

# Adrenaline use in cardiac arrest

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Adrenaline has kept its place in cardiac arrest guidelines despite limited evidence for or against its use. The PACA (Placebo versus Adrenaline versus Cardiac Arrest) study by Jacobs and colleagues, soon to be published in *Resuscitation*, the official journal of the European Resuscitation Council, provides the best evidence to date supporting the use of adrenaline to treat cardiac arrest.

In this single-centre double blind study, 601 out-of-hospital cardiac arrest victims were randomized to receive either placebo (0.9% [sodium chloride](#)) or adrenaline during advanced life support. Data available from 534 patients (262 placebo vs. 272 adrenaline) showed no difference in the primary end study point, survival to hospital discharge, but did show that a spontaneous circulation was restored (in other words the heart was 'restarted') three times more commonly with adrenaline (23.5%) than with saline placebo (8.4%).

Professor Jacobs commented, "Our study highlights the significant challenges in undertaking [randomized trials](#) in cardiac arrest, particularly when it involves accepted but unproven therapy. Although we were unable to demonstrate that adrenaline improved the chance of surviving to [hospital discharge](#), adrenaline did increase the likelihood of restoring circulation following cardiac arrest."

Editor-in-Chief of *Resuscitation*, Dr Jerry Nolan said, "The authors are to be congratulated for undertaking this important study despite the very challenging factors that are inevitable in the out-of-hospital environment. This is the first placebo controlled trial in human cardiac arrest that has

shown short term [survival benefit](#) for adrenaline."

**More information:** The study, "Effect of Adrenaline on Survival in Out-of-Hospital Cardiac Arrest: A Randomized Double-Blind Placebo-Controlled Trial" by Ian G. Jacobs, Judith C, Finn, George A, Jelinek, Harry F, Oxeer and Peter L, Thompson can be found in Resuscitation (2011) [doi:10.1016/j.resuscitation.2011.06.029](https://doi.org/10.1016/j.resuscitation.2011.06.029)

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