

HASTANE ÖNCESİ KOORDİNASYON

Yrd. Doç. Dr. M . Murat Oktay



Hastane Öncesi Acil Yardım Hizmeti



Acil tıbbi hizmetin **“Yer ve Zaman”** kısıtlaması
olmaksızın hastane dışında uygulanmasıdır.

Temel Hizmet Modelleri

1-Franko-German Model (Kal tedavi et)

“Hastane koşullarının olay yerine götürülmesi”

Doktor ve ATT asli ambulans personelidir.

2-Anglo-Amerikan Model (Kap ve götür)

“Olay yerinde mümkün olduğunca az zaman kaybet”

Paramedik ve yardımcı sağlık personeli hizmet verir.

3- Karma Model

Ülkemizde uygulanmaktadır.

Tüm Bu Sistemlerin Temel Amacı



Yaşamsal girişimleri zaman bakımından avantajlı kılabilme.

American Heart Association (AHA) Kardiyo pulmoner arrest vakalarda bu amaçla **"Chain of Survival"** tanımlamıştır.

American Heart Association Chain of Survival

IHCA



OHCA



Hastane dışı kardiyopulmoner arrestlerde



Yaşam zincirinin erken başlatılmaması düşük sağkalım oranlarıyla ilişkilidir.



HHS Public Access

Author manuscript

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Out-of-hospital cardiac arrest survival improving over time: Results from the Resuscitation Outcomes Consortium (ROC)*

Mohamud R. Daya^{a,*}, Robert H. Schmicker^b, Dana M. Zive^a, Thomas D. Rea^c, Graham Nichol^{b,c}, Jason E. Buick^d, Steven Brooks^e, Jim Christenson^f, Renee MacPhee^g, Alan Craig^d, Jon C. Rittenberger^h, Daniel P. Davisⁱ, Susanne May^b, Jane Wiggintonⁱ, Henry Wang^k, and for the Resuscitation Outcomes Consortium Investigators

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Halktan Kurtarıcı

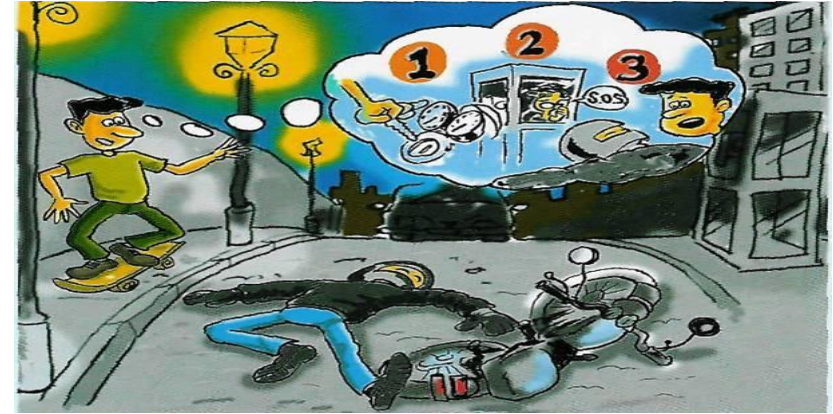
Bilinçli bir halktan kurtarıcı;

Arrestı erken tanır.

Erken bildirimde bulunur.

Erken göğüs basısı yapar.

Erken defibrilasyon uygular.



Arresti erken tanıma güçlükleri



- Yanıtsızlığın değerlendirilmesi ?
- Halktan kurtarıcının nabız kontrolü önerilmez!
- Halktan kurtarıcının Agonal solunumun tanınması güçtür...
- Kısa jeneralize nöbet VF 'de ilk gösterge olabilir !

Arresti erken tanıma güçlükleri



Erken Göğüs Basısı

AHA Science Advisory

Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest

A Science Advisory for the Public From the American Heart Association Emergency Cardiovascular Care Committee

Michael R. Sayre, MD; Robert A. Berg, MD, FAHA; Diana M. Cave, RN, MSN;
Richard L. Page, MD, FAHA; Jerald Potts, PhD, FAHA; Roger D. White, MD

Bystanders who witness the sudden collapse of an adult should activate the emergency medical services (EMS) system and provide high-quality chest compressions by pushing hard and fast in the middle of the victim's chest, with minimal interruptions. This recommendation is based on evaluation of recent scientific studies and consensus of the American Heart Association Emergency Cardiovascular Care (ECC) Committee. This science advisory is published to amend and clarify the "2005 American Heart Association (AHA) Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC)" for bystanders who witness an adult out-of-hospital sudden cardiac arrest.

Ten years ago, the AHA commissioned a working group of resuscitation scientists to reappraise the Association's inclusion of ventilations in the recommended sequence for bystander cardiopulmonary resuscitation (CPR). The working group evaluated peer-reviewed reports of laboratory and human research and summarized their findings in a 1997 statement.¹ The key conclusion of that statement was that "Current guidelines for performing mouth-to-mouth ventilation during CPR should not be changed at this time."¹

In the animal studies cited in the 1997 statement, when ventricular fibrillation arrest was of short (under 6 minutes) duration, the addition of rescue ventilations to chest compressions did not improve outcome compared with chest compressions alone (LOE 6*).²⁻⁸ Analysis of human data from a national out-of-hospital CPR registry documented no survival advantage to ventilations plus compressions compared with

the provision of chest compressions alone during bystander resuscitation (LOE 4*).^{9,10} Although these studies were not deemed sufficient to justify the elimination of ventilations from the bystander CPR sequence, the 1997 statement strongly encouraged further research that would focus on "...the timing, rate, and depth [of ventilations] as well as conditions under which respiratory assistance should be used." The statement also recommended "...more research on real-world obstacles to learning, remembering, and actually performing CPR..." In addition, the statement contained a secondary conclusion that "...provision of chest compression without mouth-to-mouth ventilation is far better than not attempting resuscitation at all."¹

The AHA's recent Guidelines for CPR and ECC have reflected the primary and secondary conclusions of the 1997 statement: "Laypersons should be encouraged to do compression-only CPR if they are unable or unwilling to provide rescue breaths (Class IIa), although the best method of CPR is compressions coordinated with ventilations."^{11,12} In addition, the Guidelines have recommended compression-only CPR for dispatcher-assisted instructions for untrained bystanders.^{11,12}

The "2005 AHA Guidelines for CPR and ECC" noted the need to increase the prevalence and quality of bystander CPR. The Guidelines and training materials emphasized the importance of the delivery of high-quality chest compressions, that is, compressions of adequate rate and depth with full-chest recoil and minimal interruptions.¹² To limit the frequency of

- Yalnızca göğüs basısının geleneksel CPR ile kıyaslandığında **daha az efektif olmadığı** gösterilmiştir .
- Erken CPR'a ek olarak hastane dışında yapılan **erken defibrilasyonun** arrest vakaların yaşam şansını **iki kattan daha fazla arttırdığı** ortaya konmuş.

Erken defibrilasyon

Part 3: Adult Basic Life Support and Automated External Defibrillation

2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations

Andrew H. Travers, Co-Chair*; Gavin D. Perkins, Co-Chair*; Robert A. Berg; Maaret Castrén; Julie Considine; Raffo Escalante; Raul J. Gazmuri; Rudolph W. Koster; Swee Han Lim; Kevin J. Nation; Theresa M. Olasveengen; Tetsuya Sakamoto; Michael R. Sayre; Alfredo Sierra; Michael A. Smyth; David Stanton; Christian Vaillancourt; on behalf of the Basic Life Support Chapter Collaborators

Introduction

This Part of the 2015 International Consensus on Cardiopulmonary Resuscitation (CPR) and Emergency Cardiovascular Care (ECC) Science With Treatment Recommendations (CoSTR) presents the consensus on science and treatment recommendations for adult basic life support (BLS) and automated external defibrillation (AED). After the publication of the 2010 CoSTR, the Adult BLS Task Force developed review questions in PICO (population, intervention, comparator, outcome) format.¹ This resulted in the generation of 36 PICO questions for systematic reviews. The task force discussed the topics and then voted to prioritize the most important questions to be tackled in 2015. From the pool of 36 questions, 14 were rated low priority and were deferred from this round of evidence evaluation. Two new questions were submitted by task force members, and 1 was submitted via the public portal. Two of these (BLS 856 and BLS 891) were taken forward for evidence review. The third question (368: Foreign-Body Airway Obstruction) was deferred after a preliminary review of the evidence failed to identify compelling evidence that would alter the treatment recommendations made when the topic was last reviewed in 2005.²

Each task force performed a systematic review using detailed inclusion and exclusion criteria, based on the recommendations of the Institute of Medicine of the National Academies.³ With the assistance of information specialists, a detailed search for relevant articles was performed in each of 3 online databases (PubMed, Embase, and the Cochrane Library).

Reviewers were unable to identify any relevant evidence for 3 questions (BLS 811, BLS 373, and BLS 348), and the evidence review was not completed in time for a further question (BLS 370). A revised PICO question was developed for

the opioid question (BLS 891). The task force reviewed 23 PICO questions for the 2015 consensus on science and treatment recommendations, including BLS 811, BLS 373, and BLS 348. The PICO flow is summarized in Figure 1.

Using the methodological approach proposed by the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) Working Group,⁴ the reviewers for each question created a reconciled risk-of-bias assessment for each of the included studies, using state-of-the-art tools: Cochrane for randomized controlled trials (RCTs),⁵ Quality Assessment of Diagnostic Accuracy Studies (QUADAS)-2 for studies of diagnostic accuracy,⁶ and GRADE for observational studies that inform both therapy and prognosis questions.⁷ GRADE evidence profile tables⁸ were then created to facilitate an evaluation of the evidence in support of each of the critical and important outcomes. Critical outcomes were defined as neurologically favorable outcome (level 9), survival (level 8), and return of spontaneous circulation (ROSC; level 7). Given the heterogeneity of time points evaluated in the studies related to BLS/AED, time intervals were pooled across outcomes. For neurologic outcome and survival, we considered the outcomes at discharge, 30 days, 60 days, 180 days, and/or 1 year. Important outcomes included physiologic and process end points.

The quality of the evidence (or confidence in the estimate of the effect) was categorized as high, moderate, low, or very low,⁹ based on the study methodologies and the 5 core GRADE domains of risk of bias, inconsistency, indirectness, imprecision, and other considerations (including publication bias).¹⁰ These evidence profile tables were then used to create a written summary of evidence for each outcome



182119 hasta üzerinde yapılan 3 gözlemsel çalışmada **PAD (Pubic-Access Defibrillation)** uygulanan programlarla, uygulanmayan program karşılaştırılmış.

PAD'li programın 30 günlük yaşam ve nörolojik sekellerin daha kabul edilebilir olduğu gösterilmiştir.

Erken defibrilasyon

- Kamuya açık alanlarda PAD bulundurulması Class I öneri düzeyindedir.

AHA 2015

Eğitim Şart

CPR eğitimi okul eğitiminde yer almalı.
Medya yönlendirmeleri kullanılmalı .
Muhtemel kurtarıcılar eğitilmeli.
(öncelikli olarak aile üyeleri ve
bakıcılar)



Eğitim Şart

Yüksek risk altında olan kitlesel topluluklara CPR eğitimi verilmeli .

Büyük kamusal mekanlarda CPR eğitimli kurtarıcılar bulunmalı.

Tüm bu programlar, göğüs basısı için bir beklenti kültürü kurmaya yardımcı olmalı.

AHA 2015

Sosyal Medya

Olay yerine yakın, CPR uygulayabilen ve istekli kurtarıcıları davet eden sosyal medya teknolojilerine dahil olma, makul bir uygulama biçimi olabilir.



(Class IIb) **AHA- 2015**

Sosyal Medya

- Sosyal medya kullanımı konusunda kanıtlar sınırlı, hastane dışı kardiyak arrestte yaşam oranını değiştirmez.
- **Görgü tanıklı CPR'in uygulama oranlarını arttırdığı** belirtilmiştir.

AHA- 2015

Sosyal Medya



ELSEVIER

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Clinical paper

Local lay rescuers with AEDs, alerted by text messages, contribute to early defibrillation in a Dutch out-of-hospital cardiac arrest dispatch system[☆]



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ABSTRACT

Aim: Public access defibrillation rarely reaches out-of-hospital cardiac arrest (OHCA) patients in residential areas. We developed a text message (TM) alert system, dispatching local lay rescuers (TM-responders). We analyzed the functioning of this system, focusing on response times and early defibrillation in relation to other responders.

Methods: In July 2013, 14 112 TM-responders and 1550 automated external defibrillators (AEDs) were registered in a database residing with the dispatch center of two regions of the Netherlands. TM-responders living <1000 m radius of the patient received a TM to go to the patient directly, or were directed to retrieve an AED first. We analyzed 1536 OHCA patients where a defibrillator was connected from February 2010 until July 2013. Electrocardiograms from all defibrillators were analyzed for connection and defibrillation time.

Results: Of all OHCA, the dispatcher activated the TM-alert system 893 times (58.1%). In 850 cases ≥1 TM-responder received a TM-alert and in 738 cases ≥1 AED was available. A TM-responder AED was connected in 184 of all OHCA (12.0%), corresponding with 23.1% of all connected AEDs. Of all used TM-responder AEDs, 87.5% were used in residential areas, compared to 71.6% of all other defibrillators. TM-responders with AEDs defibrillated mean 2:39 (min:sec) earlier compared to emergency medical services (median interval 8:00 [25–75th percentile, 6:35–9:49] vs. 10:39 [25–75th percentile, 8:18–13:23]; $P < 0.001$). Of all shocking TM-responder AEDs, 10.5% delivered a shock ≤6 min after call.

Conclusion: A TM-alert system that includes local lay rescuers and AEDs contributes to earlier defibrillation



ELSEVIER

Contents lists available at SciVerse ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Clinical Paper

Mobile phone technology identifies and recruits trained citizens to perform CPR on out-of-hospital cardiac arrest victims prior to ambulance arrival[☆]

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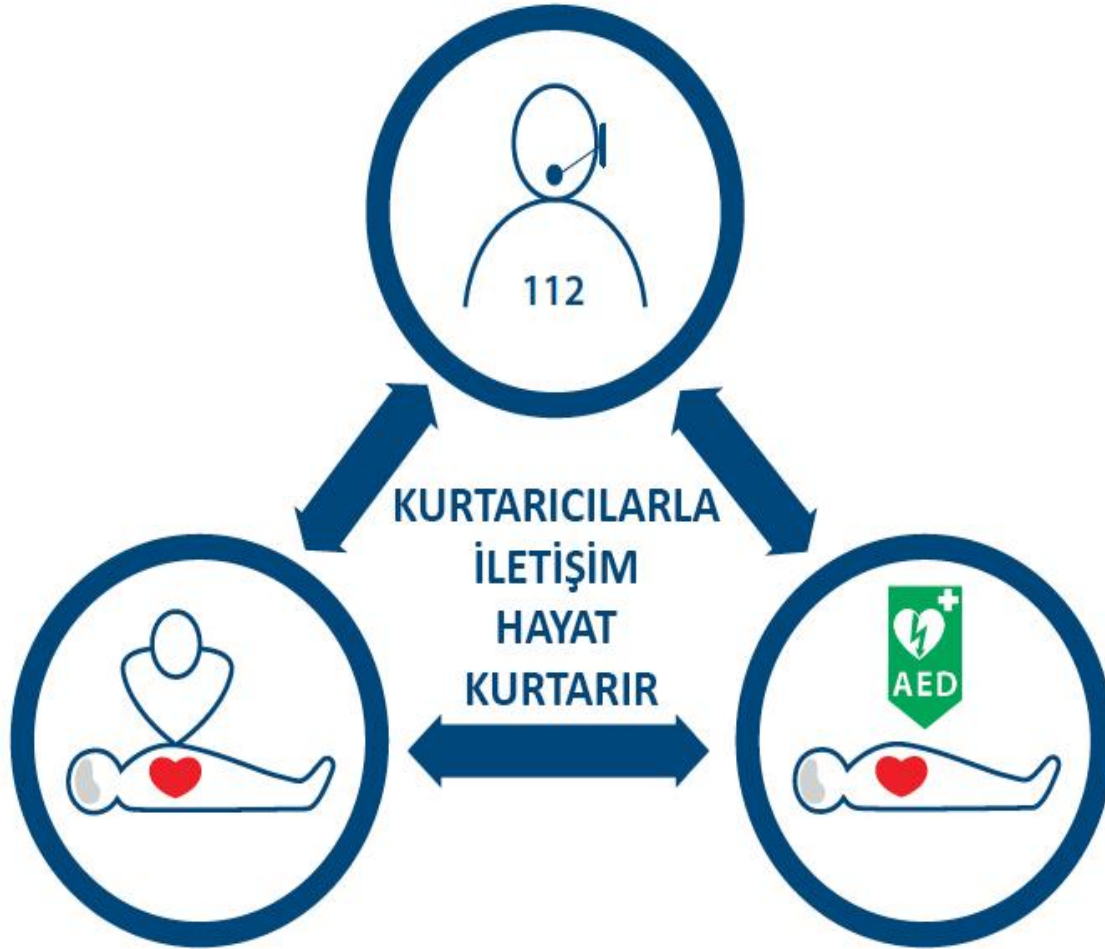
ABSTRACT

Aim: In a two-part study, evaluate a new concept where mobile phone technology is used to dispatch lay responders to nearby out-of-hospital cardiac arrests (OHCAs).

Methods: Mobile phone positioning systems (MPS) can geographically locate selected mobile phone users at any given moment. A mobile phone service using MPS was developed and named Mobile Life Saver (MLS). **Simulation study:** 25 volunteers named mobile responders (MRs) were connected to MLS. Ambulance time intervals from 22 consecutive OHCAs in 2005 were used as controls. The MRs randomly moved in Stockholm city centre and were dispatched to simulated OHCAs (identical to controls) if they were within a 350 m distance. **Real life study:** during 25 weeks 1271–1801 MRs trained in CPR were connected to MLS. MLS was activated at the dispatch centre in parallel with ambulance dispatch when an OHCA was suspected. The MRs were dispatched if they were within 500 m from the suspected OHCA.

Results: **Simulation study:** mean response time for the MRs compared to historical ambulance time intervals was reduced by 2 min 20 s (44%), $p < 0.001$, (95% CI, 1 min 5 s – 3 min 35 s). The MRs reached the simulated OHCA prior to the historical control in 72% of cases. **Real life study:** the MLS was triggered 92 times. In 45% of all suspected and in 56% of all true OHCAs the MRs arrived prior to ambulance. CPR was performed by MRs in 17% of all true OHCAs and in 30% of all true OHCAs if MRs arrived prior to ambulance. **Conclusion:** Mobile phone technology can be used to identify and recruit nearby CPR-trained citizens to OHCAs for bystander CPR prior to ambulance arrival.

ÇAĞRI MERKEZİNİN AKTİVASYONU



Çağrı Karşılama Yöneticisi (Dispatcher)

- İyi bir iletişimci olmalı
- Aksansız konuşmalı
- Mümkünse **yerel dilleri ve yabancı dilleri** konuşabilmeli
- İyi bir kriz yöneticisi olmalı
- İletişim teknolojilerine hakim olmalı
- Acil tıbbi algoritmalara hakim olmalı
- Yasal mevzuata hakim olmalı



Olay Yeri Yönetimi

- Olay yerinde ne olduğunu anlamalı.
- (Travma?Trafik kazası?Ölü?Yaralı? İtfaiye ? Polis?)
- Halktan kurtarıcı ve mağdurun stresini yönetmeli.
- Basit komutlarla olay yerinin risklerini yönetmeli.

Trafik kazası ise yol güvenlik levhalarının yerleştirilmesi

Yangın, gaz kaçağı durumunda olay yerinden tahliyelerin yönetilmesi

Kanamalı hastalarda basit kompresyonların yönetilmesi

Hastane dışı kardiyopulmoner arrest yönetiminde dispecharın temel hedefi



Halktan kurtarıcı eğitimsiz ise ;

Basit manevralarla **solunum yolunun kontrolünün**

Sağlanması,

Zaman kaybetmeden “**Elle Göğüs Basısı**”nın

başlatılmasıdır.

Dispechar Destekli CPR



ELSEVIER

Contents lists available at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Clinical Paper

Implementation of the ALERT algorithm, a new dispatcher-assisted telephone cardiopulmonary resuscitation protocol, in non-Advanced Medical Priority Dispatch System (AMPDS) Emergency Medical Services centres



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Dispechar'ın tanımlanan protokolleri kullanarak kardiyak arresti tanıma oranını artırdığı ortaya konmuştur.

Acil çağrı merkezi yukarıdan bakan bir göz gibidir

- En yakın acil servisler ve doluluk oranları?
- En yakın yoğun bakım üniteleri ve doluluk oranları?
- Yanık merkezi ,travma merkezi ve stroke merkezi gibi özel merkezlere yönlendirme gerekli mi?

Özelikli durumlarda sevk organizasyonu

- Akut Miyokard enfraktüsü
En yakın / uygun anjiyografi laboratuvarı
- Düşme, trafik kazası
En yakın / uygun travma merkezi
- SVO-Strok
En yakın / uygun stroke merkezi

AHA-2015

Özelikli durumlarda sevk organizasyonu



Search this site ▼

- Transport to Specialized Cardiac Arrest Centers
- The 2015 ILCOR systematic review addressed whether transport of OHCA patients by EMS directly to a specialist cardiac arrest center improves outcomes.

You have reached the ILCOR 2016-2017 PICO categorization and prioritization public comment page. If you have reached this page in error or if you wish to go back to the ILCOR home page, please click here: <http://ilcor.org>

ILCOR Continuous Evidence Evaluation

In 2015, the International Liaison Committee on Resuscitation (ILCOR) announced that "over the next few years...ILCOR moves toward a more continuous evaluation of the resuscitation science."

True to our word, that time has come.

ILCOR has now begun the continuous evidence evaluation (CEE) process. Our Task Forces are reviewing the PICO questions from the 2005, 2010 and 2015 International Consensus Conferences. These are PICO questions previously addressed by ILCOR for which there are existing consensus on science and treatment recommendations. Using some guiding questions (*Is there new evidence likely to alter the strength or direction of existing recommendations? Is the intervention being evaluated in such wide use that an*

Olay Yerinde CPR'a Başlama Kararı

Kesin ölüm bulguları yoksa CPR'a başla.....



Kaliteli CPR

- Öncelik her zaman **kaliteli göğüs basısıdır.**
- Entübasyona odaklanılmamalı
- Hava yolunun güvenliği sağlanmalı
- Göğüs basısına asla ara verilmemeli

Transfer Sırasında CPR



Transport sırasında göğüs basısına bir elle de olsa mutlak devam edilmelidir.

UNUTMA!!!!

Göğüs basısı uygulayıcıları **her iki dakikada bir** mutlak değiştirilmeli,

Tüm uygulamalar kayıt altına alınmalıdır.

Beni Dinlediğiniz İçin Teşekkürler

