

Randomized Clinical Trial of Pre-hospital Induction of Mild Hypothermia in Out-of-Hospital Cardiac Arrest Patients Using a Rapid Infusion of 4°C Normal Saline

History: The aims of this randomized clinical trial were to determine whether early in-field cooling improves survival, functional status in resuscitated cardiac arrest patients.

Questions to answer: In adult out-of-hospital cardiac arrest does pre-hospital use of rapid cooling with an infusion of normal saline as soon as possible following resuscitation improve outcomes compared to standard care?

Trial Design	Prospective, randomized clinical trial N=1359 (583 VF and 776 non-VF) Randomization: pre-hospital infusion of up to 2 liters of 4°C normal saline as soon as possible following resuscitation or standard care	
Primary Endpoint Secondary Endpoints	Survival to hospital discharge and functional status at discharge Days to awakening, days to death, neurologic outcome	
Trial Results (VF vs. Non-VF)	Patients with VF: Survival to hospital discharge was 62.5% in the intervention group vs. 64.3% in the control group, p=0.69	Non-VF: Survival to discharge was 19.2% in the intervention group vs. 16.3% in the control group, p=0.3

Take Away: Although use of early, pre-hospital cooling reduced core temperature by hospital arrival and reduced the time to reach 34°C, it did not improve survival or functional status among patients resuscitated from out-of-hospital VF or non-VF.