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Compression Only CardioPulmonary Resuscitation in telephone-assisted bystanders (COCPR IV)

Submission date 07/07/2016	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 09/07/2016	**Overall study status** Completed	
Last Edited 12/10/2017	**Condition category** Circulatory System	

Plain English summary of protocol

Background and study aims
High quality chest compressions are vital for survival after a cardiac arrest (heart attack). Therefore bystanders are encouraged to act decisively in the presence of a cardiac arrest victim. Telephone instructions are given by the emergency services responding to emergency calls. Unfortunately the quality of chest compression is usually inefficient because bystanders are often not trained. The aim of this study is to improve the quality of chest compression using a smartphone application which transmits data from the smartphone accelerometer to an external webpage, where the emergency services dispatcher is able to interpret CPR efforts.

Who can participate?
Healthy volunteers aged 18 and over

What does the study involve?
The study involves a simulated 10-minute resuscitation performed on a manikin. Over the telephone, emergency services provide instructions on how to resuscitate the victim (chest compression only resuscitation). Participants are randomly allocated to one of two groups. One group receives standard instructions given by emergency services over the phone. The other group uses the smartphone app as real-time feedback while performing chest compressions with the smartphone on the top of the manikin's chest.

What are the possible benefits and risks of participating?
The benefit will be improved basic life support skills. There are no anticipated risks.

Where is this study run from?
This study is organised by the Department of Emergency Medicine of the Medical University of Vienna. The study venue is a large shopping hall.

When is the study starting and how long is it expected to run for?
September to December 2016

Who is funding the study?
Not provided at time of registration

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
V1

Study information

Scientific Title
Using a smartphone accelerometer for real-time feedback in a telephone-assisted, bystander CPR to improve quality of CPR: a prospective, randomized simulation study

Acronym
COCPR IV

Study objectives
Chest compression rate and/or compression depth can be positively influenced by the dispatcher using the new smartphone application visualizing resuscitation efforts using the accelerometer.

Ethics approval required
Old ethics approval format

Ethics approval(s)

The ethics committee of the Medical University of Vienna, 21/03/2016, ref: 1103/2016

Study design
Prospective randomized-controlled simulation trial

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Cardiopulmonary resuscitation, dispatch life support, quality of CPR

Interventions
The scenario is planned as an out of hospital, telephone assisted, bystander CPR. Substantial information about circumstances (at home, compression only, telephone assisted bystander CPR) is given prior to participation. Outcome is blinded to the participants. After informed consent, participants are guided to a simulation room where the manikin is prepared. Only minimal study staff will have access to the scenario room to avoid distractions. The study staff's assignment is documentation of parameters and not to be involved in bystander CPR. Participants will be staffed with a telephone to call the Emergency Dispatch Centre (EDC). In the EDC, a professional emergency dispatcher will be providing verbal prompts via telephone to the bystander.

Every participant will perform closed-chest compression for 10 minutes on a slightly modified Resusci Anne® Manikin (Laerdal, Norway) without giving rescue breaths. Participants will be randomized to one of two groups:
1. Standard instructions will be given by the emergency medical dispatcher via telephone following the AMPDS protocol V12.0 provided by the IAED.
2. A smartphone with a prototype application transferring accelerometer data of the smartphone to a external webpage will be used to make CPR efforts immediately visible for the dispatcher in a remotely located dispatch center.

Data will be collected using the Laerdal® PC Skill-Reporting System - a software used with the adult size Laerdal® Resusci® Anne SkillReporterTM manikin to collect the subjects' CPR performance.

Intervention Type
Other

Primary outcome(s)
Chest compression depth, measured continously via the pc skillmeter software of the Resusci® Anne skillmeter

Key secondary outcome(s))
1. Quality of External Cardiac Compression (ECC) defined as number of percent of adequately achieved compression depth, continuously assessed via skillmeter pc
2. Time to measurable decay in chest compression depth, continuously assessed via skillmeter pc
3. Frequency of chest compression, continuously assessed via skillmeter pc
4. Correct recoiling of the manikin's chest, continuously assessed via skillmeter pc

Completion date
31/12/2016

Eligibility

Key inclusion criteria
1. Voluntary participants
2. Informed consent
3. Age over 18 years
4. Blood pressure less than 160 mmHg (systolic) before starting CPR simulation

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Healthcare professionals
2. Basic Life Support course performed within the last 6 months
3. Pregnancy
4. Blood pressure over 150 mm Hg (systolic) before starting CPR simulation

Date of first enrolment
01/09/2016

Date of final enrolment
31/12/2016

Locations

Countries of recruitment
Austria

Study participating centre
Medical University of Vienna
Waehringerguertel 18-20/6D

Vienna
Austria
1090

Study participating centre
St. Pölten University of Applied Science
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Sponsor information

Organisation
Medical University of Vienna (Austria)

ROR
https://ror.org/05n3x4p02

Funder(s)

Funder type
Other

Funder Name
Investigator initiated and funded

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Study website	Study website	11/11/2025	11/11/2025	No	Yes