

## Preface

Targeted temperature management (TTM), previously known as therapeutic hypothermia or protective hypothermia, is an active treatment that tries to achieve and maintain a specific body temperature in a person for a specific duration of time in an effort to improve health outcomes during recovery after a period of stopped blood flow to the brain. This is done in an attempt to reduce the risk of tissue injury following lack of blood flow. Periods of poor blood flow may be due to cardiac arrest or the blockage of an artery by a clot as in the case of a stroke.

Targeted temperature management improves survival and brain function following resuscitation from cardiac arrest. Evidence supports its use following certain types of cardiac arrest in which an individual does not regain consciousness. The target temperature is often between 32 and 34 °C. Targeted temperature management following traumatic brain injury is of unclear benefit. While associated with some complications, these are generally mild.

Targeted temperature management is thought to prevent brain injury by several methods, including decreasing the brain's oxygen demand, reducing the production of neurotransmitters like glutamate, as well as reducing free radicals that might damage the brain. Body temperature may be lowered by many means, including cooling blankets, cooling helmets, cooling catheters, ice packs and ice water lavage.<sup>i</sup>

In the present book, fifteen typical literatures about Targeted temperature management published on international authoritative journals were selected to introduce the worldwide newest progress, which contains reviews or original researches on Targeted temperature management. We hope this book can demonstrate advances in Targeted temperature management as well as give references to the researchers, students and other related people.

The Editorial Board of Academic Archives

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<sup>i</sup> [https://en.wikipedia.org/wiki/Targeted\\_temperature\\_management](https://en.wikipedia.org/wiki/Targeted_temperature_management)