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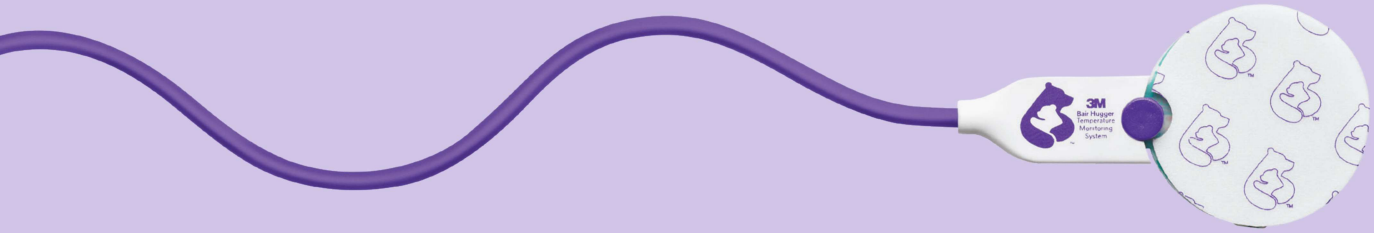
3M™ Bair Hugger™
Temperature Monitoring System

Bringing visibility to a core vital sign.

Setting the standard in core temperature monitoring.



The limitations of many temperature monitoring methods — whether accuracy, invasiveness or the technology itself — are requiring hospitals to stock and use multiple modalities throughout the perioperative journey. Each method introduces variation based on its accuracy and technique.

The future of noninvasive core temperature monitoring.

Clinically equivalent
to invasive methods[1,2,3,6,7]

Eliminates the potential of trauma
to invasive modalities[8,9]

Displays current and 2-hour
temperature trends

One modality
eliminates variability

Monitor from a distance
Large numbers on the display make core temperature visible at a glance.

Low-touch sensor
The sensor is placed on the patient's forehead once, is connected to a control unit then monitors temperature continuously for up to 24 hours.

Connected
Temperature data can be transmitted to a patient vital signs monitor.*

*Data is transferable via an optional 3M YSI-400 monitor cable.

Clinical evidence confirms core temperature measurement accuracy.

When it comes to accurately measuring core body temperature, pulmonary artery catheters are considered the gold standard. In a study with 36,000 paired readings taken in the operating room and intensive care unit, the 3M™ Bair Hugger™ Temperature Monitoring System's core temperature readings were in agreement with pulmonary artery catheters (within 0.23C).[1,2,3,6,7] Core body temperature differences less than 0.5°C are typically considered clinically insignificant.[10,11]

0.23°C
agreement

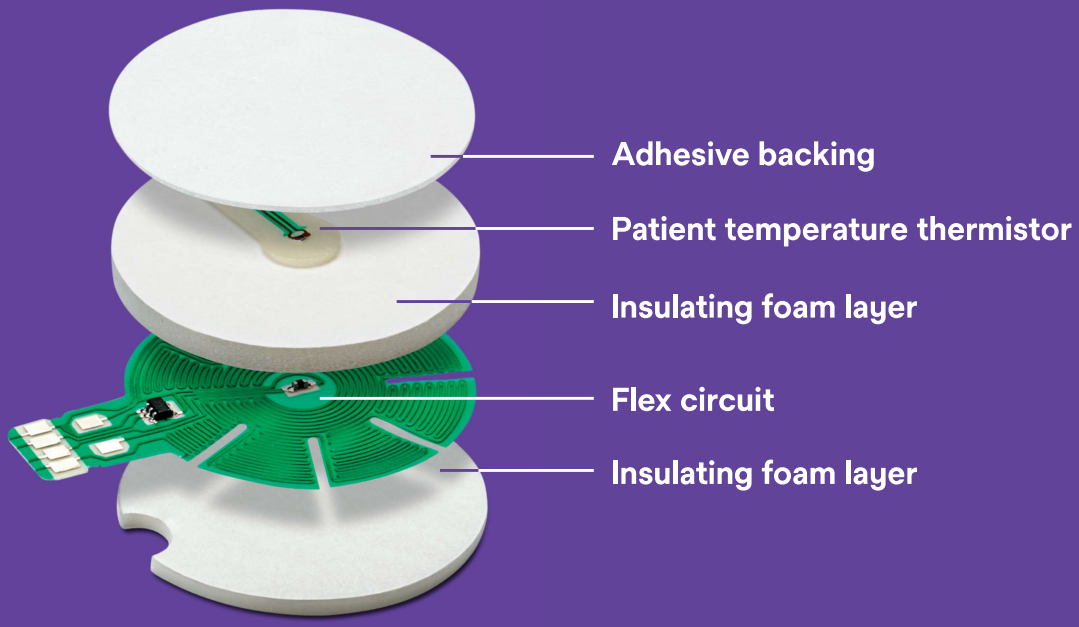
36,000
paired readings

Compared to
pulmonary artery
catheters

in **OR** and **ICU**

How it works.

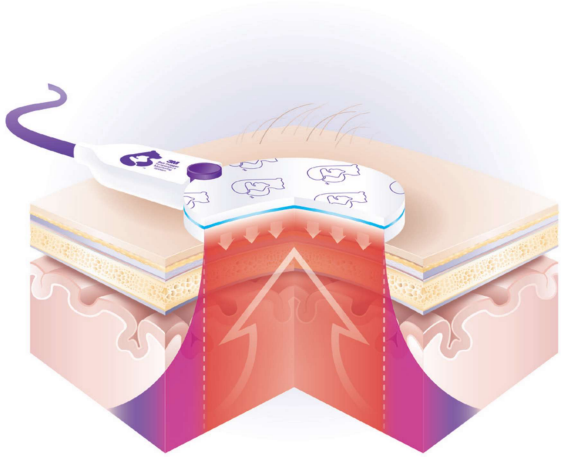
A technology that is anything but skin deep:



Unlike passive skin surface temperature sensors, the Bair Hugger temperature monitoring system's single-use sensor consists of a thermal insulator adjacent to the skin than is covered by a flex circuit. Once connected to the Bair Hugger control unit, the flex circuit actively regulates its temperature to create a zone of perfect insulation — a condition that eliminates heat loss to the environment.

Formation of the isothermal pathway.

Core temperature rising to the surface through isothermal pathway.

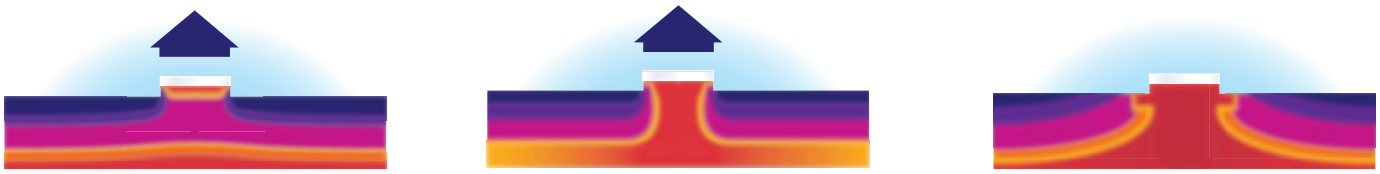


A clinical need.

- Most invasive devices accurately measure core body temperature, but are limited to use with patients under general anesthesia or heavy sedation, typically only used in the OR.
- For patients under regional anesthesia or who are awake, noninvasive devices are typically used — however, these devices mostly estimate core body temperature.
- Wide variations exist in methods and techniques for measuring patient temperature, which can lead to inaccuracies.
- Accurate temperature measurement is crucial for providers to be able to actively manage patient normothermia and avoid the costly complications of unintended hypothermia.

The Bair Hugger temperature monitoring system provides an accurate, noninvasive, easy-to-use temperature measuring method that can be used perioperatively with both anesthetized and awake patients.

When the skin is covered with “perfect insulation,” heat is prevented from leaving the body under the sensor.



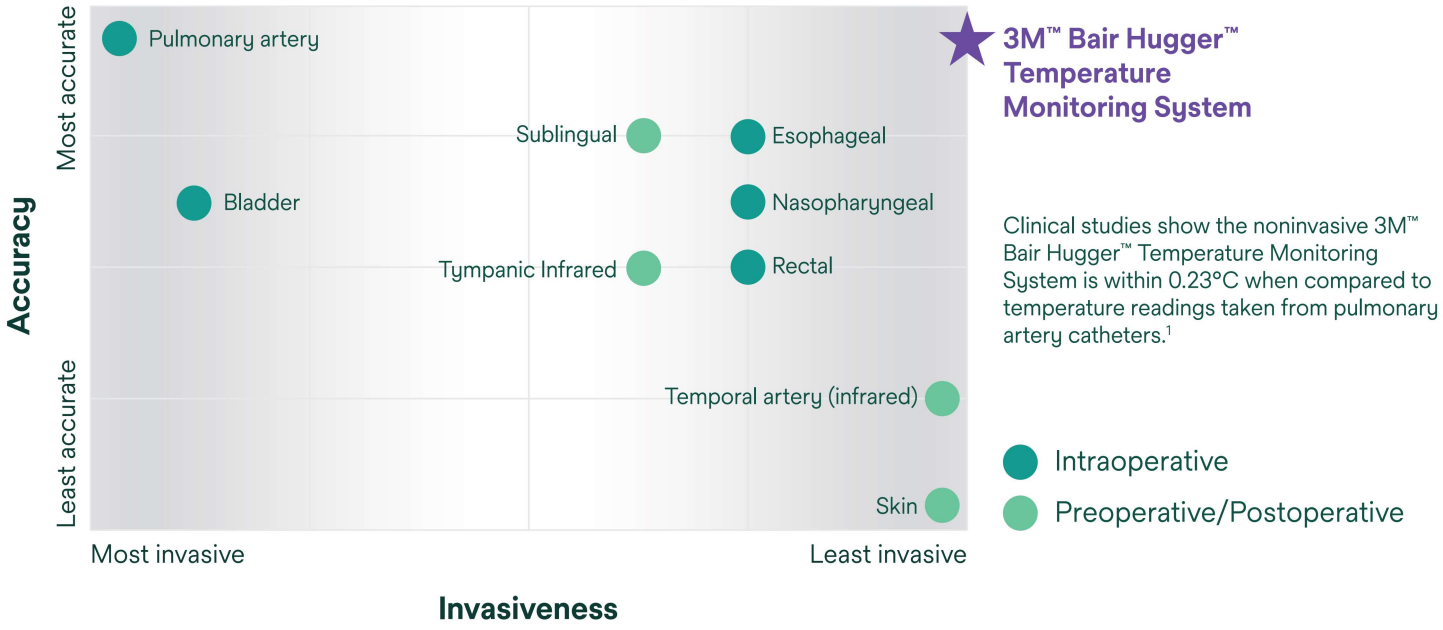
Start of pathway formation | Pathway forming | Complete pathway

Equilibration occurs within a few minutes, creating an isothermal pathway, bringing the core temperature to the surface.

Clinical evidence confirms core temperature.

The Bair Hugger temperature monitoring system has been compared with known invasive core temperature monitoring systems in both published clinical studies and abstract presentations. Sessler et al. (2012) compared 36,000 paired readings of the Temperature Monitoring System and pulmonary artery catheter during non-emergent cardiac surgery, with results showing a -0.23°C bias.[1]

In other studies comparing the Bair Hugger temperature monitoring system with nasopharyngeal, esophageal and sublingual probes, the Bair Hugger temperature monitoring system had a bias of 0.05 to -0.37°C.[2-5]



Graph based upon analysis taken from: Wartzek T, Mühlsteff J, Imhoff M. *Temperature measurement. Biomedizinische Technik/Biomedical Engineering*. 2011;56(5):241-257.

Accurate. Noninvasive. Continuous. Consistent.

Accurate

In a clinical trial comparing the Bair Hugger temperature monitoring system to pulmonary artery catheters, the Bair Hugger temperature monitoring system bias was less than 0.23°C.[1]

Continuous

The temperature is always displayed, allowing health care professionals to actively manage patient warming protocol as needed, when needed.

Noninvasive

A single-use sensor is placed on the patient's forehead before surgery and is worn throughout the perioperative journey.

Consistent

The sensor stays on the patient and is disconnected from the sensor cable and reconnected at each point of care, eliminating the variability associated with clinician technique and use of multiple monitoring devices.

3M™ Bair Hugger™ Temperature Monitoring System ordering information

Product	Part Number	Sizes	Units
3M™ Bair Hugger™ control unit	37000	Dimensions of control unit 9.3 cm (3.7 in) high, extendable to 11.4 cm (4.5 in) high, 7.1 cm (2.8 in) wide, 4.3 cm (1.7 in) deep Weight of control unit 128 g (4.5 oz) Length of the sensor cable 400 cm (158 in)	1/case
3M™ Bair Hugger™ sensor	36000	Dimensions of sensor 4.1 cm (1.6 in) diameter, 0.5 cm (0.2 in) thick	25/case

References:

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2. Eshraghi Y, Nasr V, Sessler D (2014), An Evaluation of a Zero-Heat-Flux Cutaneous Thermometer in Cardiac Patients. Anes Analg 119(3):543-9.
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4. Zaballos J, Salinas U (2014), Clinical Evaluation of SpotOn, a New Non-Invasive and Continuous Temperature Monitoring System. ASA Abstract A4270.
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6. Schell-Chaple H, Matthay M, Puntillo K, Liu K. Evaluation of non-invasive core thermometry with zero-heat-flux technology in febrile ICU patients. Critical Care Medicine. 2015;43(12S):110.
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10. Suleman MI, Doufas AG, Akca O, Ducharme M, Sessler DI. Insufficiency in a new temporal-artery thermometer for adult and pediatric patients. Anesthesia & Analgesia. 2002;95(1):67-71.
11. Ikeda T, Sessler DI, Marder D, Xiong J. Influence of thermoregulatory vasomotion and ambient temperature variation on the accuracy of core-temperature estimates by cutaneous liquid-crystal thermometers. Anesthesiology. 1997;86(3):603-612.

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