The Society of Thoracic Surgeons

Adult Cardiac Surgery Database Monthly Webinar

Resuscitation and Emergent Salvage

September 3, 2025

Agenda

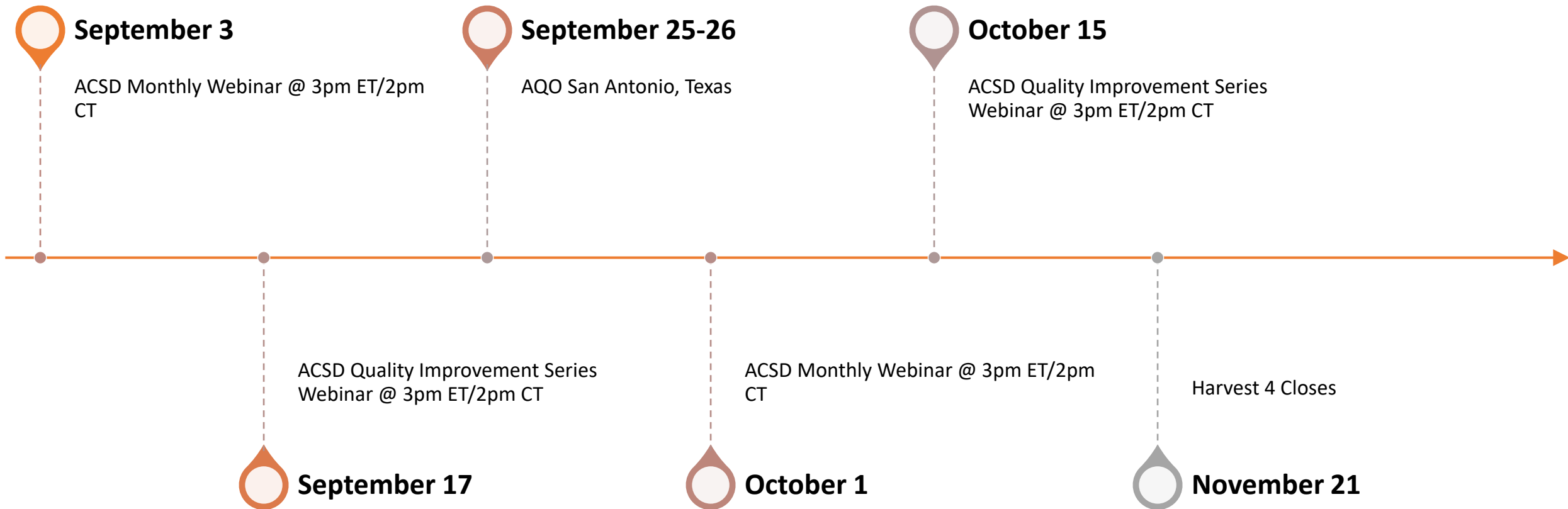- Welcome and Introductions
- Important Dates, Updates, AQO
- Resuscitation and Emergent Salvage
- Q&A

Important Dates-Timeline

September 3

ACSD Monthly Webinar @ 3pm ET/2pm CT

September 25-26

AQO San Antonio, Texas

October 15

ACSD Quality Improvement Series Webinar @ 3pm ET/2pm CT

ACSD Quality Improvement Series Webinar @ 3pm ET/2pm CT

September 17

ACSD Monthly Webinar @ 3pm ET/2pm CT

October 1

Harvest 4 Closes

November 21

Important Dates-2025 Harvest

2025 Harvest

Term	Harvest Submission Window Close	Opt-Out Date	Includes Procedures Performed Through:	Report Posting	Comments
Harvest 1	2/21/2025	2/25/2025	12/31/2024	Spring 2025	Star Rating
Harvest 2	5/23/2025	5/27/2025	3/31/2025	Summer 2025	
Harvest 3	8/22/2025	8/26/2025	6/30/2025	Fall 2025	Star Rating
Harvest 4	11/21/2025	11/25/2025	9/30/2025	Winter 2025	

Analysis for each harvest is based on a 36-month window.

Data Submission Open is continuous for all harvest terms. Submission Close occurs at 11:59 p.m. Eastern on the date listed.

Harvest Opt-Out closes at 5:00 p.m. Eastern on the date listed.

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Data Manager Collaborative

- The STS National Database Data Manager Collaborative (DMC) officially concluded on August 21, 2025.

- STS will make every effort to pair data managers who submitted a match request by August 20, 2025. If you are already matched, you are welcome to continue meeting with your peers independently.

- Moving forward, we encourage data managers to stay engaged by participating in monthly webinars, regional groups, connecting through the STS Data Managers Facebook Group, and attending AQO.

- STS extends its sincere thanks to all data managers who have participated in and supported the various iterations of this program over the years.

AQO 2025

- Intermacs and Pedimacs Session: Tuesday, September 23rd VIRTUAL Forum

- CHSD and GTSD Sessions In-person: Thursday, September 25th

- ACSD Session In-person: Friday, September 26th

- Grand Hyatt San Antonio Riverwalk

- Virtual options also available

- Networking Reception: Thursday, September 25th 5 p.m.

Home > Calendar of Events > 2025 Advances in Quality & Outcomes: A Data Managers Meeting

📅 Event

2025 Advances in Quality & Outcomes: A Data Managers Meeting

Discussions on valuable research and important clinical findings with the goal of improving data collection and patient outcomes.

ADVANCES IN QUALITY & OUTCOMES: *A Data Managers Meeting*
SEPTEMBER 25-26, 2025 • SAN ANTONIO, TX

📅 Date(s)
Sep 25—26, 2025

📍 Location
San Antonio, TX

👥 Audience
Allied Health
Data Manager

THE SOCIETY OF THORACIC SURGEONS
Established 1964

This program will focus on the ACSD, offering updates on the scope of cardiothoracic surgery practice and helping participants improve data collection and advance registry abstraction and coding skills.

Moderators: Nancy Honeycutt, BSN, RN, and Melinda Offer, MSN, RN

7 – 8 a.m.	**Breakfast in Texas Ballroom C**
8 – 8:05 a.m.	**Welcome** Nancy Honeycutt, BSN, RN, and Melinda Offer, MSN, RN
8:05 – 8:45 a.m.	**Adult Cardiac High-Level Overview** Michael E. Bowdish, MD, MS
8:45 – 9:20 a.m.	**Valve Replacement or Repair after Transcatheter Valve Therapies** Dawn Hui, MD
9:20 – 10 a.m. **Scenarios**	**Valve Replacement or Repair after Transcatheter Valve Therapies: Case** Molly Whittenburg, BSN, RN, and Melinda Offer, MSN, RN
10 – 10:30 a.m.	**Break in Texas Ballroom Foyer**
10:30 – 11:15 a.m.	**Aorta** Karen Kim, MD, MS
11:15 a.m. – 12 p.m.	**Aorta: Case Scenarios** Kali Carroll, RN
12 – 1 p.m.	**Lunch in Texas Ballroom C**
1 – 1:25 p.m.	**Division of Responsibility: Data Manager vs. Surgeon Leader** Erin McCabe, BSN, RN
1:25 – 3 p.m.	**Breakout Discussion Groups**

*This content will not be recorded and is for in-person attendees only. There will be six topics to choose from, and we will rotate three times. Each breakout discussion will be for 30 minutes with five minutes to rotate between tables. Attendees will note their top three topics prior to the conference and will be provided with which table to start at when they check in at registration

IRR: What It Is, Why We Do It, and How We Do It
Keli Parker

Pros and Cons: Concurrent vs Retrospective Data Abstraction
Heather Homampour, MSN, RN

Navigating US News and World Report and Other Reporting Agencies Accessing Your Data
Judy Smith, RN

Strategies to Effectively Train New Data Managers
Meetali Mahendrakar, MBBS, MS, CCP

Juggling Multiple Registries: ACSD and CHSD and TVT, Oh My!
Nancy Satou, RN

The Secret Sauce for Working with Data Abstraction Companies
Alla Kaner, MSN, RN

3 – 3:35 p.m.	**Breakout Discussion Reporting** Keli Parker, Heather Homampour, MSN, RN, Judy Smith, RN, Meetali Mahendrakar, MBBS, MS, CCP, Nancy Satou, RN, and Alla Kaner, MSN, RN
3:35 – 4:05 p.m.	**Break in Texas Ballroom Foyer**
4:05 – 4:40 p.m.	**Unfolding the Mysteries of Mitral Valve Procedures** Robert L. Smith, MD
4:40 – 5:05 p.m.	**Unfolding the Mysteries of Mitral Valve Procedures: Case Scenarios** Meetali Mahendrakar, MBBS, MS, CCP
5:05 – 5:30 p.m.	**2025 Dorothy Latham Poster Award Announcement, ACSD Wrap-Up, and Looking to the Future** Dawn Hui, MD, and Carole Krohn, MPH, BSN, RN, LSSBG

On-Demand Content

The Canadian Experience with the Adult Cardiac Surgery Database
Nadia Clarizia, MD

ACSD Audit: Lessons Learned
Annie Kouchoukos, BSN, RN

Mechanical Assist Device Overview
Mani A. Daneshmand, MD

Surgical Therapies for Atrial Fibrillation
Alex Iribarne, MD, MS

What Does the Future Hold for the Treatment of Structural Heart Disease?
Yoshi Kaneko, MD

30-Day Follow-Up: Tips and Tricks for Staying Off the 2% Missing List
Alla Kaner, MSN, RN, and Carley Hanmer

Update on Resuscitation and Emergent Salvage

Melinda Offer, RN, MSN

Resuscitation Current Intent

Intent/Clarification: Indicate whether the patient required cardiopulmonary resuscitation within 24 hours of the start of the operative procedure. The start of the procedure begins with the induction of anesthesia. Capture resuscitation timeframe: within 1 hour of surgery or 1-24 hours pre-operatively. Update Clarification September 2024 – Capture the within 1 hour of surgery timeframe for patients entering the OR on ECMO.

Cardiac arrest within 24 hours

• **Resuscitation may include complete circulatory support such as ECMO/other mechanical assist devices (ex. Impella, LVAD)** initiated emergently Update Clarification May 2025 immediately prior to surgery to maintain life. Intra-aortic balloon counterpulsation (IABP) by itself does not qualify as complete circulatory support.

Devices that provide complete circulatory support

Update Dec 2022 – "ECMO when" was added to the Risk Model in V 2.91. **The additional risks of a patient entering the OR on ECMO who is having a cardiac procedure are captured by coding status of 'Salvage' in sequence 1975 (Status) and as 'Resuscitation – Yes' in sequence 935 (Resusc).** ECMO does not affect case isolation. ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

On ECMO entering OR

Resuscitation New Intent

Intent/Clarification: **Indicate whether the patient required cardiopulmonary resuscitation within 24 hours of the start of the operative procedure**. **The start of the procedure begins with the induction of anesthesia**. Capture resuscitation timeframe: within 1 hour of surgery or 1-24 hours pre-operatively.

• Strikethrough Sept 2025 • Resuscitation may include complete circulatory support such as ECMO/other mechanical assist devices (ex. Impella, LVAD) initiated emergently **Update Clarification May 2025 immediately** prior to surgery to maintain life. Intra-aortic balloon counterpulsation (IABP) by itself does not qualify as complete circulatory support.

Update Sept 2025 - Resuscitation may include complete circulatory support such as **VA ECMO**/other mechanical assist devices initiated emergently prior to entering the operating room to maintain life. **Capture devices that are initiated that provide complete circulatory support to maintain life within 24 hours prior to entering the operating room.**

Cardiopulmonary resuscitation within 24 hours of the start of the procedure has not changed

The Wording has been deleted since we have updated the Intent of Resuscitation

New Wording:

- **Clarifies that only VA ECMO provides complete circulatory support**

- **Clarifies that devices that provide complete circulatory support and are initiated within 24 hours prior to OR entry to maintain life are captured**

Resuscitation New Intent Continued

Devices are described as complete circulatory support if the flow replaces the entire cardiac output (flow of => 5.0 liter/min) and partial circulatory support if the device flow only augments the heart.

Examples of devices that provide complete circulatory support include but are not limited to VA ECMO, Tandem Heart, Impella 5.5, long-term durable VADs such as TAH, HeartMate, HVAD®, and Heart Assist 5®.

❖ Intra-aortic balloon counterpulsation (IABP), 2025 Impella CP, Impella RP, and Impella 2.5 do not qualify as complete circulatory support.

New Wording:

- **Clarifies that only VA ECMO provides complete circulatory support**

- **Includes other devices that provide complete circulatory support that can be captured**

- **Identifies devices that do not provide complete circulatory support that are not captured**

Resuscitation New Intent Continued

Strikethrough Sept 2025 - Update Dec 2022 – "ECMO when" was added to the Risk Model in V 2.91. The additional risks of a patient entering the OR on ECMO **who is having a cardiac procedure are captured** by coding status of 'Salvage' in sequence 1975 (Status) and as 'Resuscitation – Yes' in sequence 935 (Resusc). **ECMO does not affect case isolation.** ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

The Wording has been deleted since we have updated the Intent of Resuscitation

New Wording:

- **Clarifies that only VA ECMO provides complete circulatory support**

- **Clarifies that VA ECMO must be initiated within 24 hours of surgery to maintain life to be captured**

Summary Resuscitation

Resuscitation Current Intent

- Cardiopulmonary resuscitation within 24 hr start of the operative procedure

- EMCO upon entering OR

- Complete circulatory support such as ECMO/other mechanical assist devices (ex. Impella, LVAD) initiated emergently immediately prior to surgery to maintain life

Resuscitation New Intent

- Cardiopulmonary resuscitation within 24 hours of the start of the procedure has not changed

- Clarifies that only VA ECMO provides complete circulatory support

- Clarifies that devices that provide complete circulatory support and are initiated within 24 hours prior to OR entry to maintain life are captured.

- Identifies devices that do not provide complete circulatory support that are not captured

Status Emergent Salvage Current Intent

Emergent Salvage -**The patient is undergoing CPR en-route to the OR prior to anesthesia induction or has ongoing ECMO to maintain life.**

Update Dec 2022 – "ECMO when" was added to the Risk Model in V 2.91. The additional risks of a patient entering the OR on ECMO who is having a cardiac procedure are captured by coding status of 'Salvage' in sequence 1975 (Status) and as 'Resuscitation – Yes' in sequence 935 (Resusc). ECMO does not affect case isolation. ECMO is a supportive modality and not a procedural type. The risk of the patient on ECMO is accounted for when 'Status = salvage' and should be left in the intended procedural category.

Undergoing CPR enroute to the OR prior to anesthesia induction

OR

Has ongoing ECMO to maintain life.

Status Emergent Salvage New Intent

Update Sept 2025 - Emergent Salvage -Patient has at least one of the following:

(1) The patient is undergoing **CPR enroute to the OR** prior to anesthesia induction. **Enroute to the OR includes the preparation time needed for transport and the active transport of the patient to the OR.**

   Examples of enroute to the OR:
   - Decision has been made to take the patient to the OR; the nurse is actively preparing the patient for transport and anesthesia has arrived to transport the patient to the OR. The patient arrests after anesthesia arrives requiring CPR prior to be transported to the OR.

   - While being transported to the OR, patient arrests requiring CPR on the way to the OR.

The Wording has been deleted since we have updated the Intent of Emergent Salvage

New Wording:

- **CPR enroute has not changed**

- **Clarfies enroute**

Status Emergent Salvage New Intent Continued

Update Sept 2025 - Emergent Salvage -Patient has at least one of the following:

(2) The patient has ongoing resuscitation to maintain life. Ongoing resuscitation may include complete circulatory support such **VA ECMO**/**other mechanical assist devices** initiated emergently prior to entering the operating room to maintain life. **Capture devices that are initiated that provide complete circulatory support to maintain life within 24 hours prior to entering the operating room.**

New Wording:

- **Clarifies that only VA ECMO provides complete circulatory support**

- **Includes other devices that provide complete circulatory support that can be captured**

- **Clarifies that devices that provide complete circulatory support and are initiated within 24 hours prior to OR entry to maintain life are captured**

Status Emergent Salvage New Intent Continued

Devices are described as complete circulatory support if the flow replaces the entire cardiac output (flow of => 5.0 liter/min) and partial circulatory support if the device flow only augments the heart. Examples of devices that provide complete circulatory support include but are not limited to **VA ECMO, Tandem Heart, Impella 5.5, long-term durable VADs such as TAH, HeartMate, HVAD®, and Heart Assist 5®.**

❖ **Intra-aortic balloon counterpulsation (IABP), Impella CP, Impella RP, and Impella 2.5 do not qualify as complete circulatory support.**

New Wording:

- **Clarifies that only VA ECMO provides complete circulatory support**

- **Includes other devices that provide complete circulatory support that can be captured**

- **Clarifies devices that do not provide complete circulatory support that are not captured**

Summary Emergent Salvage

Emergent Salvage Current Intent

- Undergoing CPR en-route to the OR prior to anesthesia induction
- EMCO upon entering OR

Emergent Salvage New Intent

- CPR enroute has not changed
- Clarifies enroute
- Clarifies that only VA ECMO provides complete circulatory support
- Includes other devices that provide complete circulatory support that can be captured
- Clarifies that devices that provide complete circulatory support and are initiated within 24 hours of OR entry to maintain life are captured
- Identifies devices that do not provide complete circulatory support that are not captured

Case Scenario #1

Patient admitted on 11/29 with syncope and NSTEMI

Left Heart Cath done on 12/1 with DX of 3V disease and inserted Impella CP for cardiogenic shock.

Transferred from Cath Lab to OR for CABG

How is resuscitation coded?

A. Yes - Within 1 hour of the start of the procedure

B. Yes - More than 1 hour but less than 24 hours of the start of the procedure

C. No

Answer: No

Rationale:
- **Impella CP does not provide complete circulatory support**

Case Scenario #2

Patient admitted on 11/29 with syncope and NSTEMI

Left Heart Cath done on 12/1 with DX of 3V disease and inserted Impella CP for cardiogenic shock.

Transferred from Cath Lab to OR for CABG

How is Status coded?

A. Urgent
B. Emergent
C. Emergent Salvage

Answer: Emergent

Rationale:
- **Emergent transfer from Cath Lab for CABG – no delay in surgical intervention**
- **This is not emergent salvage - Impella CP does not provide complete circulatory support**

Case Scenario #3

Patient came in with a STEMI loaded with Plavix for Cath. They found severe to subtotal disease in each coronary system but were unsuccessful with balloon angioplasty and paged surgery. While interventional and surgery were "chatting", the patient "slipped into cardiogenic shock" and was emergently placed an Impella RP and intubated. Immediately moved to OR for CABG.

Answer: No

Rationale:
- **No cardiac arrest**
- **Impella RP does not provide complete circulatory support**

Case Scenario #4

Patient came in with a STEMI loaded with Plavix for Cath. They found severe to subtotal disease in each coronary system but were unsuccessful with balloon angioplasty and paged surgery. While interventional and surgery were "chatting", the patient "slipped into cardiogenic shock" and was emergently placed an Impella RP and intubated. Immediately moved to OR for CABG.

How is Status coded?

A. Urgent
B. Emergent
C. Emergent Salvage

Answer: Emergent

Rationale:
- **Emergent transfer from Cath Lab for CABG – no delay in surgical intervention**
- **This is not emergent salvage - Impella RP does not provide complete circulatory support**

Case Scenario #5

0700 in ED, STEMI patient went into VFib, requiring defibrillation.

0720 transferred to Cath which showed critical ostial LAD disease.

0805 IABP placed

0825 taken emergently to OR.

How is resuscitation coded?

A. Yes - Within 1 hour of the start of the procedure

B. Yes - More than 1 hour but less than 24 hours of the start of the procedure

C. No

Answer: Yes - More than 1 hour but less than 24 hours of the start of the procedure

Rationale:
- **Cardiac arrest < 24 hours prior to OR entry**

Case Scenario #6

0700 in ED, STEMI patient went into VFib, requiring defibrillation.

0720 transferred to Cath which showed critical ostial LAD disease.

0805 IABP placed

0825 taken emergently to OR.

How is Status coded?

A. Urgent
B. Emergent
C. Emergent Salvage

Answer: Emergent

Rationale:
- **Emergent transfer from Cath Lab for CABG – no delay in surgical intervention**

- **This is not emergent salvage – No cardiac arrest enroute to OR – arrested > 1 hour ago in ED and IABP does not provide complete circulatory support**

Case Scenario #7

4/25/25 – admitted for inferior STEMI. PCI completed. VA ECMO placed for hemodynamic support. CTS documents will let patient stabilize before surgery.

4/28/25 – Remains on VA ECMO upon OR entry. VS stabilized and CABG x3 performed

How is resuscitation coded?

A. Yes - Within 1 hour of the start of the procedure

B. Yes - More than 1 hour but less than 24 hours of the start of the procedure

C. No

Answer: No

Rationale:
- **VA ECMO initiated > 24 hours prior to OR entry**

Case Scenario #8

4/25/25 – admitted for inferior STEMI. PCI completed. VA ECMO placed for hemodynamic support. CTS documents will let patient stabilize before surgery.

4/28/25 – Remains on VA ECMO upon OR entry. VS stabilized and CABG x3 performed

How is Status coded?

A. Urgent
B. Emergent
C. Emergent Salvage

Answer: Urgent

Rationale:
- **Patient stabilized on VA ECMO 3 days before CABG**
- **Not emergent salvage - VA ECMO initiated > 24 hours prior to OR entry**

Case Scenario #9

Transferred for emergent Type A Aortic Dissection repair.

He presented with chest pain that began yesterday. Vital signs stable. No drips. Taken immediately to OR upon arrival from OSH

Arrested in OR after induction

How is resuscitation coded?

A. Yes - Within 1 hour of the start of the procedure

B. Yes - More than 1 hour but less than 24 hours of the start of the procedure

C. No

Answer: No

Rationale:
- **Cardiac arrest occurred after induction**

Case Scenario #10

Transferred for emergent Type A Aortic Dissection repair.

He presented with chest pain that began yesterday. Vital signs stable. No drips. Taken immediately to OR upon arrival from OSH

Arrested in OR after induction

How is Status coded?

A. Urgent
B. Emergent
C. Emergent Salvage

Answer: Emergent

Rationale:
- **Emergent transfer for aortic dissection – no delay in surgical intervention once arrived at hospital**
- **Not Emergent Salvage - cardiac arrest occurred after induction**

Open Discussion

Please use the raise-hand function.

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!

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Contact Information

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- STSDB_Helpdesk@sts.org
  - IQVIA/Database Platform Questions (Uploader, DQR, Missing Variable, Dashboard, Password and Login)

- STSDB-FAQ@sts.org
  - Clinical Questions

Thank You for Joining!

Reminder: Our next ACSD QI Webinar will be held on Wednesday, September 17, 2025 at 3pm ET/2pm CT.