

Effect of lowering of body temperature for adults with cardiac arrest prior to hospital arrival

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Francis Kim, M.D., of Harborview Medical Center, Seattle, and colleagues evaluated whether early prehospital cooling (lowering body temperature) improved survival to hospital discharge and neurological outcome in cardiac arrest patients with or without ventricular fibrillation (VF).

Cardiac arrest can cause brain injury and many patients never awaken after resuscitation. Hypothermia is a promising treatment that can help brain recovery. "Hospital cooling improves outcome after [cardiac arrest](#), but prehospital cooling immediately after return of spontaneous circulation may result in better outcomes," according to background information in the article. "The optimal timing for induction of hypothermia is uncertain."

For this trial, 1,359 patients (583 with VF and 776 without VF) with prehospital cardiac arrest and resuscitated by paramedics were assigned to standard care with or without prehospital cooling, accomplished by infusing up to 2 liters of 4°C normal saline as soon as possible following return of spontaneous circulation. Nearly all of the patients resuscitated from VF and admitted to the hospital received hospital cooling regardless of their randomization.

The intervention reduced core temperature by more than 1°C and patients reached the goal temperature about 1 hour sooner than in the

control group. The researchers found that survival to [hospital discharge](#) was similar in the intervention and control groups among patients with VF (62.7 percent vs. 64.3 percent, respectively) and among patients without VF (19.2 percent vs. 16.3 percent, respectively). The intervention was also not associated with improved neurological status of full recovery or mild impairment at discharge for patients with or without VF.

"Although hypothermia is a promising strategy to improve resuscitation and brain recovery following cardiac arrest, the results of the current study do not support routine use of cold intravenous fluid in the prehospital setting to improve clinical outcomes," the authors write.

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