

## ERC-ESICM Guidelines on Temperature Control After Cardiac Arrest



The European Resuscitation Council (ERC) and the European Society of Intensive Care Medicine (ESICM) have released new guidelines on temperature control after cardiac arrest in adults.

The term Targeted Temperature Management (TTM) is used to describe temperature control after cardiac arrest. However, recently the Advanced Life Support (ALS) Task Force of the International Lisbon Committee on Resuscitation (ILCOR) has adopted the term temperature control instead of TTM. ERC is one of the founding members of ILCOR. A key activity of ILCOR is the systematic assessment of evidence to produce international consensus on science with treatment recommendations (CoSTRs).

In comatose patients with presumed post-cardiac brain injury, temperature control with a target of 32 to 36 °C body temperature has been considered an intervention that provides potential benefit.

In 2019, the HYPERION trial documented an increase in 90-day favourable functional outcomes with temperature control at 33 °C for 24 hours compared with normothermia. Based on evidence from this trial, the 2020 ILCOR CoSTR recommended temperature control at 32-36 °C for at least 24 hours for adults either out-of-hospital cardiac arrest (OHCA) or in-hospital cardiac arrest (IHCA) who remain comatose after resuscitation from cardiac arrest, regardless of the initial rhythm. The 2021 ERC-ESICM guidelines also aligned with this recommendation.

However, the TTM-2 trial reported no difference in 6-month mortality of functional outcome of comatose OHCA survivors who were temperature controlled at 33 °C. Another recently published meta-analysis of temperature control after OHCA showed similar results. Based on these findings, the ILCOR ALS Task Force conducted an evidence review, and an ERC-ESICM panel was asked to provide an update based on the ILCOR report.

These new guidelines replace the 2021 post-resuscitation care recommendations and provide evidence-based guidance for temperature control in patients who are comatose after resuscitation from IHCA or OHCA. The panel included thirteen clinical experts who also co-authored the 2021 ERC-ESICM guidelines and two methodologists who participated on behalf of ILCOR.

The panel made six recommendations on temperature control. In patients who remain comatose after cardiac arrest, continuous monitoring of core temperature should be practiced, and active measures should be undertaken to prevent fever (defined as  $>37.7$  °C) for at least 72 hours. The guideline panel did not find sufficient evidence to recommend for or against temperature control at 32-36 °C or early cooling after cardiac arrest. They also recommend not rewarming comatose patients with mild hypothermia after return of spontaneous circulation (ROSC) to achieve normothermia. In addition, the use of prehospital cooling with rapid infusion of large volumes of cold intravenous fluids immediately after ROSC is also not recommended.

Source: [Intensive Care Medicine](#)

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Published on : Tue, 8 Feb 2022