



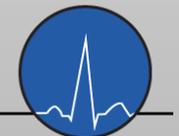
ASPIRE

Anesthesiology Performance Improvement and Reporting Exchange



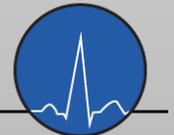
Quality Committee Meeting

March 16th, 2015



Agenda

- Review dashboards
- Measure updates
- Year 2 measures



Review Dashboards – aspirecqi.org

Data Sets Reports Variables Settings Data Set: University of Michigan GalileoTest

Departmental Dashboard

Overview Neuromuscular Monitoring Glucose Management Physiologic

Neuromuscular Monitoring

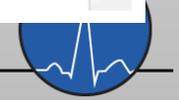
Item	Performance (Past 12 months)	Target
NMB-01: Your Institution's Performance	89.33% (❌)	90.00%
NMB-02: Your Institution's Performance	96.16% (✅)	90.00%

Glucose Management

Item	Performance (Past 12 months)	Target
GLU-01a: Your Institution's Performance	96.40% (✅)	90.00%
GLU-02a: Your Institution's Performance	78.57% (❌)	90.00%

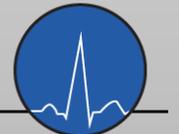
Physiologic

Item	Performance (Past 12 months)
PUL-01: Your Institution's Performance	



Measure Updates

- INF 01 – shelved until we are able to exclude with CPT codes and better documentation of exceptions
- GLU 01b – shelved until more sites have preop and PACU data
- GLU 02b – shelved until more sites have preop and PACU data
- NMB 02 – discuss reducing duration of time after non-depolarizing neuromuscular blockade not needed from 4 hours to 3 hours.
- PUL 01 – Using median tidal volume



Measures

- 1 Active warming for all patients at risk of intraoperative hypothermia
- 2 Core temperature measurement for all general anesthetics
- 3 At-risk adults undergoing general anesthesia given 2 or more classes of anti-emetics
- 4 At-risk pediatric patients undergoing general anesthesia given 2 or more classes of anti-emetics
- 5 Colloid use limited in cases with no indication
- 6 Hemoglobin or hematocrit measurement for patients receiving discretionary intraoperative red blood cell transfusions
- 7 Transfusion goal of hematocrit less than 30



Measures

8 Appropriate intraoperative handoff

9 Appropriate postoperative transition of care handoff performed

10 Avoiding intraoperative hypotension

11 Avoiding gaps in systolic or mean arterial pressure measurement

12 Avoiding myocardial Injury

13 Avoiding kidney injury

14 Preventing uncontrolled post-operative pain

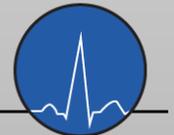
15 Mortality

16 Avoiding medication overdose



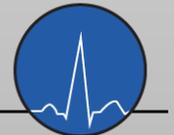
Discussion points for each measure

- Should be included
- Should not be included
- Appropriate inclusion/ exclusion criteria
- Definition of success
- Responsible providers

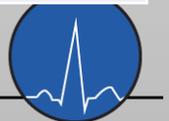


Measure	Perioperative normothermia
Description	Active warming for all patients at risk of intraoperative hypothermia
Inclusion	Patients undergoing general and neuraxial anesthetics
Exclusion	Cases less than 60 minutes - Anesthesia Start to End
Success	Documentation of active warming device for patients (convective warmer)
Rational	Core temperatures outside the normal range pose a risk in all patients undergoing surgery. 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.

Measure	Perioperative normothermia
Description	Core temperature measurement for all general anesthetics
Inclusion	Patients undergoing general anesthetics
Exclusion	Cases less than 30 minutes
Success	Documentation of patient temperature – esophageal, nasal, bladder
Rational	Core temperatures outside the normal range pose a risk in all patients undergoing surgery. 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.



Measure	PONV (adult)
Description	At-risk adults undergoing general anesthesia given 2 or more classes of anti-emetics
Inclusion	Patients undergoing general anesthetics
Exclusion	<p>Non-general anesthetics</p> <p>General anesthetic without use of inhalational anesthetic</p> <p>Fewer than 3 risk factors for PONV (female gender, non smoker, PONV/motion sickness history, opiate administration)</p>
Success	Documentation of 2 or more classes of antiemetics in the intraoperative record
Rationale	<p>Postoperative nausea and vomiting (PONV) is an important patient-centered outcome of anesthesia care. PONV is highly dis-satisfying to patients, although rarely life-threatening. A large body of scientific literature has defined risk factors for PONV, demonstrated effective prophylactic regimes based on these risk factors, and demonstrated high variability in this outcome across individual centers and providers.</p>



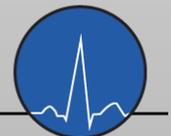
Measure	PONV (peds)
Description	Patients administered 2 or more classes antiemetics
Inclusion	Patients undergoing general anesthetics
Exclusion	<p>Non-general anesthetics General anesthetic without use of inhalational anesthetic Fewer than 2 risk factors for PONV</p> <ul style="list-style-type: none"> • Surgery \geq 30 minutes • Age \geq 3 years • Strabismus surgery • History of POV or PONV in parent or sibling
Success	Documentation of 2 or more classes of antiemetics in the intraoperative record
Rational	<p>Postoperative nausea and vomiting (PONV) is an important patient-centered outcome of anesthesia care. PONV is highly dis-satisfying to patients, although rarely life-threatening. A large body of scientific literature has defined risk factors for PONV, demonstrated effective prophylactic regimes based on these risk factors, and demonstrated high variability in this outcome across individual centers and providers.</p>

Measure	Colloid use limited in cases with no indication
Description	Colloid use limited for patients that likely do not need colloid (Patients with mild to moderate blood loss, outpatient surgery, short to medium length prone surgery, all but the longest surgeries in other positions)
Inclusion	All patients undergoing procedures
Exclusion	<p>Patients with ≥ 4 units of intraoperative PRBC transfused</p> <p>EBL ≥ 2000 ML</p> <p>Prone surgery > 4 hours anesthesia time</p> <p>Any surgery > 8 hours anesthesia time</p>
Success	Patients not receiving 5% albumin, 25% Albumin, Hextend or other starches
Rational	Avoiding colloid and using crystalloid instead when appropriate avoids unnecessary cost, and is part of ASA's Choosing Wisely program

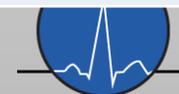
Measure	Transfusion management vigilance
Description	Hemoglobin or hematocrit measurement always performed for patients receiving discretionary intraoperative red blood cell transfusions
Inclusion	All patients undergoing surgery receiving transfusions
Exclusion	<p>Cases with 4 or more units of blood transfused, to account for the situation of treating acute exsanguination</p> <p>EBL \geq 2000 ML</p> <p>Patients under 6 years old, due to the possible need for transfusions in patients with congenital heart disease</p>
Success	Patients with documented hematocrit or hemoglobin before or concurrent with intraoperative transfusion
Rational	Providing a transfusion to a patient without checking the hematocrit first, to confirm the patient needs the blood, can lead to unnecessary risk and costs.

Measure	Transfusion goal of hematocrit less than 30
Description	Intraoperative transfusions management such that post transfusion HCT is less than 30.
Inclusion	All patients undergoing surgery receiving transfusions
Exclusion	<p>Patients with ≥ 4 units of intraoperative PRBC transfused</p> <p>EBL ≥ 2000 ML</p> <p>Patient with documented exclusion/physiologic need</p>
Success	Patient with HCT less than 30 after transfusion
Rational	Studies on transfusion and outcomes have demonstrated that most situations transfusing over HCT 28 adds risk and expense, with worse patient outcomes.

Measure	Appropriate intraoperative handoff
Description	Handoff documented when more than one provider associated with case (attending to attending, CRNA/resident to CRNA/ resident)
Inclusion	All intraoperative transitions of care between anesthesia providers
Exclusion	Cases where there are not any handoffs between anesthesia providers
Success	Documented handoff with appropriate elements between providers
Rational	<p>Hand-offs of care are a vulnerable moment for patient safety, but required in any 24/7 healthcare system. Anesthesia providers routinely transfer care of a patient during a case, and are responsible for transmitting knowledge about patient history, a summary of intraoperative events, and future plans for hemodynamic and pain management to the new care team. Evidence demonstrates that this process can be facilitated by use of a checklist that motivates completion of all key components of the transfer, and this is an emerging best practice in anesthesia care.</p>

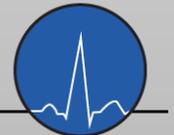


Measure	Appropriate transition of care
Description	Handoff between provider and PACU nurse documented
Inclusion	All age patients under the care of an anesthesia practitioner AND Patients transferred directly to the PACU at the completion of the anesthetic.
Exclusion	Patients transferred to the ICU.
Success	Documentation of handoff with required handoff elements between anesthesia provider and PACU clinician
Rational	Hand-offs of care are a vulnerable moment for patient safety, but required in any 24/7 healthcare system. Anesthesia providers routinely transfer care of a patient during a case, and are responsible for transmitting knowledge about patient history, a summary of intraoperative events, and future plans for hemodynamic and pain management to the new care team. Evidence demonstrates that this process can be facilitated by use of a checklist that motivates completion of all key components of the transfer, and this is an emerging best practice in anesthesia care.



Measure	Avoiding intraoperative hypotension
Description	Percentage of patients with mean arterial pressure less than 55 for 10 minutes
Inclusion	All adult patients undergoing anesthetics
Exclusion	Patients less than 18 years old Patients with baseline MAP less than 55 mmHg
Success	Cases where the MAP does not fall below 55 for more than 10 minutes
Rational	A drop in MAP below 55 mHg during surgery puts the patient at higher risk for postoperative cardiac adverse events (CAEs) and acute renal injury

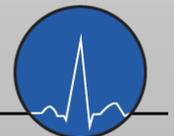
Measure	Avoiding gaps in systolic or mean arterial pressure measurement
Description	Percentage of patients with gaps in systolic or mean arterial pressure during case – greater than 10 minutes
Inclusion	All patients undergoing anesthetics
Exclusion	None
Success	Cases with no 10 minute gap in systolic blood pressure measurement
Rational	Standard ASA monitoring includes taking blood pressure at regular intervals to prevent hypotension and hypertension



Measure	Avoiding myocardial Injury
Description	Avoiding increases in Troponin I > 1.00 within 4 postoperative days
Inclusion	All cases
Exclusion	Patient with recent Troponin I elevation Patients with significant preexisting cardiac disease
Success	Patients without increase in troponin I > 1.00 within 4 postoperative days
Rational	Post-operative myocardial injury can lead to permanent adverse sequelae for patients (including death). Needs risk adjustment

Measure	Avoiding kidney Injury
Description	Avoiding increases serum creatinine post-operatively
Inclusion	All cases requiring inpatient stays
Exclusion	<p>Outpatient surgery</p> <p>Patients with preexisting renal dysfunction</p> <p>Patient undergoing urologic surgery or surgery directly affecting kidneys</p> <p>Patients where creatinine not available within 7 days postoperatively</p>
Success	<p>Patients without a creatinine increase of .3 mg/dl within 48 hours of surgery end</p> <p>Patients with increases in creatinine 1.5x baseline (as measured within first 7 postoperative days)</p>
Rational	<p>Post-operative kidney injury can lead to permanent adverse sequelae for patients (including dialysis).</p> <p>Needs risk adjustment</p>

Measure	Preventing uncontrolled post-operative pain
Description	Patients with peak pain score < 8 in the PACU
Inclusion	All cases where patient was admitted to PACU postoperatively
Exclusion	Patients with preop pain score of 2 or greater
Success	Patients pain score less than 8 (on scale of 0-10)
Rational	Comparison of Preop to Postop pain scores is an indicator of quality of patient management, and is a fundamental goal of anesthetic management



Measure	Mortality
Description	All cause 30 day mortality
Inclusion	All cases
Exclusion	ASA 5 and 6
Success	Patients who died less than or equal 30 days before surgical procedure
Rational	All cause mortality can be reasonable method to assess overall quality of care. Needs risk adjustment

Measure	Medication Overdose
Description	Measurement of medication overdose by calculating percentage of patients that receive naloxone or flumazenil
Inclusion	All patients receiving a narcotic or benzodiazepine during their intraoperative course
Exclusion	???
Success	Patients who received bolus dose or infusion of naloxone or flumazenil
Rational	Flumazenil is given for benzodiazepine (midazolam) overdose Naloxone is given for narcotic overdose