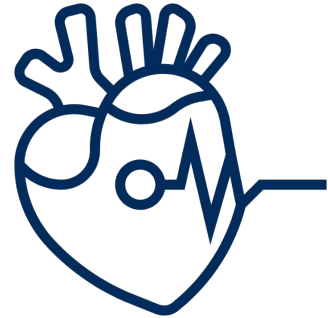




**MPOG Cardiac Anesthesia Subcommittee Meeting
December 13, 2022**

Agenda

- Welcome & announcements
- Research opportunity discussion: expert-based cardiac anesthesiology non-technical skills assessments
- Glucose management measure (GLU-06)
 - Preliminary data
 - Specification review & discussion
- Unblinded measure performance review: TEMP-06 & TEMP-07
- Summary and next steps



Introductions

- **ASPIRE Quality Team**

- **Allison Janda, MD** – MPOG Cardiac Anesthesia Subcommittee Lead
- **Michael Mathis, MD** – MPOG Director of Research
- **Kate Buehler, MS, RN** – Clinical Program Manager

- Cardiac Anesthesiology Representatives joining us from around the US!

Research Opportunity

- The VARSITY Surgery group is conducting a study as a part of our NHLBI-funded R01 titled “Reuse of Operating Room Team View Digital Recordings of Cardiac Surgery for Evaluating Non-Technical Practices” that seeks to:
 - (i) learn more about the relationship between peer based assessments of intraoperative non-technical practices and risk-adjusted complication rates after cardiac surgery
 - (ii) evaluate the feasibility of automating computer-based analyses of digital recordings to assess intraoperative non-technical practices

Research Opportunity

- They plan to recruit cardiothoracic surgeon peer assessors, cardiac anesthesiology peer assessors, and perfusion peer assessors
- **The group is inviting attending cardiac anesthesiologists to participate as peer reviewers**
- Time commitment:
 - Fill out the [Peer Reviewer Informed Consent](#) form (5 mins)
 - Complete a demographic survey (5 minutes)
 - Complete a ~45-50 minute training on a validated anesthesia non-technical skills assessment tool (ANTS)
 - Sign an attestation form prior to viewing any recordings and attest to adhering to data privacy
 - Review and assess video segments representing cardiac surgery operations (~10 minutes each)
 - There is no pre-specified number of recorded segments you may analyze

Research Opportunity

- Reviewers will receive a \$45 Amazon gift card after completing each peer assessment assignment
- If you or a colleague is willing to participate, please fill out the [Peer Reviewer Informed Consent](#) and email me (ajanda@med.umich.edu) or Korana Stakich-Alpirez (kstakich@med.umich.edu) and we will request your contact information to set up a UMich account to view the trainings and video assessments

GLU-06 Discussion and Preliminary Data

Glucose Measure Literature/Guidelines:

- In a study of 510 patients undergoing cardiovascular surgery and found the incidence of AKI to be higher in patients with high HbA1c levels **preoperatively**; Every 1% increase over 6% in HgA1c levels increased the risk of renal complications by 24% ¹
- Glycemic variability, a standard deviation of all POC-BG readings, is associated with increased postoperative LOS-ICU, rise in creatinine, and AKI ²
- A study including 761 cardiac surgery patients and found that diabetics were at increased risk of infection and glucose control (120-160 mg/dL) reduced the risk of wound infection in diabetics ³
- In a randomized controlled trial, moderate glucose control defined as 127-179 mg/dl was found to be preferable to tight control ≤ 126 in patients undergoing CABG ⁴

Glucose Measure Literature/Guidelines Continued:

- Incidence of AKI was higher in patients with time-weighted average intraop glucose of >150mg/dl (8%) as compared to patients with blood glucose 110-150 mg/dl (3%) ⁵
- KDIGO - recommends maintaining blood glucose between 110 - 149 mg/dL in critically ill patients ⁶
- Tight glucose control (<150mg/dl) is seen as **controversial** as risks of hypoglycemia are significant: NICE-SUGAR meta-analysis ⁷
- Society of Thoracic Surgeons (STS) Practice Guidelines recommend **maintaining serum glucose levels \leq 180 mg/dL for at least 24 hours after cardiac surgery** ⁸
- Guidelines for Perioperative Care in Cardiac Surgery from the Enhanced Recovery After Surgery Society **recommends treatment of blood glucose >160-180mg/dL with an insulin infusion** ⁹

Next Cardiac Measure: Glucose Management



- **GLU-06:**

- Percentage of patients, ≥ 18 years age, who undergo open cardiac surgical procedures under general anesthesia of 120 minutes case duration or longer for whom any blood glucose measure did not exceed 180 mg/dL (and not rechecked within 30-minutes and found to be ≤ 180 mg/dL) was documented.

- **Timing:**

- Start: Anesthesia Start
- End: Anesthesia End

Next Cardiac Measure: Glucose Management



- **Concepts Queried:**

Glucose MPOG Concept IDs	
3361	POC- Glucose (Fingerstick)
3362	POC- Glucose (Unspecified Source)
3405	POC- Blood Gas - Glucose
5003	Formal Lab-Glucose, Serum/Plasma
5036	Formal Lab-Blood Gas, Glucose

- **Attribution:**

- The provider signed in at the first blood glucose of >180mg/dL.
- In the event that two or more providers in the same role are signed in, both will receive the feedback.

Next Cardiac Measure: Glucose Management



- **Inclusions:**

- All patients, 18 years of age or older, who undergo open cardiac surgical procedures (as determined by Procedure Type: Cardiac phenotype) under general anesthesia of 120 minutes duration or longer.

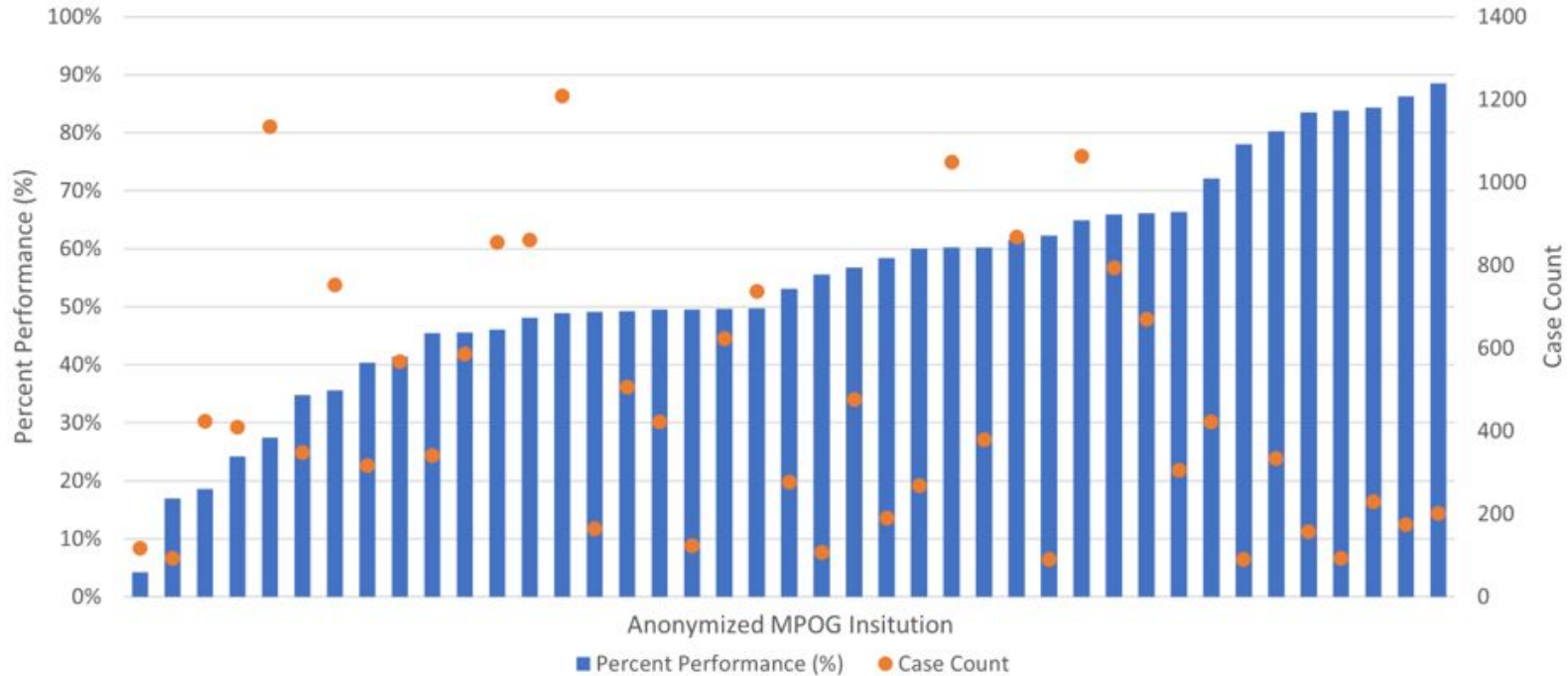
- **Exclusions:**

- ASA 6
- Organ harvest (CPT: 01990)
- Non-cardiac cases as defined as those cases not meeting criteria for the cardiac case type phenotype
- Within the general cardiac case type phenotype, exclude:
Transcatheter/Endovascular, EP/Cath groups and Other Cardiac
- Cases with age <18

Next Cardiac Measure: Glucose Management



GLU-06 Preliminary Performance (prior 12 months)



Next Cardiac Measure: Glucose Management



- **Limitations:**

- Any glucose checks not entered into the EHR will not be captured

- **Remaining Questions:**

- Restrict to “open cardiac” only? Or also “transcatheter/endovascular”?
- Ok to continue validating and proceed with publishing in early 2023?

Unblinded Data Review (actual data removed)

Reminders:

Per the terms and conditions outlined during the registration process:

- A culture of openness and trust are critical to the development of such a collaborative effort to improve quality; and **a commitment for confidentiality is required to further the goals of ASPIRE.**
- The following examples are to be considered privileged and confidential information and should be discussed only within the confines of the Cardiac Subcommittee Meeting.
 - Any and all patient information.
 - Any and all patient identifiers/information which are considered privileged and protected health information as defined by current HIPAA laws.
 - Any specific MPOG QI registry case information.
 - Any information discussed regarding a specific site outcome.
 - Any reference to a specific MPOG site result or analysis.
 - All anesthesiology data presented including but not limited to outcome reports.
 - **Taking screenshots, pictures or videos of data slides is prohibited.**

Site Participation

- All sites that perform >75 open cardiac procedures annually are presented on the slides to follow
- This is a closed meeting: registration required to receive the Zoom link.
- Only those sites who have a participant on the cardiac subcommittee are unblinded
- Cardiac Anesthesia Champions were notified that unblinded data would be shared and were given the opportunity to opt out
- No sites emailed us to express a desire to be excluded from this review

TEMP-06

Success:

Percentage of patients, ≥ 18 years age, who undergo an open cardiac surgical procedure under general anesthesia of 120 minutes duration or longer for whom the last non-artifact body temperature measure at the end of the case was greater than or equal to 35.5 degrees Celsius (or 95.9 degrees Fahrenheit).

Reported as an inverse measure (lower = better)

TEMP-07

Success:

Percentage of patients, ≥ 18 years age, who undergo an open cardiac surgical procedures using cardiopulmonary bypass under general anesthesia of >120 minutes for whom the temperature was > 37.5 degrees Celsius while on bypass for over 5 consecutive minutes

Reported as an inverse measure (lower = better)

Goals

- Build 1 cardiac-specific measure in 2021 (completed, published 12/2021)
 - Post-bypass **hypothermia** avoidance
- Build 1 cardiac-specific measure in early 2022 (completed, published 11/2022)
 - On-bypass **hyperthermia** avoidance
- Plan and build next measure in mid-2022 and publish in early 2023 (in progress)
 - Glucose management

Cardiac Anesthesia Subcommittee Membership

- Open to all anesthesiologists or those interested in improving cardiothoracic measures
 - Do not have to practice at an active MPOG institution
- Proposed 2023 Meeting Schedule
 - April 2023
 - August 2023
 - November or December 2023
- Thank you for using the forum for discussion between meetings

Thank you!

Allison Janda, MD
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Subcommittee Chair
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