Measure Abbreviation: BP 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.

Description: Percentage of cases where gaps greater than 10 minutes in blood pressure monitoring are avoided.

Measure Time Period: Intraoperative. See ‘Other Measure Build Details’ for more information

Measure Type: Process

Measure Summary: BP 02 measures the avoidance of blood pressure monitoring gaps greater than ten minutes. Timely blood pressure readings are an essential component of anesthesia vigilance. A measurement gap will be recorded for cases that have greater than ten minutes between consecutive blood pressure readings. The measure will capture non-invasive and invasive BP measurements.

Rationale: The American Society of Anesthesiologist (ASA) standards for basic anesthetic monitoring includes an evaluation of blood pressure at least every five minutes in an effort to ensure adequate circulatory function during anesthesia. A retrospective study including 130,000 general anesthesia cases confirmed that blood pressure gaps greater than six and ten minutes are associated with a higher incidence of a patient transitioning into hypotension, leading to an increased risk of developing kidney or myocardial injury postoperatively. Extenuating circumstances where BP is not quantitatively measured every five minutes should be documented in the patient's medical record.¹⁻³

Hypotension is strongly associated with mortality, acute kidney injury, and myocardial ischemia. The avoidance of hypotension requires the timely and frequent measurement of blood pressure.

Inclusions: All patients receiving anesthesia care by an anesthesiology provider, regardless of primary anesthesia technique.

Exclusions:
- ASA 5 and 6.
- Obstetric Non-Operative Procedures (CPT: 01958, 01960, 01967)
- Obstetric Non-Operative Procedures with procedure text: “Labor Epidural”
- Diagnostic Procedures (CPT: 01922)
- MRI Rooms (Rooms tagged as Radiology-MRI)
- MRI with procedure text:
  - MRI
  - MR Head
  - MR Brain
  - MR Chest
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- MR Torso
- MR Abdomen
- MR Lumbar
- MR Spine
- MR Knee
- MR Femur
- MR Abdomen
- OFFSITE - RADIOLOGY PROCEDURE

**MPOG Concept IDs Required:**

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<th>MPOG Concept IDs</th>
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**Data Diagnostics Affected:**

- Percentage of Physiologic Observations with a Meaningful Type Mapping
- Percentage of Cases with Invasive Blood Pressure
- Percentage of Cases with Non-invasive Blood Pressure
- Percentage of Cases with Physiologic Observations
- Percentage of Physiologic Rows that are Machine Captured
- Percentage of Cases with any Staff Tracking
- Percentage of Anesthesia Provider Sign-Ins that are Timed

**Phenotypes Used:**

- AsaNotes
- MpogCaseId
- ProcedureText
- AnesthesiaEnd
- AnesthesiaStart
- Asa5or6
- DataCaptureEnd
- DataCaptureStart
- PatientInRoom
Algorithm for determining Measure Start/End Times:

**Measure Start Time:**
First Blood Pressure Reading after the latest of these 3 times:
1. First documented Anesthesia Start time.
2. First documented Patient in Room time.
3. First documented Data Capture Start time.

**Measure End Time:**
1. Patient Out of Room. If not available,
2. Data Capture End. If not available,
3. Anesthesia End.

**Success:** Blood pressure monitoring with ≤10-minute gap in measurement interval.

**Threshold:** 90%.

**Responsible Provider:** Individual signed into case at the 11th minute of identified measurement gap. Providers signed in for ≤10 minutes from the measure start time will be excluded.

**Method for determining Responsible Provider:** BP 02 is calculated by examining every gap during the case so there may be multiple responsible providers per case. For example, if two anesthesiologists participated in a case and each anesthesiologist had a gap in monitoring, both would be responsible. The case will populate the institutional flagged cases list once. If an anesthesia provider has multiple gaps during a case, he/she would have multiple flags.

**Risk Adjustment (for outcome measures):** *Not applicable.*

**References:**