



Targeted temperature management following cardiac arrest

An update

Recently a randomised trial published in the New England Journal of Medicine compared the outcomes of cooling patients to 33°C with those cooled to 36°C. The “Targeted Temperature Management at 33°C versus 36°C after Cardiac Arrest” study enrolled 950 patients and found that survival and neurological outcomes were not statistically different between the two groups (1). Importantly, there was a strict protocol for prognostication and withdrawal of life-sustaining treatment.

A key message from this study is that targeted temperature management (TTM) remains an important component of the post resuscitation care of the unconscious cardiac arrest patient and that similar results were obtained when either 33°C or 36°C were selected as target temperature. As detailed by the study investigators and the authors of the accompanying editorial (2), this study does not support a treatment strategy where TTM is abandoned.

This available trial data confirms that good outcomes with no greater risk of adverse events can be obtained with a strategy that includes TTM at 33°C, which is similar to current treatment recommendations. This trial found similar good outcomes with a new regimen targeting 36°C, and a formal evidence review will need to consider whether this new TTM regimen should be part of future treatment recommendations. Pending formal Consensus on the optimal temperature, we suggest that clinicians provide post-resuscitation care based on the current treatment recommendations (3,4). We accept that some clinicians may make a local decision to use a target temperature of 36°C pending this further guidance.

Ian Jacobs
ILCOR Co-Chair

Vinay Nadkarni
ILCOR Co-Chair

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(1) Nielsen N, Wetterslev J, Cronberg T, et al. Targeted Temperature Management at 33°C versus 36°C after Cardiac Arrest. N Engl J Med. 2013. DOI:10.1056/NEJMoa1310519

(2) Rittenberger J.C, Callaway CW. Temperature Management and Modern Post-Cardiac Arrest Care . N Engl J Med. 2013; DOI:10.1056/NEJMe1312700.

(3) Morrison LJ, Deakin CD, Morley PT, Callaway CW, Kerber RE, Kronick SL, Lavonas EJ, Link MS, Neumar RW, Otto CW, Parr M, Shuster M, Sunde K, Peberdy MA, Tang W, Hoek TL, Böttiger BW, Drajer S, Lim SH, Nolan JP; Advanced Life Support Chapter Collaborators. Part 8: Advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. Circulation. 2010 Oct 19;122(16 Suppl2):S345-421.

(4) Deakin CD, Morrison LJ, Morley PT, Callaway CW, Kerber RE, Kronick SL, Lavonas EJ, Link MS, Neumar RW, Otto CW, Parr M, Shuster M, Sunde K, Peberdy MA, Tang W, Hoek TL, Böttiger BW, Drajer S, Lim SH, Nolan JP; Advanced Life Support Chapter Collaborators. Part 8: Advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. Resuscitation. 2010 Oct;81 Suppl 1:e93-e174