Normothermia Audit Tool

# Introduction

## ***Problem Statement***

Patients’ perioperative core temperatures should be maintained at normothermia to prevent surgical site infection (SSI). Normothermia enables adequate immune functioning and perfusion to surgical site tissue. Normothermia maintenance is a complex process that requires the coordination and responsiveness of systems within and outside of the operating room. It might be difficult to achieve.

## ***Purpose of This Tool***

This tool will help your safety program team understand how consistently you maintain normothermia standards in the operating room. It can help your team identify practice patterns, so you can more easily pinpoint opportunities for intervention.

## ***Please Adapt This Tool***

A team of clinicians designed this tool to evaluate normothermia maintenance in their hospital. Please modify this tool to best fit your team’s needs.

## ***How To Use This Tool***

Complete the data table included in this tool. We recommend that you collect data from 10 surgical patents, but there is no right or wrong number of patients to review. The more patients you review, the more likely you are to identify opportunities to improve your perioperative normothermia maintenance. This tool defines normothermia as 36 degrees C or above.

The data you collect are for your internal use only. How you collect this data is up to you. A safety program team member may collect data retrospectively from patient charts. Alternatively, you can attach this data table on the patient chart and complete it in real time as the patient moves through your perioperative area. Only your team knows the approach that will work best in your perioperative area

## ***How To Use Audit Data***

Though data collection may involve only a few team members, the entire improvement team is responsible for creating a cohesive plan to address performance gaps. If the data reveal variation in normothermia maintenance, the improvement team can design a quality improvement intervention to address it. You can use the materials in the AHRQ Toolkit to Promote Safe Surgery, such as the Surgical Complication Prevention guide, to guide your team through the quality improvement intervention design process.

# Instructions for Completion of Data Table

Questions 1–3: Document the patient’s name and medical record number and the date of their operation (postoperative day 0).

Questions 4–6: Document procedure name and key operating room staff.

Question 7: Document the patient’s preoperative temperature on arrival to preoperative area, if available.

Question 8: Document the patient’s temperature in preoperative area prior to going to operating room, if available.

Question 9: Indicate whether a forced air warmer was used in the preoperative area.

Question 10: Document the patient’s first temperature upon arrival to the operating room.

Question 11: Document the patient’s temperature at or just before time of incision.

Question 12: Document the patient’s final temperature in the operating room.

Question 13: Document the patient’s lowest temperature recorded in the operating room and note the time the lowest temperature was taken.

Question 14: Indicate whether a forced air warmer was used in the period between the time of incision and the anesthesia stop time.

Question 15: Document the patient’s first temperature upon arrival to the recovery unit —either the post-anesthesia care unit (PACU) or intensive care unit as appropriate.

Question 16: Indicate whether normothermia (temperature > 36oC or 96.8 oF) was maintained throughout the perioperative period.

Question 17: If normothermia was not maintained, identify the location or locations (preoperative, operating room, post-anesthesia care unit [PACU], etc.) where the patient’s temperature fell below 36oC or 96.8 oF.

For example, if the patient was hypothermic upon arrival to the PACU but was not hypothermic at the conclusion of the case, your team may need to focus on temperature management during transport from the operating room to the PACU.

Question 18: Document the duration of the case. The duration can be determined from the difference between anesthesia start time and anesthesia stop time.

# Data Table

All temperatures should be recorded in Celsius.

| **PARAMETER** | **DATA** |
| --- | --- |
| 1. Patient name |  |
| 1. Medical record number |  |
| 1. Date of operation |  |
| 1. Procedure type |  |
| 1. Surgeon |  |
| 1. Anesthesiologist or certified registered nurse anesthetist |  |
| 1. Temperature on arrival to preoperative area | \_\_\_\_\_ oC or NA\* |
| 1. Temperature in preoperative area prior to going to operating room | \_\_\_\_\_ oC or NA |
| 1. Convective warmer used in preoperative area? (e.g., Bair Hugger\*\*) | Yes □ No □ |
| 1. First temperature in operating room | \_\_\_\_\_ oC or NA |
| 1. Temperature at or just prior to time of incision | \_\_\_\_\_ oC or NA |
| 1. Final temperature in operating room | \_\_\_\_\_ oC or NA |
| 1. Lowest temperature recorded in the operating room | \_\_\_\_\_ oC Time \_\_\_\_\_ |
| 1. Convective warmer used intraoperatively? | Yes □ No □ |
| 1. Temperature on arrival to post-anesthesia care unit/intensive care unit | \_\_\_\_\_ oC or NA |
| 1. Was the patient’s temperature maintained at 36oC or above during the entire perioperative period? | Yes □ No □ |
| 1. If the patient’s temperature was documented below 36oC, where was the patient located at that time? *(Check all that apply)* | Preoperative □  OR at incision □  OR intraoperative □  OR at case stop □  PACU/ICU □ |
| 1. Duration of case   Anesthesia stop time minus anesthesia start time | ­\_\_\_\_\_hours \_\_\_\_\_minutes |

ICU = intensive care unit; OR = operating room; PACU = post-anesthesia care unit

\*Not available

\*\*Use of brand names is for identification only and does not imply endorsement by the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services

AHRQ Pub. No. 16(18)-0004-6-EF

December 2017