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Therapeutic Hypothermia in Cardiac Arrest

An information update

The Australian Resuscitation Council (ARC) recommends the use of Therapeutic Hypothermia as part of a care bundle in the post arrest management of unconscious patients following cardiac arrest.(1) It is recommended that such patients are cooled to between 32° and 34°C for a period of 12 to 24 hours. This recommendation is consistent with international guidelines and was based on the findings of published literature including two randomised trials.(2-4)

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.(5) 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.

The publication of this study has led to increased discussion of post cardiac arrest patient temperature management. In reviewing the findings of this the ARC makes the following observations:

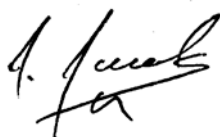
- This study did not show a difference in mortality between the two target temperature groups.
- Both groups were undergoing active target temperature management, which prevented fever, and was part of intensive post-resuscitation care.
- Mean temperature of patients in both groups at time of recruitment was 35°C
- No differences in complications between the two groups were observed.
- The study included both shockable and non-shockable arrest rhythms.

A key message from this study is that targeted temperature management remains an important treatment strategy in the post resuscitation care of the unconscious cardiac arrest patient. As detailed by the study investigators and the authors of the accompanying editorial(6), this study does not support a treatment strategy where temperature management is abandoned.

Further results from this recent study are also likely to be published, and an international re-evaluation of the evidence on targeted temperature management is underway.

At this stage, the ARC continues to recommend the use of mild therapeutic hypothermia (cooling to 32° - 34°C) in the unconscious patient after cardiac arrest. If clinicians are not cooling to 32° - 34°C, fever should be avoided and a target temperature of 36°C should be aimed for.

The ARC will continue to evaluate the literature and liaise with the international resuscitation organisations to determine if changes in the existing ARC guideline is required.



Professor Ian Jacobs
Chairman

1st December 2013

1. Australian Resuscitation Council. Advanced Life Support Guideline 11.8 December 2010.
2. Morrison LJ, Deakin CD, Morley PT, Callaway CW, Kerber RE, Kronick SL, et al. Part 8: Advanced life support: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. *Circulation*. 2010;122(16 Suppl 2):S345-421.
3. Bernard SA, Gray TW, Buist MD, Jones BM, Silvester W, Gutteridge G, et al. Treatment of comatose survivors of out-of-hospital cardiac arrest with induced hypothermia. *N Engl J Med*. 2002;346(8):557-63.
4. Holzer M, Sterz F. Mild therapeutic hypothermia to improve the neurologic outcome after cardiac arrest. *N Engl J Med*. 2002;346(8):549-56.
5. 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
6. Rittenberger J.C, Callaway CW. Temperature Management and Modern Post-Cardiac Arrest Care . *N Engl J Med*. 2013; DOI:10.1056/NEJMe1312700.