

Artificial Hypothalamus for Body Temperature Regulation

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Background

- **Heatstroke** is a critical, **life-threatening** condition caused by extreme heat exposure, leading to **multi-organ failure** and **potential death** if untreated.
- It affects **millions globally**, especially during large-scale gatherings like the **Hajj pilgrimage** and in **high-risk occupations** such as sports, military service, and industrial work.
- Existing cooling techniques, including ice packs and water immersion, are **resource-intensive, slow, unevenly effective**, and **often uncomfortable** for patients.

Key Benefits

- **Faster Recovery:** Accelerates the cooling process with minimal resource requirements.
- **Enhanced Patient Care:** Maintains patient comfort and avoids sedation.
- **Mass-Applicability:** Scalable for large-scale deployment in high-demand settings.
- **Global Impact:** Reduces mortality and improves outcomes for heat emergencies worldwide.

Solution

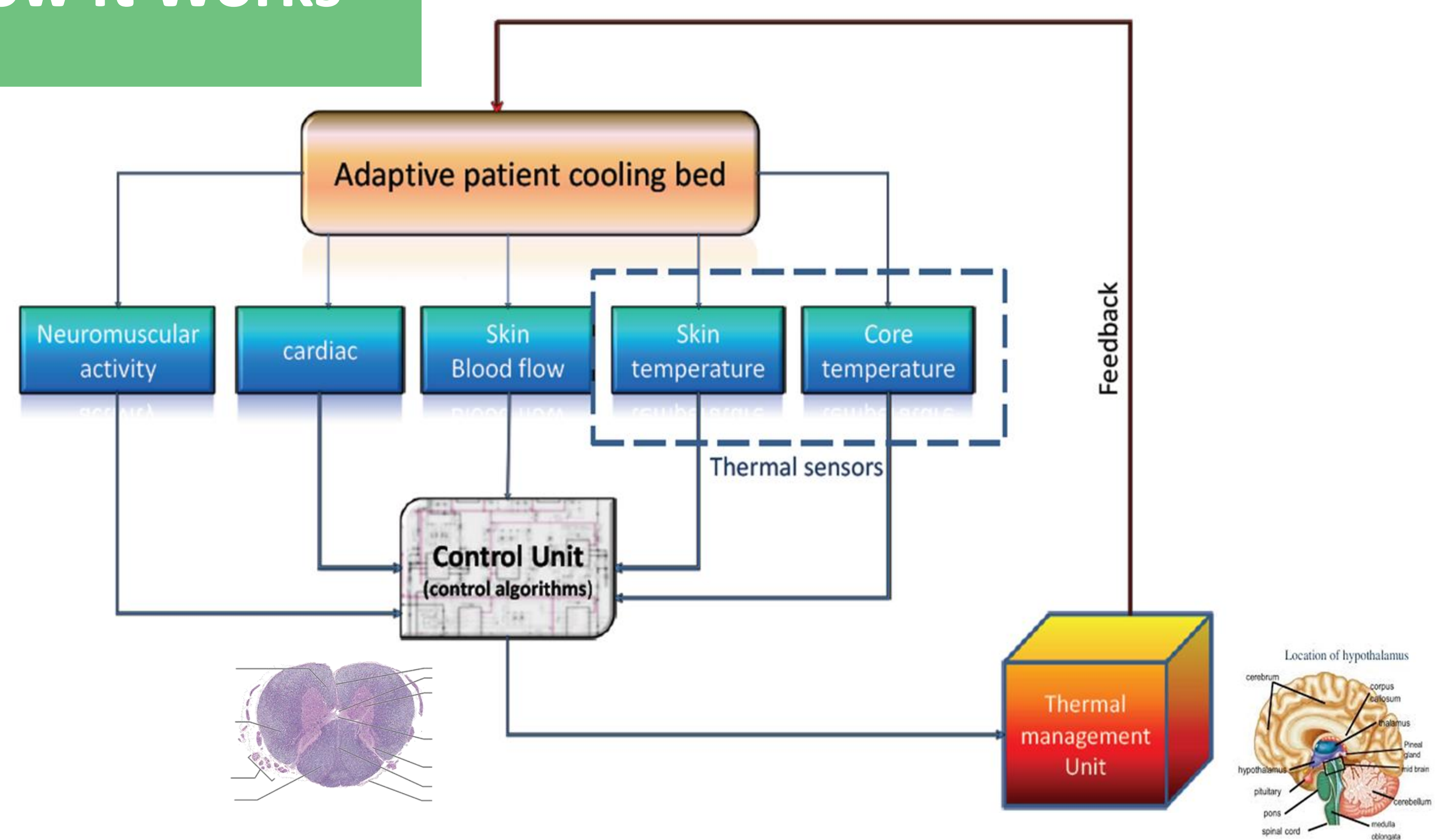
Artificial Hypothalamus:

A cutting-edge cooling system that integrates seamlessly with the body's natural thermoregulation mechanisms.

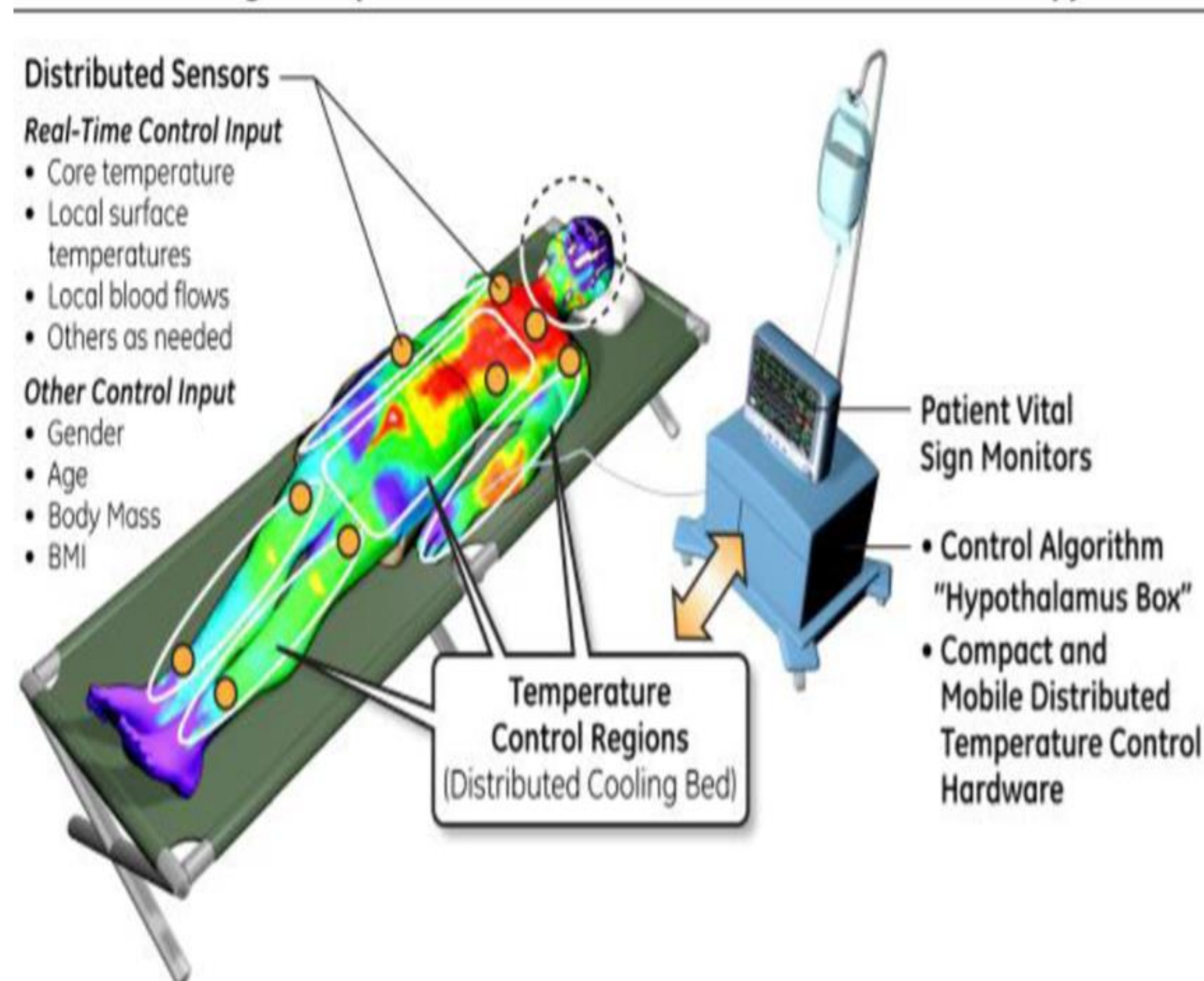
Unique Features:

- **Precision Cooling:** Rapid, controlled, and uniform cooling.
- **Patient Comfort:** Eliminates shivering, sedation, and discomfort.
- **Real-Time Adaptation:** Continuously adjusts based on core temperature and physiological metrics.
- **Scalability:** Ideal for mass gatherings (e.g., Hajj), athletes, emergency responders, and industrial workers.

How It Works



Cooling Bed System for Next Generation Heatstroke Therapy



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Sustainability

- **Eco-Friendly Design:** Energy-efficient operation with components that are recyclable or made from recycled materials.
- **Reusable System:** Built for multiple uses in diverse environments to ensure sustainability and cost-effectiveness.

Conclusion

The Artificial Hypothalamus represents a revolutionary advancement in heatstroke treatment:

- **Efficiency:** Rapid, precise, and scalable.
- **Comfort:** Seamlessly harmonized with the body's natural processes, ensuring patient well-being.
- **Global Impact:** Life-saving potential for individuals and large populations, transforming the way heat emergencies are managed worldwide.