



3M
Bair Hugger™ 

3M™ Bair Hugger™ Temperature Management Solutions

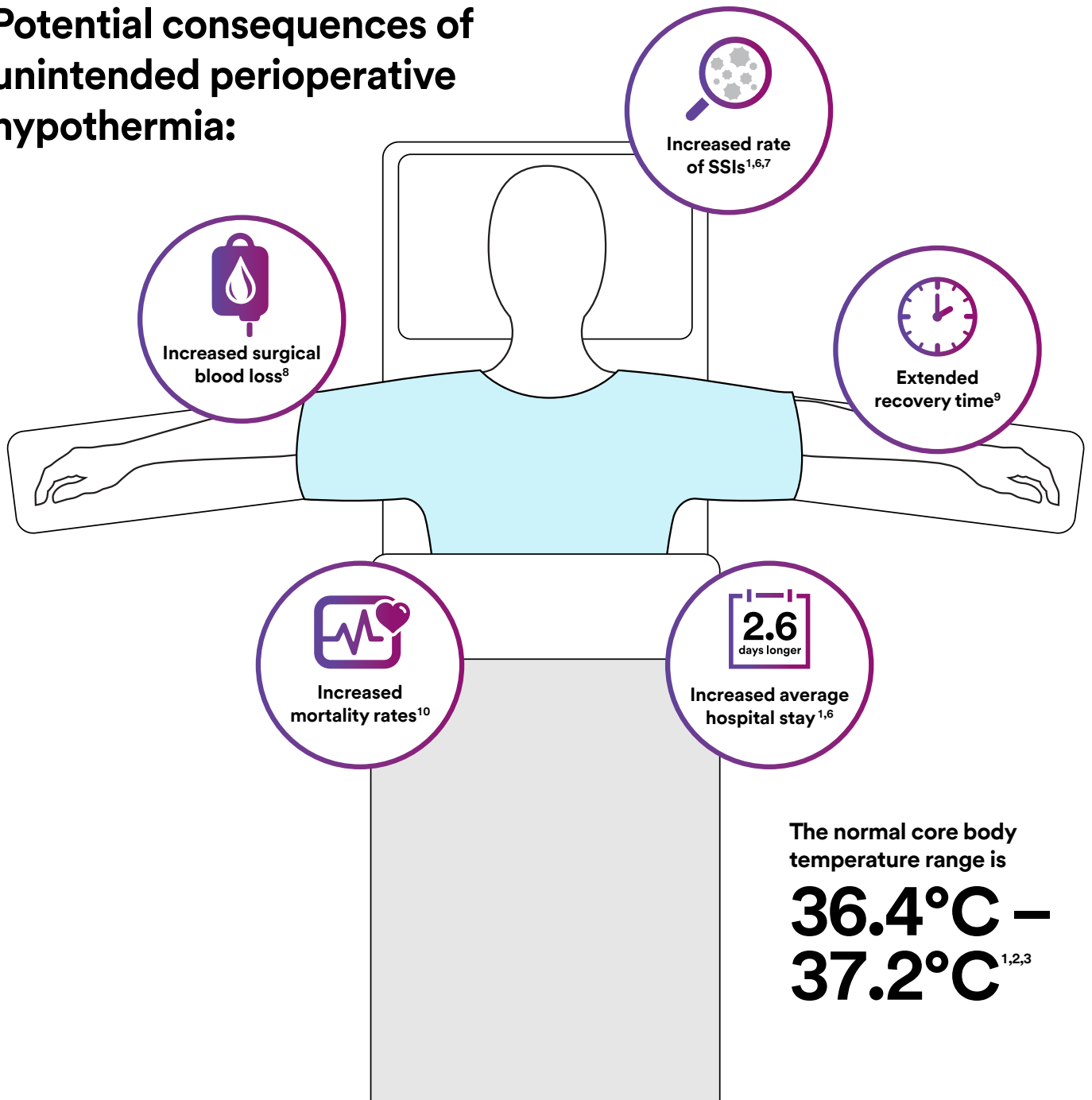
**Surrounded by your
care and our science.**

Why patient warming is so important.

Unintended perioperative hypothermia is a preventable condition that can have costly, harmful and even deadly consequences. Maintaining normothermia—a core body temperature of 36.4°C–37.2°C^{1,2,3} before, during, and after surgery is key in helping to prevent unintended perioperative hypothermia.

As many as **90%** of surgical patients experienced unintended perioperative hypothermia^{4,5}

Potential consequences of unintended perioperative hypothermia:



The normal core body temperature range is

36.4°C – 37.2°C^{1,2,3}

Estimated costs associated with complications from unintended perioperative hypothermia:

Recovery room time per hour

Cost = £44¹¹

Blood transfusion

Cost = £244¹¹

Hospitalization per day

Cost = £275¹¹

Surgical wound infections:
minor surgery

Cost = £950¹¹

Morbid cardiac event (ischemia)

Cost = £2.024¹¹

Surgical wound infections:
major surgery

Cost = £3.858¹¹



Total cost of
£7000+
per patient

Guidelines and recommendations for perioperative normothermia

Organization	Key guidance/recommendations*			
	Temperature monitoring	Prewarming	Intraoperative	Postoperative
NICE (2016, 2013) ^{12,13}	<ul style="list-style-type: none"> Should be direct measurement of core temperature (may be zero-heat-flux), measured and documented before surgery and every 30 minutes to end of surgery Do not use indirect estimates of core temperature in adults having surgery¹³ 	<ul style="list-style-type: none"> Pre-warm a minimum of 30 minutes Pre-warm for any procedure if patient is at high risk for inadvertent intraoperative hypothermia 	<ul style="list-style-type: none"> Maintain active warming throughout intraoperative phase Active warming for procedures greater than 30 minutes 	<ul style="list-style-type: none"> The patient's temperature should be measured and documented on admission to the recovery room and then every 15 minutes. Ward transfer should not be arranged unless the patient's temperature is 36.0°C or above. If the patient's temperature is below 36.0°C, they should be actively warmed using forced-air warming until they are discharged from the recovery room or until they are comfortably warm. [2008] If the patient's temperature falls below 36.0°C while on the ward: they should be warmed using forced-air warming until they are comfortably warm; their temperature should be measured and documented at least every 30 minutes during warming. [2008]
AORN (2022) ¹⁴	<ul style="list-style-type: none"> Measure and monitor the patient's temperature during all phases of care Use the same site and method of temperature measurement throughout the perioperative phases when clinically feasible 	<ul style="list-style-type: none"> When active warming is indicated, prewarm the patient with the selected method Moderate-quality evidence supports prewarming the patient for a minimum of 10 minutes When hypothermia is identified before surgery, initiate interventions to normalize the patient's core body temperature before the patient's transfer to the operating room (OR), if possible 	<ul style="list-style-type: none"> When indicated, warm the patient with one or more of the following active warming methods during all phases of preoperative care, forced air warming (FAW) blanket gown. FAW systems may be used Several clinical practice guidelines recommend use of FAW for procedures longer than 30 minutes 	<ul style="list-style-type: none"> Implement methods for preventing or treating hypothermia for all patients during all phases of perioperative care. Some evidence specifically supports the use of active warming methods in the PACU.

*Representative sampling of current guidelines

Organization	Key guidance/recommendations*			
	Temperature monitoring	Prewarming	Intraoperative	Postoperative
ASPAN (2022) ¹⁵	<ul style="list-style-type: none"> • Frequent intraoperative monitoring of core temperature in all cases • Use same method of measurement through perianesthesia 	<ul style="list-style-type: none"> • Actively warm patients who are hypothermic • Prewarm to reduce the risk of intra/postop hypothermia • Prewarm minimum of 30 minutes 	<ul style="list-style-type: none"> • Forced-air warming initiated in the reoperative/preprocedural and continuing throughout the surgery/procedure to the post-anesthesia care unit (PACU) is the best method for maintaining normothermia 	<ul style="list-style-type: none"> • Implementation of warming in Phase I and Phase II PACU can increase patient satisfaction, decrease opioid requirements and decrease length of stay • Measure patient temperature on admission to the PACU; if normothermic, continue to measure temperature at least hourly, at discharge, and as indicated by patient condition • Patients with temperatures less than 36 degree C should be actively warmed; measure temperature at a minimum of every 15 minutes until normothermia is achieved • Postoperative hypothermia is associated with older age, lower BMI, female sex, lower preoperative temperature, and intraoperative hypothermia • Active warming is an adjunct for analgesic treatment in women with pelvic pain • Actively warmed patients are less likely to shiver than those with room temperature blankets • Measure patient temperature prior to discharge
ORNAC (2021) ¹⁶	<ul style="list-style-type: none"> • The same method of temperature monitoring should be used throughout the surgical journey • Core body temperature monitoring is considered the most accurate • Patient temperature should be taken within 1 hour preoperatively and documented 	<ul style="list-style-type: none"> • Prewarming for procedures 30 min or longer using FAW. 30–60 min of prewarming is effective in reducing hypothermia • Warmed cotton blankets are not as effective as FAW. Patient-controlled FAW gowns reduce surgical risks. 	<ul style="list-style-type: none"> • Active warming should be used for all procedures 30 minutes or more using FAW 	<ul style="list-style-type: none"> • A plan should be developed and implemented to maintain normothermia throughout the surgical journey

*Representative sampling of current guidelines

ERAS[®] Society Guidelines Recommendation

With the sole exception of the bariatric guidelines, all other ERAS Society guidelines recommend the prevention of perioperative hypothermia. The below table summarizes the individual recommendations and evidence assessment in each guideline.

Warming and temperature monitoring recommendations in each ERAS Society Guideline¹⁷

Primary	Temperature Monitoring	Prevent Perioperative Hypothermia	FAW	Other Warming Methods	Fluid warming	Pre-warming	Intraoperative warming	Postop warming	Evidence Level	Recommendation Grade
Gynecologic/Oncology	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	Strong
Gastrointestinal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not Addressed	NA	Strong
Gastrectomy Surgery	Not Addressed	Yes	Yes	Yes	Not Addressed	Yes	Yes	Yes	High	Strong
Radical Cystectomy	Not Addressed	Yes	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	NA	Strong
Pancreaticoduodenectomy	Not Addressed	Yes	Yes	Yes	Not Addressed	Yes	Not Addressed	Yes	High	Strong
Elective Colon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	Strong
Elective Rectal/Pelvic	Yes	Yes	Not Addressed	Not Addressed	Not Addressed	Yes	Not Addressed	Not Addressed	High	Strong
Bariatric	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Not Addressed	NA	Strong
Hepatic	Not Addressed	Yes	Not Addressed	Yes	Not Addressed	Not Addressed	Not Addressed	Not Addressed	Moderate	NA
Head/Neck	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	Strong
Breast	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Not Addressed	Moderate	Strong
Cesarean Delivery	Yes	Yes	Yes	Yes	Yes	Not Addressed	Yes	Not Addressed	Moderate	Strong
Cardiac Surgery	Not Addressed	Yes*	Yes	Yes	Yes	Not Addressed	Yes	Yes	High	Strong

*Avoidance of early postoperative hypothermia

3M Solutions associated with helping to maintain perioperative normothermia

Evidence-based guidance

Monitor Temperature



Measure and monitor the patient's temperature during all phases of care¹⁵. Patient temperature should be taken and documented within 1 hour preoperatively,¹⁶ every 30 minutes to end of surgery^{12,13} on admission to the recovery room and then every 15 minutes.^{12,13}

3M solution

3M™ Bair Hugger™ Temperature Monitoring System



Prewarm



Prewarm to help reduce the risk of intra/post-op hypothermia. Prewarm for a minimum of 30 minutes.^{12,13}

3M™ Bair Hugger™ Warming System



Maintain perioperative normothermia



Implement methods for preventing or treating hypothermia for all patients during all phases of perioperative care.¹⁴ Forced-air warming initiated in the reoperative/preprocedural and continuing throughout the surgery/procedure to the post-anesthesia care unit (PACU) is the best method for maintaining normothermia.¹⁵

3M™ Bair Hugger™ Warming System





Common misconceptions about unintended perioperative hypothermia.

Misconception

Cotton blankets are an effective patient warming method.

Reality

Heat from a warmed cotton blanket is quickly lost to its surroundings, making cotton blankets a less effective way to help perioperative hypothermia.¹⁸

Misconception

My patient isn't cold, so I don't need to prewarm.

Reality

Prewarming isn't only about patient comfort in the pre-op phase; it's to help prevent hypothermia in the intra-op and phases, combined with intraoperative warming.

Misconception

All forced air warming systems warm the same.

Reality

Warming systems can vary greatly. Performance is based on numerous variables, including airflow, temperature, and surface area covered. Those variables are what determine the heat transferred to patients and the ability to maintain patient temperature across the patient journey.¹⁹

How advanced 3M science helps you prevent unintended perioperative hypothermia.

Care teams need a proactive, holistic approach to help fight unintended perioperative hypothermia. The comprehensive 3M™ Bair Hugger™ Temperature Management Solutions portfolio gives you the control needed to help manage surgical patients' temperature through:

- ▶ Clinically supported effectiveness
- ▶ Industry-leading expertise
- ▶ A scientifically engineered portfolio



3M is setting the standard in patient warming.



170+

studies and more than 60 randomized controlled clinical trials.^{20,21}



35+

years helping to protect patients from unintended perioperative hypothermia.²¹



400M+

patients warmed globally with 3M™ Bair Hugger™ Warming System.²²

Supporting the science of thermoregulation.

The 3M™ Bair Hugger™ Temperature Management Solutions combine a warming system and a temperature monitoring system. They provide an easy-to-use, clinically supported method of measuring, monitoring and maintaining your patients' core temperature.

3M™ Bair Hugger™ Warming System



Warming Blankets

3M warming blankets are designed to make your job easier by helping you deliver optimal care while maintaining normothermia. Designed to be used in a variety of procedures, our wide selection of blankets includes: full body, upper body, underbody and pediatric.



Warming Gowns

3M warming gowns help you maintain normothermia while helping to improve workflows, reduce costs and boost efficiencies.



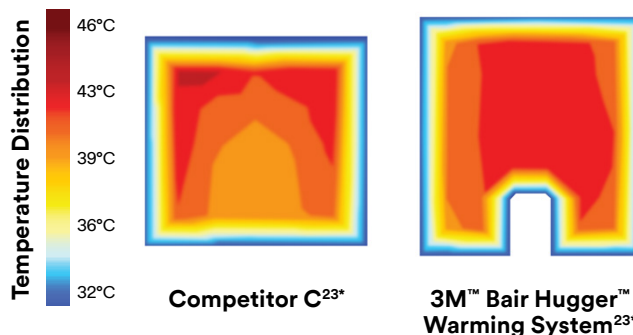
Warming Units

The 3M technology for warming units has adjustable airflow that provides safe, quick temperature response. Maintaining normothermia has been shown to reduce the risk of complications.^{1,7}

See how the 3M™ Bair Hugger™ Warming System compares.

From temperature distribution to heat transfer, in bench testing the 3M™ Bair Hugger™ Warming System demonstrated a difference compared to competition.

[See the full comparison ►](#)



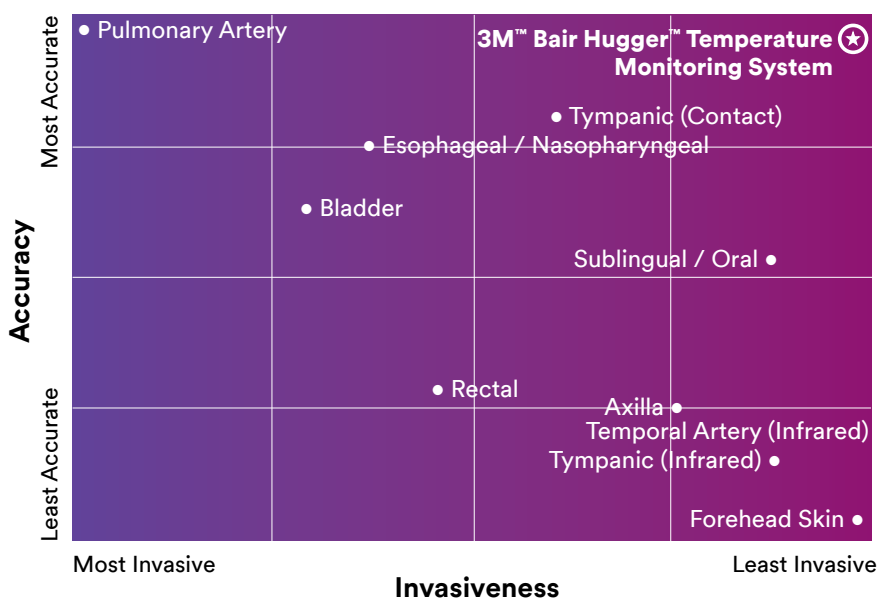
*Images reflect the temperature of the portion of the blanket that transfers heat when inflated (tested per IEC 60601-2-35:2020), without showing additional brand identifying features. Competitive warming unit (used with its lower body blanket) and 3M™ Bair Hugger™ 775 warming unit (120V/60hz) (used with a 52500 lower body warming blanket) were tested on their highest temperature and fan speed settings.



3M™ Bair Hugger™ Temperature Monitoring System

This innovative system includes a control unit and a disposable sensor that stays with the patient. Together, they provide continuous, noninvasive measuring and reporting of core body temperature. The low-touch sensor allows consistent core temperature monitoring that helps eliminate the variability associated with the use of multiple systems and techniques.

Accurate for you. Noninvasive for patients.




Measure core temperature noninvasively.

Core temperature can be measured noninvasively using the zero-heat-flux method provided by the 3M™ Bair Hugger™ Temperature Monitoring System. Clinical studies show this noninvasive system maintains a consistent core temperature agreement over its entire measurement range and, in general, zero heat flux technology provides more accuracy compared to other noninvasive methods.²⁴

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






Ordering information

3M™ Bair Hugger™ Temperature Monitoring System

Description		Model No.	Units/Case
3M™ Bair Hugger™ Temperature Monitoring Sensor		360	25
3M™ Bair Hugger™ Temperature Monitoring Control Unit		370	25

3M™ Bair Hugger™ Warming Blankets

Description		Catalog No.	Units/Case
3M™ Bair Hugger™ Full Access Underbody Warming Blanket		63500	5
3M™ Bair Hugger™ Adult Underbody Warming Blanket		54500	10
3M™ Bair Hugger™ Lithotomy Underbody Warming Blanket		58501	10
3M™ Bair Hugger™ Large Pediatric Underbody Warming Blanket		55000	10
3M™ Bair Hugger™ Pediatric Underbody Warming Blanket		55501	10

Description		Catalog No.	Units/Case
3M™ Bair Hugger™ Multi-position Upper Body Warming Blanket		62200	10
3M™ Bair Hugger™ Lower Body Warming Blanket		52500	10
3M™ Bair Hugger™ Full Body Warming Blanket		30000	10
3M™ Bair Hugger™ Multi-Access Warming Blanket		31500	10
3M™ Bair Hugger™ Small Lower Body Warming Blanket		53700	10

3M™ Bair Hugger™ Warming Gowns

Description		Catalog No.	Units/Case
3M™ Bair Hugger™ Flex Warming Gown		81103 (Small)	20
		81003 (Standard)	30
		81203 (X-Large)	20
3M™ Bair Hugger™ Plus Warming Gown		81102 (Small)	20
		81002 (Standard)	30
		81202 (X-Large)	20
3M™ Bair Hugger™ OR Warming Gown		81101 (Small)	20
		81001 (Standard)	30
		81201 (X-Large)	20

3M™ Bair Hugger™ Warming Units

Description		Model No.	Units/Case
3M™ Bair Hugger™ Warming Unit		675	1
3M™ Bair Hugger™ Warming Unit		775	1
3M™ Bair Hugger™ Patient Adjustable Warming Unit		875	1

Surround your patients with your care and 3M's science.



21 of 22
of the top hospitals
in the United States
use 3M™ Bair Hugger™
Temperature
Management Solutions.²⁵

Help protect your patients from unintended perioperative hypothermia with 3M™ Bair Hugger™ Temperature Management Solutions, the comprehensive warming portfolio from 3M.

Learn more about temperature management at bairhugger.com

NOTE: Specific indications, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.

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