3M™ Patient Warming Solutions
3M™ SpotOn™ Temperature Monitoring System

Setting a new standard in
Core temperature monitoring

3M™ SpotOn™ makes core temperature monitoring simple.
The 3M™ SpotOn™ System is an accurate, non-invasive, easy-to-use temperature monitoring system, that continuously measures the patient’s core body temperature, providing standardisation throughout the perioperative process.

Designed by the creators of 3M™ Bair Hugger™ Therapy, the SpotOn system simplifies the existing temperature monitoring process while delivering accurate patient temperatures normally associated with more invasive systems like esophageal, bladder, rectal or PA catheters.

Standardising with one temperature monitoring system can help improve consistency and reduce the opportunity for error. The SpotOn system provides clinicians with a single accurate, non-invasive and consistently reliable temperature monitoring method that can be used through each phase of the perioperative journey.

In addition, the SpotOn system provides the clinician with the ability to manage the patient’s normothermic condition and optimise patient care.

Current technologies are unable to non-invasively measure core body temperature:

- Most invasive devices accurately measure core body temperature, but are limited for use with anaesthetised or sedated patients.
- Non-invasive devices mostly estimate core body temperature
- Wide variations exist in method and technique for measuring patient temperature

The SpotOn system provides an accurate, non-invasive, easy-to-use temperature measuring method, that can be used perioperatively with both the anaesthetised and awake patient.

Unlike passive skin surface temperature sensors, the SpotOn system’s single-use sensor consists of a thermal insulator adjacent to the skin which is covered by a flex circuit. Once connected to the 3M™ SpotOn™ Control Unit, the flex circuit actively regulates its temperature to create a zone of perfect insulation - a condition where heat loss to the environment is eliminated.

**Accurate:**
In a clinical trial comparing the SpotOn system to pulmonary artery catheters, the SpotOn system bias was less than 0.23°C.¹

**Non-invasive technique:**
A single-use sensor is placed on the patient’s forehead before surgery and is worn throughout the perioperative journey.

**Easy:**
The system is not technique dependent. Simply attach the sensor to the patient’s forehead and connect to the monitor via the sensor cable.

**Continuous:**
The temperature is always displayed. A memory chip within the sensor provides a two hour continuous visual representation of the patient temperature trend on the control unit of the 3M™ SpotOn™ Monitor.

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

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**How it works**
A technology that is anything but skin deep:

- Adhesive backing
- Patient temperature thermistor
- Insulating foam layer
- Flex circuit
- Insulating foam layer

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**Formation of the isothermal pathway**
Core temperature rising to the surface through isothermal pathway
Bringing the core temperature to the surface

Creating a zone of perfect insulation eliminates heat loss to the environment, resulting in the formation of an isothermal pathway. Through this pathway, the patient’s core temperature rises to the skin surface where it can be non-invasively measured, captured and continuously reported.

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

Equilibration occurs within a few minutes, creating an isothermal pathway, bringing the core temperature to the surface.
A recent 3M-sponsored cardiac study compared the 3M™ SpotOn™ System with simultaneous measurements from a pulmonary artery catheter in 105 patients scheduled for non-emergent cardiac surgery. Temperatures were recorded at one-minute intervals, excluding the period of cardiopulmonary bypass, and for four postoperative hours.

The SpotOn system and pulmonary artery temperatures were compared with Bland and Altman statistics. The SpotOn system core temperature readings were in agreement with pulmonary artery temperature, with a bias of less than 0.23°C.¹

Clinical results confirm core temperature

Cardiac Trial Data - 105 subjects; 35,717 data pairs
Mean Error (TZHF - TPA) = -0.23°C; 95% LOA = ±0.8°C

Prototype Zero Heat Flux Thermometer

Standardisation is key to improving efficiency

Due to technology limitations, hospitals are forced to stock and use multiple temperature monitoring systems. Any combination of products are used on a single patient throughout the perioperative journey. Each method introduces variation due to accuracy and technique.

Standardising with one temperature monitoring product eliminates these variations and the costs associated with purchasing, stocking and managing multiple products for the same use. The SpotOn system improves efficiency through each phase of the perioperative journey, as it reduces the number of steps required for clinicians to adequately monitor patient temperature.
SpotOn system ordering information

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
<th>Sizes</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M™ SpotOn™ Control Unit</td>
<td>37007</td>
<td><strong>Dimensions of Control Unit:</strong> 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  <strong>Weight of Control Unit:</strong> 128 g (4.5 oz)  <strong>Length of the Sensor Cable:</strong> 400 cm (158 in)</td>
<td>1/case</td>
</tr>
<tr>
<td>3M™ SpotOn™ Sensor</td>
<td>36000</td>
<td><strong>Dimensions of Sensor:</strong> 4.1 cm (1.6 in) diameter, 0.5 cm (0.2 in) thick</td>
<td>25/case</td>
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For more information about non-invasive core temperature monitoring visit: www.spotontemperature.com

Online Education

Online courses are available to health care professionals who would like to learn more about patient warming. Log in and register at www.3M.co.uk/eLearning/PatientWarming.