Out-of-hospital circulatory arrest: factors determining the outcome Amsterdam resuscitation study (ARREST) 2 and 3

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Abbreviations list

- ALS = advanced life support
- AUC_{ROC} = area under the ROC curve
- BLS = basic life support
- CI = confidence interval
- CPR = cardiopulmonary resuscitation
- EMS = emergency medical service
- ICD-9 = international classification of diseases 9th revision
- OOH = out-of-hospital
- OR = odds ratio
- ROC curve = receiver-operator characteristic curve
- ROSC = return of spontaneous circulation
- RR = relative risk
- VF = ventricular fibrillation
- VT = ventricular tachycardia

Definitions

- **Collapse**: The loss of consciousness of a victim due to a circulatory arrest, regardless the cause of the arrest.
- **Cardiac arrest**: Is the cessation of cardiac mechanical activity, confirmed by the absence of a detectable pulse, by unresponsiveness, and by apnea (or agonal, gasping respirations).
- **Circulatory arrest**: Is like a cardiac arrest, the absence of a detectable pulse, by unresponsiveness and by apnea (or agonal, gasping respirations). A cessation of cardiac mechanical activity is not necessary, although it is usually the cause.
- **Witness of the collapse**: Those who have seen or heard the patient collapsing.
- **Cardiopulmonary resuscitation**: All efforts on a patient with a circulatory arrest, with the intention to recover spontaneous circulation.
- **Basic CPR efforts are**: Resuscitation efforts by mouth to mouth ventilation and external chest compressions. (Synonym: BLS).
- **Bystanders CPR**: Basic CPR efforts performed by bystanders.
- **Advanced CPR interventions**: Endotracheal intubation, intravenous drug administration, and transcutaneous pacing. In this study we do not consider defibrillation as an advanced CPR intervention (Synonym: ALS).
- **Arrival at the patient's side**: The moment a health care professional arrives at the scene from where they can treat the victim.
- **Return of spontaneous circulation**: The return of circulation after an arrest without the support of cardiac massage, measured by pulsations palpable on large arteries or a systolic blood pressure of at least 60 mmHg and for at least 15 minutes.
- **Survival**: Discharged alive from the hospital
- **Initial rhythm**: First recorded heart rhythm, during the circulatory arrest.
- **Bystanders**: People that are present on the scene, where the victim is collapsed, but are not part of the health care professionals who are called for their medical assistance.
- **Shockable rhythms**: All heart rhythms that are treated with defibrillation.
- **Pre-arrest symptoms**: Symptoms that start within 24 hours before the arrest and last at least up to one hour before the arrest.