



**Measure Abbreviation:** PONV 02 (MIPS 463)

*\*PONV 02 is built to the specification outlined by the Merit Based Incentive Program (MIPS) 463: Prevention of Post-Operative Vomiting (POV) – Combination Therapy measure (Pediatrics). MIPS measure specifications are available for download at <https://qpp.cms.gov/resources/education>*

**Description:** Percentage of patients aged 3 through 17 years of age, who undergo a procedure under general anesthesia in which an inhalational anesthetic is used for maintenance AND who have two or more risk factors for post-operative vomiting (POV), who receive combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively and/or intraoperatively.

**NQS Domain:** Patient Safety

**Measure Type:** Process

**Measure Summary:** The PONV 02 (MIPS 463) measure identifies the percentage of pediatric patients who undergo a surgical procedure under general anesthetic, and who have two or more risk factors for postoperative vomiting (POV), who receive combination therapy consisting of at least two prophylactic pharmacologic antiemetic agents of different classes preoperatively and/or intraoperatively.<sup>1</sup> The purpose of this process of care measure is to reduce the incidence of postoperative nausea and vomiting in pediatric patients.

**Rationale:** Postoperative nausea and vomiting (PONV) is an important patient-centered outcome of anesthesia care. PONV is highly dissatisfying to patients, although rarely life-threatening. A large body of scientific literature has defined risk factors for PONV and demonstrated high variability in this outcome across individual centers and providers. Between 62-73 percent of children experience POV when prophylactic anti-emetics are not administered.<sup>2</sup> Beyond the discomfort associated with the condition, POV is a comorbidity which can cause significant postoperative complications, including dehydration and postoperative bleeding.<sup>3</sup> In several studies, incidence of POV decreased significantly in children receiving combination therapy compared to control groups not receiving combination therapy for POV.<sup>4-6</sup> A separate measure is needed for pediatric patients because the risk factors and recommended prophylaxis are different from adults.

**Inclusions:**

- All patients, age 3 through 17 years of age, who undergo any procedure under general anesthesia in which an **inhalational general anesthetic** is used for maintenance AND who have **two or more risk factors for POV**.
  - POV Risk Factors:
    - Age ≥ 3 years
    - History of POV or Post-Operative Nausea and Vomiting (PONV) in patient, parent or sibling
    - Strabismus surgery (Indicated by CPT: 00140 or procedure text listed as 'strab' 'eye' 'ocular' or 'lacrimal')
    - Surgery ≥ 30 minutes

**Algorithm for determining Case Length:**

Case Start:

1. Anesthesia Induction End. If not available, then
2. Anesthesia Induction Start. 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. LMA Removal Time. If not available, then
3. Procedure End. If not available, then
4. Patient Out of Room. If not available, then
5. Anesthesia End

- Procedures (by CPT) included: 00100, 00102, 00103, 00104, 00120, 00124, 00126, 00140, 00142, 00144, 00145, 00147, 00148, 00160, 00162, 00164, 00170, 00172, 00174, 00176, 00190, 00192, 00210, 00211, 00212, 00214, 00215, 00216, 00218, 00220, 00222, 00300, 00320, 00322, 00350, 00352, 00400, 00402, 00404, 00406, 00410, 00450, 00454, 00470, 00472, 00474, 00500, 00520, 00522, 00524, 00528, 00529, 00530, 00532, 00534, 00537, 00539, 00540, 00541, 00542, 00546, 00548, 00550, 00560, 00562, 00563, 00566, 00567, 00580, 00600, 00604, 00620, 00625, 00626, 00630, 00632, 00635, 00640, 00670, 00700, 00702, 00730, 00731, 00732, 00750, 00752, 00754, 00756, 00770, 00790, 00792, 00794, 00796, 00797, 00800, 00802, 00811, 00812, 00813, 00820, 00830, 00832, 00840, 00842, 00844, 00846, 00848, 00851, 00860, 00862, 00864, 00865, 00866, 00868, 00870, 00872, 00873, 00880, 00882, 00902, 00904, 00906, 00908, 00910, 00912, 00914, 00916, 00918, 00920, 00921, 00922, 00924, 00926, 00928, 00930, 00932, 00934, 00936, 00938, 00940, 00942, 00944, 00948, 00950, 00952, 01112, 01120, 01130, 01140, 01150, 01160, 01170, 01173, 01200, 01202, 01210, 01212, 01214, 01215, 01220, 01230, 01232, 01234, 01250, 01260, 01270, 01272, 01274, 01320, 01340, 01360, 01380, 01382, 01390, 01392, 01400, 01402, 01404, 01420, 01430, 01432, 01440, 01442, 01444, 01462, 01464, 01470, 01472, 01474, 01480, 01482, 01484, 01486, 01490, 01500, 01502, 01520, 01522, 01610, 01620, 01622, 01630, 01634, 01636, 01638, 01650, 01652, 01654, 01656, 01670, 01680, 01710, 01712, 01714, 01716, 01730, 01732, 01740, 01742, 01744, 01756, 01758, 01760, 01770, 01772, 01780, 01782, 01810, 01820, 01829, 01830, 01832, 01840, 01842, 01844, 01850, 01852, 01860, 01916, 01920, 01922, 01924, 01925, 01926, 01930, 01931, 01932, 01933, 01935, 01936, 01951, 01952, 01953, 01958, 01960, 01961, 01962, 01963, 01965, 01966, 01991, 01992

**Exclusions:**

- Patients <3 or > 17 years old.
- Procedures on the Neck (CPT 00326)
- Intrathoracic Procedures (CPT 00561)
- Procedures on the Lower Abdomen (CPT 00834)
- Labor Epidurals (CPT 01967, 01968, 01969)
- Endoscopy (CPT 00740, 00810)
- Obturator neurectomy (CPT 01180, 01190)
- Shoulder cast application (CPT 01682)
- Obstetric Non-Operative Procedure Rooms (Rooms tagged as OB-GYN – Labor and Delivery)

- Obstetric Non-Operative Procedures with procedure text: “Labor Epidural”
- Cases in which an inhalation anesthetic is used only for induction

**MPOG Concept IDs Required:**

| <b>General Inhalational Anesthetic MPOG Concept IDs</b>        |   |
|--|---|
| <b>3297</b>  | Enflurane Exp %   |
| <b>3298</b>  | Enflurane Insp %  |
| <b>3006</b>  | Isoflurane actual consumption (ml)                      |
| <b>3007</b>  | Desflurane actual consumption (ml)                      |
| <b>3260</b>  | Isoflurane Exp %  |
| <b>3265</b>  | Isoflurane Insp%  |
| <b>3280</b>  | Desflurane Exp %  |
| <b>3285</b>  | Desflurane Insp %                                       |
| <b>50420</b>   | Cardiopulmonary bypass – Isoflurane vaporizer turned on |
| <b>3008</b>  | Sevoflurane actual consumption (ml)                     |
| <b>3270</b>  | Sevoflurane Exp %                                       |
| <b>3275</b>  | Sevoflurane Insp %                                      |
| <b>3503</b>  | Sevoflurane (mmHg)                                      |
| <b>3250</b>  | Nitrous Insp %  |
| <b>3255</b>  | Nitrous Exp %   |
| <b>Antiemetic MPOG Concept IDs (by class)</b>                  |   |
| <b>Class: 5-Hydroxytryptamine (5-HT3) Receptor Antagonists</b> |   |
| <b>10335</b>   | Ondansetron   |
| <b>10164</b>   | Dolasetron  |
| <b>10208</b>   | Granisetron   |
| <b>10711</b>   | Palonosetron  |

| <b>Anticholinergics</b>  |   |
|--|---|
| <b>10400</b>   | Scopolamine Patch                             |
| <b>10399</b>   | Scopoloamine                                  |
| <b>11040</b>   | Butylscopolamine                              |
| <b>Antihistamines</b>  |   |
| <b>10257</b>   | Dimenhydrinate                                |
| <b>10160</b>   | Diphenhydramine                               |
| <b>Butyrophenones</b>  |   |
| <b>10169</b>   | Droperidol                                    |
| <b>10210</b>   | Haloperidol                                   |
| <b>Neurokinin-1 Receptor Agonists</b>                                      |   |
| <b>10035</b>   | Aprepitant                                    |
| <b>10179</b>   | Fosaprepitant                                 |
| <b>Phenothiazines</b>  |   |
| <b>10374</b>   | Promethazine                                  |
| <b>10373</b>   | Prochlorperazine                              |
| <b>Steroids</b>  |   |
| <b>10147</b>   | Dexamethasone                                 |
| <b>10296</b>   | Methylprednisolone                            |
| <b>PONV Medical Reason Exclusion MPOG Concept ID</b>                       |   |
| <b>50046</b>   | Medical Performance Exclusion- PONV           |
| <b>PONV Risk Factor- History of PONV/Motion Sickness MPOG Concept IDs:</b> |   |
| <b>70225</b>   | Assessment and Plan - Comments                |
| <b>70302</b>   | Assessment and Plan- Anesthetic Consideration |

## PONV 02 Measure Specification (Page 5 of 7)

|              |                                      |
|--------------|--------------------------------------|
| <b>70338</b> | General- PONV Risk Factors           |
| <b>70339</b> | General- PONV Risk Total Score       |
| <b>70080</b> | General- Previous Anesthetic Problem |

### Data Diagnostics Affected:

- Percentage of Cases with Professional Fee Procedure Codes
- Percentage of Cases with Antiemetic Medications
- Percentage of Intraoperative Notes with a Meaningful Note Mapping
- Percentage of Preoperative Notes with a Meaningful Type Mapping

### Collations Used:

- History of PONV in patient, parent or sibling
- AgeInYears
- ProcedureTypeLaborEpidural
- PrimaryAnesthesiaCPT
- PreopPONVHistoryClassification

### 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 7 of this specification for more details.

For a case to be included for the PONV 02 measure, the patient must have received inhalational general anesthetic for ***maintenance*** purposes AND have two or more risk factors for POV. This measure determines ***maintenance*** as any inhalational general anesthetic administered after procedure start (MPOG Concept 50006).

**Success:** Patient receives combination therapy consisting of at least two prophylactic pharmacologic anti-emetic agents of different classes preoperatively or intraoperatively

Anti-emetic therapy: The recommended pharmacologic anti-emetics for PONV prophylaxis in pediatric patients at risk for moderate to severe PONV include (but may not limited to):

- 5-Hydroxytryptamine (5-HT<sub>3</sub>) Receptor Antagonists (Recommended as the first choice for prophylaxis for POV in children)
- Glucocorticoids
- Anticholinergics
- Antihistamines
- Butyrophenones
- Phenothiazines
- Phenylethylamines
- NK-1 Receptor Antagonists

**Definition Note:** The foregoing list of medications/drug names is based on clinical guidelines and other evidence. The specified drugs were selected based on the strength of evidence for their clinical effectiveness. This list of selected drugs may not be current. Physicians and other health care professionals should refer to the FDA's web site page entitled "Drug Safety Communications" for up-to-date drug recall and alert information when prescribing medications.

**Threshold:** 90%

**Responsible Provider:** Provider(s) signed in at Induction End.

**Method for determining Responsible Provider:**

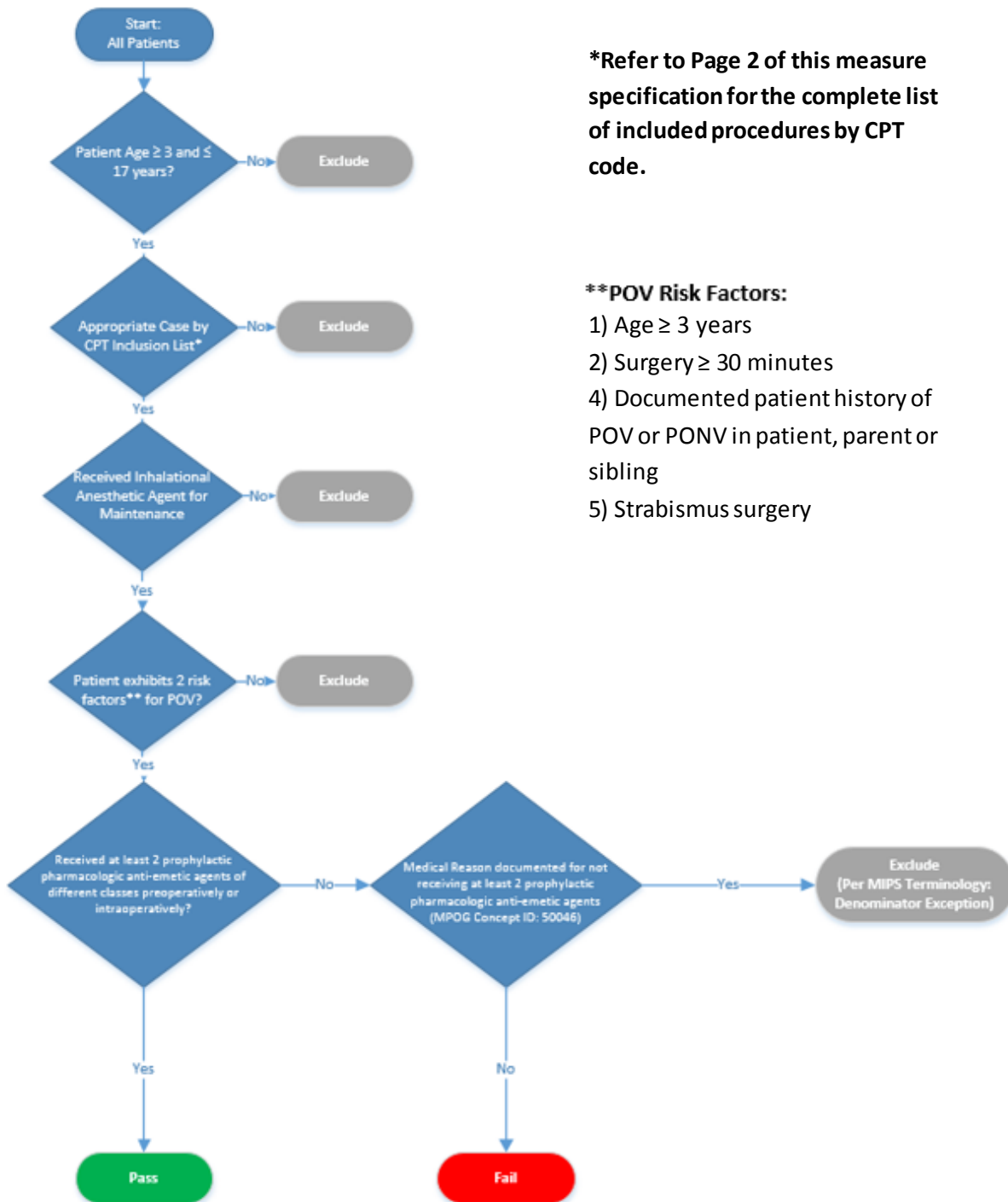
1. Provider signed in at Anesthesia Induction End. If not available then,
2. Provider signed in at Anesthesia Induction Begin. If not available then,
3. Provider signed in at Procedure Start. If not available then,
4. Provider signed in at Patient in Room. If not available then,
5. Provider signed in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

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

**References:**

1. Gan TJ, Meyer TA, Apfel CC, et al. Society for Ambulatory Anesthesia guidelines for the management of postoperative nausea and vomiting. *Anesthesia and analgesia*. 2007;105(6):1615-1628, table of contents.
2. Fujii Y. Current management of vomiting after tonsillectomy in children. *Current drug safety*. 2009;4(1):62-73.
3. Kovac AL. Management of postoperative nausea and vomiting in children. *Paediatric drugs*. 2007;9(1):47-69.
4. Abd-Elshafy SK, Yacoup AM, Abdalla EE, El-Melegy TT, Abd-El salam KA. A New Look on Adding Dexamethasone as an Adjuvant to Caudal Bupivacaine; Efficacy on Postoperative Pain and Vomiting in Pediatric Patients. *Pain physician*. 2016;19(6):E841-852.
5. Fazel MR, Yegane-Moghaddam A, Forghani Z, Aghadoost D, Mahdian M, Fakharian E. The effect of dexamethasone on postoperative vomiting and oral intake after adenotonsillectomy. *International journal of pediatric otorhinolaryngology*. 2007;71(8):1235-1238.
6. Fearon JA, Dimas V, Ditthakasem K, Herbert MA. A Randomized Controlled Trial of Oral Versus Intravenous Administration of a Nonnarcotic Analgesia Protocol Following Pediatric Craniosynostosis Corrections on Nausea and Vomiting Rates. *The Journal of craniofacial surgery*. 2015;26(6):1951-1953.

**PONV 02 Flow Diagram**



**\*Refer to Page 2 of this measure specification for the complete list of included procedures by CPT code.**

**\*\*POV Risk Factors:**

- 1) Age ≥ 3 years
- 2) Surgery ≥ 30 minutes
- 4) Documented patient history of POV or PONV in patient, parent or sibling
- 5) Strabismus surgery