HB
395

FISCAL NOTE

STATE OF ALASKA
1998 LEGISLATIVE SESSION

BILL NO. HB 395

Revision Date:
Title: An Act relating to civil liability resulting from the use of a defibrillator ...
Sponsor: Representative Bunde
Requestor: House (JUD)

Dept. Affected: Health and Social Services
BRU: State Health Services
Component: Community Health/EMS Services
COMPONENT SERIAL NO. 2078
See also (SN#):

Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY99	FY00	FY01	FY02	FY03	FY04
PERSONAL SERVICES	0.0	0.0	0.0	0.0	0.0	0.0
TRAVEL	0.0	0.0	0.0	0.0	0.0	0.0
CONTRACTUAL	0.0	0.0	0.0	0.0	0.0	0.0
SUPPLIES	0.0	0.0	0.0	0.0	0.0	0.0
EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0
LAND & STRUCTURES	0.0	0.0	0.0	0.0	0.0	0.0
GRANTS, CLAIMS	0.0	0.0	0.0	0.0	0.0	0.0
MISCELLANEOUS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
CHANGES IN REVENUES	0.0	0.0	0.0	0.0	0.0	0.0

FUND SOURCE (Thousands of Dollars)						
1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0
Other (please specify)	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

POSITIONS:						
FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

Estimate of any current year (FY98) cost: $0.0

ANALYSIS: (Attach a separate page if necessary)

2/20/98

Prepared by: Peter M. Nakamura, MD, MPH
Division: Public Health
Phone: 465-3030
Date: 02/20/98

Approved by Commissioner: Karen Perdue, Commissioner
Agency: Department of Health & Social Services
Date: 2/24/98

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SUPPLIES	0.0	0.0	0.0	0.0	0.0	0.0
EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0
LAND & STRUCTURES	0.0	0.0	0.0	0.0	0.0	0.0
GRANTS, CLAIMS	0.0	0.0	0.0	0.0	0.0	0.0
MISCELLANEOUS	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES	0.0	0.0	0.0	0.0	0.0	0.0
CHANGES IN REVENUES (	0.0	0.0	0.0	0.0	0.0	0.0

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
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1004 GF	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0
Other (please specify)	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

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Ford
3/5/98

CS FOR HOUSE BILL NO. 395( )

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTIETH LEGISLATURE - SECOND SESSION

BY

Offered:
Referred:

Sponsor(s): REPRESENTATIVES BUNDE, Hudson

A BILL

FOR AN ACT ENTITLED

"An Act relating to civil liability resulting from the use of a defibrillator in providing emergency aid or emergency training."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 09.65.090(c) is amended to read:

(c) The immunity provided under (b) of this section does not apply to civil damages that result from providing or attempting to provide any of the following advanced life support techniques unless the person who provided them was authorized by law to provide them:

(1) **manual** electric cardiac defibrillation;

(2) administration of antiarrhythmic agents;

(3) intravenous therapy;

(4) intramuscular therapy; or

(5) use of endotracheal intubation devices.

*** Sec. 2.** AS 09.65.090 is amended by adding new subsections to read:

New Text Underlined [DELETED TEXT BRACKETED]

(e) A person who uses an automated external defibrillator to treat another person in cardiac arrest is not liable for civil damages as a result of an act or omission in treating the other person if the person was properly trained to use the device and activates the emergency medical services system by notifying the appropriate emergency medical services agency.

(f) A person or organization providing training in the use of an automated external defibrillator is not liable for civil damages as a result of providing training in the use of the automated external defibrillator in a course approved by the Department of Health and Social Services.

(g) A person or organization making an automated external defibrillator available for use by a person trained in its use is not liable for civil damages as the result of making the device available if

(1) expected defibrillator users receive reasonable instruction in defibrillator use and cardiopulmonary resuscitation in a course approved by the Department of Health and Social Services; a user of a defibrillator shall [carry] MAINTAIN current evidence of demonstrated proficiency in defibrillator use and cardiopulmonary resuscitation;

(2) a physician approved the purchase of the automated external defibrillator;

(3) the device is maintained consistent with the manufacturer's recommendations; and

(4) the person or entity who acquires a defibrillator provides written notification to the local emergency medical services agency about the existence and the location of the defibrillator.

(h) In this section, "properly trained" means that the individual has completed an automated external defibrillator training course from the American Heart Association, the American Red Cross, or another automated external defibrillator training course approved by the Department of Health and Social Services.

Airline beefs up safety

Over the next year, Alaska Airlines plans to equip its entire fleet of aircraft with defibrillators and enhanced emergency medical kits containing supplies beyond those required by the Federal Aviation Administration. The equipment will allow flight attendants or medical professionals traveling on Alaska airplanes to provide potentially life-saving care for passengers who might suffer a heart attack while in flight, said Jack Evans, airline spokesman. A defibrillator helps restore a regular heartbeat and can greatly improve the chances of survival for some individuals who suffer sudden cardiac arrest. An in-flight medical study released last month by the Air Transport Association, the trade group representing most U.S. commercial airlines, revealed that such incidents are rare. Data from 1996 when U.S. airlines carried 580 million passengers found just 141 in-flight heart attacks. Despite that finding, the industry trend is to boost on-board emergency supplies, Evans said. Major carriers including American Airlines, Delta Air Lines and United Airlines have recently announced plans to add such equipment to their fleets, Evans said.

2/27/98 - Anchorage Daily

Alaska State Legislature

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Sponsor Statement

HB 395

" An Act relating to civil liability resulting from the use of a defibrillator in providing emergency aid"

Every day nearly 1,000 people in the united states die unnecessarily due to sudden cardiac arrest. Most people die before they reach the hospital, usually within two hours. Research shows that early defibrillation, delivering an electrical current to the heart within minutes after sudden cardiac arrest, can raise survival rates to 30% or higher. That is 25% more lives (250 per day) than the current national survival rate of 5%.

The American Heart Association estimates that 20,000 or more unnecessary deaths could be prevented each year if automatic external defibrillators (AEDs) were more widely available. Implementation of a plan that allows both traditional and non-traditional targeted first responders to have access to and use of an AED in medical emergencies is needed.

HB 395 expands our state's Good Samaritan statute to provide protection from liability for people who are properly trained in the use of an AED. As a general rule, the American legal system does not require someone to rescue a victim. However, all states currently have Good Samaritan statutes that protect a volunteer who is aiding another in good faith. These statutes mainly apply to physicians and other health care providers who assist somebody voluntarily and do not expect any reimbursement for their services, but passersby who happen upon an accident and provide emergency assistance are also protected from liability. HB 395 clearly sets the standard for training and proper use of an automatic external defibrillator. Increased availability of automatic external defibrillators along with proper training will save lives. HB 395 will help make Alaska a safer place.

RESPOND SYSTEMS

Respond Systems
First Aid and Safety Supplies
3191 Old Seward Highway
Anchorage, Alaska 99515

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1 Page

February 27, 1998

TO: Jack Evans-Public Relations
ALASKA AIRLINES

FROM: Rose Marie Citti, Director of Training
RESPOND SYSTEMS
P.O. Box 220348
Anchorage, AK 99522-0348

Phone: (907) 344-0302
FAX: (907) 522-2271

Subject:: Press release 2/27/98, Anchorage Daily News regarding AED's on aircraft.

I am delighted to see Alaska Airlines has taken a position on this important public issue. However, under current Alaska regulations, the use of an AED by anyone other than someone ETT-D trained or higher would be an unlawful act . We have made AED's a hot topic with the Legislature. Our position is the same as that stated in your press release. Due to the efforts of many, we are hopeful that this matter is resolved this session but time is running out. HB: 395 is in committee and proposed regulation changes are going through the public review process. When passed flight attendants, as well as any trained person with an *expectation, designation, or duty to respond to a medical emergency* would be covered.

Please go beyond your press release.

If Alaska Airlines would draft a letter of support I will make certain it gets into the hands of the appropriate persons.

I look forward to your support.

Sincerely,

Rose Marie

Attachments: HB395
Proposed Regulation Change notice
Copy of letter sent to Legislature

THE FOLLOWING PAGES MAY
NOT FILM LEGIBLY BECAUSE OF
THE POOR QUALITY OF THE ORIGINAL

emergency vehicle in America.

Last winter police in Cincinnati started testing AEDs in patrol cars. Similar programs have begun in Camden County, Georgia, and Greenwich, Conn. Within two weeks of training, Greenwich police saved two lives with the defibrillators.

Last July 2 fire-brigade members at New York City's Grand Central Terminal were trained to operate a newly purchased AED. The next day they used it to save the life of 42-year-old attorney Bob Adams, who went into cardiac arrest while trying to catch a train.

There are still legal and bureaucratic hurdles to wider AED access. In many states defibrillation is considered a medical procedure limited to doctors and EMTs. Chafing against such hidebound regulations, Dr. Weisfeldt stresses that the new AEDs are fail-safe in the hands of trained adults. He predicts that 100,000 people could be saved each year if AED use were expanded to include firefighters, police officers, security guards and family members of heart disease patients. "We should press ahead to provide defibrillators and training to thousands of people, such as apartment-house custodians, bus drivers and train conductors," Weisfeldt urges.

But the strongest advocates for this innovative technology are those whose lives it has saved.

On the afternoon of Monday, December 30, 1996, Steve Parinisi, 30, and his wife Karen, 31, sat in Boston's Logan Airport. The newlyweds were returning to their Pennsylvania home after a weekend trip. Suddenly Karen saw Steve go pale and his lips turn blue. *Oh, no,* she thought. On their honeymoon in Italy two months earlier, Steve had suffered symptoms of heart trouble, but had seemed in good health since.

But now a massive coronary-artery blockage had triggered ventricular fibrillation. Bystanders administered CPR until medics arrived. They had to shock Steve twice with an AED before his heart resumed spontaneous contractions.

"I was within minutes of death," Parinisi says. "But that defibrillator gave me back my life."

Reflecting on such rescues, David Dutton's widow, Sandra, notes sadly that her husband could also be alive today if AEDs had been available that March night on the commuter train. "David's needless death should be a lesson to all of us," she says. The equipment to save thousands of lives exists. Now we must demand that it be made available everywhere.

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REPRINTED FROM THE NOVEMBER 1997 ISSUE OF READER'S DIGEST

Reader's Digest

This Machine Could Save Your Life

So why isn't it widely available?

BY MALCOLM McCONNELL

COMMERCIAL ARTIST David Dutton, 56, sat on a commuter train, returning from New York City to his Long Island home on the evening of March 20, 1997. Dutton had no known health problems, but as the train clattered through Queens, he suddenly gasped, his face turned a mottled red, and he slumped unconscious in his seat. It was 7:30 p.m. He had gone into cardiac arrest.

While the train crew called ahead for medical aid, a passenger performed CPR, alternately doing chest compressions and mouth-to-mouth breathing. But Dutton's heart was seized by the chaotic rhythm called ventricular fibrillation (VF), and CPR alone could not jump-start it.

Dutton's only hope was the process called defibrillation: a brief electrical shock that overpowers the irregular VF rhythm so the heart can resume its natural contractions.

But by the time a rescue team

carrying a defibrillator reached the train, it had been more than six minutes since Durton's collapse, and his heart did not respond to attempts to restart it.

The great majority of cardiac arrest victims die before help can reach them. But these deaths are not inevitable. "Many of the thousand cardiac-arrest incidents each day are clearly survivable," say Dr. Myron Weisfeldt, chairman of the American Heart Association's (AHA) task force on automatic external defibrillation. Time is critical: many cardiac arrests become fatal four to seven minutes after VF begins, so early defibrillation is the single most crucial factor. Every minute that passes before returning the heart to its normal rhythm decreases the chance of survival by ten percent; after just four minutes without defibrillation, only about 60 percent of victims survive. After ten minutes, few survive.

But in congested cities, emergency medical technicians (EMTs) equipped with defibrillators usually arrive too late. For years the cardiac arrest survival rate in New York City, for example, was just over one percent. Nationwide it averages less than ten percent.

But a safe and effective technology exists that could improve these odds dramatically. It is the automatic external defibrillator (AED), a small computerized, battery-operated device, which can be as small as a book and weigh as little as four pounds. AEDs are nearly foolproof to operate. And their cost keeps going down: some devices now sell for around $3000.

In Rochester, Minn., automatic defibrillators have transformed emergency care of cardiac-arrest patients. In 1990 the Mayo Clinic's Dr. Roger D. White, medical director of the city's ambulance service, noted that police cars often reached cardiac-arrest victims two to three minutes before EMTs did. As trained "first responders," police officers gave CPR, but had no way of defibrillating victims, who often died. "What if we equip cars with defibrillators and train patrol officers to use them?" White suggested to the police.

Seven years later Rochester boasts what may be the highest cardiac-arrest survival rate in the world—45 percent. In the program's first five years, police defibrillated 31 cardiac-arrest patients, 18 of whom survived. Their lifesaving efficiency was tested last January 3.

Software designer Peter Czok, 50, had complained to co-worker Doreen Marks that his chest felt congested. "Maybe I'm catching pneumonia," he said. Then after lunch his head dropped, and Marks heard a weird gurgling from his throat. "Peter, don't fool around," she chided.

Czok toppled limply from his swivel chair. His face was a muddy red, his mouth agape, his sightless eyes open and blank. Terrified, Marks called 911 at 2:27 p.m.

Officer Eldon Morrison and his partner, rookie Steve Thompson, arrived at 2:30 p.m. By then Czok's face was a ghastly purple. Probing for a pulse, Thompson announced, "He's in cardiac arrest!"

As Morrison cut open Czok's shirt, Thompson pressed defibrillation pads firmly onto his chest. The computer's voice announced, "Analyzing heart rhythm. Do not touch the patient."

Within seconds the recorded voice intoned, "Shock advised. Stay clear of patient." The orange shock button flashed. "Deliver shock now." Thompson stabbed the button. "Shock delivered," the computer announced. It was 2:31 p.m. Less than five minutes had elapsed since the 911 call.

Peter Czok was released from the hospital a week later. "I was dying when the officers arrived," he says. "If they hadn't used a defibrillator, I never would have survived."

Rochester's experience has demonstrated that nonmedical professionals equipped with AEDs and proper training can save many cardiac-arrest victims. Following this city's lead, other police agencies nationwide have embraced the use of AEDs.

"The Rochester experience has shown that the police can consistently reach cardiac-arrested patients before EMTs do," stresses Leonard Matarese, chief of public safety in Florida's Indian Creek Village. Last year he equipped all of his squad cars and patrol boats with AEDs. And Matarese is helping forge an alliance between the nation's fire and police chiefs that he hopes will soon put an AED in every

To Make Sure This Device Is in Your Life:

1. Ask your community police and fire departments if their "first response" vehicles contain AEDs. If not, send a letter or fax requesting them, and suggest they call Leonard Matarese, who heads the International Association of Chiefs of Police defibrillation effort, at 305-865-7586 for more information.
2. Call the nurse or medical department at your workplace to find out if your employer provides AEDs and has trained operators. If not, send a copy of this article. As Dr. Weisfeldt notes, "Thousands of people needlessly die of cardiac arrest each year in our offices and factories."
3. If your state limits access to AEDs (to find out, call the AHA at the number below), write your state senator or legislator, telling them you support changes in the law permitting trained responders to use AEDs, and that sample legislation is available from the AHA.

To learn more about sudden cardiac arrest and what you can do to bring early defibrillation to your community, contact the American Heart Association at 1-800-AHA-USA-1 or on-line at http://www.amhrt.org.

Heart Attack or Sudden Death?

When two-time Olympic gold medalist figure skater Sergei Grinkov collapsed and died during practice at a Lake Placid, N.Y., rink in November, 1995, the prevailing reaction was shock: How could that happen to a world-class athlete only 28 years old? But as it turned out, Grinkov had something in common with the great majority of sudden cardiac death victims: underlying heart disease.

Grinkov's heart was enlarged, reportedly due to severe hypertension, which can also damage the coronary arteries. An autopsy revealed that two coronary arteries were almost completely blocked and that the skater had suffered a heart attack less than 24 hours before his collapse.

Sudden cardiac death can result from many heart problems, but heart attack is the most common trigger. Indeed, sudden cardiac death is often labeled "massive heart attack." Despite their frequent interconnection, however, heart attack and sudden cardiac death are distinct events.

Heart attacks generally occur when a clot in a coronary artery shuts off the blood supply to part of the heart muscle. Death can usually be avoided if the clot is cleared (typically with a clot-buster drug or balloon angioplasty) within six hours of the attack. But about one of every six heart attacks results directly in sudden cardiac death by immediately causing the heart to go into ventricular fibrillation, the ineffectual fluttering of its main chamber. To save someone from sudden cardiac death, lifesaving measures must occur within about 10 minutes.

Here's the link between heart attacks and sudden cardiac death: By cutting off blood flow to the heart and damaging its tissue, the heart attack can interfere with the nerves responsible for the heart's orderly beating. That alone can be enough to trigger cardiac arrest. But even among heart attack survivors, that shutoff of blood may cause a portion of the heart muscle to die. Days or even years later, that scar tissue may disrupt nerve impulses and cause a fatal arrhythmia and sudden death. One reason prompt treatment for heart attack is so crucial is to minimize heart muscle damage and its potential to disrupt the normal heartbeat.

Exertion can play a major role in sudden death. When a middle-aged man dies from shoveling snow or running (as in the case of jogger-author Jim Fixx), his rapid heart rate may have dislodged a fatty deposit that clogged a coronary artery, causing a heart attack that in turn triggered immediate fibrillation. Alternately, when someone with underlying heart disease exerts himself, his rapid heartbeat itself can evolve into a fatal arrhythmia.

Other factors besides exertion can disrupt the heartbeat and cause sudden cardiac death. They include:

● **Fear.** Like exertion, fear also causes the heart to race, which can cause arrhythmia and cardiac death in someone with heart disease. It now appears that some people are especially vulnerable to being literally scared to death—and that a simple test can predict which ones.

Harvard University researchers asked 40,000 male health professionals to take an eight-question test that assessed their "phobic anxiety" level. The researchers focused on the 34,000 men in the group who had not been diagnosed with heart disease (although *undiagnosed* heart disease could not be ruled out).

When the men without heart disease were evaluated two years later, those with the highest anxiety levels were more than six times as likely to have suffered sudden cardiac death as the least anxious men. The researchers concluded that high anxiety is a potent risk factor for sudden cardiac death. One possible explanation: Hyperventilation induced by anxiety may cause coronary artery spasms.

● **Alcohol.** Heavy drinking can disrupt the heartbeat, a phenomenon known as "holiday heart syndrome." Even healthy people can experience such arrhythmias, but those most likely to suffer sudden cardiac death from binge drinking are chronic alcoholics with liver disease.

● **Congestive heart failure.** In CHF, the heart has been damaged by heart attack, hypertension or some other condition, and it no longer pumps efficiently. Although people with this usually treatable problem can live with it for many years, they're six to nine times likelier to suffer sudden cardiac death than those without CHF.

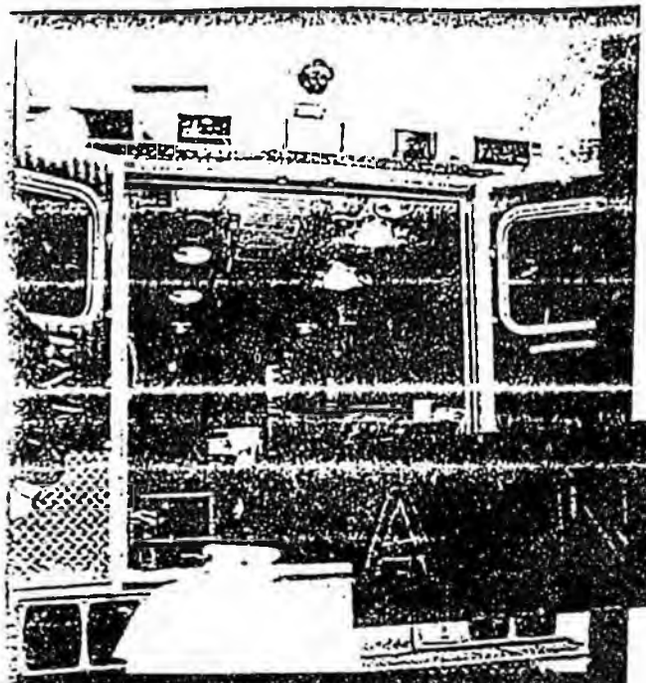
● **Cardiomyopathy.** When sudden death strikes a middle-aged athlete, a heart attack or underlying coronary artery disease is almost always responsible. But in young athletes, sudden death is often due to an underlying heart muscle abnormality, also known as cardiomyopathy. Two basketball stars, Hank Gathers of Loyola Marymount University in Los Angeles and Boston Celtic great Reggie Lewis, died from this condition.

Lewis's death was attributed to a virus that inflamed his heart muscle and caused scarring, which ultimately disturbed his heart rhythm.

But often such deaths are due to a genetic disorder known as familial hypertrophic cardiomyopathy, the most common cause of sudden cardiac death in the young, especially athletes. (Hypertrophic means that a chamber of the heart becomes abnormally enlarged and loses its flexibility.) A genetic test carried out on blood cells can now determine whether relatives of a person with the disorder are also at risk of developing it. Those with the trait should be warned against participating in strenuous sports that might trigger sudden cardiac death.

—DOUG BRADLEY

Sudde



Somewhere over the Pacific, aboard Qantas Flight 12 from Los Angeles to Sydney, Australia, Roland Koenig suddenly felt his head "spinning off." He knew something was terribly wrong but blacked out before he could react. Chief purser David Furey hurriedly pulled the stricken passenger to one of the exits for an examination. No pulse, no breathing—cardiac arrest.

Koenig's prognosis could not have been worse: minutes from death and hours from the nearest hospital. Luckily Furey had a secret weapon. He calmly called for the plane's onboard defibrillator, placed its two paddles on Koenig's chest and zapped his heart back to life with a series of electric shocks.

If the American Heart Association (AHA) has its way, such revivals will be repeated tens of thousands of times a year throughout the U.S.—in shopping malls, office buildings and homes too—as defibrillators become as commonplace and easy to use as fire extinguishers.

Koenig, a 73-year-old retiree from South Colleyville, Tex., was in many respects a typical victim of cardiac arrest—an older man with no obvious signs of heart disease. In the most crucial respect, however, Koenig was quite unusual: He survived. Most of the time, emergency medical personnel don't arrive fast enough and lack the portable defibrillators that could save lives. Only 5% of Americans who go into cardiac arrest come out of it alive. The prognosis is even worse in gridlocked urban areas such as New York City, where a scant 1% to 2% of the stricken are revived.

Those who don't survive are said to have suffered sudden

DAVID SELTZER

an Death

Public-access defibrillation could prevent 100,000 deaths a year

By Gary Goldenberg

cardiac death, which accounts for about 350,000 fatalities each year in the U.S. and is the country's leading medical emergency. In almost all cases, the deceased had some type of underlying heart disease. But it's not correct, as often happens, to label every sudden cardiac death a "massive heart attack," since the two are actually different (see "Heart Attack or Sudden Death?" p. 66).

Typically, cardiac arrest strikes without warning. The heart's built-in electrical system—nerves embedded in the heart muscle that trigger each heartbeat—suddenly goes haywire. The main pumping chamber (the left ventricle) is swiftly reduced to a quivering blob that can no longer propel oxygen-laden blood throughout the body and, most importantly, to the brain. Death within minutes is inevitable, unless the spastic action, known as ventricular fibrillation, is corrected. And that demands a defibrillator.

As you may have seen on TV's *ER* or *Rescue 911*, these devices can shock erratically beating hearts back to a normal rhythm. "The beauty of defibrillation is that almost nothing else needs to be done for the patient if it's done fast enough," says Dr. Myron Weisfeldt, chairman of medicine at Columbia-Presbyterian Medical Center in New York City.

When it comes to saving these victims of cardiac arrest, defibrillation is actually much more helpful than cardiopulmonary resuscitation, in which rescuers alternate between breathing into the mouth and pushing on the chest. CPR oxygenates the blood and keeps it flowing to the brain, buying precious minutes until help arrives. But for the heart to restart, CPR must be followed immediately by defibrillation. In fact, when hospitalized patients go into cardiac arrest, "the prevailing wisdom is to forget CPR and go ahead with defibrillation," says Dr. William Kaye, a critical-care physician at Brown University and an expert in resuscitation training.

Defibrillation is a proven lifesaver, but it must be performed within 10 minutes of cardiac arrest. "Every minute the heart stays in fibrillation, we lose about 10% of the likelihood that we'll get it restarted," says Dr. Joseph Ornato, a cardiologist at the Medical College of Virginia in Richmond and chairman of the AHA National Emergency Cardiac Care Committee. Unfortunately, poor 911 systems, traffic snarls and slow elevators generally keep emergency personnel from arriving within the magic 10-minute window. Moreover, Ornato says, fewer than one in three U.S. ambulances carries a defibrillator.

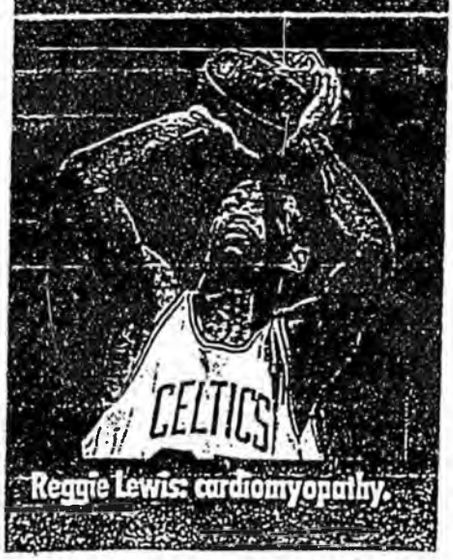
Seattle and other cities have poured enormous resources into streamlining their emergency response systems, equipping all rescue personnel with defibrillators and training vast numbers of citizens in CPR. But even in Seattle, arguably the best large city in the country in which to collapse on a street corner, fewer than three in 10 cardiac arrest victims survive.

The AHA has concluded that a radically different strategy is needed to save more people from sudden cardiac death. In a statement issued last November, the organization endorsed what it calls "public-access defibrillation." The initial goal is to put defibrillators in the hands of the people most likely to arrive first at the scene of an emergency and to teach those

Hank Gathers: cardiomyopathy.

Sergei Grinkov: blocked arteries.

Jim Fixx: heart attack?



Reggie Lewis: cardiomyopathy.

people how to use them.

"We want to equip police cars and rescue units with these devices and then provide them to every company that has a nurse's station or employee health service," says Weisfeldt, who is leading the AHA's defibrillator campaign. "Next we would probably target security guards in office buildings and [illegible]"

The ultimate goal is to put defibrillators wherever people congregate—retirement communities, apartment buildings, sporting arenas and schools—and to make them so easy to use that even untrained bystanders can operate them. But first some product improvements are needed.

Today's portable defibrillators—the ones aboard Qantas planes as well as fire engines and ambulances—have built-in computers that guide users through the procedure, voicing instructions and also displaying them on a screen. In addition, the devices automatically assess the patient's heart rhythm, judge whether defibrillation is required and then signal the operator to give the shock. But using them still requires some training, they're heavy (up to 20 pounds) and expensive ($2,500 to $8,000), and the devices need frequent maintenance.

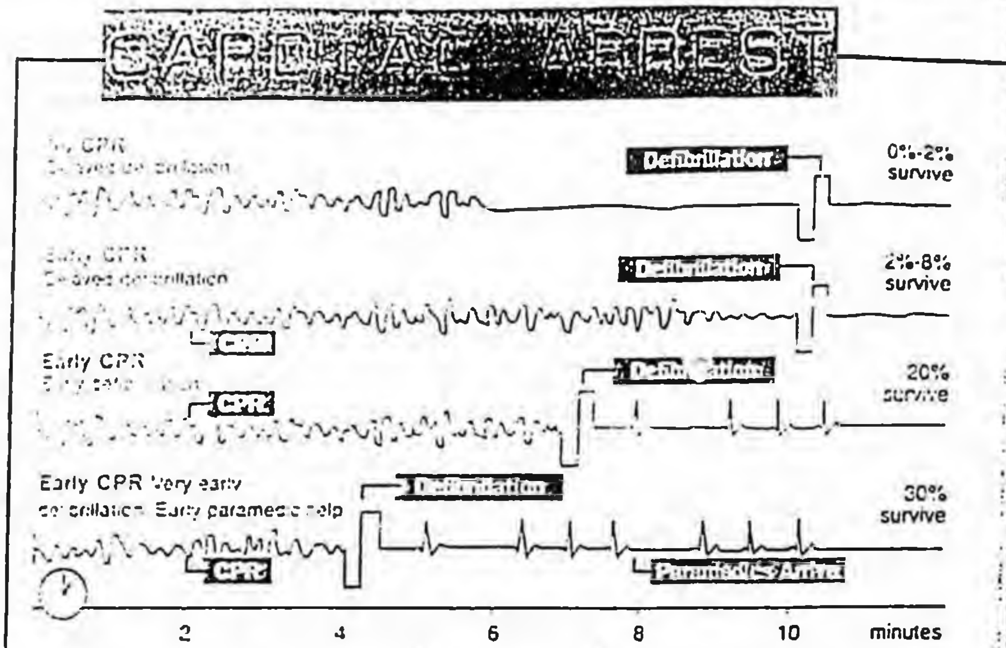
"What we're looking for is a 'brilliant' defibrillator," says Weisfeldt. This Phi Beta Kappa of resuscitation instruments would weigh a mere five to 10 pounds, cost $1,500 to $2,000, fit inside a briefcase, guide the user with multilingual voice prompts and be durable, maintenance free and tamper resistant. Several companies are working intensively to develop such a device, and Weisfeldt predicts it will be available in a few years.

The AHA estimates that public-access defibrillation could save as many as 100,000 lives a year, a number matched by few other public health measures. "The science is fairly straightforward, so it's difficult to argue with the idea that this can help save lives," says S. Elizabeth White, senior associate for health and safety services at the American Red Cross, which, along with many other health and medical organizations, strongly endorses the AHA campaign.

Actually, those at highest risk of cardiac arrest—people who've survived one in the past—are not a target of the

GATHERS, SKATERS AND LEWIS: *SPORTS ILLUSTRATED* [illegible]

AHA [illegible] [illegible] de- [illegible] battery-pow- ered [illegible] surgically implanted in the chest or upper abdomen and attached to the heart by electrodes. Like their external cousins, internal defibrillators sense abnormal heart rhythms and, within seconds of detecting a fibrillation, deliver an electrical jolt that feels like a sharp punch to the chest. Developed in the early 1980s, internal defibrillators enable thousands of Americans who are at risk of erratic heartbeats to lead relatively normal lives. (Internal defibrillators are different from those other implanted devices, pacemakers, which regulate and adjust the heartbeat continuously.)



Cardiac arrest means certain death when neither cardiopulmonary resuscitation nor defibrillation is used. If a bystander begins CPR within two minutes, survival chances rise to between 2% and 8%. When both CPR and defibrillation occur within eight minutes, the likelihood of survival goes up to 20%. The figure rises to 30% when the victim receives a combination of CPR and defibrillation within four minutes and paramedic help within eight minutes.

Source: American Heart Association

Weisfeldt's ultimate goal is to link portable defibrillators to emergency services through telephones. "The minute the defibrillator is removed from the phone, 911 would automatically be dialed," he explains. "The 911 system would know exactly which phone and which building was using the defibrillator, and within seconds an ambulance could be on its way to the scene."

Anyone who questions defibrillation's value should look to Rochester, Minn. (population: 110,000), home of the Mayo Clinic, which has equipped all its police cars and fire rescue units with the devices. Over a recent two-year period, the two departments encountered 44 people in cardiac arrest and successfully defibrillated 21 of them—only five fewer cardiac arrest victims than were saved in all of New York City in 1991.

Some hurdles must first be overcome if public-access defibrillation is to become reality. New laws will be needed so that Good Samaritans who use defibrillators on their fellow citizens are protected from liability. And even if mass production slashes the price of defibrillators, distributing thousands of them across the country will still cost millions of dollars. Congress and the states will have to provide some of that money. And businesses will have to show more interest in having defibrillators on hand.

Each year, for example, 200 to 300 people die on planes due to cardiac arrest—more than die in most years from commercial air crashes. Yet Qantas remains one of the only airlines to carry defibrillators.

Of course, making something available won't help unless people are willing to use it. In 1990 basketball star Hank Gathers of Loyola Marymount University in Los Angeles collapsed in cardiac arrest in the middle of a game. Emergency medical personnel worked feverishly, pumping his chest and inflating his lungs in the prescribed CPR manner, all to no avail. Gathers was carried off the court in front of a shocked and silent crowd. Equally shocking was a *Sports Illustrated* photo showing one of the stretcher bearers, a team physician, carrying a defibrillator. It was never used.

Roland Koenig, on the other hand, has recovered well and resumed his daily 1½-mile runs and extensive travel. Since his episode on November 5th, 1994, another Qantas passenger was also saved with a defibrillator, giving the AHA another convert to its cause. Chief purser David Furey, who saved Koenig, is another supporter.

"I can't tune my videocassette recorder at home, but I can use the Heartstart machine," he says, referring to the brand of defibrillator Qantas uses. "I think that says it all." ●

Gary Goldenberg is a freelance writer in Port Chester, N.Y.

Citizen CPR Foundation, Inc.

American Heart Association

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INSIDE

Public access defibrillation comes of age

PAD conference April 17-19 in DC; American Airlines adds AEDs

Public Access Defibrillation—the AHA initiative begun in October 1993 to enable the use of AEDs by the general public—reaches maturity this spring in Washington, DC. On April 17-19 the AHA will sponsor *Public Access Defibrillation II: Strengthening the Chain of Survival.* This conference will focus on research in public access defibrillation (PAD), results of the PAD initiative to date, and the AHA's plans to continue the initiative.

The conference will be held at the Hyatt Regency Crystal City in Washington, DC. The planning committee for the conference is the AHA's Automatic External Defibrillation Task Force, chaired by Myron L. Weisfeldt, MD.

The conference comprises five state-of-the-art sessions, seven concurrent workshops, and a poster session. (See page 7 for details.)

Since the first PAD conference, in December 1994, the concept of public access defibrillation has gained increasing acceptance nationwide. A milestone for the PAD initiative is the decision by American Airlines to place AEDs on board its international flights and some domestic over-water flights.

First US airline to add AEDs

On November 19, 1996, Robert L. Crandall, chairman and CEO, and David McKenas, MD, American's corporate medical director, announced plans to buy 300 AEDs for its long-haul flights, the first to be delivered in January and the rest in time for the airline's busy summer tourist season. American thus becomes the first US airline to equip its planes with AEDs.

Clay Newlin, emergency procedures instructor, and Lace Campbell, aeromedical lead nurse, helped American Airlines kick off CPR-D in the air with a train-the-trainer program Jan 23 in Fort Worth, Tex. AHA volunteers Richard Cummins, MD, Mary Fran Hazinski, RN, and Ed Stapleton, EMT-P provided state-of-the-art presentations and educational materials.

"This is a potential major advance in saving lives," said Weisfeldt.

American has also announced plans to work with the AHA in training its personnel in use of the AED and in evaluation of the airline's AED program. Beginning in February, 2300 flight attendants will be trained in the use of the AED. By the end of 1998 all 20,000 of American's flight attendants will have been trained to use the device.

"Other carriers are now talking with the manufacturers," said David Fuscus, spokesman for the Air Transport Association, which represents major airlines. Northwest Airlines, United, and Delta are studying the need for defibrillators. A spokesman for the Federal Aviation Administration also said in November that the agency will study whether AEDs should be mandatory on airplanes.

See PAD, page 3

PAD concept gains momentum

(continued from page 1)

Numerous other positive responses to the PAD concept are taking place. According to Mary Newman (JEMS, Jan 1997), 27 states now permit non-EMT first responders to use AEDs [illegible]. Six states allow trained lay rescuers to use AEDs with medical supervision: California, Florida, Maine, Maryland, North Dakota, and Texas.

Public Access Defibrillation II
For information contact
Pat Bowser, AHA
Phone [illegible]
Fax 415-637-0493

Almost daily *Currents* receives reports about the increasing availability of defibrillators nationwide. Inspired by the success of Roger White, MD, and colleagues in Rochester, Minn (see "49% survive cardiac arrest in Minnesota," *Currents*, Fall 1996), Cincinnati, Ohio, has undertaken a 3-year study to improve survival rates by equipping police with AEDs.

AED pilot program in Chicago

Chicago too has undertaken an AED pilot program. Each of the seven fire engine companies in the 13th Battalion on the West Side has an AED, and all firefighters in those seven companies have been trained to use the device. Fire Commissioner Raymond Orozco has pledged to put AEDs into use citywide.

The Chicago Fire Department is also putting defibrillators in terminals at O'Hare International Airport and training federal customs agents stationed there to use them. Although two ambulances stationed at O'Hare are equipped with defibrillators and can arrive at the terminal in 4 to 6 minutes, rescuers might still have a long way to go to reach a victim. Putting AEDs in the terminals themselves will cut response times dramatically," according to fire department spokesman [illegible] Cosgrove.

By July 1997 every fire station in Charlotte, NC, will have an AED, and every firefighter will be trained to use the device, according to Jay [illegible], executive director of the EMS agency.

The survival rate from cardiac arrest in Boston has risen by 50% since 1994 (from 16% to 24%), when Boston began a program to train firefighters to use AEDs. Led by Mayor Thomas M. Menino and EMS director Lawrence Mottley, MD, Boston has added 5 new ambulances, 100 AEDs, and 135 EMTs to its First Responder Defibrillator Program and trained all its 1650 firefighters in CPR and defibrillation. Boston EMS had earlier purchased 35 AEDs.

AEDs in highrises

AEDs are also being installed in several Boston high-rise buildings, including the 35-story Federal Reserve Bank and the John Hancock Building, which has bought two defibrillators and trained security personnel to use them.

The 64-story USX Tower in Pittsburgh, headquarters of US Steel, has equipped its security staff with an AED. According to safety director Jim Weslager, it takes paramedics 7 to 10 minutes to reach the building through downtown traffic, but the building's new AED, which is kept at the security desk in the lobby, can be on any floor in 2 minutes or less.

Another new site for AEDs is the casinos of Las Vegas, a city that has more than a thousand cardiac arrests each year. Terry Valenzuela, MD, University of Arizona and a member of the ELS [illegible], said three of the city's casinos alone experience [illegible] cardiac arrests a year — "not because of winning or losing but because of a lot of elderly people at inherent risk for heart disease."

In cooperation with the Clark County (Las Vegas) Fire Department, Valenzuela and Scott Bjerke, MD, are equipping these casinos with AEDs and training their security officers to use them. "We expect that the casinos will have collapse-to-defibrillation times of about 2 minutes," Valenzuela said, because their security cameras pick up the arrests. Valenzuela said that this is a PAD study, not an EMS study, and that the study was initiated by the casinos "in an effort to really help combat sudden cardiac arrest."

According to Richard Hardman, Clark County Fire Department, Las Vegas has a survival rate of 22%. By slotting AEDs into the major casinos, the casino owners hope to increase the rate to 50%, which would save nearly 300 more lives each year.

MGM Grand Hotel, one of the largest casinos in Las Vegas, has just bought 12 AEDs and joined the PAD study.

Prudential Insurance Company's Helping Hearts program, a matching grants initiative (*Currents*, Fall 1995), has played a significant role in making AEDs more widely available. By December 1996 the program had helped 883 volunteer EMS squads in 11 states acquire portable defibrillators. With the recent expansion of the Helping Hearts program into two more states, Colorado and Oklahoma, that number will soon exceed 1000.

According to Prudential spokesman Kevin Heine, at least 15 lives have been saved by defibrillators acquired through the Helping Hearts program (as of Jan 24).

States where non-EMT first responders are permitted to use AEDs.

Alaska
Connecticut
Florida
Georgia
Hawaii
Idaho
Illinois
Iowa
Kansas
Louisiana
Maine
Maryland
Massachusetts
Minnesota
Nebraska
New Hampshire
New Mexico
New York
North Dakota
Oklahoma
Pennsylvania
Rhode Island
Tennessee
Texas
Virginia
Washington
Wisconsin

Prudential's "Helping Hearts Program" goes national!

On Valentine's Day volunteer emergency medical squads across America were given a jump start in their effort to save lives when Prudential launched a $1 million nationwide expansion of its program to help EMS squads get defibrillators. The expanded program will provide matching grants of up to $2000 to qualifying volunteer EMS squads in any state to help defray the cost of buying a defibrillator. To apply, contact your nearest Prudential insurance office.

Enlist support for Cardiac Arrest Survival A[illegible]

support of ... Cardiac Arrest Survival Act is ... to ... strengthen the chain of survival. See page 5 for sample letter

To our readers

Ideas? Comments? Teaching tips? Novel way to promote CPR? Good photos?

Write Currents *at the address below. Written submission implies permission to publish unless the author states otherwise. Letters may be edited for clarity or brevity.*

Currents in ECC
7272 Greenville Ave
Dallas, TX 75231
Fax: 214-373-0268
fgs@amhrt.org

The AHA has announced its support for the Cardiac Arrest Survival Act (HR ..., introduced March 6 by Rep. Gerry Studds (D-MA). This legislation would recommend making automated external defibrillators more accessible to ... who regularly respond to emergency situations, especially those involving cardiac arrest.

According to the AHA, each year more than 250,000 people die when they suffer cardiac arrest. Fewer than 7% of those suffering cardiac arrest outside a hospital survive.

The Cardiac Arrest Survival Act would require the Secretary of Health and Human Services to make recommendations to the states on policies regarding the provision of first aid, CPR training, and access to EMS through the 911 system. The Secretary would also be required to carry out demonstration projects dealing with the use of AEDs. These projects would result in recommendations about whether states should require that defibrillators be located in public places, such as office buildings, stadiums, and arenas.

Joseph Ornato, MD, chair of the ECC committee, explained: "Every day in the United States 1000 adults will become victims of sudden cardiac arrest. States need to be encouraged to adopt policies and programs that will significantly improve the survival rate of people suffering cardiac arrest. This legislation recognizes that full public access to AEDs is essential for increased survival of cardiac arrest victims."

The Cardiac Arrest Survival Act would strengthen the chain of survival:

- *Early access:* The legislation would ensure that more people are trained to recognize the warning signs of cardiac arrest, to be able to perform CPR adequately, to promptly call 911, and to ensure that emergency personnel are dispatched to the scene.
- *Basic CPR:* The legislation would permit the Secretary of HHS to consider recommending to the states the training of emergency personnel, including 911 operators, to perform CPR. Another recommendation the Secretary would consider is whether people applying for driver's licenses be trained in CPR first, thus increasing the number of people available to perform CPR.
- *Defibrillation:* The legislation would recommend to the states that more people who arrive at emergency scenes, ie, first responders, be equipped with and trained to use AEDs.

The AHA endorses the position that all first responders should be trained and permitted to operate an appropriately maintained defibrillator. This includes EMTs, non-EMTs, firefighters, voluntary emergency personnel, physicians, nurses, and paramedics.

Please contact your Representative to discuss the legislation. For information on how to contact your legislator or to discuss the details of the bill, call Rich Hamburg at the AHA Office of Public Affairs: 202-822-9380.

Emergency Cardiac Care Update Conference

May 16-19, 1996

Montréal, Quebec, Canada

See insert for registration form

"The ECCU Conference is the premier gathering of people who do ECC *instruction.*"—Hans Dahl

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70-0049 ISSN 1054-817X *Currents*, Spring 1996

American Heart Association
Fighting Heart Disease and Stroke

National Center
7272 Greenville Avenue
Dallas, TX 75231-4596

910023554 ECC96015 051296
MATT ANDERSON
Alaska Dept Hlth/Human Serv
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Box H-06C
Juneau AK 99801

February 28, 1998

Dear Representative Bunde:

The issue of *public access* Automated External Defibrillation (AED) has wide private sector support. I have collected over a 100 citizen endorsement letters signed by representatives of companies that had their staff CPR/First Aid trained in the past **3 weeks.** (example attached)*

Please publicly support this important issue.

Quick review of the companies mentioned above:

Veco
Prudential Vista Real Estate
RAM, Inc.
Princess Tours
Howard Molanax
Van Waters & Rogers
Tracy Vrem Guide Service
Scoggin Excuvation Service
Herring Counseling Services, Inc.
AWAIC
Alaska Mechanical
Value Village
Rasmussen Asphalt
Alaska Airlines
AVEC
Laidlaw Environmental
Alaska Village Electric
Doyon Drilling, Inc.
Regal Alaskan Hotel
North West Handling Systems
H & H Construction Co, Inc.
Fred Meyer
Regina's Home Health Care
Nordstrom
Chugach Electric Association (CEA)
Municipal Light & Power

* Copies of all endorsement letters have been sent to the offices of Representative Bunde and Senator Taylor.

I can assure you as more companies & students become aware of this technology more letters will be forthcoming.

Please don't let us down.

Respectfully,

Rose Marie Citti

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P.O. Box 220348
Anchorage, AK 99522-0348

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Business: 344-0302
FAX: 522-2271

Enclosures: Endorsement letter
Alaska Airlines Press Release