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Sudden Cardiac Arrest: Are You Prepared to Help Save a Life?

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Contact Information

Available for logged-in reporters only

Description

Sudden cardiac arrest, most often caused by an abnormal heart rhythm called ventricular fibrillation, kills more than 95 per cent of its victims (more than a quarter million Americans each year) before they get the treatment they need - an electric shock to the heart.

Newswise — A high school football player collapses and dies on the field during a scrimmage. An ultra-marathoner's medal-winning career comes to an abrupt end while participating in a "10K run." Sudden cardiac arrest often occurs in active people who are unaware they have heart disease. Have you ever wondered if you'd be prepared in an emergency to help someone – a stranger or maybe even a loved one – should the need arise?

Sudden cardiac arrest, most often caused by an abnormal heart rhythm called ventricular fibrillation, kills more than 95 per cent of its victims (more than a quarter million Americans each year) before they get the treatment they need - an electric shock to the heart. While heart-shocking devices were once only found in hospitals and ambulances, public versions of these machines called Automatic External Defibrillators (AEDs) are becoming more visible in fitness centers, airports, office buildings and even in homes. If you are considering buying an AED for your home or want to be prepared to help a stricken co-worker or stranger in a public venue, proper training in CPR and the use of these devices might help you save a life.

The American Heart Association (AHA) reports that when immediate CPR is provided and the first shock is delivered with an AED within three minutes after the collapse, reported survival rates from ventricular fibrillation cardiac arrest are as high as 74 per cent. As a rule of thumb, for each minute that passes without CPR and defibrillation, the chance of survival decreases seven to 10 percent. In rural areas, as well as in some cities, it may be impossible for emergency responders to arrive within the first few minutes, so having an AED on-hand – and someone trained to operate it and render CPR – can make a lifesaving difference.

"AEDs should definitely be available on all playing fields, and at gyms, stadiums, and sporting events," says Prediman K. Shah, M.D., director of the Division of Cardiology and director of the Atherosclerosis Research Center at Cedars-Sinai Medical Center. "And, considering that three in four cardiac arrests happen at home, some people should consider having at-home defibrillators much like they have fire extinguishers."

Those who might benefit from having a home defibrillator include anyone who has survived a sudden cardiac arrest but does not have an implantable device capable of shocking the heart (an implantable cardioverter/defibrillator or ICD). "Other heart disease patients who might find a home AED a good investment

would be those with severe heart failure, angina or other severe forms of heart disease. If your loved one has one of these conditions, owning a home AED and being trained to use it properly, might give you considerable peace of mind and potentially help you save a life," Shah says.

A heart attack (also known as a myocardial infarction), he explains, is caused by abrupt blockage in one of the heart's major blood vessels, shutting off blood flow and oxygen to the heart muscle. Without oxygen the heart muscle starts to die, producing pain and other symptoms. However it is important to note that sudden cardiac arrest is often a complication of a heart attack.

Sudden cardiac arrest, often occurs without warning and may be the first sign of cardiovascular disease. "While a person who has a sudden cardiac arrest may seem outwardly healthy, most victims have heart disease or other problems they may not be aware of."

What happens is that the heart's electrical signals that control its pumping suddenly become rapid and chaotic. The lower chambers of the heart (the ventricles) begin to quiver instead of contract and are no longer able to pump blood from the heart to the rest of the body. CPR cannot restore the heart's rhythm, therefore, without an emergency shock, death can occur within minutes. Sudden cardiac arrest is responsible for 50 per cent of all heart disease deaths.

An AED is a portable, computerized device that can check a person's heart rhythm and advise a rescuer when a shock is needed. Many come with voice prompts, lights and text messages to help guide the rescuer in the appropriate steps to take. While there are many different brands, they all have the same basic steps for operation. Most AEDs cost around $2,000 or less, are not covered by insurance and need a physician's prescription to purchase.

The AHA strongly advocates the use of AEDs by emergency medical service first-responders and ambulances and also supports their use in targeted public areas such as sports arenas, offices, shopping malls and doctor's offices. It recommends formal training in how to use the devices so the operator will not only know how to recognize the signs of a sudden cardiac arrest but also when to activate the EMS system, how to do CPR and be able to operate the device successfully in an emergency.

While the Food and Drug Administration gave clearance in 2002 for an AED designed for home use, the American Heart Association has not yet made a formal recommendation about home defibrillators, saying that it needs more data on the overall effectiveness of their use. An $18 million trial, sponsored in part by the National Institutes of Health, began in 2002 that was designed to evaluate the benefits and risks of home use. The study results are expected in 2007.

A study conducted in three Chicago airports between June 1, 1999 and May 31, 2001 showed that public access defibrillation programs can increase survival rates by as much as 67 per cent in those who received bystander CPR and treatment with an AED within five minutes.

Shah encourages anyone who wants to learn more about the use of AEDs to seek training. "The AHA has a four-hour course, "Heartsaver AED", that integrates CPR and AED training. I highly recommend it to anyone who wants to be prepared to help in the event of a sudden cardiac arrest." A list of training centers is available by calling 1-877-AHA-4CPR.

One of only five hospitals in California whose nurses have been honored with the prestigious Magnet designation, Cedars-Sinai Medical Center is one of the largest nonprofit academic medical centers in the Western United States. For 17 consecutive years, it has been named Los Angeles' most preferred hospital for all

health needs in an independent survey of area residents. Cedars-Sinai is internationally renowned for its diagnostic and treatment capabilities and its broad spectrum of programs and services, as well as breakthroughs in biomedical research and superlative medical education. It ranks among the top 10 non-university hospitals in the nation for its research activities and was recently fully accredited by the Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP). Additional information is available at www.cedars-sinai.edu.

CARDIAC SCIENCE

POWERHEART AED G3

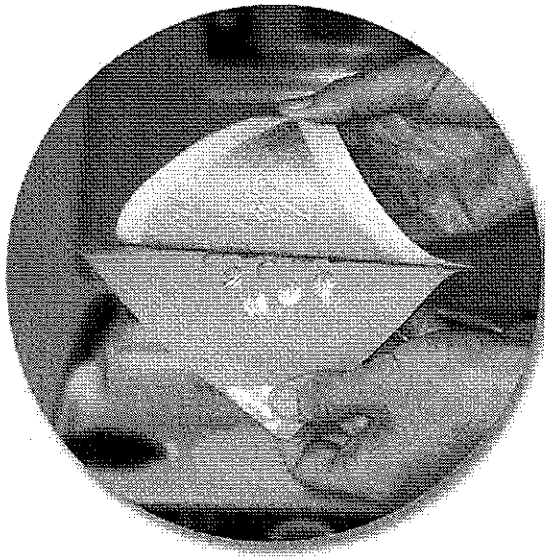
✓ EASY TO USE
✓ RELIABLE / DURABLE

Ease of Use

- **The only "single-step" AED**..... simply place pads on patient
  No buttons to push, eliminate chance of pressing wrong button (also available as semi-automatic)
- **Pre-connected electrodes** - Eliminates one critical user step in rescue process
- **Non-polarized pads** - Only AED with electrodes labeled for interchangeable use - Reduces user confusion when placing electrodes
- **Back-lit text display** – critical for loud or chaotic environment, and hearing impaired users – ADA compliant
- **Enhanced CPR voice prompts** – clear, loud, and precise voice prompts to guide user through rescue

Reliability / Durability

- **RescueReady®** technology makes Powerheart® the only AED that automatically test, & continuously monitors the functionality of all (3) critical components: Internal circuits, Battery and Pads. (All (3) critical components are tested on a daily basis)
- **Self-test includes electrode presence & functionality** - patented feature checks if electrodes are in the device and ready for use (defibrillation pads are the leading cause for AED failure) for presence and functionality.
- Only AED with green/red status indicator - Allows for quick and easy status check for user
- **Full energy, monthly self-test** – calibrates & ensures full shock can be delivered
- **Battery capacity gauge** - patented technology tracks information such as number of shocks, on-time, and remaining energy - operating an AED without a battery gauge is like operating car without a fuel gauge



- Real world reliability - Field-proven to be rugged in the hands of law enforcement and fire departments worldwide
- If any critical component is determined non-operational a loud audible alarm will sound every 30 seconds alerting appropriate personnel to then fix the device and put it back into operation
- **Pre-connected electrodes** - Eliminates need for an extra user-step during a rescue

✓ **The strongest testament to the Powerheart's reliability is the fact it has never failed at the side of an SCA patient.**

CARDIAC SCIENCE

POWERHEART AED G3

✓ CLINICALLY EFFECTIVE

✓ MAINTENANCE FREE

Clinical Effectiveness

- **Patented STAR® (Self-Tracking Active Response) Biphasic waveform**
  - Latest biphasic technology available, and the only Variable Escalating (customized for patient) energy
  - 105-360 joules of energy delivered - energy level customized based on patient impedance
  - Other AED's use fixed energy waveforms
  - Escalating energy to assure rapid defibrillation success
- Powerheart® AED has an overall first shock success rate of 100 percent
- Field data has shown the average number of shocks per patient for the Powerheart® is 2 3 ± 1 7 (Industries lowest published "real-world" field data)
- **RHYTHMx®** Analysis Algorithm makes the Powerheart® the only AED that provides the combination of...
  - Non-committed shock - monitors for changes even after AED makes shock decision – will disarm if needed
  - Continuous monitoring of patient's heart rhythm; before, during & after CPR, to detect re-fibrillation
  - Synchronized shock –unique feature increases likelihood of successful shock (most appropriate therapy for VT/SVT
  - Pacemaker detection/rejection
- Examines different components of morphology and differentiates between VT, VF and SVT
- Programmable VF/VT and SVT detection rates (using MDLink software)
- Enhanced Noise Discrimination - Detects noise / artifact from movement, will advise rescuer and attempt to reanalyze
- The only AED providing Pediatric defibrillation with variable energy protocol.

Lowest 5-year AED program cost

- Maintenance Free - Powerheart AED's do not recommend or require any annual maintenance.
- Cardiac Science AED's provide the industry's first and only **7-year** parts and labor warranty
- Cardiac Science AED's provide the best battery technology available:
  4-year unconditional, replacement battery warranty (3 years beyond any other AED)
- Powerheart® AED is the only device that does not recommend or require an extra battery be kept with every AED.
- Low cost Defibrillation Pads

Powerheart AED Review

RESCUEREADY RELIABILITY
Superior self-testing of all critical components, including electrodes, ensures that Powerheart AED is ALWAYS RescueReady

EASE OF USE
Automatic therapy, with pre-connected & non-polarized defibrillation pads make Powerheart AED the easiest to use

STAR BIPHASIC WAVEFORM
The only customized therapy, AND industry's highest reported effectiveness in hospital and pre-hospital data

RHYTHMX TECHNOLOGY
RHYTHMx algorithm offers programmable detection rates, continuous monitoring during CPR, improved SVT and noise discrimination, pacemaker pulse detection/rejection, synchronized shock, and non-committed shock feature

CARDIAC SCIENCE

TERMS AND CONDITIONS

These Terms and Conditions together with this agreement between Buyer and Seller shall apply to the sale to Buyer of all goods (including AEDs oxygen, first-aid kits and other goods) and services (including training, consultation, maintenance and other services) purchased hereunder Any amendment, waiver or other alteration to these terms and conditions shall be effective only if made in writing and signed by authorized representatives of both parties

1. Terms and Conditions. This agreement between Buyer and Seller shall apply to the sale to Buyer of all goods (including AEDs, oxygen, first-aid kits and other goods) and services (including training, consultation, maintenance and other services) purchased hereunder. This Agreement sets forth the sole and entire agreement between the parties regarding the sale of goods and services herein and supersedes any contemporaneous oral agreements between them regarding the same. Any alteration to these terms and conditions shall be effective only if made in writing and signed by authorized representatives of both parties. Facsimile signatures shall be effective to bind either Party to the terms hereof

2. Payment, Price & Acceptance. All sales are final and payment for products and services are due upon receipt of invoice, unless otherwise specified on the order. All prices are F.O.B. Shipping Point. Prices do not include, and Buyer shall pay applicable sales tax unless Buyer provides Cardiac Science with a valid tax exemption certificate. Buyer shall pay all freight charges for shipments of goods. Upon Buyer receipt, all goods shall be deemed accepted by Buyer unless Cardiac Science's Order Entry Department is contacted at 1-800-991-5465 within one business day of delivery, specifying the defects or discrepancies in the quality or quantity of goods. All services shall be deemed as accepted upon the performance thereof, unless Buyer provides Cardiac Science notice specifying defects or discrepancies in the quality of such services

3. Training Services. When training has been purchased Cardiac Science shall contact Buyer within 5 business days to initiate the scheduling of training classes and Buyers agrees that training classes shall begin no later than 30 days after the date that Buyer receives delivery of the AED equipment. Buyer understands that Federal or State law may require training prior to AED equipment use. The addition of students, classes or rescheduling of any class requires the prior approval of Cardiac Science. If Buyer cancels a scheduled training class within 10 business days Buyer agrees to pay a 100% cancellation fee

4. Customer Obligations. The customer shall immediately notify Cardiac Science's Customer Service Dept. at 1-800-991-5465 in the event of the following: (a) if equipment has been used for an emergency or is in need of service; (b) if the AED indicates, in any manner (either visually or by sound), that the unit requires service. Buyer agrees not to defeat, disable or circumvent any protection mechanism related to the AED device. Buyer agrees to use the AED(s) covered under this agreement in accordance with the medical direction outlined in Cardiac Science's AED Response Protocol

5. License. Cardiac Science hereby grants Buyer a revocable, non-exclusive, non-transferable license to use the products. Buyer may not copy, modify, decompile, disassemble or reverse engineer or create derivative works based upon any licensed good. Except for the rights expressly granted herein, no right, title or ownership interest in any service, including any copyright, patent, trademark, or other intellectual property or proprietary right therein, is conveyed to Buyer, expressly or by implication

6. Manufacturers Indemnification and Insurance. Cardiac Science will defend, indemnify and hold harmless Buyer, its employees, directors, officers, shareholders, agents, attorneys and representatives from any and all third party claims, demands, suits, or liability arising out of or in connection with (i) the negligence or willful misconduct of Cardiac Science in relation to any goods or services provided by Cardiac Science, and (ii) any infringement or alleged infringement of any third party proprietary intellectual property right arising from the performance of any service by Cardiac Science or relating to any good manufactured by Cardiac Science

I HAVE READ AND AGREE TO CARDIAC SCIENCE'S TERMS AND CONDITIONS.

Authorized Signature:	*Print Name:*	*Title*	*Date:*

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www cardiacscience.com
Nasdaq: CSCX

CARDIAC SCIENCE

POWERHEART®

PURCHASE AGREEMENT

Sales Rep: Daniel Cavazos

Date: November 11, 2005

CUSTOMER BILLING INFORMATION

Company: Brackett ISD
Address 1:
Address 2:
City: Brackettville
State: TX Zip:
COUNTY:
Invoice to: ◉ Corporate Billing Address ○ Individual Locations (provide details)
Payment Term: Payment due upon receipt Specify Payment Terms here if Other
Payment: Check
Mrkt Segment: Schools Lead Source: Referral

Contact Name: Ms. Francine Collins
Title: RN
Phone: 830-563-2491, ext. 182
Fax:
E-mail: francinec@brackett.k12.tx.us
Email Restriction: Restriction Type:
Tax exemption #
P O #
Class ID: End User

CUSTOMER SHIPPING INFORMATION

Company: Brackett ISD
Address 1:
Address 2:
City: Brackettville
State: TX Zip:
COUNTY:
F O B : FACTORY

Contact Name: Ms. Francine Collins
Title: RN
Phone: 830-563-2491, ext. 182
Fax:
E-mail: francinec@brackett.k12.tx.us
Shipping Method:
Freight Collect Account:

EQUIPMENT AND ACCESSORIES

AED Product Description	SKU	List Price	Quantity	Price	Subtotal
Powerheart AED G3 Automatic package with text display: b	9300A-201P	$ 2,495.00	4	$ 1,395.00	$ 5,580.00
AED		$ -			$ -
AED		$ -			$ -
Carrying case for 9300 series AED G3	168-6000-001	$ 99.95	4	$ -	$ -
Defibrillation pads (adult) with two-year shelf life	9131-001	$ 43.95	4	$ -	$ -
Ready Kit for 9300 series AED G3: includes nitrile gloves, r	5550-003	$ 59.95	4	$ -	$ -
Pediatric Defibrillation pads: two year shelf life	9730-002	$ 98.95	4	$ 49.50	$ 198.00
AED wall mount storage case with strobe light alarm	180-2021-001	$ 399.00	3	$ 199.50	$ 598.50
AED Accessories		$ -			$ -
AED Accessories		$ -			$ -
AED Accessories		$ -			$ -
Miscellaneous field					$ -
Response Program Management	**Champion Name:**				
	Champion Phone:				
	Champion Email:				
Response Program Management		$ -			$ -
Response Program Management		$ -			$ -
RPM Accessories		$ -			$ -
RPM Accessories		$ -			$ -
Miscellaneous field					$ -

COMMENTS/CONTRACT NOTES:

Note Package A above includes the PowerHeart G3 AED fully-automatic version with one each: padded carrying case ready kit (scissors, razor, CPR mask, nitrile glove) and an extra set of adult pads/electrodes for $1 395 00 Each AED has a 7 year warranty with a 4-year lithium battery

Subtotal:	$ 6,376.50
Sales Tax:	
Shipping:	$ 145.00
TOTAL	$ 6,521.50

BY SIGNING THIS AGREEMENT, CUSTOMER REPRESENTS THAT THEY ARE AUTHORIZED TO PURCHASE AND AGREES TO CARDIAC SCIENCE TERMS & CONDITIONS.
AEDs are intended for use by or on order of a physician or persons licensed by state law.

Authorized Signature:	*Print Name.*	*Title*	*Date:*

for PAYMENTS Mail to:
Cardiac Science Corp.
Dept. 0587
PO Box 120587
Dallas, TX 75312-0587

FAX TO: (425) 402-2001 Cardiac Science Order Entry
FAX TO: Sales Representative
www.cardiacscience.com
E-mail: CustomerService@cardiacscience.com
Nasdaq: CSCX

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