Measure Abbreviation: TEMP 02

Data Collection Method: This measure is calculated based on data extracted from the electronic medical record combined with administrative data sources such as professional fee and discharge diagnoses data. This measure is explicitly not based on provider self-attestation.

Measure Description: Percentage of cases with increased risk of hypothermia that the anesthesia provider documented core temperature.

NQS Domain: Effective Clinical Care

Measure Type: Process

Scope: Calculated on a per case basis.

Measure Summary: TEMP 02 is the core temperature monitoring measure that will identify the percentage of cases where the anesthesia provider documented at least one core temperature intraoperatively for any patient receiving a general anesthetic.

Core or Near Core Temperature Monitoring Includes:

- Pulmonary Artery Temperature
- Distal Esophageal Temperature
- Nasopharyngeal Temperature
- Tympanic Membrane Temperature
- Bladder Temperature
- Rectal Temperature
- Axillary Temperature (arm must be at patient side)
- Oral Temperature

Peripheral Temperatures (not compliant):

- Skin Temperature
- Temporal Artery Temperature

Rationale:
General and neuraxial anesthesia causes vasodilation thus redistributing body heat from the core to peripheries. This redistribution can cause hypothermia. Core temperatures outside the normal range pose significant risks to patients. Published research has correlated impaired wound healing, adverse cardiac events, altered drug metabolism, and coagulopathies with unplanned perioperative hypothermia. These adverse outcomes resulted in prolonged hospital stays and increased healthcare expenditures. Core temperature measurements are less variable than skin temperature measurements and more accurately represent body temperature.[1-3]

Inclusions:
All surgical patients receiving general anesthesia

Exclusions:

- ASA 5 and 6 cases
- Neuraxial anesthesia as primary technique
- MRI Cases (CPT: 01922)
- Cases ≤30 minutes between Case Start and Case End.

    *Algorithm for determining Case Length:

    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

MPOG Concept IDs Used:

Temperature MPOG Concept IDs		Case Time MPOG Concept IDs	
3031	Temperature- Temporal Artery	**50002**	AACD Anesthesia Start Date/Time
3050	Temp 1- Unspecified Site	**50003**	AACD Patient in Room Date/Time
3051	Temp 2- Unspecified Site	**50004**	AACD Induction Start Date/Time
3052	Temp 1- Monitoring Site	**50005**	AACD Induction End Date/Time
3053	Temp 2- Monitoring Site	**50006**	AACD Procedure Start Date/Time
3054	Temperature- Skin	**50007**	AACD Procedure Finish Date/Time
3055	Temperature- Esophageal	**50008**	AACD Patient out of room Date/Time
3056	Temperature- Blood	**50009**	AACD Anesthesia End Date/Time
3057	Temperature- Tympanic		
3058	Temperature- Bladder		
3059	Temperature- Nasopharyngeal		
3060	Temperature- Axillary		
3061	Temperature- Rectal		
3533	Temperature Route		
50191	Monitoring- Temperature Probe Placed		
50192	Monitoring- Temperature Probe Location/Type		

Data Diagnostics Affected:

- Percentage of Cases with a Temperature Observation
- Percentage of Cases with an Extubation Note
- Percentage of Cases with Anesthesia Induction End Documented
- Percentage of Cases with Temperature Location Documented

Collations Used:

- AnesthesiaStart
- AnesthesiaEnd
- AnesthesiaTechniqueGeneral
- CaseStart
- ASA5or6
- ProcedureTypeMri

- CaseDuration

Other Measure Build Details:

- 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
- Conversion from F to C: F=32 +9/5 (°C)
- If temperature site not present in physiologic concept, refer to intraop notes.

Success: Cases with at least one core temperature documented between Anesthesia Start and Anesthesia End.

Threshold: 90% success.

Responsible Provider: Provider present at induction end.

Method for determining Responsible Provider:

1. Provider signed in at Anesthesia Induction End. If not available then,
2. Provider signed in at Anesthesia Induction Begin. If not available then,
3. Provider signed in at Procedure Start. If not available then,
4. Provider signed in at Patient in Room. If not available then,
5. Provider signed in at Anesthesia Start

Risk Adjustment (for outcome measures):
Not applicable.

References:

1. Sun Z, Honar H, Sessler DI, et al. Intraoperative core temperature patterns, transfusion requirement, and hospital duration in patients warmed with forced air. *Anesthesiology.* 2015;122(2):276-285.
2. Insler SR, Sessler DI. Perioperative thermoregulation and temperature monitoring. *Anesthesiology clinics.* 2006;24(4):823-837.
3. Sessler DI. Temperature monitoring and perioperative thermoregulation. *Anesthesiology.* 2008;109(2):318-338.