Legal Aspects of
Public Access Defibrillation

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“Just as epidemiology moved from ad hoc to being an academic subject, to being used in public health practice, so we see the same thing happening with the law in public health… It became my awakening when I saw how long we in public health had been working on tobacco, and then the lawyers got involved and overnight, it all changed. And I began asking students, ‘What else should we be asking the lawyers to do?’”

William H. Foege, MD, MPH; “Redefining Public Health,” The Journal of Law, Medicine & Ethics
Common interest, different roles

- **M.D.s**
  - Development of new technology
  - Body of information (includes studies, etc.)

- **J.D.s**
  - Common law
  - Lobbying/politics
What you (as a physician) can do

- Act as a medical director for a public access defibrillation program
- Be involved in lobbying activities relating to public access defibrillation
- Educate, Educate, Educate
Medical directors
Medical Professional’s Key Duties

- Providing medical leadership and expertise
- Serving as an advocate and possibly a spokesperson for the program
- Identifying and reviewing local and state AED regulations
- Assisting in coordinating the program with local EMS
- Helping develop program procedures, such as the following:
  - Internal Medical Emergency Response Plan (MERP)
  - Training plan for targeted responders
  - Maintenance plan for the AEDs
  - Quality review and improvement plan for the AED program
  - Internal communication plan

Source: American Heart Association’s Automated External Defibrillation Implementation Guide
Ensuring Program Quality

The physician or other medical professional supervising the program also guards the program’s quality. He or she should

- Help develop the emergency response procedure for the facility
- Advise about the proper location of AEDs
- Advise about how responders should be notified of an emergency
- Conduct a review each time the AED is used. The main purpose of the review is to give responders positive feedback and practical suggestions for improvement. Talking to rescuers about their feelings following the emergency is important. The review allows problems in the program to be quickly spotted and fixed.

Source: American Heart Association’s Automated External Defibrillation Implementation Guide
How One Industry Combats AED Legislation: Lies, Damned Lies, and Other Tales my Lobbyist Told Me
The FDA requires a prescription from a physician to purchase an AED... Some health clubs may be unable to secure physician authorizations and many physicians will be unwilling to accept the liability that accompanies such prescriptions
Survival rates for AED use by lay responders in the PAD trials show that PAD doesn’t work as well as advocates claim in the “real world”
Few health clubs meet the American Heart Association’s criteria for AED placement – a reasonable probability of one sudden cardiac arrest every five years.
Since 85% of all sudden cardiac arrests occur at home, the risk of a cardiac arrest occurring in a commercial health club is small (one occurrence in every 1.5 million episodes of vigorous exercise). Since most people do not exercise at levels that can be classified as vigorous, there is no pressing need to place AEDs in health clubs.
Public locations with high incidence of SCA in Seattle and King County, Washington, 1990 to 1994 (n=134)

Operating an AED when the victim has been in or the incident occurred near a swimming pool can be dangerous and possibly inadvertently shock the responder.
AEDs are not appropriate treatment for heart attacks, as opposed to sudden cardiac arrest. Medical professionals must administer medication or other life-saving procedures, and sometimes surgery is necessary to unblock the blood vessel to ensure adequate blood flow to the heart. Health clubs are recreational facilities, not medical facilities.
Many health clubs are located near firehouses or ambulance dispatch centers, and some are located near hospitals. The emergency response time when an incident occurs at these clubs is well within the recommended time frame for cardiac emergencies; therefore, this legislation would be both costly and unnecessary. The public would be better served by legislation requiring every police vehicle, ambulance, and fire engine to be equipped with a portable AED, rather than passing this governmental mandate out to private health clubs.
Health club employees might choose to not use an AED (due to panic, fear of hurting the individual, or other reasons). Health clubs should have complete immunity for the non-use of an AED if one is installed.
It is unrealistic and unfair to expect health clubs to purchase equipment and train staff in less than a year. A grace period of at least a year is more realistic and obtainable.
Common Law 101
Functions of Common Law

- Regulatory - enforcing “reasonable” behavior through lawsuits
- Defining circumstances where use is reasonable
Principles of Negligence

- Duty
- Breach of duty
- Which causes
- Injuries
WHO'S RESPONSIBLE FOR ME WHEN I FLY?

In a word, us. That's why United Airlines is initiating training programs for all of our employees. We will empower them to solve problems and make the decisions that will help make your flying experience a better one. This is going to be a different United Airlines. An even more professional United Airlines. Compared to the rest of the airline industry, we're heading in a different direction.

- Our employees are being trained to help minimize the hassles of travel.
- With your Premier Card you'll get dedicated check-ins, best seats available and increased levels of service.
- United is upgrading its fleet with more of the planes our customers prefer to fly.
Duty

- Duty to act “reasonably” in light of circumstances
- Industry standard is not dispositive
Industry does not set standard of care

“It is any final answer that the business had not yet generally adopted [the technology]? [A] whole calling may have unduly lagged in the adoption of new and available devices. It never may set its own tests….

Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission.”

The *T.J. Hooper* case (1932), Justice Learned Hand
Liability Issues Surrounding Public Access Defibrillation
Possible Litigation From Use of an AED

- Improper use
- Failure to use
- Defective equipment
Liability and Good Samaritan Laws
AED Legislation by State

- By 2000, all 50 states had enacted some form of “Good Samaritan” law to cover laypersons and others involved in PAD.
- Protection by state laws has not been universally afforded to medical directors and trainers.

By 2000, all 50 states had enacted some form of “Good Samaritan” law to cover laypersons and others involved in PAD.

Protection by state laws has not been universally afforded to medical directors and trainers.

www.aedhelp.com/legal/legislation_states.cfm
Cardiac Arrest Survival Act
(HR2498) (Nov 2000)

- Provides federal immunity
- Preempts contrary state law for AED users, acquirers & doctors if:
  - EMS provider is notified of the AED’s location
  - the AED is appropriately maintained
  - appropriate training is provided
No Immunity For:

- Gross negligence or willful or wanton misconduct
- Licensed or certified health professional who used [AED] while acting within scope of license or certification, and within scope of employment or agency
Volunteers

As a volunteer responder:

- The Federal Volunteer Protection Act of 1997; and
- Most states;

Provide immunity, except for:

- Gross negligence
- Willful misconduct
Most AED manufacturers provide broad indemnification to all participants in a PAD program, including medical directors.
Airline AED Litigation:
A Microcosm of the Stages in the Adoption of an Important Health and Safety Device
4 Stages of Acceptance of Health & Safety Technology

1. Voices in the wilderness – early adopters

2. Overcoming resistance

3. Reformers, reporters, legislators and lawyers

4. General Acceptance
The Cry in the Wilderness

1. Benefits come into public view
2. Details of how to adopt are lacking
3. Little hard data available
4. Adoption on small scale
5. Technology is relatively expensive
Resistance

Adoption resisted as technology improves

Obstacles:
- institutional inertia
- problems with evolving technology
- cost concerns
- fear of liability

Extremely promising early returns

Widespread knowledge
Reformers, Reporters, Legislators & Lawyers

3

- Technology more effective, uniform & better understood
- Less expensive
- Benefits established and proven
- Device adopted on larger scale by high-profile users
- Legislative assistance enacted
General Acceptance

4

- Technology ubiquitous & unquestioned
- Universally adopted where appropriate
- Often required by law
The United Airlines Example
1975

Doctors at New York’s St. Vincent’s Hospital and several other centers across the country are currently testing a new lightweight defibrillator…

*Newsweek*, Sept. 22, 1975
Automatic external defibrillators were developed in the late 1970s, and their refinement over the past decade represents an important technological advance.

Several semi-automatic or advisory units (devices that analyze the cardiac rhythm but do not automatically deliver a shock) are currently available for use outside the hospital by minimally trained personnel.

The time required to analyze the rhythm, charge, and deliver a shock if criteria for arrhythmia are met ranges from 10 to 30 seconds.

Dr. Jeremy Ruskin wrote in *New England Journal of Medicine* about AEDs.
Dr. Jeremy Ruskin wrote in *New England Journal of Medicine* about AEDs

“Because of its relative simplicity and ease of operation and the fact that it obviates the need for skilled recognition of arrhythmia, the automatic external defibrillator requires far less time and expense for both initial training and skill maintenance. All these factors support the use of this device by a wide range of trained and supervised emergency personnel, including police, firefighters, ambulance operators, and appropriate workers in factories, office buildings, and public places such as airports and stadiums.”
1991

AIRLINE MEDICAL MANUAL

PETER CHAPMAN

Chapman and Hall Medical
In-flight Deaths During Commercial Air Travel

How Big Is the Problem?

Michael D. Curradine, MD, MPH, MSc; Peter J. C. Chapman, MD, DM; Douglas A. Chamberlain, MD; Jason A. Schubel, MA; Paul E. Levine, MS

Do passenger deaths occur during commercial air travel? How often and from what causes? The aviation industry reported its first in-flight death since 1998 on February 3, 1999. The 123 airlines in the International Air Transport Association (IATA) reported 577 in-flight deaths during the 8-year period between 1977 and 1984. Of the 123 airlines in the International Air Transport Association, 72 carried reported deaths during those years. A total of 577 in-flight deaths were recorded, for a reported average of 72 deaths per year. Deaths occurred at an average rate of 0.37 per million passengers, 125 per billion passenger-kilometers, and 28.1 per million passengers.

The majority of those who died were men (61%, 329/577) and middle-aged (median age, 34 years). Most of these deaths occurred at airports (87%, 510/577) and were associated with medical conditions (67%, 527/789) of the deaths. About half of the deaths were due to medical conditions (55%, 329/577) unreported at their home airports. These observations support the failure of patients to meet basic airway resuscitation and the use of automatic external defibrillators.

Each year, the airlines of the world transport hundreds of millions of passengers. Regardless of their prior physical or mental conditions, the overwhelming majority of these air travelers complete their flights safely. Safe in-flight travel is a major concern. However, deaths during air travel can be expected on the basis of their mortality rates. In addition, some passengers who live with serious medical conditions may experience deterioration in their conditions.

Although anecdotal reports of in-flight deaths appear regularly in the literature, objective information about this problem is rare. Published estimates of in-flight deaths are often uncalculated statements. In uncalculated surveys from individual airlines, there are uncalculated statements than such deaths vary. Lack of accurate data about the true frequency and nature of in-flight accidents has prompted the recent U.S. debate about airline emergency kits. In a compromise amendment, the Federal Aviation Administration (FAA) mandated that effective July 1, 1998, all commercial aircraft carriers must maintain a specific medical aid kit that is separate from their regular first aid boxes. These kits contain only three items: medication (common, emephe-
6. The high frequency of apparent sudden cardiac arrest as the major cause of death among air travelers suggests that the medical aid kits now required by the FAA would not be particularly useful during in-flight resuscitation attempts.

7. The preponderance of sudden cardiac death among apparently healthy people as the major cause of death during air travel provides strong support for programs to train cabin personnel in the skills of basic cardiopulmonary resuscitation and in the use of automatic external defibrillators.

“BS”
United’s cost benefit analysis

92 deaths/yr
x 0.69 = no press, lethal problem
51
x 0.63 = worst period deaths/yr
31
x 0.09 = worst period, cocaine
2
x 0.95
1.75 (Why don’t receive hospitalization)

1.43 (MS executive)
0.9

31 cases

$2000/copy
$2000 U.S.
$2000 endowment

- 0
- 0
United responds to Cummins’ article

In-flight Medical Emergencies
One Year of Experience With the Enhanced Medical Kit

Richard M. Cottrell, MD, James T. Schlegel, MD, M. Koh, MD, Eugene C. Harwell, MD, Howard A. Rogers, MD

Recent regulations require commercial US airlines to carry an enhanced medical kit. United Airlines was the first airline to carry such a kit as of July 2001. The United kit contains 600 medications and medical supplies. It is carried on all flights as part of the aircraft's emergency equipment. The kit contains medications for common medical problems, including heart disease, respiratory disorders, and allergies. United Airlines has reported that the kit has been used in more than 80% of emergency situations. The kit has been well-received by passengers and crew members. United Airlines plans to continue using the kit on all flights. Further studies are needed to determine the effectiveness of the kit in preventing serious medical problems during flight.
"We recognize that our data have several limitations, all of which would cause an underestimate of the actual rates of illness..."
Clearly, many individuals feel strongly that all commercial aircraft should provide...for defibrillation, monitoring, and airway management... Indeed, on an individual basis, if a passenger suffers an acute cardiac event, and if there are qualified providers of advanced cardiac life support in attendance, advanced medical supplies would clearly be helpful. In a more conventional risk-benefit assessment, using our incidence data, we believe that the cost per life saved would be very high and that the data do not justify placement of defibrillators and other advanced medical equipment on aircraft.
1991

Small Foreign Carriers Begin to Deploy AEDs

- Qantas
- Virgin Atlantic
"ENHANCED SUPPORT OF IN-FLIGHT MEDICAL EMERGENCIES"

The question has been posed as to whether or not there are possible changes or enhancements that could be made to the United Airlines Medical Department response and support to in-flight medical emergencies which would be feasible and clinically and/or financially advantageous. This paper is an effort to address this question.

Background Information: For purposes of this discussion, data from 1993 were used, since a full year's data were available from the database maintained in SEAMD of medical kit usage, as well as in the database maintained by the company on flight diversions.

Dec 1994
The available data, though admittedly not complete, would seem to indicate that the majority of the in-flight deaths were cardiac related. Since none of these patients were in cardiac arrest at the time of boarding, there is a reasonable possibility that these situations were witnessed events or detected very soon after onset. In such circumstances, the availability of a good ventilatory support, early defibrillation, and ACLS medication support might well make a difference.

From a financial feasibility point of view, however, this approach is difficult to support. To put such equipment on a fleet of over 500 aircraft would cost, conservatively, over $2,000,000. The expense and operational difficulty of maintaining such equipment would be very considerable, and the liability exposure, if the equipment was not used, was not used properly, or failed to perform properly in even a single case, would be very high.

Possible Alternatives/Enhancements: There are several possibilities to be considered. These include no change to present equipment/procedures, improving awareness/utilization of current support provisions, enhancing current support with improved communications capabilities/resource data base information, contract out primary ground-based medical consultation support, contract out back-up consultation for in-house primary medical support, purchase risk management/managed care assessment methodology (protocols/decision trees), or provide enhanced on-board equipment (IV capability, automatic defibrillator, ventilatory assist devices, etc.) combinations of two or more of the above could also be considered.

Discussion: It must first be recognized that the limitations of the available data make discussion and analysis on a scientific basis extremely tenuous, if not impossible. Making no-change at all does not appear desirable if there is any feasible possibility of reducing the 31 (or 57) diversions and 7 in-flight deaths reported. Available risk management/assessment systems do not appear likely to provide much benefit. They are mostly designed for use by non-physician screeners to determine if emergent care is or is not warranted, are designed to be used in conversation with the prospective patient directly, and are generally predicated on the availability of emergent care, if that decision is reached. From the standpoint of clinical outcomes improvement, do offer some potential.

UAI operations personnel reported they used an average cost figure for flight diversions of $7,000.00 per diversion. Based on this figure and the reported 37 diversions due to passenger illness, the total cost for such diversions in 1993 was an estimated $269,000. This figure appears to be on the conservative side, but is the only figure currently available to us.
3. Provide improved communications for on-call physician support by providing paging cellular telephone capability to each Medical Department location. This, combined with recommendation #1, has potential for improved support service for in-flight medical emergencies. This would be cost-neutral if only one unnecessary flight diversion per year were prevented. This would not require any capital investment and could be terminated after 1-2 years if found to be not cost-effective.

4.

These approaches should be informally monitored and periodically reviewed by the Medical Department for potential future usefulness. These approaches could also be reviewed if recommendation #2 were implemented.

5. Recommend a short on-site visit be made to MedAire, Inc.’s MedLink operations center in Phoenix by myself and/or Dr. Kohn and/or Dr. Brady. The purpose of such a visit would be to gain first-hand knowledge of their capabilities for future reference.

W. Michael Waring, M.D.
SEAMD
December 29, 1994

Addendum: An additional possibility for improving communications would be to make some arrangements for use of Airfone services to contact the UAL doctor on call, so that doctor to doctor, doctor to patient, or doctor to other on-scene attendant would be possible. (April 5, 1995)

“I do NOT recommend outsourcing medical support services or providing onboard ACLS/defibrillator equipment, primarily because of the relatively high costs involved. Based on available data, it appears these costly alternatives would produce relatively low measurable yields in terms of costs or improved clinical outcomes.”
• At the Air Transport Association, the airline industry’s trade association, United’s medical director chaired medical panel from 1991 to 1996

• Late Feb 1995, a fellow medical director inquired about inviting Dr. Roger White to address the panel

• The invitation was never extended
“Also attached is a copy of a press release from "The Lancet" titled: "Shocking Truth About Airlines" which I apologize for its poor quality but I think you will find interesting. This article almost triggered a CBS News segment on airline inflight medical equipment.”
July 1995

“I’ve seen [AEDs] and I’ve got to tell you, as a physician I’m pretty intimidated by it…. It makes nice PR to say “We’ve got a defibrillator on board…."

*United Airlines’ medical director*
Feb 1996

SurvivaLink
Stage 3 begins

Reformers, Reporters, Legislators & Lawyers
United continued its opposition to AEDs

In April 1994, their assistant medical director received a letter from Dr. Steven Karch

“Perhaps more important, you would certainly save lives if you equipped your planes with automatic defibrillators; they are designed for use by the lay public, they are relatively inexpensive, and your flight crews could be trained to use them in under 4 hours. I’d be happy to help teach. So would other members of the community.”

“You can’t imagine anything more frustrating than being stranded with a sick patient who could be helped, if the proper supplies were available.”
The assistant director issued a “canned” reply:

"As mentioned above, future changes in the emergency medical kits will undoubtedly be made on the basis of current usage surveys as well as input and suggestions like yours. The automatic defibrillator you suggested may well be considered by the F.A.A. and/or the airline in future revisions in the emergency medical equipment requirements."
Special Report

Code Blue: Survival in the Sky

Each year an unknown number of U.S. airline passengers die of a crash or a fire, but because the medicines and equipment lives were not on board the plane. In fact, air travel in the U.S. is now more likely to die of illness in flight than in a crash.

Cardiac arrest at 37,000 feet

A funeral service will be held today for Steven Paul Somes, vice president of State Street Research and Management in Boston. Mr. Somes died Wednesday of heart failure in Latter Day Saints Hospital in Salt Lake City while on a business trip. He was 37.

STEVEN SOMES wasn’t on a business trip to Salt Lake City at the time of his death, nor did he die in a hospital there. At the moment his heart ceased to function, Steven Paul Somes, Phi Beta Kappa graduate of Bates College and MIT, avid sportsman and golfer, father of two young daughters, up and coming leader of the Boston financial community, was seven miles above the western slope of the Rocky Mountains, flat on his back on the floor of the first-class cabin of United Airlines Flight 37, surrounded by three physicians, a nurse and a paramedic — as much medical firepower as could have been assembled by the average hospital emergency room — but not the cardiac drugs or defibrillation equipment that might have reclaimed his life. The story of Steven Somes’ death belies three of the U.S. aviation industry’s fundamental convictions: that everyone who dies on an airplane is elderly or suffering from a terminal illness; that physicians who respond to in-flight medical emergencies are not likely to be well-versed in emergency medicine; and that it is always better to land an airplane than try to treat a seriously ill passenger in mid-flight.

“Surrounded by doctors, a man dies… ‘All CPR does is buy time, but I didn’t have anything else to try. I would like to have had the tools to give this guy the best chance possible. If those tools had been available, would it have made a difference? I can’t answer that question. All I can tell you is that the tools were not available and we had to do manual CPR for 20 minutes.’”

Paul Covington, M.D., who attended to Steven Somes on Flight 37.
In Sept. 1996, Dr. Karch wrote again & got a different “canned” response

“With respect to Automatic External Defibrillators (AEDs), we are continuing to study developments and research in this area. Many of the studies showing benefit from AEDs are in settings where very rapid entry into ACLS or hospital level care follows defibrillation. This would generally not be the case in most airline operations.”

“We also closely monitor and participate in national and international medical and air transport professional groups for developments and recommendations in this area.”
September 24, 1996

Steven B. Karch, M.D.
P.O. Box 5150
Berkeley, California 94705

Dear Dr. Karch:

Your September 9, 1996 letter to Dr. Kohn was referred to me. First let me thank you for your willingness to assist fellow passengers and our crew members in the case of an inflight medical emergency. We appreciate your willingness to assist and your time and effort in letting us know of your concerns. We certainly hope your future travels in the friendly skies will be uneventful.

With respect to Automatic External Defibrillators (AEDs), we are continuing to study developments and research in this area. Many of the studies showing benefit from AEDs are in settings where very rapid entry into ACLS or hospital level care follows defibrillation. This would generally not be the case in most airlines operations. There are also a number of other questions and issues concerning training, etc., including what standards for training should be followed, since there are various standards/requirements for the use of AEDs in different states, etc. We are, as I said, evaluating these issues and concerns and Dr. Kohn currently has three members of his staff who are trained and practicing emergency medicine physicians reviewing our inflight medical emergencies data to determine if there are additions we should make to our supplies/equipment. We also closely monitor and participate in national and international medical and air transport professional groups for developments and recommendations in this area.

You may wish to address your concerns also to the Office of Aviation Medicine, FAA, 800 Independence Avenue, S.W., Washington, D.C. 20591-0001.

Sincerely,

W. Michael Waring, M.D.
Regional Flight Surgeon

“...The Emergency Medical Kits and equipment we carry aboard the aircraft meet the requirements specified by the Federal Aviation Administration (FAA). Given the very highly competitive nature and cost constraints of the airline industry, it is unlikely that any company will make major changes in equipment carried, unless all carriers are required to make similar changes.”
American Airlines announces it will deploy AEDs
Cost Savings v. Lives

“[D]on’t think of cost savings with this program....There [are] none. But if you want to save the lives of customers, this is what you need to do.”

David McKenas, M.D., American Airlines’ corporate medical director
United’s Valentine to its Passengers

Feb. 14, 1998

“We’ve been looking at this for a number of years and decided there’s very clearly medical value in it.”

*United’s medical director*
Feb. 14, 1998

“These devices aren’t like in ‘E.R.’ where there’s all these monitors and you stick paddles on someone and turn the ‘juice’ on. The only thing the flight attendant needs to do is to apply a couple of pads, stand back, and the machine’s computer makes the decision from there.”

*United’s medical director*
UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

CIVIL ACTION NO.

JAMIE E. SOMES, AS EXECUTRIX OF
THE ESTATE OF STEVEN P. SOMES,
Plaintiff

vs.

UNITED AIRLINES, INC.,
Defendant

COMPLAINT AND DEMAND FOR JURY TRIAL

PARTIES

1. The plaintiff, Jamie E. Somes, is a resident of Wellesley, Norfolk County, Massachusetts and is the Executrix of the Estate of her late husband, Steven Somes. She was appointed Executrix on February 22, 1996, by order of the Norfolk County Probate Court, Dedham, Massachusetts. She is duly qualified and authorized to bring this action.

2. United Airlines, Inc. ("United") is a Delaware corporation with a principal place of business in Elk Grove Township, Illinois. United is a common carrier of passengers for compensation.
March 4, 1999

“The decision to deploy [AEDs] across our entire fleet demonstrates our commitment to passenger safety and places United Airlines among an elite group of airlines dedicated to ensuring inflight passenger safety.”

United’s medical director
“Even though the efficacy of the AED may not be as impressive as some advocates would have us believe, it does offer, under certain circumstances, a true life-saving measure.”

Continental’s Chief Flight Surgeon, June, 1999
"There is total agreement in governmental agencies and airlines that this is a cost ineffective operation...."

Continental’s Chief Flight Surgeon, Sept. 1999

During my visit with their marketing and sales personnel, Heartstream agreed to place, at no cost, their automatic external defibrillator (AED) in our corporate headquarters. They also are willing to make significant concessions in the usual and customary cost of their training syllabus. These accommodations amount to a package worth several thousand dollars.

The Company is aware of my concerns regarding the precipitous manner and lack of solid information that could affect passengers’ well being at the time this entire aircraft-based defibrillator program was initiated. There is total agreement in governmental agencies and airlines that this is a cost ineffective operation, so it is important we get the best quality and effective measures for our passengers on our first try. That means durable, reliable electronic equipment with ease of maintenance and flight crews who are not overwhelmed by the complexity of their training and will feel assured of their competency in the use of this device.

Respectfully,

H. R. Conwell, M. D.
Chief Flight Surgeon

cc: Jun Tsuruta
    George Mason
    Wendy Wade
    Connie Ridgeway
    Pat Clayborne
APPARENTLY, WE HAVE SOME KIND OF PROBLEM WITH WIRING!
June 6, 2001: A New Man

“United always takes the extra step to provide customers and employees with added medical safety and service,’ says [United’s medical director], who cites the airline's leadership in installing [AEDs] and training flight attendants in their use…”

www.UAL.com, June 6, 2001
Resources

- National Center for Early Defibrillation: www.early-defib.org
- Safety Services Network: www.aedinfo.com
- National Conference of State Legislatures: www.ncsl.org/programs/health/aed.htm
- Aufdeheide, Tom et al., “Community Lay Rescuer Automated External Defibrillation Programs…” Circulation; Jan 16, 2006