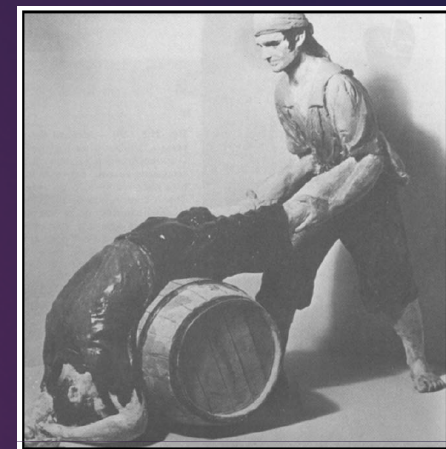
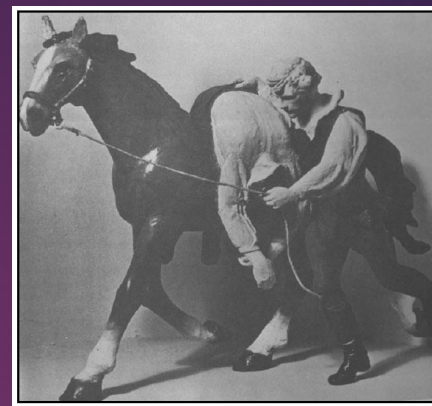


Avanços Tecnológicos no Atendimento a PCR

IVAN PAIVA FILHO



10 a 13 de maio de 2017
Bahia Othon Palace



Figura 15 - Peter Safar

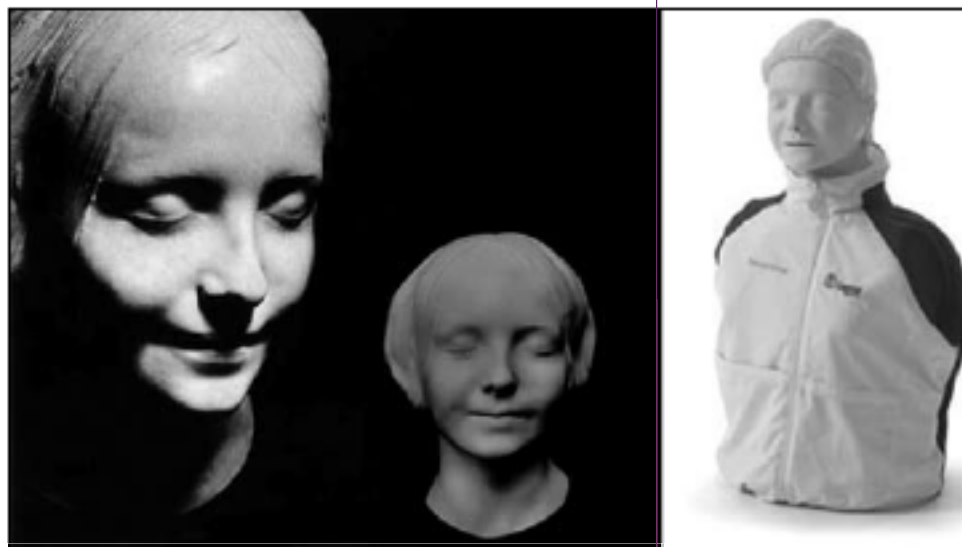


Figura 20 – Beck e o primeiro modelo de desfibrilador⁶¹

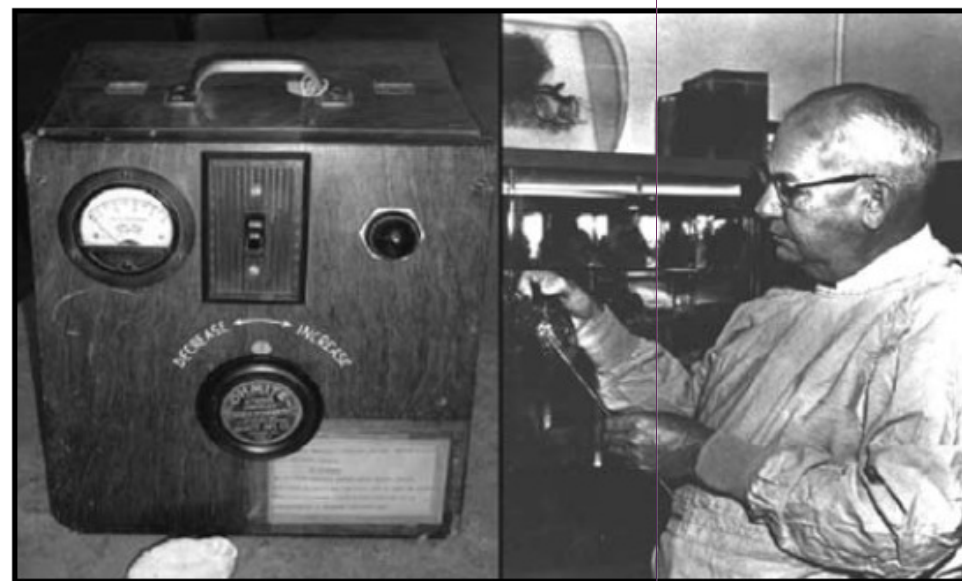


Figura 21 – Paul M. Zoll



Vigilância e prevenção

**Reconhecimento e
acionamento do serviço
médico de emergência**

**RCP imediata de
alta qualidade**

Rápida desfibrilação

**Suporte avançado de vida
e cuidados pós-PCR**



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Clinicians

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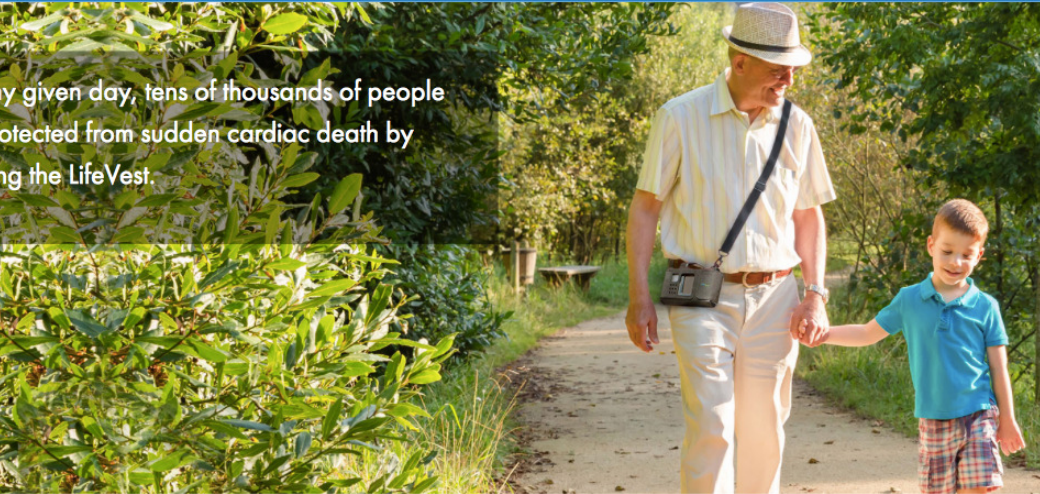
Early detection at your fingertips and theirs.

Engaging patients to improve care.

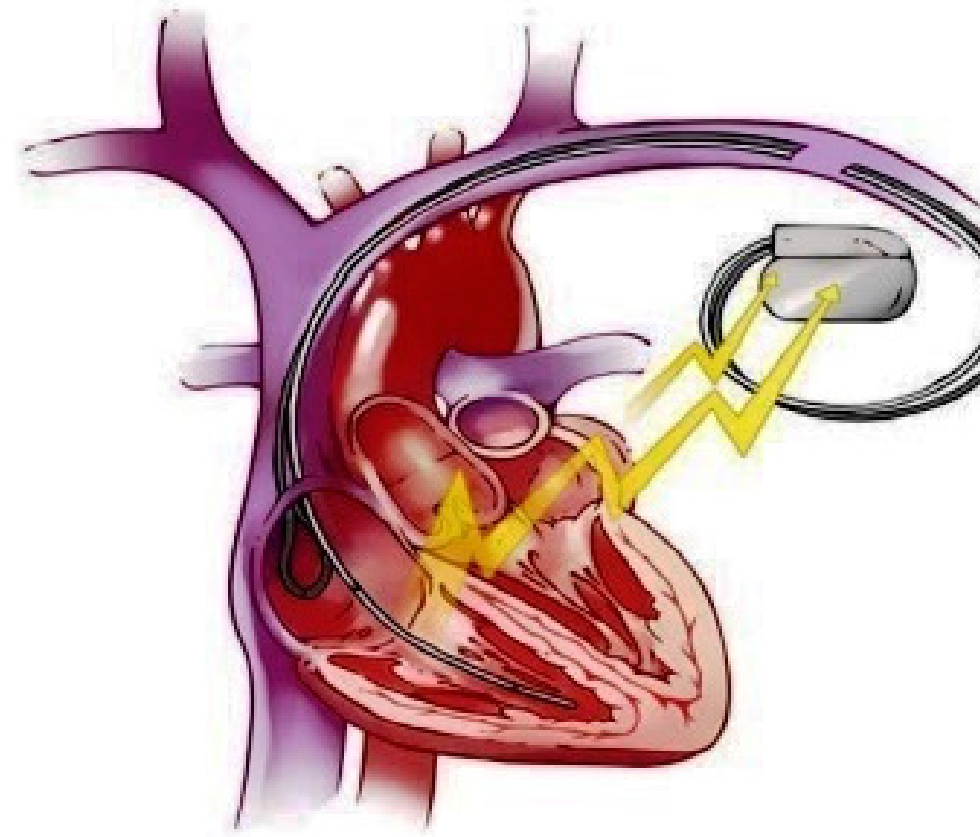
Easy workflow to focus on what matters.



Every given day, tens of thousands of people are protected from sudden cardiac death by wearing the LifeVest.



CDI



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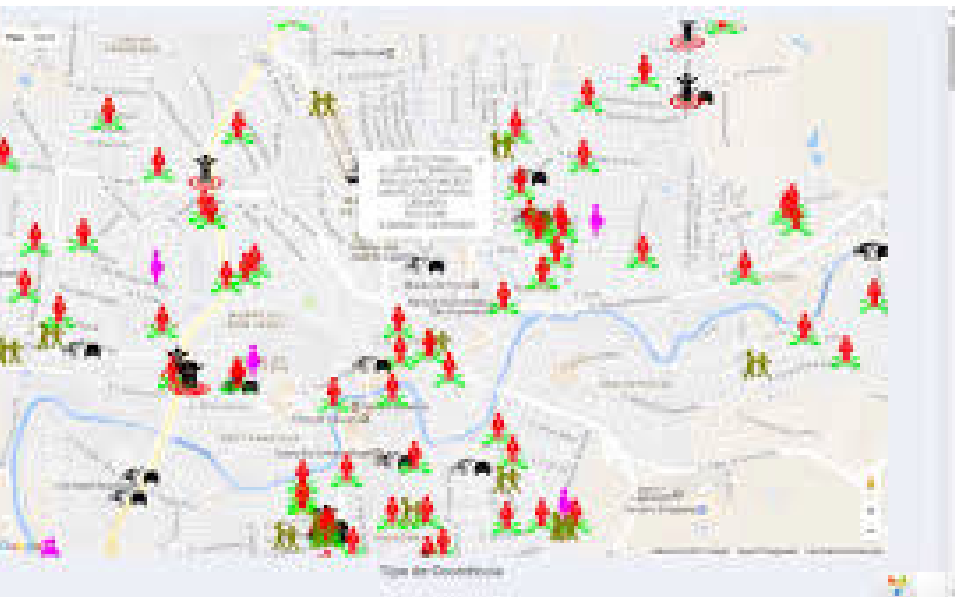
August 2016 Volume 105, Pages 182–187

Next >

A text message alert system for trained volunteers improves out-of-hospital cardiac arrest survival☆

[Ruud W.M. Pijls](#)✉, [Patty J. Nelemans](#), [Braim M. Rahel](#), [Anton P.M. Gorgels](#)





CARUARU Notícias
SAMU Caruaru agora possui aplicativo para ajudar a mapear ocorrências
07/02/2017 Leonardo Santos aplicativo, app, caruaru, Samu, samu caruaru, socorro
f t g+ 1

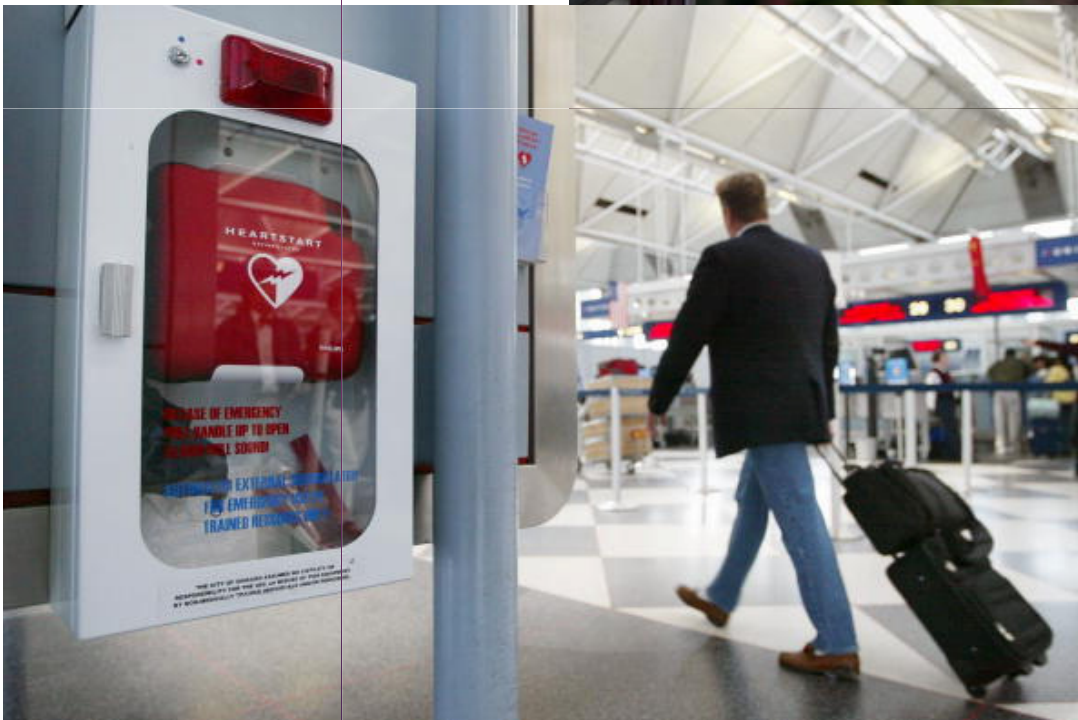
O SAMU de Caruaru saiu na frente e, em parceria com a 4º Geres, está utilizando um aplicativo móvel chamado Geoloc SAMU. Os técnicos e enfermeiros utilizam a ferramenta nas ocorrências solicitadas para um detalhamento do atendimento com informações que, posteriormente, vão auxiliar órgãos como

Samu poderá ser acionado por aplicativo para celular

Usuários do serviço poderão pré-cadastrar seus dados pessoais e sua localização por GPS no aplicativo. Novidade promete agilizar o atendimento de urgência

18/01/2017 - 19h48min | Atualizada em 18/01/2017 - 19h57min Compartilhar f t g+







PROTOCOLO DE ATENDIMENTO A PARADA CARDIORRESPIRATÓRIA (PCR)



METODOLOGIA

Sinais clínicos de PCR:

- perda de consciência;
- ausência de movimentos respiratórios;
- ausência de pulso.

Disponível para consulta em todos os carros de emergência e na intranet, o manual de atendimento à PCR da instituição, atualizado a cada 5 anos, que contém, além dos sinais clínicos de PCR, as recomendações para o atendimento a ser prestado, segundo as recomendações da AHA.

ACIONAMENTO DO CÓDIGO AZUL

Para auxiliar no atendimento à PCR de forma segura, utiliza-se a nomenclatura internacionalmente conhecida como "Código Azul" para as situações de PCR.

O acionamento do Código Azul pode ser feito por meio do sistema telecare e ou via Central de Emergências.

3.2 - ATUAÇÃO DA EQUIPE MULTIPROFISSIONAL NO ACIONAMENTO DO CÓDIGO AZUL

Agente	Atividade
Qualquer colaborador	<ul style="list-style-type: none">• Aciona o sistema telecare (quando disponível).• Liga na central de emergências (ramal 333) e informa local da ocorrência e se paciente é adulto ou criança.• Se em até 2 minutos não chegar ajuda, liga novamente no ramal 333.• Desliga o sistema telecare quando a equipe de atendimento chega.

3.4 - EQUIPE DE ATENDIMENTO À PCR

3.4.1 - COMPOSIÇÃO DO TIME DE RESPOSTA RÁPIDA

O time de resposta rápida das unidades de internação é composto por: médico plantonista; fisioterapeuta; auxiliar de enfermagem trainee.

O time de resposta rápida do pronto atendimento é composto por: médico líder do PA ou médico clínico do PA; enfermeira líder do PA; auxiliar de enfermagem trainee.

3.4.2 - ATRIBUIÇÃO DE CADA PROFISSIONAL NO ATENDIMENTO À PCR

De acordo com a orientação da American Heart Association (AHA), a equipe de atendimento deve estar disposta a dispor de cinco elementos assim distribuídos:

- um na ventilação;
- um na compressão torácica;

CPR-D-padz



One Electrode Pad is Easier than Two

OneStep Resuscitation Electrodes

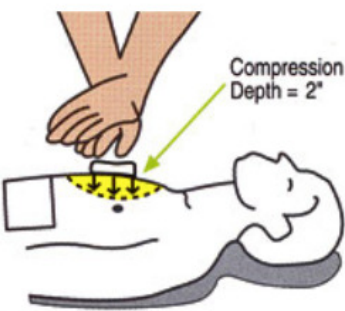


Electrodes That Do More than Deliver a Shock

hand placement as the landm
also lasts five years-the longes

Real CPR Help

Inadequate compression rate
compressions per minute and
effectively move blood and ox



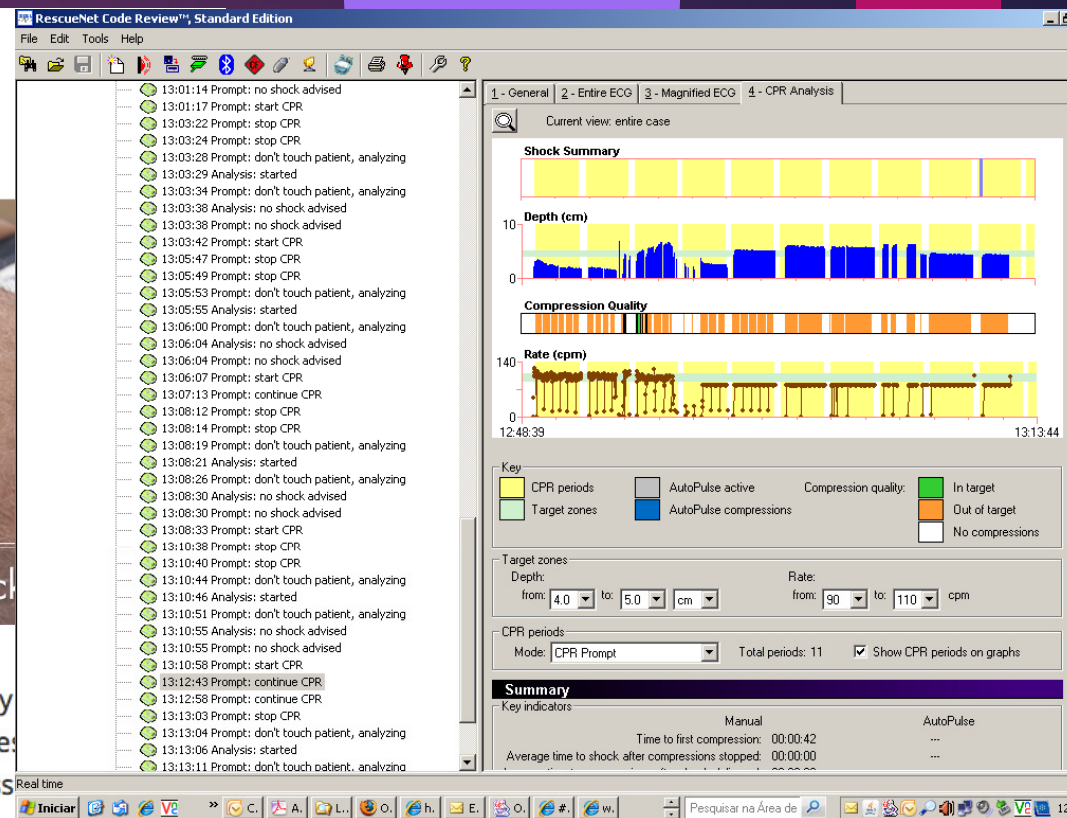
The ZOLL AED Plus® converts compression data instantaneously
CPR-D-padz and provides an adaptive metronome to help the res
proper rate and depth, saying "Push harder" or "Good compress

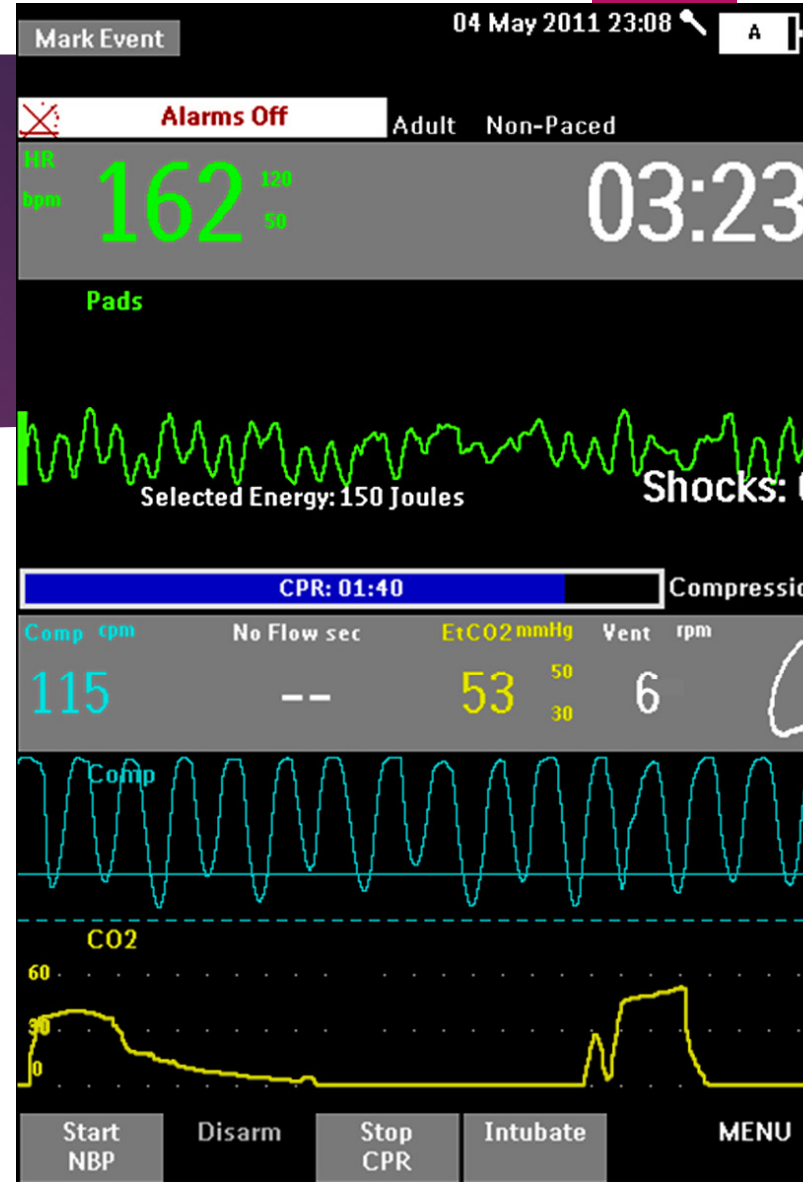
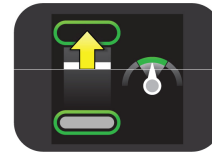
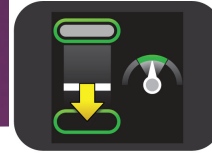
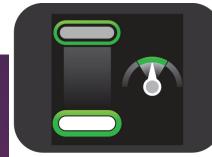
Pro-padz

Optimized for procedures in the electrophysiology lab, catheterization lab, OR, radiology suites, ED, and CCU

Cardiology Specialty Multi-Function Electrodes, with a low viscosity gel that provides the best skin coupling, are designed to virtually eliminate dermal damage in special procedure areas of the hospital.

Radiolucent Multi-Function Electrodes are designed to provide an unobstructed view of the coronary arteries during x-ray studies. Available in solid





Q-CPR Report Card

Event Review Pro / EMS 4.1

Case ID:	20091029203316	Patient ID:	111000444
Case date:	10/16/2009	First name:	
Device:	HeartStart MRx: US00330450	Last name:	OHFOUR NO TPI

Episode Summary:

Episode start time	10/16/2009 2:14:15 PM
Total length of episode	00:06:23.1
Total number of shocks	2
Time device on	10/16/2009 2:14:15 PM
Time device off	10/16/2009 2:20:36 PM
Total time excluded from statistical calculations	00:00:00.0

Compression Data:

Total number of compressions	83
Total compressions with adequate depth	82
Total compressions with insufficient depth	1
Total compressions with incomplete release	0
Average compression rate [/min] [90-120]	98
Average compression depth [mm] [38-51]	53
Adequate depth [%]	99
Average compression counts [/min]	13

QCPRTM
by Laerdal

CPR Measurement
and Feedback Tool



available on the
Philips HeartStart MRx
monitor/defibrillator

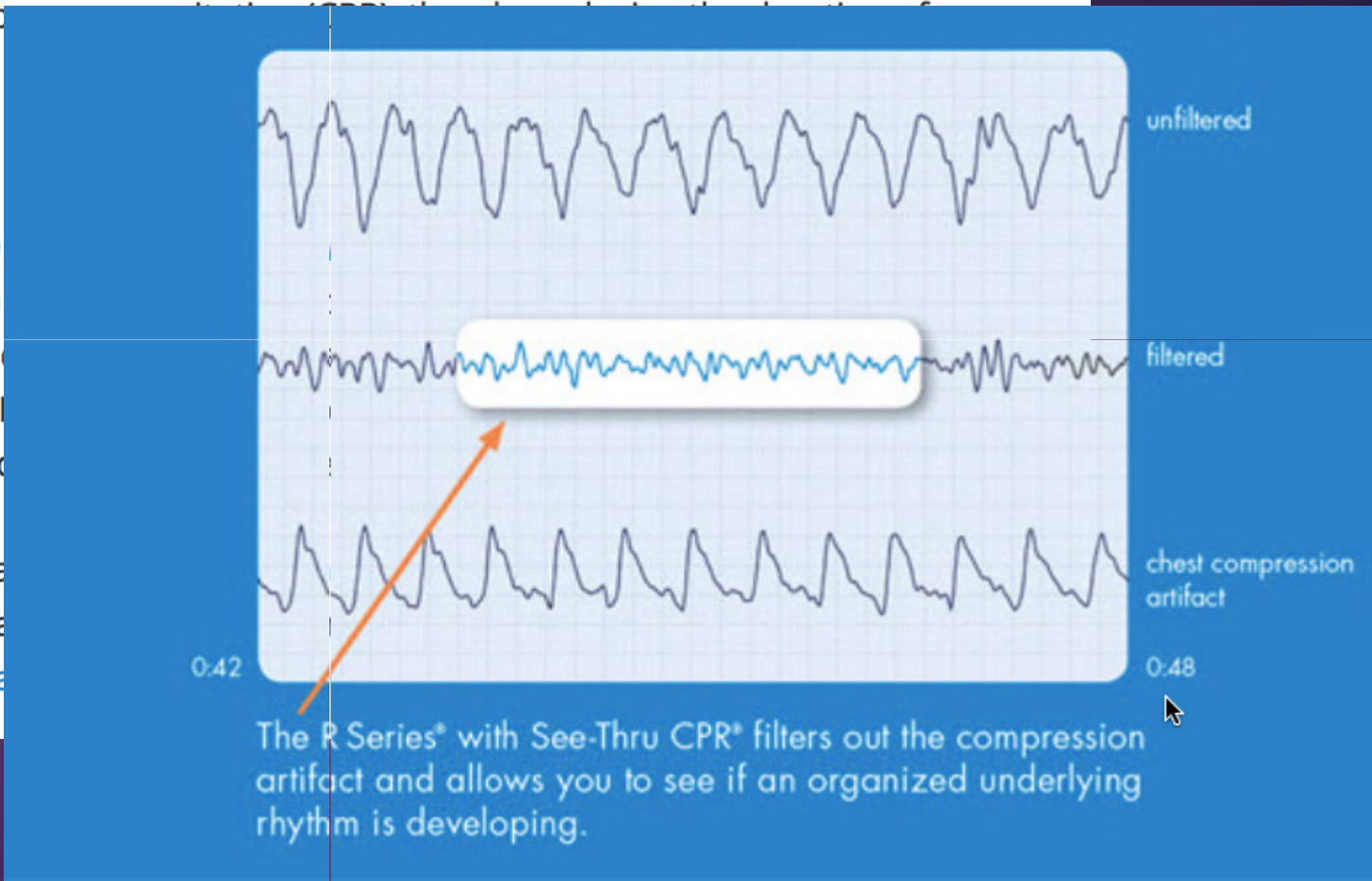
See-Thru CPR

See-Thru CPR® technology **filters out compression artifact** on the ECG monitor so that rescuers can see the underlying heart rhythm during cardiopulmonary bypasses in compressions.

Why "Seeing" CPR Matters

A key recommendation of the *2015 American Heart Association Guidelines for CPR and Emergency Cardiovascular Care* is to minimize interruptions. One reason for interruptions is stopping CPR to check the rhythm. With ZOLL's patented See-Thru CPR technology, a rhythm check can be performed for a rhythm check—a filtered signal can be seen during CPR.

This exclusive ZOLL **defibrillator** technology allows rescuers to see the underlying heart rhythm while continuous CPR is in progress and to analyze or stop **cardiopulmonary resuscitation**.



The R Series® with See-Thru CPR® filters out the compression artifact and allows you to see if an organized underlying rhythm is developing.

Rhythm analysis and charging during chest compressions reduces compression pause time.

Partridge R¹, Tan Q², Silver A², Riley M², Geheb F², Raymond R³.

+ Author information

Abstract

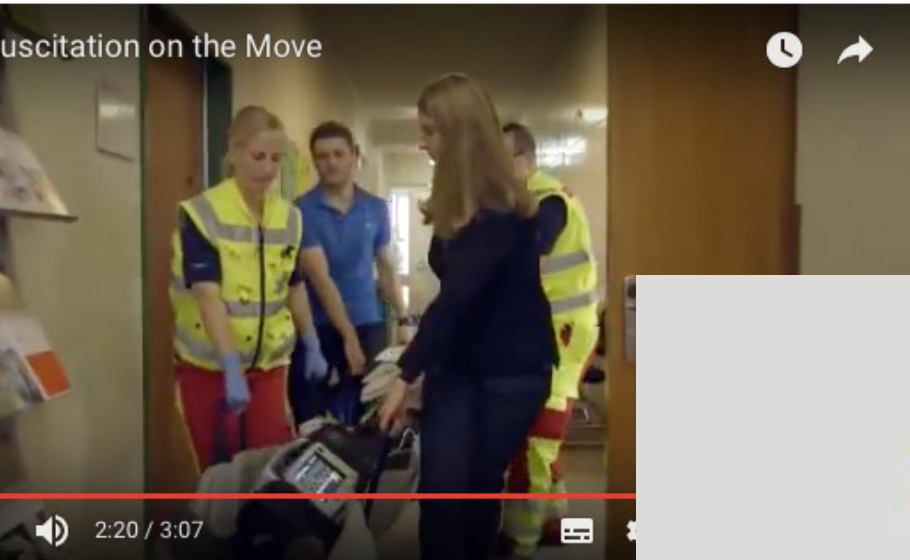
PURPOSE: Prolonged chest compression interruptions immediately preceding and following a defibrillation shock reduce shock success and survival after cardiac arrest. We tested the hypothesis that compression pauses would be shorter using an AED equipped with a new Analysis during Compressions with Fast Reconfirmation (ADC-FR) technology, which features automated rhythm analysis and charging during compressions with brief reconfirmation analysis during compression pause, compared with standard AED mode.

METHODS: BLS-certified emergency medical technicians (EMTs) worked in pairs and performed two trials of simulated cardiac resuscitation with a chest compression sensing X Series defibrillator (ZOLL Medical). Each pair was randomized to perform a trial of eight 2-min compression intervals (randomly assigned to receive four shockable and four non-shockable rhythms) with the defibrillator in standard AED mode and another trial in ADC-FR mode. Subjects were advised to follow defibrillator prompts, defibrillate if "shock advised," and switch compressors every two intervals. Compression quality data were reviewed using RescueNet Code Review (ZOLL Medical) and analyzed using paired t-tests.

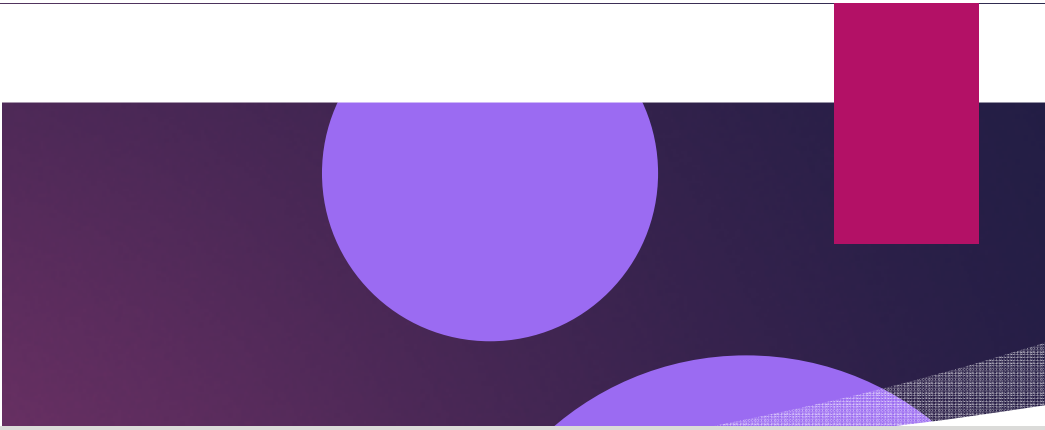
RESULTS: Thirty-two EMT-basic prehospital providers (59% male; median 25 years age [IQR 22-27]) participated in the study. End of interval compression interruptions were significantly reduced with ADC-FR vs. AED mode ($p < 0.001$). For shockable rhythms, pre-shock pause was reduced significantly with ADC-FR compared with AED use (7.35 ± 0.16 s vs. 12.0 ± 0.22 s, $p < 0.001$) whereas post-shock pause was similar (2.08 ± 0.14 s vs. 1.77 ± 0.14 s, $p = 0.1$).

CONCLUSION: Chest compression interruptions associated with rhythm analysis and charging are reduced with use of a novel defibrillator technology, ADC-FR, which features automated rhythm analysis and charging during compressions.

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LUCAS™ CPR

Keeping the flow up

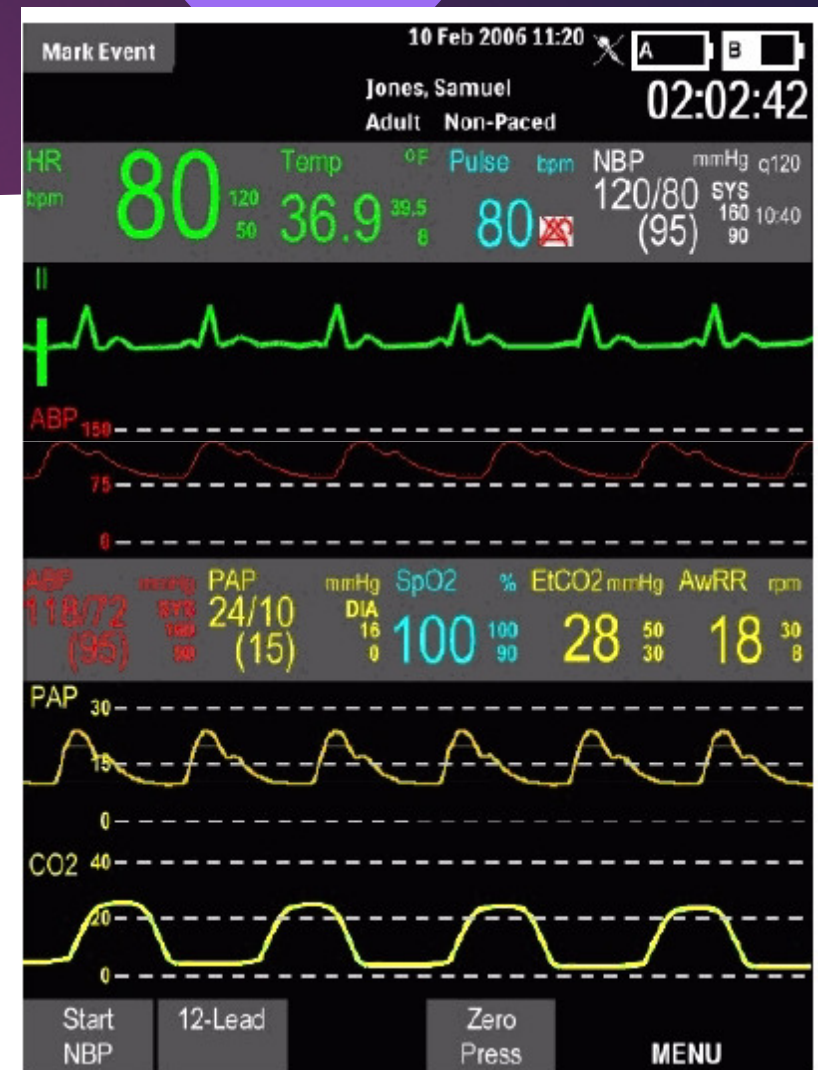
In order to be able to save the lives of sudden cardiac arrest patients and avoid neurological damage, a steady supply of oxygen to the heart and brain is necessitated. Life-sustaining circulation can be created through effective and uninterrupted chest compressions. Performing **manual chest compressions of high quality is both difficult and tiring, and impossible in certain situations.** The quality varies depending on who provides CPR and deteriorates quickly after only one, two minutes.



LUCAS 3



Capnografia / Capnometria





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Should we rescue Out-of-Hospital Cardiac Arrest with ECMO?

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Université Pierre et Marie Curie, Paris 6

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Potential Candidates for a Structured Canadian ECPR Program for Out-of-Hospital Cardiac Arrest.

Grunau B¹, Scheuermeyer FX¹, Stub D¹, Boone RH¹, Finkler J¹, Pennington S², Carriere SA¹, Cheung A¹, MacRedmond R¹, Bashir J¹, Christenson J¹.

Author information

Abstract

OBJECTIVE: Extracorporeal cardiopulmonary resuscitation (ECPR), while resource-intensive, may improve outcomes in selected patients with refractory out-of-hospital cardiac arrest (OHCA). We sought to identify patients who fulfilled a set of ECPR criteria in order to estimate: (1) the proportion of patients with refractory cardiac arrest who may have benefited from ECPR; and (2) the outcomes achieved with conventional resuscitation.

METHODS: We performed a secondary analysis from a 52-month prospective registry of consecutive adult non-traumatic OHCA cases from a single urban Canadian health region serving one million patients. We developed a hypothetical ECPR-eligible cohort including adult patients <60 years of age with a witnessed OHCA, and either bystander CPR or EMS arrival within five minutes. The primary outcome was the proportion of ECPR-eligible patients who had refractory cardiac arrest, defined as termination of resuscitation pre-hospital or in the ED. The secondary outcome was the proportion of ECPR-eligible patients who survived to hospital discharge.

RESULTS: Of 1,644 EMS-treated OHCA, 168 (10.2%) fulfilled our ECPR criteria. Overall, 54/1644 (3.3%; 95% CI 2.4%-4.1%) who were ECPR-eligible had refractory cardiac arrest. Of ECPR-eligible patients, 114/168 (68%, 95% CI 61%-75%) survived to hospital admission and 70/168 (42%; 95% CI 34-49%) survived to hospital discharge.

CONCLUSION: In our region, approximately 10% of EMS-treated cases of OHCA fulfilled our ECPR criteria, and approximately one-third of these (an average of 12 patients per year) were refractory to conventional resuscitation. The integration of an ECPR program into an existing high-performing system of care may have a small but clinically important effect on patient outcomes.

KEYWORDS: ECMO; ECPR; cardiac arrest; cardiopulmonary resuscitation

Supportive technology in the resuscitation of out-of-hospital cardiac arrest patients.

Youngquist ST¹, Scheppke KA, Pepe PE.

Author information

Abstract

PURPOSE OF REVIEW: To discuss the increasing value of technological tools to assess and augment the quality of cardiopulmonary resuscitation (CPR) and, in turn, improve chances of surviving out-of-hospital cardiac arrest (OHCA).

RECENT FINDINGS: After decades of disappointing survival rates, various emergency medical services systems worldwide are now seeing a steady rise in OHCA survival rates guided by newly identified 'sweet spots' for chest compression rate and chest compression depth, aided by monitoring for unnecessary pauses in chest compressions as well as methods to better ensure full-chest recoil after compressions. Quality-assurance programs facilitated by new technologies that monitor chest compression rate, chest compression depth, and/or frequent pauses have been shown to improve the quality of CPR. Further aided by other technologies that enhance flow, better identify the best location for hand placement, the future outlook for better survival is even more promising, particularly with the potential use of another technology - extracorporeal membrane oxygenation for OHCA.

SUMMARY: After 5 decades of focus on manual chest compressions for CPR, new technologies for monitoring, guiding, and enhancing CPR performance may enhance outcomes from OHCA significantly in the coming years.

Perspectivas

- ▶ Prevenção e treinamento
- ▶ Identificação e acionamento e RCP precoces
- ▶ Compressões torácicas efetivas minimizando o tempo sem compressões
- ▶ Desfibrilação precoce
- ▶ Ressuscitação cardiopulmonar extra corpórea para pacientes com PCR refratária