Measure Abbreviation: TEMP 03

Description: Percentage of patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer for whom at least one body temperature greater than or equal to 36 degrees Celsius (or 96.8 degrees Fahrenheit) was recorded within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.

Measure Time Period: Case start to case end

Measure Type: Outcome

Measure Summary: TEMP 03 is a temperature management outcome measure that identifies the percentage of patients who undergo procedures under general or neuraxial anesthesia greater than or equal to 60 minutes or longer for whom at least one body temperature greater than or equal to 36 degrees Celsius (or 96.8 degrees Fahrenheit) was recorded within 30 minutes immediately before or 15 minutes after anesthesia end time. For sites that do not contribute PACU data to ASPIRE, this measure will only capture data documented by the anesthesia provider on the intraoperative anesthetic record.

Rationale:
Perioperative hypothermia is defined as a core temperature less than 36 degrees Celsius by both the National Institute of Health and Clinical Excellence and the American Heart Association.¹ ² It is not uncommon for a patient’s core temperature to drop during surgery due to anesthetic induced peripheral vasodilation, exposure of skin during the surgical prep or impaired heat distribution. Pediatric patients are more likely to develop perioperative hypothermia due to a high surface area to weight ratio, minimal subcutaneous fat and inability to regulate their own temperature.³ Perioperative hypothermia can result in multiple adverse effects including surgical site infections, cardiovascular events, impaired wound healing and increased hospital length of stay. Such adverse effects are prevented through maintenance of normothermia intraoperatively.⁴ ⁹

Inclusions:
- All patients, regardless of age, who undergo surgical or therapeutic procedures under general or neuraxial anesthesia of 60 minutes duration or longer.

Exclusions:
- Cases <60 minutes duration between anesthesia start and anesthesia end.
- MAC cases
- Peripheral Nerve Block only cases
- Radical clavicle or scapula surgery (CPT: 00452)
- Thoracolumbar sympathectomy (CPT: 00622)
- Lumbar chemonucleolysis (CPT: 00634)
- Diagnostic arteriography/venography (CPT: 01916)
- Organ harvest (CPT: 01990)
Anesthesia for diagnostic or therapeutic nerve blocks/injections (CPT: 01991, 01992)
Other anesthesia procedure (CPT: 01999)
Cardiac surgery (CPT: 00561, 00562, 00563, 00566, 00567, 00580, 01920)
Obstetric Operative Procedures (CPT: 01968, 01969)
Acute Pain Management (CPT: 01996)
Obstetric Non-Operative Procedures (CPT: 01958, 01960, 01967)
Obstetric Non-Operative Procedures with procedure text: “Labor Epidural”
Cases with an intraoperative note mapped to intentional hypothermia (MPOG concept: 50037)
Emergency cases (MPOG concepts: 70142 or 515)

MPOG Concept IDs Required:

<table>
<thead>
<tr>
<th>Temperature MPOG Concept IDs</th>
<th>Exclusion MPOG Concept IDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>3050 Temp 1- Unspecified Site</td>
<td>50037 Intentional hypothermia</td>
</tr>
<tr>
<td>3051 Temp 2- Unspecified Site</td>
<td>70142 Assessment and Plan-Emergent Status</td>
</tr>
<tr>
<td>3052 Temp 1- Monitoring Site</td>
<td></td>
</tr>
<tr>
<td>3053 Temp 2- Monitoring Site</td>
<td></td>
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<tr>
<td>3031 Temperature- Temporal Artery</td>
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<tr>
<td>3054 Temperature- Skin</td>
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<td>3055 Temperature- Esophageal</td>
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<td>3056 Temperature- Blood</td>
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<td>3057 Temperature- Tympanic</td>
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<tr>
<td>3058 Temperature- Bladder</td>
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<tr>
<td>3059 Temperature- Nasopharyngeal</td>
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<tr>
<td>3060 Temperature- Axillary</td>
<td></td>
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<tr>
<td>3061 Temperature- Rectal</td>
<td></td>
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<tr>
<td>50174 Postoperative vital signs</td>
<td></td>
</tr>
</tbody>
</table>

Data Diagnostics Affected:
- Cases with a Temperature Observation
Cases with Staff Tracking
Staff Role Mapping
Staff Sign-Ins are Timed

Phenotypes Used:
- Anesthesia Technique- General
- Anesthesia Technique- Neuraxial
- Anesthesia Duration
- Procedure Type- Labor Epidural

Other Measure Build Details:
This measure requires CPT codes to be transferred to the MPOG database for cases to be included. Those sites participating with this measure must have current pro fee procedure data in the MPOG Central database- refer to the flow diagram on page 6 of this specification for more details.

Temperature documented in within the postop vital sign note in the anesthetic record or temperatures documented and mapped to the temperature physiologic concepts are acceptable sources for this measure. Conversion from F to C:  

\[ F = \frac{32 + \frac{9}{5}}{\text{°C}} \]

Artifact algorithm:
- Less than 32.0°C (89.6F)
- Greater than 40.0°C (104.0F)
- Any minute-to-minute jumps >0.5°C equivalent.
  Example: 0.125°C /15s, 0.25°C / 30s, 1°C / 2mins

Algorithm for determining Case Duration:
Case Start:
1. Anesthesia Induction End. If not available, then
2. Anesthesia Induction Begin. If not available, then
3. Procedure Start. If not available, then
4. Patient in Room. If not available, then
5. Anesthesia Start
Case End:
1. Patient Extubated. If not available, then
2. Procedure End. If not available, then
3. Patient Out of Room. If not available, then
4. Anesthesia End.

Success: At least one body temperature measurement equal to or greater than 36 degrees Celsius (or 96.8 degrees Fahrenheit) achieved within the 30 minutes immediately before or the 15 minutes immediately after anesthesia end time.
Threshold: 90%.

**Responsible Provider:** Provider present for longest duration of the case per staff role. See ‘Other Measure Build Details’ section of this specification to view the algorithm used for determining case duration.

**Method for determining Responsible Provider:**
In the event that two or more providers in the same class are signed in for the same duration, all providers signed in for the longest duration will be attributed.

**Risk Adjustment (for outcome measures):**
*Not applicable.*
TEMP 03 Flow Diagram

Start:
All Patients

MAC case?
Yes → Exclude
No

Peripheral Nerve Block only case?
Yes → Exclude
No

General or neuraxial anesthesia performed?
Yes

Anesthesia Duration ≥60 minutes?
Yes

Appropriate Case by CPT Inclusion List?
Yes

Temperature documented within 30 min before Anes End and 15 min after Anes End?
No

Temp ≥ 36°C (98.6°F)?
Yes → Exclude
No

Emergency or intentional hypothermia?
Yes → Exclude
No

Pass
Fail

*Refer to page 2 of this measure specification for the complete list of included procedures by CPT code.
References:


