

N.I.C.E in a Nutshell

Prevention of Perioperative Hypothermia

Inadvertent perioperative hypothermia is a common but preventable complication of perioperative procedures, and is associated with poor outcomes for patients. Inadvertent perioperative hypothermia should be distinguished from the deliberate induction of hypothermia for medical reasons. Hypothermia is defined as a patient core temperature of below 36.0°C

In the guideline, the perioperative pathway is divided into three phases: the preoperative phase is defined as the 1 hour before induction of anaesthesia, the intraoperative phase is defined as total anaesthesia time, and the post operative phase is defined as the 24 hours after entry into the recovery area in the theatre suite and time on the ward. The phrase 'comfortably warm' refers to the expected normal temperature range of adult patients (36.5°C to 37.5°C) It is important to prevent inadvertent perioperative hypothermia.

Patients (and their families and carers) should be informed that staying warm before surgery will lower the risk of post operative complications.

Pre Operatively

If the patient's temperature is below 36.0°C active warming should be started preoperatively on the ward or in the emergency department (unless there is a need to expedite surgery because of clinical urgency, for example bleeding or critical limb ischaemia). Staying warm before surgery will lower the risk of postoperative complications.

Induction of anaesthesia should not begin unless the patient's temperature is 36.0°C or above (unless there is a need to expedite surgery because of clinical urgency, for example bleeding or critical limb ischaemia).

Intravenous fluids (500 ml or more) and blood products should be warmed to 37°C using a fluid warming device.

Intra Operatively

During the first 30 to 40 minutes of anaesthesia a patient's temperature can drop to below 35.0°C. There is ample evidence of clinical effectiveness and cost effectiveness for recommendations to be made for using active warming to prevent and treat perioperative hypothermia. Active warming should be maintained throughout this phase.

Patients who are at higher risk of inadvertent perioperative hypothermia and who are having anaesthesia for less than 30 minutes should be warmed intraoperatively from induction of anaesthesia using an active warming device.

All patients having anaesthesia for longer than 30 minutes should be warmed intraoperatively from induction of anaesthesia using an active warming device. The patient should be adequately covered throughout this phase to conserve heat, and exposed only during surgical preparation.

Intravenous fluids (500 ml or more) and blood products should be warmed to 37°C using a fluid warming device.

Post Operatively

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 until they are discharged from the recovery room or until they are comfortably warm. Patients should be kept comfortably warm when on the ward.

The temperature setting on warming devices should be set at maximum and then adjusted to maintain a patient temperature of at least 36.5°C.

Full guideline

The full guideline, 'The management of inadvertent perioperative hypothermia in adults', contains details of the methods and evidence used to develop the guideline. It is published by the National Collaborating Centre for Nursing and Supportive Care, and is available from www.rcn.org.uk, the National Library for Health (www.nlh.nhs.uk) and website (www.nice.org.uk/CG065fullguideline)








Quick reference guide

A quick reference guide for healthcare professionals is available from www.nice.org.uk/CG065quickrefguide



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NICE Guidelines - Equipment for Prevention of Perioperative Hypothermia

PREOPERATIVE	EQUIPMENT USED
<p>Keep patient comfortably warm (36.5 to 37.5C)</p> <p>Patient temperature below 36.0C - Start active warming</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>Geratherm Recovery Blanket System</p> </div> </div>
<p>Warm IV fluids to 37C</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>QED Fluid Warming Cabinets</p> </div> </div>
INTRAOPERATIVE	
<p>Maintain patient warming or</p> <p>Start active warming of patient if core temperature below 36.0C</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>Geratherm OR System. Cover non- surgical areas</p> </div> </div>
<p><u>At induction of anaesthesia:</u> Continue with active warming or Start active warming for patients at higher risk of perioperative hypothermia and/or having anaesthesia lasting more than 30 minutes</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>Geratherm OR System. Cover non- surgical areas</p> </div> </div>
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POSTOPERATIVE	
<p>In theatre recovery start or continue active warming if core temperature is below 36.0C. Continue until patient is comfortably warm (36.5 to 37.5C).</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>Geratherm Recovery Blanket System</p> </div> </div>
<p>Maintain on the ward until patient is comfortably warm (36.5 to 37.5C).</p>	<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">➤</div>  <div style="margin-left: 10px; text-align: right;"> <p>QED Blanket Warming Cabinets</p> </div> </div>