Measure Abbreviation: FLUID 01-C

Description: Percentage of cardiac cases in which colloids were not administered intraoperatively.

NQS Domain: Efficiency and Cost Reduction

Measure Type: Process

Measure Summary: The purpose of this measure is to identify the use of colloids for patients that likely do not need them in the **cardiac** surgery patient population. It is the expectation that providers will uphold the ASA's Choosing Wisely program by avoiding colloids and using crystalloid instead when appropriate.

Rationale: There is a lack of consistent evidence to suggest improved survival with the use of colloids as compared to crystalloids in the surgical population. Because colloids are more expensive than crystalloids, it is recommended that anesthesia providers avoid the use of colloids in most instances.

Inclusions:

All patients undergoing general anesthetics, spinals, and epidurals AND documentation of a cardiac case indicated by one of the following:

- Cardiac surgery without pump (CPT: 00560)
- Cardiac surgery with pump and <1 year old (CPT: 00561)
- Cardiac surgery with pump and > 1 year old (CPT: 00562)
- Cardiac surgery with hypothermic arrest (CPT: 00563)
- CABG with pump (CPT: 00567)
- Heart Transplant (CPT: 00580)
- An intraoperative note with one of the following MPOG concepts:
    - 50399   Cardiopulmonary bypass -- aortic clamp on/off note
    - 50409   Cardiopulmonary bypass terminated
    - 50410   Cardiopulmonary bypass initiated (full)
    - 50416   Cardiopulmonary bypass -- crossclamp and circulatory arrest time totals
    - 50417   Cardiopulmonary bypass -- Access cannula removed note
    - 50714   Cardiopulmonary bypass - Bypass start / stop event
- Cases performed by cardiac surgical service: MPOG concept 80005.

Exclusions:
- Non-cardiac cases
- ASA 5 and 6 cases
- ≥ 2L EBL
- ≥ 4 units PRBC transfusion
- Patients that are in prone position for more than 4 hours
- Patients that are in Trendelenburg position for more than 4 hours
- Patients with ascites

MPOG Concept IDs Required:

Colloid MPOG Concepts		Patient Position MPOG Concepts		Patient Dx MPOG Concepts	
10017	Albumin 25%	**50136**	Positioning- Patient Position	**10500**	Ascites
10018	Albumin 5%	**50137**	Positioning- Patient positioned in left lateral decubitus position	**Estimated Blood Loss MPOG Concept**	
10557	Albumin 20%	**50818**	Patient positioned in right lateral decubitus position	**10499**	EBL
10458	Hetastarch	**Blood Administration MPOG Concepts**			
10459	Pentastarch	**10489**	Packed Red Blood Cells- Autologous		
10601	Hydroxyethyl Starch 130/0.4 6% in 0.9% Saline (Voluven)	**10490**	Packed Red Blood Cells- Homologous		
10605	Hydroxyethyl Starch 6% in Lactated Solution (Hextend)	**10616**	Packed Red Blood Cells- Unknown Type		

Data Diagnostics Affected:
- Percentage of Cases with any Fluid Recording
- Percentage of Fluids with a Meaningful Fluid Mapping
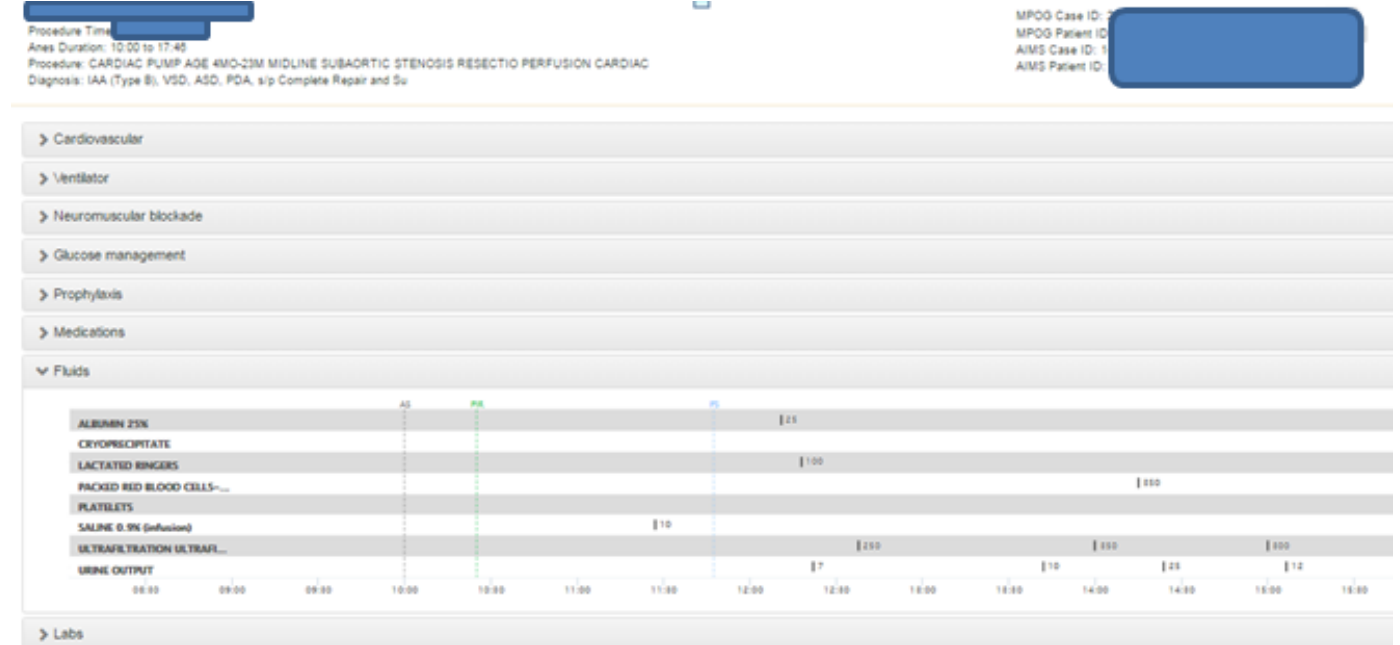- Percentage of Cases with Colloids Administered

Collations Used:
- AnesthesiaEnd
- AnesthesiaStart
- AsaNotes
- Asa5or6
- ProneOrTrendelenburg
- SurgeryEnd
- Cardiac
- Fluid01

Failed Case Grid Elements:
- Link to Case
- Date of Service
- Procedure
- Surgical Service
- Operating Room
- Has Anesthesia CPT
- Responsible Provider
- MPOG Case ID

Case Viewer Template:

Other Measure Build Details: None.

Success: Colloids are not administered during the case.

Threshold: None.

Responsible Provider: The provider signed in at the time of the colloid administration.

Method for determining Responsible Provider:

Measure is evaluated on a per provider basis: multiple providers can be attributed per case. If multiple providers are signed in at the time of colloid administration, all providers signed in will be attributed.

Risk Adjustment (for outcome measures):
Not applicable.

References:

Nolan JP, Mythen MG. Hydroxyethyl starch: here today, gone tomorrow. British Journal of Anaesthesia 2013, 111(3): 321–4. doi:10.1093/bja/aet294.

Perel P, Roberts I, Pearson M. Colloids versus crystalloids for fluid resuscitation in critically ill patients (Review). The Cochrane Collaboration. (2009) Published by JohnWiley & Sons, Ltd.

Schick M, Isbary J, Stuber T, Brugger J, Stumpner J, Schkegel N, Roewer N, Eichelbronner O, Wunder C. Effects of crystalloids and colloids on liver and intestine microcirculation and function in cecal ligation and puncture induced septic rodents. BMC Gastroenterology 2012, 12:179. http://www.biomedcentral.com/1471-230X/12/179.

Youssef MA, Al-Inany HG, Evers JL, Aboulghar M. Intra-venous fluids for the prevention of severe ovarian hyperstimulation syndrome. Cochran Database Systematic Reviews 2011, 16(2): CD001302. Doi: 10.1002/14651858.CD001302.pub2.