The Society of Thoracic Surgeons

Adult Cardiac Surgery Database
Monthly Webinar
STS Updates

June 4, 2025
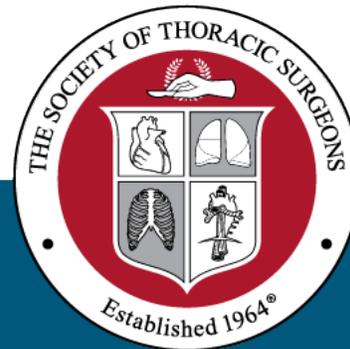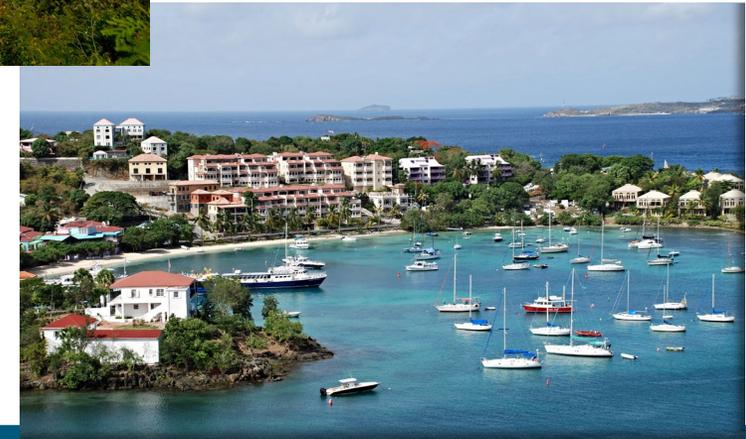
Agenda

Welcome and Introductions

Important Dates-Timeline, Harvest, AQO

STS Updates-Audit, Multiprocedural, Exceptional Risk

ACSD Training Manual Updates

STS National Database™
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Important Dates-Timeline

June 4

ACSD Monthly Webinar @ 3pm ET/2pm CT

July 2

ACSD Monthly Webinar @ 3pm ET/2pm CT **Canceled**

August 22

H3 2025 Close
Surgery Dates 7/1/2022-6/30/2025

ACSD Quality Improvement Series @ 3pm ET/2pm CT **Canceled**

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

ACSD H3 Opt-out Close **5pm ET**

June 18

July 16

August 26
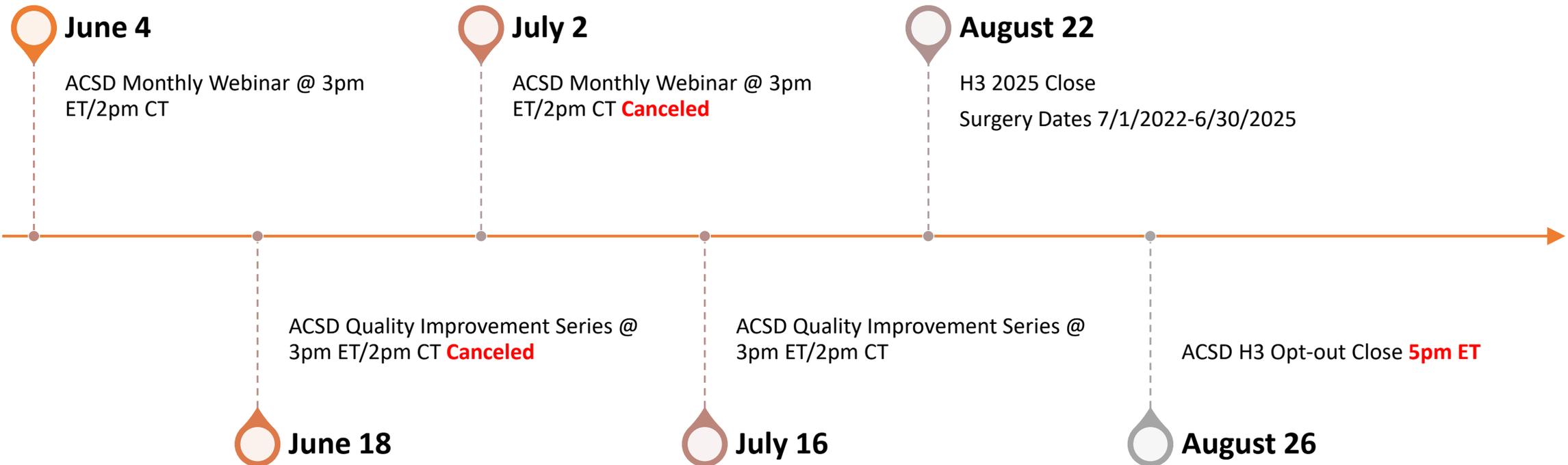
Important Dates-2025 Harvest

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.
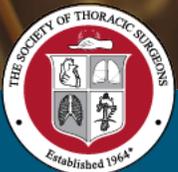
Important Dates-AQO 2025

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

- CHSD and GTSD Sessions: Thursday, September 25th

- ACSD Session: Friday, September 26th

- Grand Hyatt San Antonio Riverwalk

- Both In Person (ACSD, CHSD, GTSD) and Virtual options (all databases) will be available

- Cost information will be shared as soon as it's available

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
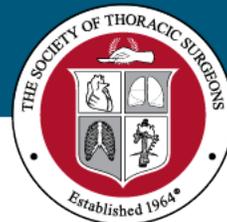
STS Updates-ACSD Audit

Coming Soon
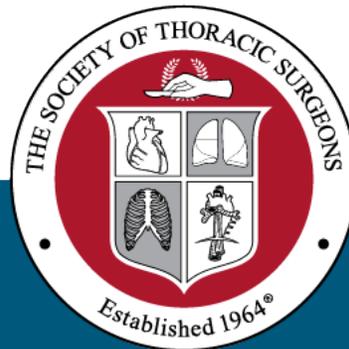
STS Updates

- June Training Manual
- ACSD 2025 Harvest 1 Multiplier Table
- ACSD 2025 Harvest 1 Composite Quality Ratings Summary

Adult Cardiac Multiplier Tables

- ACSD 2025 Harvest 1 Multiplier Table
- ACSD 2024 Harvest 4 Multiplier Table

Table 1. Observed/Expected Ratio Multipliers for Recalibration

Procedure / Outcome	2022	2023	2024
Isolated CABG			
Operative Mortality	0.728	0.776	0.806
In-hospital Mortality	0.953	1.042	1.083
Morbidity: Permanent Stroke	0.869	0.915	0.896
Morbidity: Renal Failure	0.823	0.860	0.846
Morbidity: Prolonged Ventilation	1.191	1.258	1.316
Morbidity: Deep Sternal Wound Infection	0.756	0.881	0.952
Morbidity: Any Re-Operation	0.836	0.835	0.826
Morbidity: Combined Morbidity/Mortality Outcomes	1.105	1.155	1.182
Morbidity: PLOS > 14 days	0.807	0.822	0.804
Morbidity: PLOS < 6 days	1.066	1.058	1.072
Isolated AV Replacement			
Operative Mortality	0.807	0.885	0.908
In-hospital Mortality	1.072	1.193	1.213

Quality Ratings Summary and Multiplier Tables

STS ACSD Multiplier Tables Link - All Harvest periods
2025 Harvest 1 Composite Quality Ratings Summary
2024 Harvest 3 Composite Quality Ratings Summary
2024 Harvest 1 Composite Quality Ratings Summary
2023 Harvest 3 Composite Quality Ratings Summary

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2025 Harvest 1 Composite Quality Ratings Summary

Nine hundred fifty-two (952) Adult Cardiac Surgery Database Participants submitted analyzable files to the data warehouse for the period ending December 31, 2024.

For all analyzed procedures (i.e., multiprocedural), 28.3% of participants that were scored received a 3 star rating; 54.2% received a 2 star rating; and 17.5% received a 1 star rating for the current reporting period.

Multiprocedural Composite

Includes the following procedures:

- Isolated CABG
- Isolated AVR
- Isolated AVR + CABG
- Isolated MVR
- Isolated MVR + CABG
- Isolated MV Repair
- Isolated MV Repair + CABG
- Multivalve
- Multivalve + CABG

Thresholds for Star Ratings

National Report Overview found in IQVIA Library

- Must have less than 2% missing or unknown for mortality fields
- Must have less than 5% missing medications (CABG only)
- Must have submitted new data within the most recent quarter (H2/H4) or most recent 2 quarters (H1/H3)

Minimum Data Thresholds by Procedure ID	
CABG	50
AVR, AVR + CABG	10
MVRR	36
MVRR + CABG	25
Multivalve, Multivalve + CABG	No minimum data thresholds
Multiprocedural	100 across all procedure IDs

Database Endpoints

- Found under Resources for Data Managers>ACSD>Version 4.20>Additional Resources

- Great resource for determining numerators and denominators for database endpoints

Additional Resources - *Updated May 1, 2024*

- Data Specifications v4.20.2
- Software Specifications v4.20.2
- Itemized Changes from v4.20.1 to v4.20.2
- Change Summary v4.20.2
- Itemized Changes v4.20.2
- Procedure Identification Chart (ProcID) - *Updated April 2025*
- Risk Model Variable Chart - *Updated February 2025*
- Risk Model Endpoint Chart - *Updated February 2021*
- Congenital Diagnoses and Procedure List
- Case Inclusion Guide - *Updated January 2025*
- NQF Endorsed Measures - *Updated August 2021*
- Navigation of RedCap Form Supplement (updated May 1, 2024)

DEFINITION OF ENDPOINTS – Update 2/17/2021

Operative Mortality: Decision made 6/17/2020, conference call with STS and IQVIA. Discharge to Hospice it is considered the same as Died in Hospital. That means that any patient with DischMortStat=Discharge to Hospice is considered as an Operative Death, regardless of MTDate, MTOpD and MT30Stat (Discharge to Hospice overrules any information in these fields). In the rare event of a patient surviving hospice, it is the site responsibility to submit data to verify survival and to change status at discharge for this patient accordingly in the next data submission. / **Decision made on February 2021: new 4.2 field ExpiredinOR [6546] needs to be included in Operative Mortality Definition. Also, worth to note that if ExpiredInOR=Yes, patient is not eligible for Post-operative Complications – all are set to MISSING.

Endpoint	Description	Code for STS v4.2	
		Numerator	**Denominator**
Operative Mortality**	See definition for STS v4.2 MtOpD SeqNo 7124	(ExpiredInOR is YES) or (MtOpD is YES) or (DischMortStat is Died in hospital) or (DischMortStat is Discharged to hospice)** or (0 =< MtDate < DischDt) or ((MtOpD is missing) and ((Mt30Stat is Dead) or (0 =< MtDate - SurgDt <=30)))	**Numerator** is YES or (Mt30Stat is Alive) and ((MtOpD is NO) or (DischMortStat is Discharge alive, LKS is Alive))
Permanent Stroke	See definition for STS v4.2 CNStrokP SeqNo 6810	(CNStrokP is YES)	**Numerator** is YES or (CNStrokP is NOT MISSING)

DEFINITION OF ENDPOINTS – Update 2/17/2021

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Permanent Stroke	See definition for STS v4.2 CNStrokP SeqNo 6810	(CNStrokP is YES)	**Numerator** is YES or (CNStrokP is NOT MISSING)
Renal Failure	See definition for STS v4.2 CRenFail SeqNo 6870	(CRenFail is YES) and (Dialysis is NOT YES) and (CreatLst is NOT >= 4.0)	**Numerator** is YES or (CRenFail is NOT MISSING) and (Dialysis is NOT YES) and (CreatLst is NOT >= 4.0)
Prolonged Ventilation	See definition for STS v4.2 CPVntLng Seq No 6835	(CPVntLng is YES)	**Numerator** is YES or (CPVntLng is NOT MISSING)
Deep Sternal Wound Infection / Mediastinitis	See definition for STS v4.2 DeepSternInf SeqNo 6700	(DeepSternInf is YES, within 30 days of procedure) or (DeepSternInf is YES, >30 days after procedure but during hosp. for surgery)	**Numerator** is YES or (DeepSternInf is NOT MISSING)
Reoperation For Any Cardiac Reason	Reoperation for bleeding/tamponade (SeqNo 6755), valvular dysfunction (SeqNo 6765), unplanned coronary artery intervention (SeqNo 6771), aortic reintervention (SeqNo 6774), or other cardiac reason (SeqNo 6778)	(COpReBld is YES) or (CReintMI is sYES or (COpReOth is YES) or (COpReVlv is YES, surgical) or (COpReVlv is YES, transcatheter) or (CAortReint is YES)	**Numerator** is YES or ((COpReBld is NO) and (CReintMI is NO) and (COpReOth is NO) and (COpReVlv is NO) and (CAortReint is NO))
Major Morbidity or Operative Mortality	A composite endpoint defined as any of the outcomes listed in the first six rows.	Any one or more of the following endpoints as defined above: • Operative Mortality • Permanent Stroke • Renal Failure • Prolonged Ventilation • Deep Sternal Wound Infection / Mediastinitis • Reoperation For Any Cardiac Reason	**Numerator** is YES or Included in ALL of the denominators as defined above [Note: include in this denominator if denominator for Renal Failure is Missing due to Dialysis=YES or CreatLst<4.0]
Short Stay: PLOS < 6 days	Discharged alive and within 5 days of surgery	(0 <= (DischDt – SurgDt) < 6) and NOT ((DischMortStat is Died in hospital)	DischDt is not MISSING
Long Stay: PLOS >14 days	Prolonged post-operative length of stay greater than 14 days.	(14 < (DischDt – SurgDt) <= 365))	No exclusions. ALL included.

Quality Measures

- Found under Resources for Data Managers>ACSD>Version 4.20>Additional Resources

- Great resource for inclusion and exclusion criteria for risk-adjusted measures:
  - Operative Mortality
  - Deep Sternal Wound Infection
  - Surgical Re-exploration
  - Stroke
  - Prolonged Ventilation
  - Renal Failure
  - Use of IMA
  - Medication Measures (pre & discharge beta blockade, discharge antiplatelet, discharge antilipid)
  - Antibiotic Measures

Additional Resources - *Updated May 1, 2024*

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Report Overview
STS NQF-endorsed Measures

Title	Description	Numerator	Denominator	Exclusions
Risk-Adjusted Operative Mortality for CABG	Percent of patients aged 18 years and older undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the CABG was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure	Number of patients undergoing isolated CABG who die, including both 1) all deaths occurring during the hospitalization in which the operation was performed, even if after 30 days, and 2) those deaths occurring after discharge from the hospital, but within 30 days of the procedure Number of isolated CABG procedures in which Mortality Operative Death (MtOpD) is marked "yes." Operative mortality is further verified by the following variables: Mortality Status at 30 days (Mt30Stat), Mortality Date (MtDate), Mortality Discharge Status (MtDCStat is Dead in version 2,81 or DischMortStat is Died in Hospital in version 2.9) Version 4.20.2 Number of isolated CABG procedures in which Mortality Operative Death (MtOpD) is marked "yes." Operative mortality is further verified by the following variables: Mortality Status at 30 days (Mt30Stat), Mortality Date (MtDate), Patient Expired in the OR (ExpiredInOR), Discharge status (DischMortStat) is Discharged to Hospice OR Died in Hospital	All patients undergoing isolated CABG according to STS Procedure Identification algorithm	

Exceptional Risk Exclusion

- Reminders:
  - Only isolated cases
  - Submit requests prior to surgery
  - Submit cases that are NOT adequately captured by risk model
  - Remember to redact records-all PHI, surgeon staff and hospital identifiers
  - Cases must be entered into the database and submitted for harvest
  - Make sure that you provide the correct patient ID and record ID
- Decisions are made around the time of harvest close, prior to analysis

Training Manual Update June 2025 STS Risk Calculator Score Discussed

The intent is to indicate if the **STS Risk Calculator score was discussed** with the patient/family prior to surgery. The surgeon / provider should reference the STS Risk score or calculator in their discussion / documentation

Update June 2025 strikethrough - ~~STS risk models are available for CABG; AVR; AVR + CABG; MVR; MVR + CABG; MV Repair; MV Repair + CABG; Update Dec 2024 AVR + MV Replacement or Repair; CABG + AVR + MV Replacement or Repair and are calculated in vendor software or using the STS Risk Calculator. For all other procedures code NA. The Euroscore cannot be used to complete this field.~~

The above wording has been removed and replaced with the following wording

Update June 2025 - STS risk calculators are available for:

- **ASCD Operative Risk (CABG; AVR; AVR + CABG; MVR; MVR + CABG; MV Repair; MV Repair + CABG)**

- **Multi-Valve Surgery (AVR + MV Replacement or Repair; CABG + AVR + MV Replacement or Repair)**

- **Isolated Tricuspid Valve Surgery (TVR or TV Repair)**

- **SAVR After TAVR**

- **Ascending Aorta & Aortic Root Surgery (Ascending Aorta Only; Ascending Aorta + AVR; AVR + Root + Ascending; Valve Sparing Root + Ascending)**

- **Mitral Regurgitation (Surgical Repair of Primary Mitral Regurgitation)**

For all other procedures and emergent or salvage cases, code NA.

Adult Cardiac Risk Calculators

ACSD Operative Risk Calculator

Assess risk of operative mortality, major morbidity, and short-term outcomes after the vast majority of adult cardiac surgeries.

Learn More | Try It

Mitral Regurgitation Risk Calculator

Allows surgeons to estimate a patient's risk for multiple outcomes: operative mortality, combined operative mortality or major morbidity, and conversion to MV replacement after attempted repair.

Learn More | Try It

Isolated Tricuspid Valve Surgery Risk Calculator

Provides the most objective data possible to guide physician and patient shared decision-making and ongoing landmark trials comparing transcatheter and surgical treatments.

Learn More | Try It

SAVR After TAVR Risk Calculator

Provides essential data to inform patient care decisions, particularly if TAVR is to be considered for younger age and low-risk patients.

Learn More | Try It

Multi-Valve Surgery Risk Calculator

Assesses risk for multi-valve surgery involving replacement of the aortic valve, plus replacement or repair of the mitral valve, with and without concomitant coronary artery bypass grafting.

Learn More | Try It

Ascending Aorta & Aortic Root Surgery Risk Calculator

Helps assess risk and offer surgical planning to patients facing complex operations of the ascending aorta or aortic root.

Learn More | Try It

The STS Risk Calculators can be found here.

Choices Updated June 2025

Use of STS Risk Calculator is the ONLY way to select "YES" to this question. This is a MIPS reported measure.

➤ Yes - STS risk calculator score was calculated and discussed with the patient/family prior to surgery and documented in the medical record.

➤ No - STS risk calculator score was available for the scheduled procedure but not discussed with the patient/family prior to surgery or discussion was not documented.

➤ NA - not applicable (emergent or salvage case, or no risk **Update June 2025** ~~model~~ **calculator** available for this procedure)

FAQ:

We have had a couple of Thoracic Surgeons that have covered for our main Surgeon, and they didn't perform the risk calculator score. When you answer 'No' to this question, how does it effect your star rating for CABG only population?

Answer:

This is a MIPS reported variable for sites that do MIPS reporting. STS does not have a measure for STS Risk Calculator score was discussed and it does not affect STAR Rating

> **2025 MIPS Measure #358: Patient-Centered Surgical Risk Assessment and Communication**
>
> **Measure Description. Percentage of patients who underwent a non-emergency surgery who had their personalized risks of postoperative complications assessed by their surgical team prior to surgery using a clinical data-based, patient-specific risk calculator and who received personal discussion of those risks with the surgeon.**

> **MIPS measures are performance indicators used by Medicare to evaluate the quality, improvement activities, promoting interoperability, and cost of health care provided by eligible clinicians. MIPS is the original reporting option available to clinicians under the Quality Payment Program, a Medicare initiative that aims to improve patient care.**

FAQ:

If the physician documents in his/her narrative that the STS risk calculator was discussed with patient, does this cover this field as a "yes", or does the actual calculator and score need to be in the chart?

Answer:

You do not have to have the actual score and breakdown. The intent is to indicate if the STS Risk Calculator score was discussed with the patient/family prior to surgery. The surgeon / provider should reference the STS Risk score or calculator in their discussion / documentation.

For example:

"The STS calculated risk score was discussed with the patient and family"

"The Society of Thoracic Surgery predicted risk of mortality and morbidity (PROM) was discussed with the patient. His predicted STS risk of mortality per the STS Risk Calculator with elective coronary bypass grafting is approximately 1 to 2%"

"I have discussed risks and details of the planned procedure with the patient, including STS Risk Stratification per the STS Risk Calculator"

Examples of Excellent Documentation

Patient was seen and examined at bedside.
- The patient's chart and all data was reviewed.
- The procedure, treatment alternatives, risks and benefits were explained with specific risks discussed.
- The STS Risk Calculator score was discussed with the patient family prior to surgery, where applicable.
- After discussion with shared decision making, an agreement has been reached to proceed with: VALVE AORTIC REPLACEMENT OR REPAIR

I have calculated an STS (Society of Thoracic Surgery) risk score analysis for the patient and explained the risk, benefits, and alternatives with the patient. The risks include bleeding, infection, stroke, death, neurologic complication, rheumatologic complications, complications resulting in secondary surgical/medical procedures, and any nosocomial infections that might result in secondary surgical/medical procedures.

Example of Non-Acceptable Documentation

Indicated for an urgent CABG. All the benefits, risks, and alternatives were discussed with this patient. Patient shows understanding verbally and agrees with surgery. The benefits of surgery were discussed in detail, including but not limiting to relieve the current heart-related symptoms, improve life quality after surgery, or potentially prolong life expectancy. All the risks were discussed, including but not limiting to peri-operative stroke, heart attack, hemorrhage, infection, kidney failure requiring short-term or long-term hemodialysis, thrombosis or embolism which may cause organ/tissue/limb loss, respiratory failure, multiple organ failure, arrhythmia, and death from surgery.

The intent is to indicate if the STS Risk Calculator score was discussed with the patient/family prior to surgery. The surgeon / provider should reference the STS Risk score or calculator in their discussion / documentation.

No mention of STS Risk Calculator or STS Risk Score in this note

# Example of Non-Acceptable and Acceptable Documentation in the same patient record

PA documented "STS risk Morbidity & Mortality 7.52%" in his note. This is the only documentation in the PA note.

This is not acceptable. PA documented score, but no discussion with patient.
Many sites are incorporating the STS Risk Score in the medical record. There needs to be an association with the documented score and a discussion of the STS Risk Score with the patient to code YES.

Surgeon consult – "Discussed the STS score calculation with the patient and how it is one component that is incorporated into the overall context of perioperative risk assessment".

This is acceptable since the surgeon referenced the STS Risk score and discussed it with the patient.
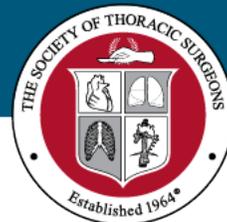
Open Discussion

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!

STS National Database ™
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Contact Information

- Carole Krohn, Director, STS National Database
  - ckrohn@sts.org

- Nancy Honeycutt, STS National Database Manager, ACSD, Intermacs/Pedimacs
  - nhoneycutt@sts.org

- STSDB@sts.org
  - Database Operational Questions (Billing, Contracts, Contacts)

- 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 Webinar will be held on Wednesday, July 16, 2025 at 3pm ET/2pm CT.