. UNMC Continuing Education, February 17, 1981. Omaha, Nebraska.
28. "Mechanism of Action: Diagnosis and Treatment of Cardiac Arrhythmias", American Association of Family Practice Course, April 23, 1981. Osmond, Nebraska.
29. "Emergency Medicine and UNMC's Outreach Service Across Nebraska", Northwest Medical Society's Annual Pre-Med Day, April 27, 1981. Chadron, Nebraska.
30. "Cardiac Emergencies and Sudden Cardiac Death", Internal Medicine Housestaff Lecture, University of Nebraska Medical Center, May 26, 1981. Omaha, Nebraska.
31. University of Nebraska Medical Grand Rounds. "Heat Related Emergencies" Medicine Grand Rounds, July 10, 1981. Omaha, Nebraska.
32. "Arrhythmias", University of Nebraska Medicine Resident Orientation Lecture, July 17, 1981. Omaha, Nebraska.
33. "Sudden Cardiac Death", Veterans Administration Internal Medicine Resident Lecture, July 18, 1981. Omaha, Nebraska.
34. University of Nebraska Physician's Assistant Course. "Clinical Correlation of Enzymes", Sept 18, 1981. Omaha, Nebraska.
35. "Environmental Emergencies", Emergency Medicine Review Course, University of Nebraska Medical Center, Sept 30, 1981. Omaha, Nebraska.
36. "New Aspects of Cardiopulmonary Resuscitation", University of Nebraska Continuing Educational Network Telephone Conference, Oct 16, 1981. Omaha, Nebraska.
37. "Cardiovascular Physical Examination Medical Student Course", University of Nebraska Medical Center (16 hr course), Oct 20 - Nov 12, 1981. Omaha, Nebraska.
38. Advanced Cardiac Life Support Course, University of Nebraska Medical Center, February 3, 1982. Omaha, Nebraska.

39. Base Station Physician Course, Lincoln Medical Education Foundation, Feb 17, 1982. Lincoln, Nebraska.
40. "UNMC Emergency Patient Transport System", Nebraska State Legislature Unicameral Club, Keynote Speaker, Feb 22, 1982. Lincoln, Nebraska.
41. Advanced Cardiac Life Support Course, University of Nebraska Medical Center, March 16, 1982. Omaha, Nebraska.
42. Advanced Cardiac Life Support Course, St Joseph's Hospital, April 2, 1982. Omaha, Nebraska.
43. "Emergency Cardiac Pacemakers", Emergency Medicine Board Review Course, University of Nebraska Medical Center, April 12, 1982. Omaha, Nebraska.
44. "Environmental Emergencies", Emergency Medicine Board Review Course, University of Nebraska Medical Center, April 13, 1982. Omaha, Nebraska.
45. Basic Life Support Course for Physicians, Nebraska Medical Society Annual Session, May 2, 1982. Omaha, Nebraska.
46. Advanced Cardiac Life Support Course, University of Nebraska Medical Center, May 6, 1982. Omaha, Nebraska.
47. "Head, Neck and Spinal Injuries", Nebraska Community College, June 13, 1982. Norfolk, Nebraska.
48. "Use of EOA and MAST", Paramedic Continuing Education Lecture, March 31, 1982. Arlington, Nebraska.
49. "CPR: are we doing anything right?" Medical Grand Rounds, University of Nebraska Medical Center, June 11, 1982. Omaha, Nebraska.
50. Advanced Trauma Life Support Instructor's Course. "Head, Neck, Spinal Trauma", Nebraska Community College, June 13, 1982. Norfolk, Nebraska.
51. Advanced Cardiac Life Support Course. "Invasive Techniques", June 30, 1982. Omaha, Nebraska.
52. Advanced Cardiac Life Support Course. University of Nebraska Medical Center, Aug 26, 1982. Omaha, Nebraska.
53. Advanced Cardiac Life Support Course. University of Nebraska Medical Center, Sept. 2, 1982. Omaha, Nebraska.

54. "Pacemakers", Emergency Medicine Review Course, University of Nebraska Medical Center, Sept 13, 1982. Omaha, Nebraska.
55. "Enzymes in Diagnosis", Freshman Medical Student Clinical Correlation Lecture, University of Nebraska Medical Center, Sept 17, 1982.
56. Advanced Trauma Life Support Course. "Thoracic Trauma", University of Nebraska Medical Center, Sept 20-21, 1982. Omaha, Nebraska.
57. Advanced Trauma Life Support Course, "Stabilization and Transport", University of Nebraska Medical Center, Sept 21, 1982. Omaha, Nebraska.
58. "Enzymes in Emergency Medicine", Clinical Correlation Class for Physician Assistants, University of Nebraska Medical Center, Sept 23, 1982. Omaha, Nebraska.
59. "Emergency Medicine for Obstetricians", University of Nebraska Medical Center, Oct 20 & 27, 1982. Omaha, Nebraska.
60. "Cardiovascular Clinical Diagnosis", Freshman Medical Student Clinical Correlation Lecture, University of Nebraska Medical Center, Oct 19 & Nov 11, 1982. Omaha, Nebraska.
61. "Ethics of Cardiopulmonary Resuscitation". Humanities Grand Rounds, University of Nebraska Medical Center, Nov 24, 1983. Omaha, Nebraska.
62. Advanced Cardiac Life Support Course. University of Nebraska Medical Center, Jan 12-13, 1983. Omaha, Nebraska.
63. "Arrhythmias". Paramedic Nurse Consultant Course, University of Nebraska Medical Center, March 16, 1983. Omaha, Nebraska.
64. "Pacemakers". Emergency Medicine Review Course, University of Nebraska Medical Center, April 18, 1983. Omaha, Nebraska.
65. "Environmental Emergencies". Emergency Medical Review Course, University of Nebraska Medical Center, April 23, 1983. Omaha, Nebraska.
66. Advanced Trauma Life Support Course, University of Nebraska Medical Center, May 24, 1983. Omaha, Nebraska.
67. Advanced Cardiac Life Support Course, "Invasive Techniques", University of Nebraska Medical Center, June 30, 1983. Omaha, Nebraska.
68. "The Cardiac Patient". Nebraska State Emergency Medical Services Conference. July 23, 1983. Omaha, Nebraska.

69. "Enzymes in Cardiac Diagnosis". Physician Assistant and Medical Students, University of Nebraska Medical Center, Sept 21, 1983. Omaha, Nebraska.
70. Emergency Medicine Review Course - Course Coordinator & Lecturer, "Cardiology" and "New Cardiovascular Drugs" sections, University of Nebraska Medical Center, Sept 26-Oct 1, 1983. Omaha, Nebraska.
71. Advanced Trauma Life Support Course, University of Nebraska Medical Center, Nov 3, 1983. Omaha, Nebraska.
72. "Coronary Artery Disease", Introduction to Clinical Medicine Course, University of Nebraska Medical Center, Dec 7, 1983. Omaha, Nebraska.
73. Basic Cardiac Life Support Course. University of Nebraska Medical Center, Jan 10, 1984. Omaha, Nebraska.
74. Advanced Trauma Life Support Course. "Stabilization and Transportation", University of Nebraska Medical Center, March 16, 1984. Omaha, Nebraska.
75. "Cardiogenic Shock Management - Case Review". Family Practice Review Course, University of Nebraska Medical Center, April 3, 1984. Omaha, Nebraska.
76. "Advances in Resuscitation". Family Practice Review Course, University of Nebraska Medical Center, April 3, 1984. Omaha, Nebraska.
77. "Emergency use of temporary cardiac pacemakers". Emergency Medicine Review Course, University of Nebraska Medical Center, April 9, 1984. Omaha, Nebraska.
78. "New Cardiovascular Drugs". Emergency Medicine Review Course, University of Nebraska Medical Center, April 9, 1984. Omaha, Nebraska.
79. "Environmental Emergencies". Emergency Medicine Review Course, University of Nebraska Medical Center, April 14, 1984. Omaha, Nebraska.
80. "New Emergency Department Techniques and Equipment", Emergency Medicine Review Course, University of Nebraska Medical Center, April 14, 1984. Omaha, Nebraska.
81. "Systems of Emergency Care". Emergency Medicine Course for Medical Students, University of Nebraska Medical Center, April 16, 1984. Omaha, Nebraska.
82. "Initial Emergency Management/Triage/Disaster Medicine". Emergency Medicine Course for Medical Students, University of Nebraska Medical Center, April 18, 1984. Omaha, Nebraska.

83. "Stabilization and Transportation of the Sick and Injured". Emergency Medicine Course for Medical Students, University of Nebraska Medical Center, April 20, 1984. Omaha, Nebraska.
84. "Hemodynamic Monitoring". Intensive Care Review Course. University of Nebraska Medical Center, April 17, 1984. Omaha, Nebraska.
85. "Acute Emergency Management". Sophomore Introduction to Clinical Medicine Course, University of Nebraska Medical Center, April 16,18,20, 1984. Omaha, Nebraska.
86. Multiple Trauma Workshop, Continuing Education for Iowa Western Community College, April 28,1984. Council Bluffs, Iowa.
87. "Research in Emergency Nursing". Senior Nursing Students, University of Nebraska Medical Center, April 30, 1984. Omaha, Nebraska.
88. Advanced Cardiac Life Support Course, course coordinator. University of Nebraska Medical Center, May 9, 1984. Omaha, Nebraska.
89. "Cardiology Case Discussion". Family Practice Review Course. University of Nebraska Medical Center, May 15, 1984. Omaha, Nebraska.
90. "Advances in Cardiac Resuscitation". Family Practice Review Course, University of Nebraska Medical Center, May 15, 1984. Omaha, Nebraska.
91. "Advances in Resuscitation". Family Practice Review Course, University of Nebraska Medical Center, Sept 6, 1984. Omaha, Nebraska.
92. "Emergency Medical Service Organization", Emergency Medicine Review Course, University of Nebraska Medical Center, Sept 17-19, Sept 27-Oct 1, 1984. Omaha, Nebraska.
93. "New Techniques in Resuscitation". Intern Conference and Clinical Management Conference, McGuire VA Hospital, May 6 and May 8, 1985. Richmond, Virginia.
94. "Environmental Emergencies", Shock/Syncope Lecture for M-II Students, Medical College of Virginia, July 1, 1985. Richmond, Virginia.
95. "Codes & Medicine", Blackstone Family Practice Center, Inc. Teaching Conference, July 29, 1985. Blackstone, Virginia.
96. "New Concepts in the Use of Drugs During Resuscitation", Emergency Medicine Conference, Aug 20-21, 1985. Washington, DC.

97. Statewide EMS Symposium on the Advances and Controversies in Cardiac Resuscitation, Virginia Chapter American College of Emergency Physicians, Dec 6, 1985. Highland Springs, Virginia.
98. "Prehospital use of mechanical CPR devices", Williamsburg Community Hospital, Feb. 11, 1986. Williamsburg, Virginia.
99. "Shock and syncope", Cardiovascular M-II lecture and workshop, February 21, 24 & 25, 1986. Medical College of Virginia, Richmond, Virginia.
100. "Field management and transportation of the critically ill patient", American Heart/American Lung Association Critical Care Conference, Feb 21, 1986. Williamsburg, Virginia.
101. "Recent Advances in CPR: New Concepts, Technology and Pharmacology", American Heart/American Lung Association Critical Care Conference, Feb 21, 1986. Williamsburg, Virginia.
102. "CPR Rescuer Safety" American Heart Association National Affiliate Update Conference, Feb 27-Mar 1, 1986. Salt Lake City, Utah.
103. "The new AHA CPR and ECC Standards". American Heart Association Vermont Affiliate Current Concepts in Resuscitation Conference, April 5, 1986. Rutland, Vermont.
104. "Clinical Research in Cardiac Resuscitation". Richmond Academy of Medicine/Department of Internal Medicine Faculty Research Seminar, Medical College of Virginia, Apr 7, 1986, Richmond, Virginia.
105. "BCLS/ACLS Instructor Update". American Heart Association Maryland Affiliate, Essex Community College, Apr 12, 1986. Baltimore, Maryland.
106. "The effect of prehospital EMT defibrillation on survival from out-of-hospital cardiac arrest". The Wisconsin State Medical Society Annual Meeting, Apr 19, 1986. Milwaukee, Wisconsin.
107. EMT-Defibrillation Standards Seminar, April 25-27, 1986. San Francisco, California.
108. "Advances in CPR". Medical College of Virginia Course: Emergency Medicine for the Primary Care Physician, May 2-4, 1986. Williamsburg, Virginia.
109. "BCLS/ACLS Changes in Perspective". American Heart Association North Carolina Affiliate 37th Annual Meeting, Delegate Assembly and Scientific Sessions, May 16-17, 1986. Winston-Salem, North Carolina.

110. Advanced Cardiac Life Support Provider and Instructor Course. American Heart Association. May 26-31, 1986. Kuala Lumpur, Malaysia.
111. "Special Resuscitation Situations". Singapore Cardiac Society. May 31, 1986. Singapore, Malaysia.
112. "Advances in CPR technique". Medical Staff Meeting Tidewater Memorial Hospital, July 22, 1986. Tappahanock, Virginia.
113. "Changes in BCLS and ACLS for Paramedics and EMTs". Emergency Medical Services of Montgomery County Fire & Rescue Services, August 22-24, 1986. Bethesda, Maryland.
114. "Recent advances in CPR and ACLS". University of Virginia Medical Center, August 29, 1986. Charlottesville, Virginia.
115. "The new Standards and Guidelines on resuscitation for practicing physicians". Mary Washington Hospital Medical Staff Conference, Sept 4, 1986. Fredericksburg, Virginia.
116. "New Standards and Guidelines in CPR". Heart and Stroke Foundation of Ontario Educational Symposium and Conference on Citizen CPR, Sept 19-21, 1986. Toronto, Canada.
117. Advanced Cardiac Life Support Course. Tidewater Life Support Learning Center, October 11-12, 1986. Norfolk, Virginia.
118. "Pathophysiology, risk factors, and complications of coronary artery disease". Virginia Society of Hospital Pharmacists Annual Conference. Oct 24-26, 1986. Williamsburg, Virginia.
119. "The scientific rationale behind the new changes in BCLS and ACLS". Council of the Pre-hospital Emergency Services of Metropolitan Montreal (Urgencies Sante'), Nov 5-6, 1986. Montreal, Canada.
120. "New advances and guidelines in CPR/ACLS for prehospital providers". Tenth Annual Prehospital Emergency Care and Crisis Intervention Conference, Nov 13-15, 1986. Salt Lake City, Utah.
121. "Life After Life Experiences", Tenth Annual Prehospital Emergency Care and Crisis Intervention Conference, Nov 13-15, 1986. Salt Lake City, Utah.
122. "Special Resuscitation Situations (Near Drowning, Electrocution, Hypothermia, Trauma)", Tenth Annual Prehospital Emergency Care and Crisis Intervention Conference, Nov 13-15, 1986. Salt Lake City, Utah.
123. "Difficult clinical judgements during cardiac arrest". Tenth Annual Prehospital Emergency Care and Crisis Intervention Conference, Nov 13-15, 1986. Salt Lake City, Utah.

124. "Should all EMT Services upgrade to EMT-D?". Tenth Annual Prehospital Emergency Care and Crisis Intervention Conference, Nov 13-15, 1986. Salt Lake City, Utah.
125. "Future technological directions for EMS". Keynote address, Statewide EMS Symposium, Nov 14-16, 1986. Richmond, Virginia.
126. "EMT-D for the state of Virginia". Statewide EMS Symposium, Nov 14-16, 1986. Richmond, Virginia.
127. "New trends in CPR". Critical Care Update Workshop, Veterans Administration, Nov 19, 1986. Richmond, Virginia.
128. Advanced Cardiac Life Support Instructor's Course. University of Virginia, Dec 6-7, 1986. Charlottesville, Virginia.
129. "New directions in acid-base management during resuscitation". University of North Carolina Mountain Area Health Education Center Symposium, Dec 9-10, 1986. Chapel Hill, North Carolina.
130. "Defibrillation by EMTs". Emergency Medical Technician Refresher Course. St Mary's Hospital, Jan 24, 1987. Richmond, Virginia.
131. "Future directions in prehospital emergency cardiac care". Keynote speaker, Tidewater Virginia EMS Council Board of Directors Annual Meeting, Feb 10, 1987. Norfolk, Virginia.
132. "Mastering the New CPR Standards". Virginia Chapter American College of Emergency Physicians 1987 Scientific Assembly, February 11-15, 1987. Washington, DC.
133. "Research in the emergency department - roundtable discussion". Virginia Chapter American College of Emergency Physicians 1987 Scientific Assembly, February 11-15, 1987. Washington, DC.
134. "Invasive and non-invasive devices in critical care". Virginia Chapter American College of Emergency Physicians 1987 Scientific Assembly, February 11-15, 1987. Washington, DC.
135. "Sudden cardiac death in the young adult". American Heart/American Lung Association 11th Annual Heart/Lung Critical Care Conference, February 20-21, 1987. Williamsburg, Virginia.
136. "Current management of cardiac arrest". American Heart/American Lung Association 11th Annual Heart/Lung Critical Care Conference, February 20-21, 1987. Williamsburg, Virginia.

137. "ACLS Update". Medical Grand Rounds, Reading Hospital & Medical Center, Apr 9, 1987. Reading, Pennsylvania.
138. "Future directions for emergency cardiac care in Virginia". Keynote speaker, 11th Annual Northern Virginia EMS Council Meeting, Apr 16, 1987. Fredricksburg, Virginia.
139. "EMT defibrillation in Virginia". Chesapeake EMS Council Board of Directors Annual Meeting, Apr 21, 1987. Portsmouth, Virginia.
140. "New technologies in the treatment of medical emergencies". Medical College of Virginia Comprehensive Review Course in Emergency Medicine, Apr 24-26, 1987. Williamsburg, Virginia.
141. "Scientific rationale behind the changes in the BCLS AHA Standards". North Dakota Statewide CPR Instructor Conference, May 28, 1987. Bismarck, North Dakota.
142. "New BCLS and ACLS Standards". Keynote speaker, French National CPR Instructors' Conference, May 30, 1987. Montreal, Canada.
143. "Emergency resuscitation in the hospital setting". Keynote speaker, Roanoke Valley Hospital quarterly medical staff meeting, July 15, 1987. Roanoke, Virginia.
144. "Management of Sudden Death Risk". Preventing Sudden Death Seminar, September 15-16, 1987. Winchester Medical Center, Winchester, Virginia.
145. "ACLS Update" program. Eastern Virginia Medical Authority, September 18, 1987, Norfolk, Virginia.
146. Central Shenandoah EMS Council Annual Social & Business Meeting. Keynote speaker, October 14, 1987. Fishersville, Virginia.
147. Virginia Society of Cardiovascular Rehabilitation Annual Meeting. ALS Update, October 18, 1987. Williamsburg, Virginia.
148. Virginia Emergency Medical Services Symposium. Speaker, October 31, 1987. Norfolk, Virginia.
149. Advanced Cardiac Life Support instructor course. Faculty Member, December 12, 1987. University of Virginia, Charlottesville, Virginia.
150. "Current Trends in Emergency Cardiac Care". Speaker EMS Peninsulas Council, Inc., Seminars in Excellence Series, February 4, 1988. Riverside Hospital, Newport News, Virginia.

151. Virginia Commonwealth University Grand Rounds. "Frontiers in CPR at MCV", February 11, 1988. Richmond, Virginia.
152. Emergency Medicine Residency at Brooke Army Medical Center, Grand Rounds: The use of end-expiratory CO<sub>2</sub>; High impulse CPR; and Fire potential of electrode gels, March 19, 1988. Department of the Army, Fort Sam Houston, Texas.
153. Virginia Commonwealth University Internal Medicine Grand Rounds. "Aortic Dissection", August 25, 1988.
154. Virginia Commonwealth University, Continuing Education - Virginia Hospital Television Network Teleconference - "Acute Chest Pain: Diagnostic Dilemmas and Risk", September 28, 1988.
155. Nippon Medical School, Osaka, Japan; Symposium - "Clinical and Research Experience with the Michigan Instrument's CPR Thumper", November 25, 1988.
156. Medical Education Program Merck Sharp & Dohme "Newer Therapeutic Approaches in Cardiovascular Disease" (course director); Portsmouth Naval Hospital; Portsmouth, Virginia; June 21, 1989
157. Anne Arundel County Medical Society CME Program; Therapeutic Options in Treating a Patient with Acute Myocardial Infarction; Holiday Inn, Annapolis, Maryland; October 4, 1989.
158. Henrico Doctors; ACLS in Perspective, Richmond, Virginia; July 26, 1989
159. MCV Affiliate Hospital Continuing Medical Education Program, Northampton-Accomack Hospital; Thrombolytic Therapy; Nassawadox, Virginia; July 19, 1989.
160. "Thrombolytic Therapy in the Emergency Department." Beecham Symposium, August, 18-20, 1989. Hamilton, Bermuda.
161. ParaScope 1989 - Lecture, Cardiovascular drugs in the 90's; Workshop, Advanced Cardiac Life Support; Bethesda, Maryland August 27, 1989.
162. Florida Society of Critical Care Medicine/Upjohn Company - Advances in Acute MI Therapy; Marcos Island, Florida; September 3, 1989
163. MCV Hospital Department of Internal Medicine Resident Rounds - Acute MI Management; September 7, 1989.
164. Kuakini Fifth Annual Symposium for Mobile Intensive Care Technicians and Emergency Care "Advances and Issues in Pre-Hospital Emergency Care" - ACLS Update and Future Directions in Pre-Hospital Cardiac Care; Kuakini Medical Center, Honolulu, Hawaii; September 14-15, 1989.

165. MCV Hospital Department of Internal Medicine, Division of Cardiology - Cardiology Core Curriculum - Evaluation of Patient with Chest Pain Who is Having an MI - Approach with Thrombolysis/PTCA. October 25, 1989.
166. Eighth Annual Cardiology Symposium - Updates in Clinical Cardiology: Advances for Today's Use - Washington Adventist Hospital, Department of Seminars - Cardiology; Bethesda, Maryland - Update for Appropriate Use of Thrombolytic Agents; October 27, 1989.
167. First European CPR Congress, Antwerp, Belgium - Cardiology Pulmonary Resuscitation in the age of AIDS, November 4, 1989.
168. MCV Hospital Department of Oral and Maxillofacial Surgery Department Conference; Richmond Eye and Ear Hospital - Evaluation of Chest Pain; November 10, 1989.
169. American Society of Hospital Pharmacists Meeting, Atlanta, Georgia - Symposium - "Thrombolytic Therapy in the Treatment of AMI - Where Should Thrombolytic Therapy Be Given: In the Field, Emergency Department or CCU? December 3, 1989.
170. MCV Affiliate Hospital Continuing Medical Education Program; John Randolph Hospital, Hopewell, Virginia - Thrombolytic Therapy; January 8, 1990
171. The Upjohn Company Medical Sciences Liaison\_ Cardiovascular Disease Unit Meeting, Dallas, Texas - The Use of Thrombolytic Agents in the Emergency Department; February 13, 1990.
172. Thrombolytic therapy in AMI; Continuing education lecture: Emporia, Virginia. February 20, 1990.
173. Use of thrombolytic therapy in the E.D. University of Maryland, Baltimore, MD. March 3, 1990.
174. The E.D. is the most important site for thrombolytic therapy. American College of Emergency Physicians symposium. Tucson, AZ. March 12, 1990.
174. High dose epinephrine. American College of Cardiology symposium. New Orleans, LA. March 18, 1990.
175. Field vs. E.D. thrombolytic treatment of AMI. American College of Cardiology symposium. New Orleans, LA. March 22, 1990.
176. Thrombolytic update. Grand Rounds - DC General Hospital. Washington, DC. March 28, 1990.

177. Automated external defibrillation. US Air Force review course. Washington, DC. April 4, 1990.
178. Changes in ACLS. American Heart Association New York Affiliate annual meeting. Syracuse, NY. April 25, 1990.
179. ACLS Instructor Course Director. Richmond, VA. May 5-6, 1990.
180. Thrombolytic review. Suburban Hospital Grand Rounds. Washington, DC. May 18, 1990.
181. End-tidal carbon dioxide in field EMS use. Houston, TX. June 14, 1990.
182. Future directions in ACLS - capnography during CPR. National Association of EMS Physicians annual meeting. Keynote address. June 15, 1990.
183. Quality assurance in ACLS. International resuscitation symposium. Stavanger, Norway. June 21, 1990.
184. Early use of thrombolytics. Virginia Heart Institute Grand Rounds. Richmond, VA. June 29, 1990.
185. Clinical research in EMS. Virginia ACEP annual symposium keynote address. August 1, 1990.
186. Use of thrombolytics in AMI. Holstein, TN. August 29, 1990.
187. Field vs. ED use of thrombolytics: a debate. European Congress of Cardiology. Stockholm, Sweden. September 20, 1990.
188. Thrombolytic review. Medical College of Pennsylvania Emergency Medicine Grand Rounds. Philadelphia, PA. September 28, 1990.
189. Emergency Medicine Grand Rounds. Methodist Hospital. Indianapolis, IN. October 9, 1990.
190. Case discussion: Medico-legal implications of AMI. American Academy of Family Practice review course. Dallas, TX. October 10, 1990.
191. Rapid identification and triage of the acute MI patient. NIH/NHLBI Symposium Group Leader. Bethesda, MD. October 11-12, 1990.
192. Update on resuscitation. University of Florida. Orlando Regional Medical Center Emergency Medicine Grand Rounds. October 25, 1990.

193. End-tidal carbon dioxide monitoring during CPR. Wisconsin Chapter American College of Emergency Physicians Annual Scientific Meeting. Oshkosh, WI. November 15, 1990.
194. Treatment of the acute MI patient. University of South Carolina Medical Symposium. November 17, 1990.
195. Advances in the treatment of acute MI. University of Maryland Symposium. December 5, 1990.
196. Utstein conference to set international standards for record-keeping during resuscitation. London, England. December 6-9, 1990.
197. Use of transesophageal echocardiography during resuscitation. Johns Hopkins Emergency Medicine Grand Rounds. Baltimore, MD. February 8, 1991.
198. Resuscitation Seminar. Hawaii American Heart Association Annual CPR Conference. Honolulu, Hawaii. February 22-24, 1991.
199. Thrombolytic therapy in the emergency department. Baylor University Symposium. Houston, TX. March 9, 1991.
200. Controversies in airway management during resuscitation. Maryland Shock-Trauma Center Symposium. Baltimore, MD. March 23, 1991.
201. Thrombolytic symposium. Texas Academy of Family Practice Annual Meeting. Dallas, TX. May 11, 1991.
202. Acute MI - early management. George Washington Continuing Education symposium speaker. Washington, DC. May 12, 1991.
203. Problems associated with managing acute MI in busy, urban emergency departments. American Association of Critical Care Nurses Annual Meeting. Boston, MA. May 12, 1991.
204. The new AHA process for setting standards and guidelines in ACLS. International Emergency Medicine and Disaster Meeting. Montreal, Canada. May 15, 1991.
205. Management of the patient with acute MI in the emergency department. Ohio Family Practice Annual Meeting. Columbus, OH. August 10, 1991.
206. Advanced resuscitation techniques. Shadyside Hospital Grand Rounds. Pittsburgh, PA. August 16, 1991.

207. Fall 1991 Anesthesia Symposium. Roanoke Memorial Hospitals, Anesthesia Department, Roanoke, VA. September 14, 1991.
208. Use of automated external defibrillators. Speak at National Association of EMS Coordinators. Charleston, WV. September 23, 1991.
209. Resuscitation in the emergency department. Norfolk Nurse's Association Annual Trauma Symposium. Norfolk, VA. September 27, 1991.
210. Thrombolytic symposium panel speaker (symposium chaired by HJC Swan, MD). American Heart Association Annual Scientific Session, Anaheim, CA. November 11, 1991.
211. Update on resuscitation and use of transesophageal echo during CPR. Virginia Emergency Medical Services Annual Statewide Symposium. Williamsburg, VA. November 15, 1991.
212. ACLS Research and Advances in Resuscitation Keynote presentation. New York State Emergency Medical Services Annual Meeting. Albany, NY. November 25, 1991.
213. Early management of AMI. American Society of Hospital Pharmacists Annual Scientific Meeting. New Orleans, LA. December 8, 1991.
214. Thrombolysis in AMI. Peninsula General Hospital Symposium. Salisbury, MD. February 8, 1992.
215. Monitoring during Resuscitation. Keynote presentation. American Heart Association Emergency Cardiac Care and CPR Guidelines 1992 Conference. Dallas, Texas. February 23, 1992.
216. Resuscitation guidelines for 1992. VA Hospital Internal Medicine Grand Rounds. Richmond, VA. March 6, 1992.
217. Advances in Emergency Cardiac Care. Presentation to the Board of Directors, Northern Virginia American Heart Association Council. Annandale, VA. March 10, 1992.
218. Oral and Maxillofacial Surgery Department Weekly Conference. Richmond Eye and Ear Hospital, Richmond, VA. March 27, 1992.
219. ACLS Update. Colorado Heart Association. Vail, CO. October 10, 1992.
220. Emergency Medicine Board Review Course Lecture on CPR. Johns Hopkins Medical Center. Baltimore, MD. October 17, 1992.
221. Keynote speaker, Canadian Heart/Stroke Foundation Annual Scientific Session. "Chain of Survival". Toronto, Canada. November 14, 1992.

222. Plenary address, American Heart Association Annual Scientific Session. Prehospital management of acute myocardial infarction. New Orleans, LA. November 16, 1992.
223. "Prehospital thrombolysis". National Association of EMS Physician's Annual Scientific Meeting. Naples, FL . Jan 12, 1993.
224. "Monitoring the effectiveness of CPR". National Association of EMS Physician's Annual Scientific Meeting. Naples, FL . Jan 12, 1993.
225. "Hemodynamic changes during CPR". Norfolk Cardiovascular Society. Norfolk, VA. Jan 19, 1993.
226. "Emergency department evaluation of the patient with chestpain". MCV Resident's Rounds. Richmond, VA. Feb 10, 1993.
227. "Missed acute myocardial infarction". Emergency and Critical Care Medicine Annual Course. Orlando Regional Medical Center. Orlando, FL. Feb 20, 1993.
228. "Monitoring blood flow during CPR". Emergency and Critical Care Medicine Annual Course. Orlando Regional Medical Center. Orlando, FL. Feb 20, 1993.
229. "Review of ACLS changes". MCV Nurse Anesthesia Program. Richmond, VA. Mar 1, 1993.
230. "ACLS Paramedic Update". Richmond Ambulance Authority. Richmond, VA March 11, 1993.
231. "Changes in Richmond's EMS System". MCV Internal Medicine Grand Rounds. Richmond, VA. July 8, 1993.
232. "Emergency Cardiac Care Legislative Priorities". American Heart Association Affiliate Staff Annual Conference. Washington, DC. July 12, 1993.
233. "Automated External Defibrillators". International Association of Rescue and Emergency Care. Richmond, VA. August 16, 1993.
234. "New horizons in ACLS". Johns Hopkins Hospital Emergency Medicine Grand Rounds. Baltimore, MD. September 3, 1993.
235. "The New ACLS Algorithms". MCV Paramedic Class 1993. September 14, 1993.
236. "Optimizing Time to Treatment of Patients with Acute Myocardial Infarction". National Registry of Myocardial Infarction Annual Symposium. San Diego, CA. October 2, 1993.

237. "ACLS Changes in 1993". Riverside Hospital Critical Care Symposium. Hampton, VA. October 13, 1993.
238. "Improving Prehospital Emergency Cardiac Care". American Heart Association Annual Scientific Sessions. Atlanta, GA. November 10, 1993.
239. "New ACLS Changes". Virginia State EMS Symposium. Richmond, VA. November 14, 1993.
240. "Improving Chart Documentation". Louise Obici Memorial Hospital. Suffolk, VA. November 16, 1993.
241. "Prehospital resuscitation in the United States". SAMU. Paris, France. January 24, 1994.
242. "American Heart Association Guidelines for Cardiopulmonary Resuscitation". 2nd Annual Congress on Resuscitation. Lyon, France. January 25, 1994.
243. "Technitium sestamibi for screening patients with chest pain". MCV Resident's Rounds. Richmond, VA. February 3, 1994.
244. MCV Nurse Anesthesia Pathophysiology Course. "Management of cardiac arrest". Richmond, VA. March 1, 1994.
245. Keynote address. Emergency Cardiac Care Update - 1994. Richmond, VA. May 13, 1994.
246. Emergency Medicine Grand Rounds: "Resuscitation Research". University of New York at Stonybrook. Long Island, NY. June 2, 1994.
247. Internal Medicine Grand Rounds: "High Technology Triage and Evaluation of Patients with Chest Pain in the Emergency Department". Medical College of Virginia. June 16, 1994.
248. Internal Medicine Resident Rounds: "Management of Acute Myocardial Infarction - 1994". Medical College of Virginia. August 25, 1994.
249. American College of Cardiology Florida Chapter Consensus Conference. "A high technology strategy for triage and evaluation of patients with chest pain". Tampa, FL. August 27, 1994.
250. American College of Emergency Physicians Annual Scientific Assembly. "Management of chest pain in the ED". Orlando, FL. September 12, 1994.
251. Lutheran General Hospital. "Emergency Department use of Perfusion Imaging". Chicago, IL. September 21, 1994.

252. American Heart Association Indianapolis Affiliate ACLS Annual Workshop. Keynote address: "The National Heart Attack Alert Program". October 14, 1994.
253. Chicago Symposium on Advances in CPR Research and Utstein III: Setting Guidelines on Laboratory Research. "Management of bradycardic cardiac arrest". Chicago, IL. October 17, 1994.
254. European Resuscitation Council Annual Scientific Assembly Keynote Lecture: "Prevention and Treatment of Sudden Cardiac Death". Mainz, Germany. October 22, 1994.
255. Italian Resuscitation Council Lecture: "Improving Emergency Cardiac Care". Trieste, Italy. October 24, 1994.
256. Rome Emergency Medical Services Central Operations Conference: "Organizing EMS for Optimal Cardiac Care". Rome, Italy. October 25, 1994.
257. Milan EMS Center Conference: "Delivering Effective Emergency Cardiac Care in an Urban Environment". Milan, Italy. October 27, 1994.
258. American Heart Association Annual Scientific Sessions Cardiovascular Conference: "New forms of CPR". Dallas, TX. November 13, 1994.
259. American Heart Association Public Access Defibrillation Conference: "The need for integrated communications capability in a public access defibrillator". Washington, DC. December 9-10, 1994.
260. Prevention of endocarditis in cardiac patients and managing office emergencies. Richmond Dental Society. Richmond, VA. January 11, 1995.
261. Management of in-hospital cardiac arrest. Medical College of Virginia Oral and Maxillofacial Grand Rounds. Richmond, VA. February 3, 1995.
262. High technology triage of patients with chest pain. 17th Annual Conference on Emergency Medicine for the primary care physician. Williamsburg, VA. April 21, 1995.
263. Advances in CPR. 17th Annual Conference on Emergency Medicine for the primary care physician. Williamsburg, VA. April 21, 1995.
264. Evaluation of patients with chest pain in the emergency department. Grand Rounds, Portsmouth Naval Hospital. Portsmouth, VA. May 17, 1995.
265. Technological assessment of chest pain patients in an emergency department environment. St. Agnes Hospital Grand Rounds. Baltimore, MD. May 18, 1995.

266. Trends and treatment in acute myocardial infarction patient care - the National Registry of Myocardial Infarction experience. Pasadena, CA. August 4, 1995.
267. Evaluation of chest pain in the Emergency Department. George Washington University Medical Center Cardiovascular Emergency Symposium at American College of Emergency Physicians Annual Scientific Sessions. Washington, DC. September 10, 1995.
268. What's new in cardiopulmonary resuscitation? Virginia Thoracic Society. Richmond, VA. October 1, 1995.
269. Evaluation of chest pain in the emergency department. Riverside Hospital Medical Grand Rounds. Newport News, VA. October 5, 1995
270. Clinical pathways in the evaluation of chest pain in the emergency department. Second National Congress of Chest Pain Centers. Phoenix, AZ. October 8, 1995.
271. Antiarrhythmic therapy in the ACLS guidelines. Symposium on intravenous amiodarone. American Heart Association Scientific Sessions. Anaheim, CA. November 12, 1995.
272. American Heart Association ACLS Guidelines Update. Italian National Conference on Emergency Medicine. Keynote Speaker. Florence, Italy. December 14, 1995.
273. Cost effective method for triaging patients with chest pain. Richmond Memorial Hospital Grand Rounds. Richmond, VA. December 19, 1995.
274. Critical pathway approach to managing patients with chest pain. Internal Medicine Grand Rounds. State University of New York Medical Center. Syracuse, NY. January 18, 1996.
275. Advanced Cardiac Life Support for Cardiologists. American College of Cardiology Scientific Sessions. Course Director. Orlando, FL. March 24, 1996.
276. Emergency department strategies for managing patients with chest pain. American College of Cardiology Scientific Sessions. Meet the Experts Session. Orlando, FL. March 25, 1996.
277. New ways to triage and treat patients with chest pain. American College of Cardiology Scientific Sessions. Plenary Session Chairman's Introductory Address. Orlando, FL. March 25, 1996.
278. Minimizing hypoxic injuries of cardiac arrest. Panel presentation. Wolf Creek CPR Conference IV. Palm Springs, CA. April 15, 1996.
279. Advances in CPR: Anticipating changes in guidelines. Wolf Creek CPR Conference IV. Palm Springs, CA. April 16, 1996.

280. Emergency department evaluation of chest pain. Aggressive Management of CV Emergencies Course at American College of Cardiology Heart House. Bethesda, MD. May 1, 1996.

281. Management of Cardiac Arrest. Aggressive Management of CV Emergencies Course at American College of Cardiology Heart House. Bethesda, MD. May 3, 1996.

282. Management of hypertensive urgency and emergency. Aggressive Management of CV Emergencies Course at American College of Cardiology Heart House. Bethesda, MD. May 1, 1996.

### TELEVISION APPEARANCES

1. "Prehospital Cardiac Care", David Susskind Show (90 minutes), WNEW (New York), nationally syndicated. 1976.
2. "Isopropyl Alcohol Consumption", Oct 16, 1979. Nebraska Educational Television Network (Channel 26).
3. "Hypothermia", Something Extra, Oct 26, 1979. Nebraska Educational Television Network (Channel 26).
4. "Emergency air transport system", Channel 6 News, Dec 12, 1979. Omaha, Nebraska.
5. "Hypothermia", Channel 7 News, Dec 14, 1979. Omaha, Nebraska.
6. "Emergency Air Transport", Channel 7 News, Dec 20, 1979. Omaha, Nebraska.
7. "Trauma Center Categorization", Channel 6 News, June 3, 1980. Omaha, Nebraska.
8. "Heat Stroke", Channel 6 News, June 26, 1980. Omaha, Nebraska.
9. "Heat Stroke", Channel 7 News, July 10, 1980. Omaha, Nebraska.
10. "Hypothermia and Cold Water Drowning", Channel 7 News, Dec 17, 1980. Omaha, Nebraska.
11. "Rescue Delivery Systems", Channel 6 News, April 15, 1981. Omaha, Nebraska.
12. "Treatment of multiple trauma victims", Channel 12 News, May 6, 1981. Omaha, Nebraska.

13. "University of Nebraska Rescue Helicopter Service", Channel 7 News, July 8, 1981. Omaha, Nebraska.
14. "University of Nebraska Rescue Helicopter Service", Channel 6 News, July 8, 1981. Omaha, Nebraska.
15. "University of Nebraska Rescue Helicopter Service", Channel 3 News, July 9, 1981. Omaha, Nebraska.
16. "Hyperthermia", Channel 3 News, July 13, 1981. Omaha, Nebraska.
17. "Cardiopulmonary Resuscitation", Channel 12 News, July 16, 1981. Omaha, Nebraska.
18. "SKYMED Helicopter Service", Channel 3 News. Oct 1981. Omaha, Nebraska.
19. "SKYMED Helicopter Service", Channel 6 News. Oct 1981. Omaha, Nebraska.
20. "SKYMED Helicopter Service", Channel 12 News. Oct 1981. Omaha, Nebraska.
21. "Trauma Center/Air Ambulance", Nebraska Educational Television Network 30 minute Special ("What's NU").  
Oct, 1982.
22. "Heat Stroke", Channel 12 News, August, 1985. Richmond, Virginia.
23. "Hyperthermia", Channel 12 News, November, 1985.  
Richmond, Virginia.
24. "Hypothermia", Channel 12 News, Feb, 1986. Richmond, Virginia.
25. "The Many Faces of EMS --- EMT-Defibrillation", Hospital Satellite Network. Feb 4-6, 1986. San Diego, California.
26. "Emergency Medical Services", Channel 12 Health Matters Series (30 minutes), March, 1986. Richmond, Virginia.
27. "The new CPR Standards", Channel 12 News, June 12, 1986.  
Richmond, Virginia.
28. "Heat related injury". Channel 8 News, June 19, 1986.
29. "Cardiac Arrest". Channel 6 News, January 1988. Richmond, Virginia.
30. "How To Beat Heart Attacks". Channel 12 Health Matters Series, January 29, 1988. Richmond, Virginia.

31. "Richmond EMS system". BLAB TV. March 90.
32. Richmond Ambulance System. BLAB TV. Richmond, VA. June 6, 1990.
33. "All ALS EMS system". Channels 6, 8, & 12, Richmond. March 90.
34. "First responder defibrillation". Channels 8 & 12, Richmond. November 90.
35. Lifetime Medical Television. New England Journal of Medicine Updates. "Advances in Cardiopulmonary Resuscitation". Nov 1992.
36. "Mass CPR Training". Channel 12, Richmond. May 9, 1994.
37. "High technology triage of patients with chest pain in the emergency department". CBS Good Morning America (national broadcast). September 21, 1995.
38. "Paramedic 12-lead implementation in Richmond". 3 local Richmond TV stations. June 96.

RADIO INTERVIEWS

1. "Emergency Medical Care at the University of Nebraska Medical Center". Produced by the University of Nebraska Continuing Education Department (3 tapes aired on 20 Nebraska and Western Ohio stations), June 1979. Omaha, Nebraska.
2. KLING Talk Show, "Emergency Services in the Metro Area", Aug 27, 1979. Council Bluffs, Iowa.
3. KFAB Talk Show, "Trauma Center and Air Transport", Oct 23, 1979. Omaha, Nebraska.
4. KLING Talk Show, "Trauma Center", Nov 1, 1979. Council Bluffs, Iowa.
5. "Winter Induced Diseases". Produced by the University of Nebraska Continuing Education Department (aired on 20 Nebraska and Western Ohio stations), Dec 1979. Omaha, Nebraska.
6. "Summer Induced Diseases". Produced by the University of Nebraska Continuing Education Department (aired on 20 Nebraska and Western Ohio stations), May 1979. Omaha, Nebraska.
7. "Cold related injury". 3 local Richmond radio stations. Jan 87.
8. "Heat related injury". 3 local Richmond radio stations. June 87.
9. "Paramedic 12-lead implementation in Richmond". 2 local Richmond radio stations. June 96.



Mary Ann Peberdy, MD, FACC  
Curriculum Vitae

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Personal Data

Present Address: 2400 Islandview Drive  
Richmond, Virginia 23233

Telephone: (804) 740-3344

Birthdate: July 23, 1958

Birthplace: Philadelphia, PA

Social Security Number: 168-54-2408

Education

High School: Bishop McDevitt High School  
Wyncote. PA  
1972- 1976

College: LaSalle University  
Philadelphia, PA  
B.A. Biology  
1976- 1980

Medical School: Temple University  
Philadelphia, PA  
1980- 1984

## Clinical and Professional Experience

Internship: The Medical College of Pennsylvania  
Internal Medicine  
1984- 1985

Residency: The Medical College of Pennsylvania  
Internal Medicine  
1985- 1987

Fellowship: The Medical College of Pennsylvania  
Cardiology  
1987-1990

Medical School Appointments: Assistant Professor of Medicine  
Medical College of Virginia  
1993- present

Assistant Professor of Medicine  
The Medical College of Pennsylvania  
1990-1993

Instructor of Medicine  
The Medical College of Pennsylvania  
1989- 1990

Hospital Positions: Director  
Coronary Care Unit  
The Medical College of Pennsylvania  
Hospital  
1991-1993

Associate Director  
Cardiac Catheterization Laboratory  
The Medical College of Pennsylvania  
Hospital  
1990-1991



Chairman, Medical College of Pennsylvania Resuscitation Committee  
1990 - 1993

Member, Medical College of Pennsylvania Credentials Committee  
1991 - 1993

Member, Medical College of Pennsylvania Critical Care Committee  
1991 - 1993

Member, Medical College of Pennsylvania Pharmacy and Therapeutics  
Committee  
1991 - 1993

Member, Medical College of Pennsylvania Resident Evaluation Committee  
1990 - 1993

Member, Medical College of Pennsylvania Critical Care Bed Task Force  
1991 - 1993

Member, Medical College of Pennsylvania Critical Care Prognosis  
Committee  
1991 - 1993

## **Membership in Professional Societies**

American College of Physicians, Member  
American College of Cardiology, Fellow  
American Heart Association

## **Licensure**

Pennsylvania, MD-035506-E  
Virginia, 0101049950

## **Board Certification**

Diplomate, National Board of Medical Examiners, 1985

Diplomate, American Board of Internal Medicine, 1987

American Board of Internal Medicine, Cardiovascular Subspecialty  
Certified, 1992

## **Grants/Research**

1. Co-investigator. The Use of Intravenous Heparin in the Home During Acute Myocardial Infarction. American Heart Association July 1989 to July 1991.
2. Co-investigator. An Open Label Study of the Diagnostic and Therapeutic Utility of Intravenous Adenosine in the Management of Paroxysmal Tachyarrhythmias, The Medical College of Pennsylvania/Ciba-Geigy Pilot Studies Program.
3. Co-investigator. A Study of Cardiovascular Disease in Women Under Age 45 in Relation to Current Oral Contraceptive Use. Multicenter study. National Institutes of Health funded. 1988 - 1994
4. Co-investigator. Eminase vs. TPA in Acute Myocardial Infarction. Multicenter study. Smith Kline Beecham. 1991 - 1992
5. Co-investigator. Double Blind Multicenter Comparison of Oral Carvedilol with Placebo in Patients with Congestive Heart Failure. Smith Kline Beecham. 1994 - present
6. Principal investigator. Evaluation of Differing Metolozone Formulations Relative to Natriuretic Response. Medical College of Virginia Small Grants Award. 1994 - 1995
7. Co-Principal investigator. Dynamic Cardiomyoplasty. Telectronics. 1993 - present

8. Co-investigator. A Study to Compare the Effects of Ifetroban and Aspirin on Forearm Circulation in Subjects with Heart Failure Receiving Enalapril. CV124-018. Bristol Myers Squibb. 1995 - present
9. Co-investigator. Calcium Antagonist Protocol BC 14808B. F. Hoffman-La Roche Ltd. 1995 - present
10. Principal investigator. Beta-Blocker Evaluation of Survival Trial (BEST). NHLBI/Veterans Affairs. 1995 - present
11. Co-Principal investigator. Randomized Multicenter Trial of Vest CPR. Cardiologic Systems, Inc. 1995 - present

## **Editorial Journal Reviewer**

Resuscitation, 1995-present.

## **Publications**

### **Scientific Articles**

1. Peberdy M.A., Stohler J.L., Marinchak R.A., Friehling T.D., Kowey P.R. Combination Antiarrhythmic Therapy with Amiodarone. Choices in Cardiology, Volume 3. Supplement 3, 1989, pp. 21-23.
2. Peberdy M.A., Kowey P.R. Clinical Guidelines for the Uses of Amiodarone. Practical Cardiology, January 1990, 16: 1, pp. 47-70.
3. Peberdy M.A., Ornato J.P. Coronary Artery Disease in Women: A Review. Heart Disease and Stroke 1992; 1:315-9.
4. Ornato J.P., Peberdy M.A. End-Tidal Carbon Dioxide Monitoring in the Emergency Medical Services Setting. J Emerg Med Services 1993; 58-61.
5. Ornato J.P., Peberdy M.A., Gonzalez E.R. Can thrombolysis be used safely in older MI patients? Journal of Critical Illness 1993; 8:865-74.

6. Peberdy M.A., Ornato J.P. Recognition of Electrocardiographic Lead Misplacements. Amer J Emerg Med 1993: 11:403-5.
7. Ornato J.P., Peberdy M.A. Delays to thrombolytic therapy in patients with AMI. In Challenges in Thrombolytic Therapy. Cahners Healthcare Communications (New York NY). Edited by HJC Swan. 1993.
8. Ornato J.P., Peberdy M.A. Bradyasystolic Cardiac Arrest (book chapter). In "Cardiac Arrest: The Pathophysiology and Therapy of Sudden Death". Ed. Paradis N, Nowak R, Halperin H. Williams & Wilkins (Baltimore, MD). 1995. In press.
9. Peberdy M.A., Ornato J.P., Overton J. Use of Mechanical Cardiopulmonary Resuscitation in the Emergency Medical Services Setting. CPR Innovator 1994: 2:14-15.
10. Ornato J.P., Peberdy M.A. The mystery of bradyasystole. Ann Emerg Med 1995. Submitted.
11. Ornato JP, Peberdy MA, Chandra NC. Seasonal prevalence of acute myocardial infarction in the National Registry for Myocardial Infarction. J Amer Coll Cardiol 1995. Submitted.

### Posters/Abstracts

1. Combination Antiarrhythmic Therapy with Amiodarone. Peberdy MA, Kowey PR, Marinchak RM, Rials SJ. Eastern Regional Meeting of the American Federation for Clinical Research, Washington, D.C. May 1989.
2. Comparison of ACT and PTT during Coronary Angioplasty. Peberdy MA, Wolf NM, Meister SJ. Regional Meeting, American College of Physicians, Pittsburgh, PA - October 1989.
3. A Diagnostic Strategy Using Tc-99m Sestamibi for Evaluation of Patients with Chest Pain in the Emergency Department. Tatum JL, Ornato JP, Jesse RL, Peberdy MA, Katta SR. Circulation 1994; 90:I-367.

4. Ornato JP, Jesse RL, Tatum JL, Nicholson CS, Peberdy MA, Roberts CS. Lack of correlation between relief of chest pain after sublingual nitroglycerin and reversible radionuclide perfusion defects or presence of significant coronary atherosclerosis on coronary angiography. American College of Cardiology 1995; Accepted.
5. Ornato JP, Peberdy MA, Jesse RL, Tatum JL, Nicholson CS, Roberts CS. Resting technitium Tc99m sestamibi SPECT myocardial perfusion imaging detects coronary disease in "low risk" emergency department chest pain patients. American Heart Association 1995; Accepted.
6. Ornato JP, Peberdy MA, Jesse RL, Tatum J, Tombul SA, Kontos MC. Value of Coronary Artery Disease Risk Factors in Judging Whether Chest Pain Unaccompanied by ECG Changes in the Emergency Department is Due to Acute Cardiac Ischemia. American College of Cardiology Annual Scientific Sessions. 1995. Submitted.

### Major Lectures/ Courses

1. Aortic Valvular Disease. Cardiology Grand Rounds, The Medical College of Pennsylvania, August, 1990.
2. Understanding Coronary Artery Disease. Northeast Senior Citizens Organization. Philadelphia. PA. December, 1990.
3. Ventricular Arrhythmias. Paramedic Training Course, Philadelphia, PA, December, 1990.
4. Conduction System Disease. Paramedic Training Course, Philadelphia, PA, December, 1990.
5. Cardiac Evaluation of Patients Undergoing Noncardiac Surgery. Surgery Grand Rounds, The Medical College of Pennsylvania, February, 1991.
6. Aortic Valve Disease. Introduction to Clinical Medicine Course, The Medical College of Pennsylvania, February, 1991.

7. Mitral and Tricuspid Valve Disease. Introduction to Clinical Medicine Course, The Medical College of Pennsylvania. February, 1991.
8. Congestive Heart Failure. Introduction to Clinical Medicine Course. The Medical College of Pennsylvania, February, 1991.
9. Interventional Toys - A Perspective for the 90's. Internal Medicine Grand Rounds. The Medical College of Pennsylvania, March, 1991.
10. Preoperative Cardiac Evaluation. Primary Care Grand Rounds, The Medical College of Pennsylvania April, 1991.
11. Women and Heart Disease. Community Medical Lecture, Philadelphia, PA, December, 1991.
12. Controversies and Pitfalls in the Diagnosis and Treatment of Acute Myocardial Infarction. Emergency Medicine Grand Rounds, The Medical College of Pennsylvania. February, 1992.
13. The Electrocardiogram in Acute Cardiac Care. Emergency Medicine Grand Rounds, The Medical College of Pennsylvania, March, 1992.
14. Heart failure management in the 1990s. Community Medical Lecture. Richmond, Virginia. December, 1993.
15. Instructor, Advanced Cardiac Life Support Course for Cardiologists. American College of Cardiology Scientific Sessions. Atlanta, Georgia. March, 1994.
16. Management of Acute Heart Failure. Medical College of Virginia Cardiology Conference. Virginia Beach, Virginia. July, 1994.
17. Cardiomyoplasty and Other Treatments for Left Ventricular Dysfunction. Cardiology Grand Rounds, Chippenham Medical Center. Richmond, Virginia. September, 1994.

18. Structuring an Emergency Medical Services System. Anesthesiology and Emergency Medical Services Grand Rounds. Trieste, Italy. October, 1994.
19. New Methods for Teaching CPR and ACLS. Catholic University of Rome. Rome, Italy. October, 1994.
20. Optimal Treatments for Out of Hospital Cardiac Arrest. Emergency Medical Service Physicians. Perugia, Italy. October, 1994.
21. ACLS Training for Pre-Hospital Personnel. Emergency Medical Service Physicians. Milan, Italy. October, 1994.
22. Heart Disease in Women. Medical College of Virginia Obstetrics and Gynecology Conference. Richmond, Virginia. November, 1994.
23. Management of Left Ventricular Systolic Dysfunction. Primary Care Physician Group. Richmond, Virginia. December, 1994.
24. What Dentists Need to Know About Patients With Cardiac Disease. Richmond Dental Continuing Education Group. Richmond, Virginia. January, 1995.
25. Instructor, Advanced Cardiac Life Support Course for Cardiologists. American College of Cardiology Scientific Sessions. New Orleans, LA. March, 1995.
26. Management of Congestive Heart Failure. MCV Cardiology Fellow's Seminar. Richmond, VA. August, 1995.



# Memorandum

**To:** Linda Gregg  
**From:** Ann Marie Luhmann  
**Date:** July 14, 1997  
**Re:** Board of Directors with Job Descriptions

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Please find attached a copy of our Board of Directors along with job titles and/or descriptions. Please call me at 804-254-1184 if there is anything else we can provide for you.

