



# Hot Cot Guideline

**Author:** Emily Kemmish ANNP

**Contact details:** [emily.kemmish@nhs.net](mailto:emily.kemmish@nhs.net)

## Guideline History

Date	Comments	Approved By
03/04/2023	Updated by Emily Kemmish	NGG

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## 1. Introduction

Thermoregulation is the capacity to maintain equilibrium between heat loss and heat production in order to sustain body temperature within a normal range. Hypothermia and hyperthermia can have serious effects in neonates, particularly preterm infants.

Hypothermia has also been linked to unnecessary admissions of term infants to neonatal units (NHS improvements, 2017).

Hyperthermia >37.5°C

Normal Temperature 36.5°C to 37.5°C

Hypothermia <36.5°C

Active warming of vulnerable babies such as preterm and low birth weight babies can therefore reduce complications and improve outcomes. The use of CosyTherm™ Hot Cot is to provide an optimal environment for thermoregulation and can be useful when weaning a baby from an incubator into an open cot on the neonatal unit. A Hot Cot can also be useful for the care of vulnerable babies on the maternity ward in providing an optimal thermal environment for them without being separated from parents.

The mattress is designed to provide the baby with pressure relief using an integral foam pad which will cushion the baby. The heat is given off through a special conductive heating mattress which will only provide heat when pressure is applied to the mattress.

## 2. Scope

The purpose of this guideline is to give guidance on maintaining a neutral thermal environment for all neonates; and to minimise risk associated with hypothermia and hyperthermia. The guideline is for use on the neonatal intensive care unit and the maternity wards where a Hot Cot may be required. Benefits include allowing the parents to be more independent with their baby's care and being able to keep baby with mum on the maternity ward.

### 3a. Criteria for transfer to a Hot Cot on NICU

- Well premature or LBW babies who are maintaining their axillary temperature between 36.6°C –37.2°C in an incubator set at ≤32.0°C
- Current baby weight ≥1.4kg with adequate weight gain (average approximately 15-25g/kg/day)
- Ensure the baby is not septic and their observations are stable prior to getting them dressed
- Consider their respiratory support. Babies can be nursed on Vapotherm or CPAP but they would need to be in a larger cot whose sides can collapse to prevent water rising up the tube
- 34-34+6 week gestation babies from birth should be placed in a Hot Cot as per bobble hat pathway.
- 35-35+6 week gestation babies with 2 consecutive temperatures of <36.5 should be nursed in a Hot Cot.

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### 3b. Criteria for transfer to a Hot Cot on Maternity

- Vulnerable babies who have had 2 consecutive axilla temperatures of <36.5, where no other methods of warming have helped (skin to skin, extra layers etc).
- Babies requiring phototherapy who's temperatures cannot be maintained >36.6 effectively.
- If a baby requires a HotCot the Neonatal medical team should be informed.

#### 4a. Hot Cot usage

The CosyTherm™ Hot Cot has 3 different temperature ranges increasing by increments of 0.5°C:

- 28°C – 35°C
- 33°C - 37°C – **please ensure that the control unit is set to this range**
- 32°C - 39°C

To change the temperature range, press the right hand alarm button on the control unit. Once the safety checks have taken place, press and hold the left hand button and scroll through using the middle button to select the correct temperature range.

#### Preparing the CosyTherm™:

- Secure the control unit to the side of the cot and plug into the mains supply
- Ensure the mattress is placed into the cot with the printed side underneath away from the infant
- Switch the control unit on by pressing the green power switch on the right hand side of the machine
- The machine will perform a series of safety checks
- Start the Hot Cot at a temperature of 37°C. The mattress should only take a couple of minutes to reach the set temperature
- When the system is first turned on it will default to the most recent temperature range and setting
- Select the correct temperature setting and wait for it to set prior to transferring the infant
- Cover the mattress with one single sheet. Do not use a nest as it will cause too many layers between the infant and the mattress. If you do need to provide a boundary, use a towel.

#### 4b. Best practice points when nursing an infant in a Hot Cot

- Dress the baby using one layer of clothing to start with, to enable the heat to get through to the baby.
- If the baby is unable to maintain their temperature with the Hot Cot set at 37°C then transfer back into an incubator or for babies on the maternity ward consider an incubator.
- Please inform the neonatal team so the baby can be reviewed, if baby is not maintaining their temperature in a hotcot.
- As you reduce the hot cot temperature, increase the layers of clothing
- Cover the mattress with **one sheet** to allow the heat to reach the baby

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- A maximum of **3 sheets or blankets** should be used to cover the baby. If the baby is not able to maintain their axilla temperature then consider putting them back into an incubator
- Ensure an axilla temperature is taken a minimum of 4 hourly and the Hot Cot adjusted accordingly.

#### **4c. Weaning an infant from a Hot Cot into an Open Cot:**

- Take axilla temperature 2-4 hourly
- Aim to reduce the Hot Cot temperature when the babies temperature is  $\geq 36.8^{\circ}\text{C}$
- Adjust the Hot Cot by  $0.5^{\circ}\text{C}$  at a time and assess the baby's temperature
- Nurse the baby in a single layer of clothing until the Hot Cot has been reduced to  $36.0^{\circ}\text{C}$  then add a vest underneath the babygrow.
- Once the Hot Cot has been reduced to  $33.0^{\circ}\text{C}$ , add a cardigan if required and turn the Hot Cot off.
- The baby can be nursed on the mattress when it is switched off. Keep the baby on the mattress until you are happy that it is no longer required.
- A baby should not be discharged home until they have not required a Hot Cot for  $>24$  hours in babies  $\geq 37$  weeks and  $>48$  hours in babies  $\leq 36+6$ .

#### **5a. Cleaning and storage**

- Ensure the unit is removed from the power supply before cleaning
- Clean the control unit and mattress with detergent wipes as per local policy
- Store the mattress flat in the store cupboard or in a clean cot ready for use. You do not need to keep the units plugged in.
- Always check the mattress and control unit are in good condition prior to use

#### **5b. Problem Solving**

- If the Hot Cot control unit displays a warning message please consult the operating instructions or quick reference guide for further instructions
- If the fault cannot be rectified, put the unit out of use, attach a yellow label stating the fault and include your signature so that confirmation of the problem can be clarified. Notify the NICU technician when hot cot not working.

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- **References**

Inditherm, (2022). Inditherm Medical Cosytherm™ Operating Instructions. [Online] Available at:

<https://pdf.medicalexpo.com/pdf/inspiration-healthcare/cosytherm/76458-207323.html>

NHS Improvement. (2017). Reducing harm leading to avoidable admission of full-term babies into neonatal units. [Online] Available at:

[https://improvement.nhs.uk/documents/764/Reducing\\_term\\_admissions\\_final.pdf](https://improvement.nhs.uk/documents/764/Reducing_term_admissions_final.pdf)

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## **4. Guideline Governance**

### **a. Scope**

This guideline is relevant to all staff caring for babies across neonatal intensive care, transitional care and maternity.

### **b. Purpose**

- i. This guideline aims to facilitate a common approach to the management of babies admitted under neonatal care. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.
- ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

### **c. Duties and Responsibilities**

What is expected from the health care professionals using this guideline to look after infants.

### **d. Approval and Ratification**

This guideline will be approved and ratified by the Neonatal Guidelines Group.

### **e. Dissemination and Implementation**

- i. This guideline will be uploaded to the trust intranet 'Neonatal Guidelines' page and thus available for common use.
- ii. This guideline will be shared as part of ongoing education within the Neonatal Unit for both medical and nursing staff.
- iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

### **f. Review and Revision Arrangements**

- a. This policy will be reviewed on a 5 yearly basis.
- b. If new information comes to light prior to the review date, an earlier review will be prompted.
- c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Neonatal Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

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**g. Equality Impact Assessment**

<p><b>Background</b></p> <ul style="list-style-type: none"> <li>Who was involved in the Equality Impact Assessment</li> </ul>
<p><b>Methodology</b></p> <ul style="list-style-type: none"> <li>A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age)</li> <li>The data sources and any other information used</li> <li>The consultation that was carried out (who, why and how?)</li> </ul>
<p><b>Key Findings</b></p> <ul style="list-style-type: none"> <li>Describe the results of the assessment</li> <li>Identify if there is adverse or a potentially adverse impacts for any equalities groups</li> </ul>
<p><b>Conclusion</b></p> <ul style="list-style-type: none"> <li>Provide a summary of the overall conclusions</li> </ul>
<p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>State recommended changes to the proposed policy as a result of the impact assessment</li> <li>Where it has not been possible to amend the policy, provide the detail of any actions that have been identified</li> <li>Describe the plans for reviewing the assessment</li> </ul>



**h. Document Checklist**

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

**Title of the document:**

**Policy (document) Author:**

**Executive Director:**

		Yes/No/ Unsure/NA	<u>Comments</u>
<b><u>1.</u></b>	<b>Title</b>		
	Is the title clear and unambiguous?	<b>Yes</b>	
	Is it clear whether the document is a guideline, policy, protocol or standard?	<b>Yes</b>	
<b><u>2.</u></b>	<b>Scope/Purpose</b>		
	Is the target population clear and unambiguous?	<b>Yes</b>	
	Is the purpose of the document clear?	<b>Yes</b>	
	Are the intended outcomes described?	<b>Yes</b>	
	Are the statements clear and unambiguous?	<b>Yes</b>	
<b><u>3.</u></b>	<b>Development Process</b>		
	Is there evidence of engagement with stakeholders and users?	<b>Yes</b>	
	Who was engaged in a review of the document (list committees/ individuals)?	<b>Yes</b>	
	Has the policy template been followed (i.e. is the format correct)?	<b>Yes</b>	
<b><u>4.</u></b>	<b>Evidence Base</b>		
	Is the type of evidence to support the document identified explicitly?	<b>Yes</b>	
	Are local/organisational supporting documents referenced?	<b>Yes</b>	

		Yes/No/ Unsure/NA	Comments
<b>5.</b>	<b>Approval</b>		
	Does the document identify which committee/group will approve/ratify it?	Yes	NGG
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	N/A	
<b>6.</b>	<b>Dissemination and Implementation</b>		
	Is there an outline/plan to identify how this will be done?	Yes	
	Does the plan include the necessary training/support to ensure compliance?	Yes	
<b>7.</b>	<b>Process for Monitoring Compliance</b>		
	Are there measurable standards or KPIs to support monitoring compliance of the document?		
<b>8.</b>	<b>Review Date</b>		
	Is the review date identified and is this acceptable?	Yes	April 2026
<b>9.</b>	<b>Overall Responsibility for the Document</b>		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	Yes	
<b>10.</b>	<b>Equality Impact Assessment (EIA)</b>		
	Has a suitable EIA been completed?		

**Committee Approval (Neonatal Guidelines Committee)**

If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner

<b>Name of Chair</b>	<b>Saer Almeree</b>	<b>Date</b>	<b><u>April 2023</u></b>
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**Ratification by Management Executive (if appropriate)**

If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner

**Date: n/a**