

Thermogard HQ™

Temperature Management System

ZOLL®



SPEED, PRECISION, REAL-TIME INSIGHTS

Thermogard HQ streamlines the path to better patient care

Why high-quality Temperature Management Matters

High-quality Temperature Management (TM) can improve neurological outcomes by helping to prevent cascades of damaging reactions to disease states. Regardless of target temperature, high-quality TM requires accurate and precise control of body temperature to avoid the risk of fever, improve outcomes, and reduce complications, while also delivering a positive economic impact to hospitals and society.¹⁻⁵



Proven Benefits of Intravascular Temperature Management

- 35% better long-term neurological outcomes than with surface cooling.¹
- Associated with improved outcomes, increased survival rates, lower risk of adverse effects compared with surface cooling.⁶
- Treatment option for patients who are not candidates for surface cooling (such as those with burns, trauma, fragile skin).



Speed and Precision

The Thermogard HQ™ system offers “set-up-and-go” efficiency, reaching target temperature quickly and maintaining it precisely. The Thermogard HQ™ system can deliver cooling rates of up to 3.6°C per hour, depending on the catheter chosen, reaching target temperature in under an hour.⁷ A full family of catheters provides flexibility in power and placement site.



Individualized and Nursing-efficient

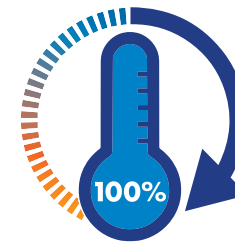
The Thermogard HQ™ system offers new tools to increase clinical intelligence and individualize patient care. Eliminating skin checks reduces workload by as much as 74%,¹ making it nursing-efficient and helping streamline the path to better patient care.

The Thermogard HQ™ system provides setup simplicity driven by user testing, leading to higher confidence and quicker learning curves.

The clear data display has a user-friendly interface designed for at-a-glance insights to support rapid assessment by both new and experienced users.

The Thermogard HQ™ console provides wireless connectivity, allowing data to be downloaded.

The temperature display can digitally feed an EMR, while WiFi supports RescueNet® CaseReview, ZOLL's cloud-based quality improvement tool.



Thermogard HQ™ unites the power of **demonstrated speed and precision** with individualized patient data analytics and “set-up-and-go” efficiency to make high-quality TM achievable in a variety of settings, like the ED, ICU, and surgery.

Proven Precision

The Thermogard HQ™ system offers rapid initiation and precise maintenance of target temperatures to within 0.2°C, 96.8% of the time.⁶⁻¹³

Conventional surface cooling systems are labor-intensive, imprecise, and less effective at maintaining temperature compared with intravascular cooling systems.¹⁴

Clinical Intelligence

Speed and precision metrics provide real-time insights to enable performance using the power curve and trends.

The power curve measures system cooling or warming effort and supplements the older and indirect “coolant temperature” sometimes used as a

surrogate for the patient's underlying condition. Thermogard HQ is now part of ZOLL's RescueNet CaseReview system to support Quality Assurance and Improvement.

Nursing-efficient

Thermogard HQ reduces the need for continuous monitoring of temperature, managing shivering, and checking pad placement. In a clinical study, ZOLL intravascular temperature management reduced nursing workload by 74%.¹

By introducing a ZOLL central venous catheter at the start of therapy, Thermogard HQ promotes fast, accurate, and continuous temperature management, reducing the need for additional staff for patient management.

ZOLL RescueNet CaseReview now supports quality assurance and improvement for temperature management.





Streamlining the Path to Better Patient Care

Nursing-efficient

Thermogard HQ™ has a clear data display providing at-a-glance information to support rapid assessment and fast, accurate, and continuous temperature management.

Proven Precision

Thermogard HQ™ offers rapid initiation and precise maintenance of target temperatures to within 0.2°C, 96.8% of the time.⁶⁻¹³

Clinical Intelligence

Thermogard HQ™ RescueNet CaseReview provides a toolset designed to easily analyze patient and case data to support quality improvement.

¹Deye N, et al. *Circulation*. 2015 ;132 :182-93.

²Medicare cost analysis data supplied by Freudman Healthcare Consulting LLC, 2008.

³Kapinos G, et al. *Neurology*. 2017 ;88 :1-2.

⁴Fink K, et al. *Anaesthesist*. 2008;57:1155-60.

⁵Vaard MC, et al. *Emergency Med Journal*. 2014;0:1-6.

⁶Bartlett E, et al. *Resuscitation*. 2019 ;124 :82-5.

⁷Maekawa T, et al. *Ther Hypothermia Temp Manag*. 2020;10:179-18.

⁸Callaway CW, et al. *Circulation*. 2015;132[18 Suppl. 2]:S465-S482.

⁹Hoedemaekers CW, et al. *Crit Care*. 2007;11:R91.

¹⁰Diringer MN, et al. *Crit Care Med*. 2004;2:559-64.

¹¹Sonders P, et al. *Resuscitation*. 2018 ;124 :14-0.

¹²Horn CM, et al. *J Neurointerv Surg*. 2014 ;6 :91-5.

¹³Knapik P, et al. *Kardiol Pol*. 2011;69:1157-63.

¹⁴Vaity C, et al. *Crit Care*. 2015;19:103.

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