**Measure Abbreviation:** BP 02

**Description:** Percentage of unique time intervals during a case where long gaps in blood pressure monitoring are avoided.

**NQS Domain:** Effective Clinical Care

**Measure Type:** Process

**Scope:** Calculated on a per case, per staff basis.

**Measure Summary:** BP 02 measures the avoidance of blood pressure monitoring gaps greater than 10 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:** American Society of Anesthesiologist (ASA) standards for basic anesthetic monitoring includes an evaluation of blood pressure at least every five minutes. Extenuating circumstances should be documented in the patient's medical record.

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 Procedure Rooms (Rooms tagged as OB-GYN – Labor and Delivery)
- Obstetric Non-Operative Procedures with procedure text: "Labor Epidural"
- MRI Cases (CPT: 01922)
- MRI Rooms (Rooms tagged as Radiology-MRI)
- MRI with procedure text:
    - MRI
    - MR Head
    - MR Brain
    - MR Chest
    - MR Torso
    - MR Abdomen
    - MR Lumbar
    - MR Spine

**Exclusions (continued):**

- MRI with procedure text:
  - MR Knee
  - MR Femur
  - MR Abdomen
  - OFFSITE - RADIOLOGY PROCEDURE

**MPOG Concept IDs Required:**

| **BP MPOG Concept IDs** | | | | | |
|---|---|---|---|---|---|
| **3011** | BP Sys Invasive Unspecified Site 1 | **3027** | BP Dias Invasive Unspecified Site 4 | **3046** | BP Sys Invasive Unspecified Site 3 |
| **3012** | BP Dias Invasive Unspecified Site 1 | **3030** | BP Sys Arterial Line (Invasive, Peripheral) | **3047** | BP Dias Invasive Unspecified Site 3 |
| **3015** | BP Sys Non-invasive | **3035** | BP Dias Arterial Line (Invasive, Peripheral) | **3475** | BP Sys Invasive Unspecified Site 5 |
| **3020** | BP Dias Non-invasive | **3041** | BP Sys Invasive Unspecified Site 2 | **3476** | BP Dias Invasive Unspecified Site 5 |
| **3025** | BP Mean Non-invasive | **3042** | BP Dias Invasive Unspecified Site 2 | | |
| **3026** | BP Sys Invasive Unspecified Site 4 | | | | |

**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

**Collations Used:**

- AsaNotes
- MpogCaseId
- ProcedureText
- AnesthesiaEnd
- AnesthesiaStart
- Asa5or6
- DataCaptureEnd
- DataCaptureStart
- PatientInRoom
- PatientOutOfRoom

- ProcedureTypeLaborEpidural
- ProcedureTypeMri

**Other Measure Build Details:**

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 11$^{th}$ minute of identified measurement gap.

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

**Risk Adjustment (for outcome measures):**

*Not applicable.*

**References:**

Standards and Practice Parameters Committee. (2012). American Society of Anesthesiologists. Standards for basic anesthetic monitoring.