STS National Database™

Trusted. Transformed. Real-Time.

Society of Thoracic Surgeons

Congenital Heart Surgery Database
Monthly Webinar

May 21, 2024

Agenda

- Welcome and Introduction
- STS Update
- STS Data Manager Education (Chasity Wellnitz and Leslie Wacker, CHSD Consultants)
- Q&A

STS Updates

- May Training Manual posted

- Spring 24 Harvest (Surgery dates 1/1/2020 – 12/31/2023)
    - Data Analysis complete and IQVIA is working to upload data into the platform
    - Report release date TBD – *more information coming soon*!

- Fall 24 Harvest is underway
    - Surgery dates 7/1/2020 – 6/3/2024
   - Harvest close is September 27 @ 11:59pm Eastern

STS Updates

- New NPI validation for sites using third-party vendor software
  - Ensures only cases for surgeons or anesthesiologists on your contact list are accepted into the database
  - If a case(s) is uploaded for a physician not on your contact list, the record(s) will fire a critical error, and will not be accepted into the Data Warehouse

- Official communication sent to Participants on May 10

- Review your contact lists to verify the surgeons and anesthesiologists STS has on file for your sites.
  - Access your Contact List Report - located within IQVIA Platform under Operational Reports

- If you find that any of your surgeons or anesthesiologists are missing from STS's records, please complete the required documentation.
  - Contractual requirement and must be done as physicians join your site
  - To add new physicians, submit a participant contact form with a signed Schedule A for surgeons or a signed Schedule B for anesthesiologists.

2024 Harvest Schedule

Term	Harvest Submission Window Close	Opt-Out Date	Includes Procedures Performed Through:	Report Posting
Spring 2024	3/22/2024	3/26/2024	12/31/2023	Summer 2024
Fall 2024	9/27/2024	10/1/2024	6/30/2024	Winter 2024

Data Submission Open is continuous for all harvest terms. Data Submission Close occurs at 11:59 p.m. Eastern on the date listed.
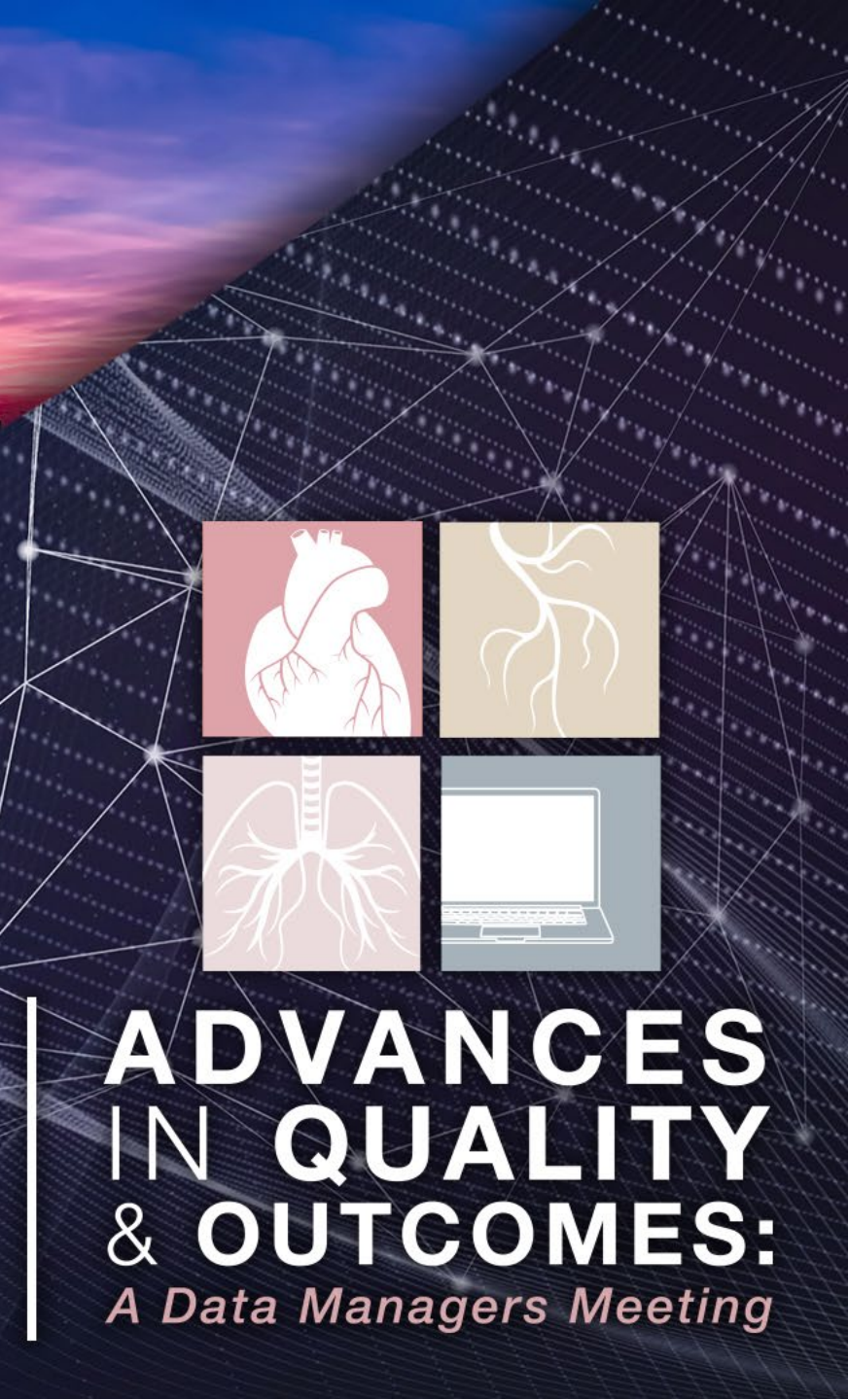
JOIN US IN MUSIC CITY!

September 11-13 Nashville, TN
Register at sts.org/AQO

ADVANCES
IN QUALITY
& OUTCOMES:
A Data Managers Meeting
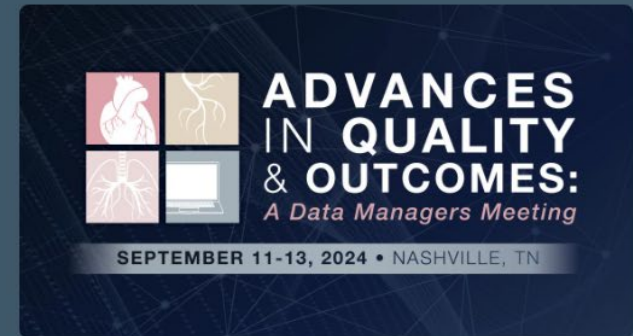
AQO
Registration
Now Open

Event

2024 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.

Register Now   Reserve Housing

ADVANCES
IN QUALITY
& OUTCOMES:
A Data Managers Meeting

SEPTEMBER 11-13, 2024 • NASHVILLE, TN

Date(s)
Sep 11—13, 2024

Location
Nashville, TN

Loews Vanderbilt Hotel

Audience
Data Manager

* indicates a required field

Advances in Quality & Outcomes (AQO): A Data Managers Meeting

Abstract Submission Information & Guidelines

Abstracts are being accepted for presentation consideration at The Society of Thoracic Surgeons 2024 Advances in Quality & Outcomes (AQO): A Data Managers Meeting. Accepted submissions will be presented as e-posters; however, some selected abstracts also may be presented orally.

Important

Abstracts submitted for presentation consideration at the AQO Meeting must use STS National Database Core Fields and Participating Sites Custom Fields to achieve results. Two types of abstracts will be considered:

- Scientific Abstracts: Use of evidence-based practice to improve outcomes.
- Quality Improvement (QI) Abstracts: Any hospital/system QI activity demonstrating change in behavior or outcome.

NOTE

All submitted scientific abstracts must be original works not previously presented. Authors submitting QI abstracts, who may want to submit their work for presentation/publication at another meeting, should be aware of other societies'/accrediting bodies' rules and regulations regarding submission of previously presented works.

Abstract Development Guidelines

1. Provide the corresponding author's full name, institution, email address, and telephone number. The corresponding author should submit the abstract electronically.

2. Provide the remaining authors' names, titles, and name(s) of the authors' institution(s).

3. Title of Abstract: Provide a short and specific title that indicates the nature of the study. Please use title case and no periods or abbreviations. (Example: This Is a Properly Formatted Title).

4. Abstracts must be limited to 250 words and typed into the online submission form. The 250-word limit does not include the title of the abstract or the names of authors; it applies to the total word count of the four sections listed below.

5. All abstracts must be broken into the following sections or they will not be accepted. Abstracts not in compliance with the following instructions will not be reviewed:
   - Background: A brief statement of the study's purpose and current state of research in the field.
   - Methods or Study Population: Clearly and briefly defined methods of the study or experimental approach.

AQO 2024: Call for Abstracts

- To submit an abstract: https://www.abstractscorecard.com/cfp/submit/login.asp?EventKey=MVJLWQGA

- Abstract Submission Open: Monday, May 20

- Abstract Submission Close: Monday, June 24

AQO Pricing (In-Person and Virtual)

In-Person Pricing

In-Person Pricing

Category	Early Bird Discounts (through May 16)	Standard Rate (May 17 -September 14, 2024)
STS Member - One Day	$700	$800
STS Member - Two Day	$1,050	$1,250
STS Member -Three Day	$1,300	$1,600
Non-Member - One Day	$800	$900
Non-Member - Two Day	$1,250	$1,450
Non-Member - Three Day	$1,600	$1,900
Industry Employee	$750	$750

You'll need your STS Member ID to receive the discounted member rate.
Database participation differs from STS membership (e.g., Surgeon or Associate Membership). Your 6-digit STS Member ID is not your site or Database participant ID. For help with your STS Member ID, please contact Member Services.

Virtual Pricing

Virtual Pricing

For those unable to travel to Nashville, STS offers a virtual registration option. Registrants who choose the "virtual pass" will gain access to on-demand content and e-posters online before AQO and the recorded archive of all sessions following the conclusion of the meeting. (the virtual pass does not include live streaming.)

In the months after the meeting, each registry will host an AQO Hot Topics webinar. We will bring back meeting speakers and give virtual attendees a chance to ask questions. Conversations will touch on valuable research and best practices from STS National Database professionals, all to improve data collection and patient outcomes.

Category	Early Bird Discounts (through May 16)	Standard Rate (May 17 - September 14, 2024)
STS Member - Multi-Day	$300	$400
Non-Member - Multi-Day	$400	$500

6.23.2 Data Manager Education

May 21, 2024

Audit update

Counting prior operations (Seq 2000, PrvCtOpN) for *audit*

- The audit will now only consider 0 or >0 (rather than the specific number of operations)

- This does NOT change how the data is collected

- Revisit the November 7, 2023 webinar for more details on data collection
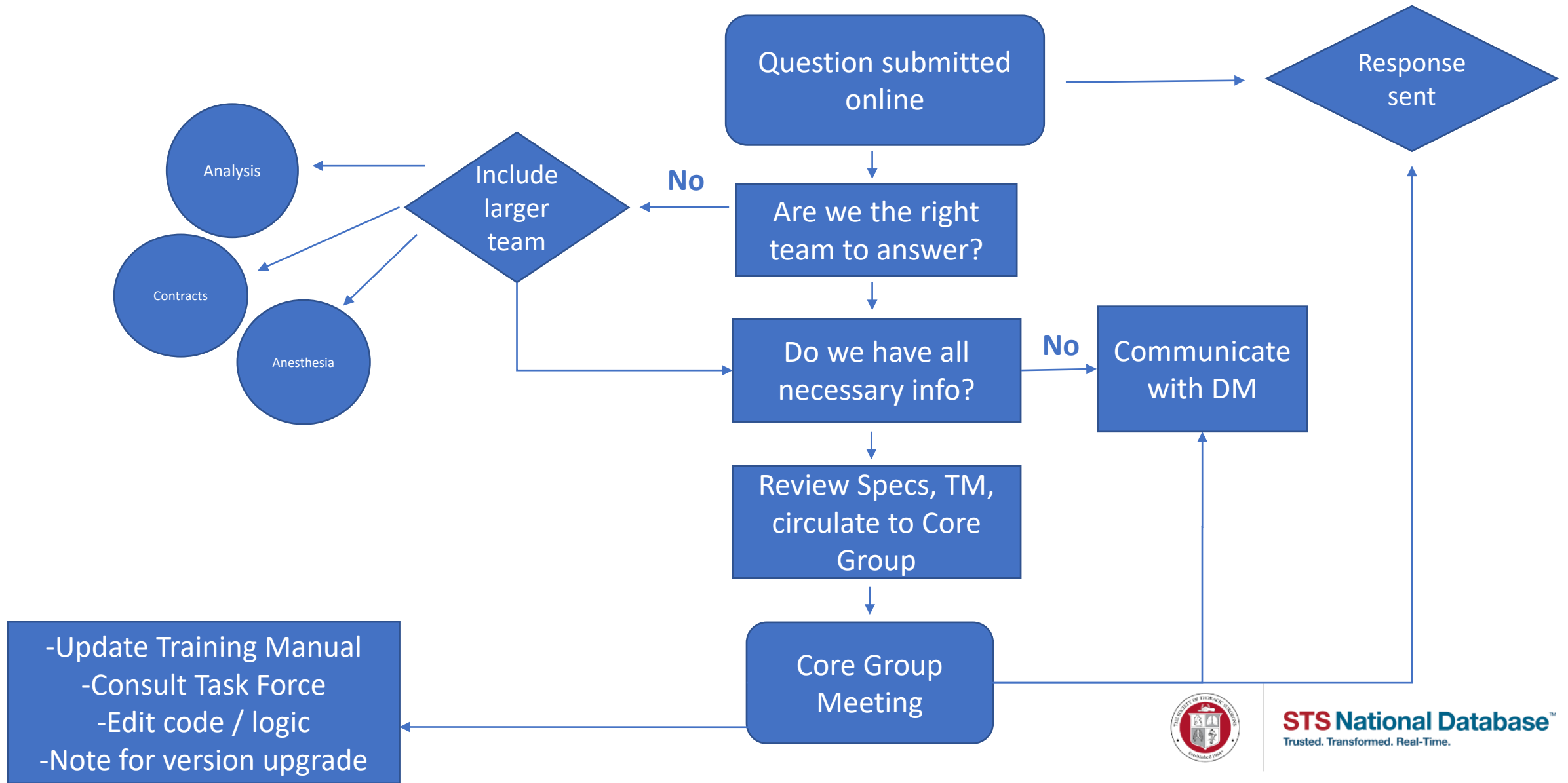
FAQ Updates

- Eliminated Congenital FAQ mailbox options

- Select v6.23 or v3.41

- If your question is time sensitive, please indicate so upon submission

- We hope to respond within 30 days!

FAQ Updates

- Submit an FAQ

- Q&A during monthly webinars

- Phone a friend

- Utilize the "Eddie" group*

Frequently *frequently* asked questions ☺

Is a "stretched" or enlarged PFO considered an ASD?

Frequently *frequently* asked questions ☺

Is a "stretched" or enlarged PFO considered an ASD?

No, enlarging or stretching a PFO does not make it an ASD. The appropriate diagnosis and procedure codes are (10) PFO and (10) PFO, Primary closure

Frequently *frequently* asked questions ☺

Do I have to use both the combo codes and the individual procedure codes?

Do I have to use both the combo codes and the individual procedure codes?

Yes! We HIGHLY encourage sites to use both the combination code as well as the individual procedure codes for multiple reasons:

1. This ensures the most appropriate procedure code is selected as primary
2. If any codes are updated in the future, the component procedures are already listed
3. Further delineates surgical details, aids in research

Frequently *frequently* asked questions ☺

Can I use a combination code that is "close" to the procedure performed? For example, my surgeon completed a VSD repair, Patch and ASD repair, Patch and wants to use code 5001

Can I use a combination code that is "close" to the procedure performed? For example, my surgeon completed a VSD repair, Patch and ASD repair, Patch and wants to use code 5001

No, combination codes were derived through research and are only applicable to specific procedure codes. 5001 only applies to **(110) VSD repair, Patch** and **(20) ASD repair, Primary closure**

Frequently *frequently* asked questions ☺

Frequently *frequently* asked questions ☺

		closure, 110 Patch, 120 Device).
5001	VSD repair, Patch + ASD repair, Primary closure	During the same operation, procedure (110) VSD repair, Patch, *and* procedure (20) ASD repair, Primary closure. Coding Notes: See the individual procedure codes for more detail.

Frequently *frequently* asked questions ☺

Do I have to select Operative Mortality for each event or can I use this to indicate mortality assignment?

Do I have to select Operative Mortality for each event or can I use this to indicate mortality assignment?

Yes! Mortality assignment is a retired field; operative mortality (1) all deaths, regardless of cause, occurring during the hospitalization in which the operation was performed, even if after 30 days (including patients transferred to other acute care facilities); and (2) all deaths, regardless of cause, occurring after discharge from the hospital, but before the end of the thirtieth postoperative day.

Frequently *frequently* asked questions ☺

Intent/Clarification:

This field should be completed accurately for all procedures performed (index and non-index) including all operation types regardless of whether the case will be analyzed or included in a specific analysis table.

This field cannot be completed until the patient's episode of care has ended.

The definition for operative mortality in the CHSD is slightly different from the adult databases. Unlike the CHSD, the adult databases collect discharge to hospice and have considerations for palliative care consults which assist in determining operative mortality. Please follow the CHSD definition for operative mortality.

Code (1) Yes for the following:

- All mortalities regardless of the cause of death that occur during the surgical hospitalization

Frequently *frequently* asked questions ☺

Can I capture intra/post-operative events on any case?

Can I capture intra/post-operative events on any case?

Some things to consider…

1. Is this an index or non-index case?

   ALL intra and postoperative events are collated to the **index operation*** of the patient's episode of care at analysis. You can capture events on the surgery that makes the most sense or is most closely related to the event, but understand they will be "attached" to the index

Frequently *frequently* asked questions ☺

CHSD Common Terms

Procedure Location – procedures may be completed in any setting (e.g., operating room, procedure suite, cardiac catheterization lab, intensive care unit, emergency department etc.) and should be included into the database regardless of the location.

Episode of Care (EOC) – most of the time, an EOC will encompass a single hospital admission. Less commonly, an EOC may encompass a string of two or more hospital admissions when a patient is readmitted to the same surgical hospital after discharge to another acute care/chronic care facility without having been discharged to home or residing in the chronic care facility for 183 consecutive postoperative days. Each EOC will have one index operation which will be analyzed. The end of the EOC is denoted by the database discharge date.

EOC Example: following a Norwood procedure, a patient transfers to a hospital closer to home for continued feeding therapy. The patient experiences respiratory distress and is readmitted to the surgical hospital for open drainage of a pericardial effusion. The patient again transfers back to the acute care hospital. The patient never discharges to home and is ultimately readmitted to the surgical hospital for their Glenn procedure and discharges to home.

While the patient experienced three surgical hospital admissions, this represents one EOC given the patient never discharged to home or resided in a chronic care facility for 183 consecutive postoperative days. The index operation of the EOC is the Norwood procedure. The end of the EOC (and the end date of database tracking) for all three admissions is the date the patient discharged to home following the Glenn procedure.

EOC Example #2: Hospital A performs an index operation and transfers the patient to hospital B where an additional index operation is performed (both hospitals performed an operation with operation type CPB Cardiovascular or No CPB Cardiovascular). The patient dies at hospital B.

date of mortality at hospital B. The EOC for hospital B started on the date the patient arrived at that institution and ended on the date of mortality.

This is one time where a patient can die more than once in the CHSD.

CHSD Training Manual - Version 6.23.2

Page 6 of 1254

Surgical Hospital – refers to the hospital where the procedure the data manager is collecting data for occurs.

Index Operation – refers to the first operation of the episode of care (EOC) of operation type CPB Cardiovascular or No CPB Cardiovascular. All the analyses including mortality calculation will be performed for the index operation. Each EOC will have one index operation.

Frequently *frequently* asked questions ☺

Some things to consider…

1. Is this an index or non-index case?
2. If index, capture away!

Frequently *frequently* asked questions ☺

Some things to consider…

1. Is this an index or non-index case?
2. If index, capture away!
3. If non-index, does this case occur **PRIOR TO** an index operation…?

Frequently *frequently* asked questions ☺

ALL intra and postoperative events are attributed to the **index operation**

   ***Therefore,* capturing events which occur preoperative to the index will ALSO be attributed to the index operation.**

   Instead, capture these as any appropriate Preoperative Factors on the index operation.

Frequently *frequently* asked questions ☺

Pt arrives at your hospital in shock and requires ECMO emergently by your cardiac surgeon.

The patient further declines, has a cardiac arrest, and is taken to the OR for surgery on bypass.

Frequently *frequently* asked questions ☺

Pt arrives at your hospital in shock and requires **ECMO emergently by your cardiac surgeon.**

Enter this case in CHSD as ECMO Cannulation but do not capture any intra/post-operative events

Frequently *frequently* asked questions ☺

Pt arrives at your hospital in shock and requires **ECMO emergently by your cardiac surgeon.** Enter this case in CHSD as ECMO Cannulation, but do not capture any intra/post-operative events

The patient further declines, has a cardiac arrest, and is taken to **the OR for surgery on bypass**. This is your index operation, enter shock, ECMO, and cardiac arrest as Preoperative Factors and then any intra/post-op events that follow

Systemic vs. Non-Systemic AV Valves

DCF: Diagnoses & Procedures

Tricuspid or Non-systemic Atrioventricular Valve Disease and Ebstein's Anomaly	☐	370= Ebstein's anomaly
	☑	2700= Dysplastic Tricuspid or non-systemic atrioventricular valve, non-Ebstein's
	☐	410= Tricuspid or non-systemic atrioventricular valve, Other

☐	460= Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use 465= Ebstein's repair)
☐	2280= Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve
☐	465= Ebstein's repair
☑	5030= Ebstein's repair + PDA closure, Surgical
☐	470= Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve
☐	480= Valve closure, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach)
☐	490= Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without replacement)
☐	500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

Mitral or Systemic Atrioventricular Valve Disease	☐	650= Mitral or systemic AV valve stenosis, Supravalvar ring
	☐	660= Mitral or systemic AV valve stenosis, Valvar ++ VDStenM (1690)
	☐	670= Mitral or systemic AV valve stenosis, Subvalvar
	☐	680= Mitral or systemic AV valve stenosis, Subvalvar, Parachute
	☐	700= Mitral or systemic AV valve insufficiency and stenosis
	☐	710= Mitral or systemic AV valve insufficiency MVRegurg (1679)
	☐	720= Mitral or systemic AV valve, Other

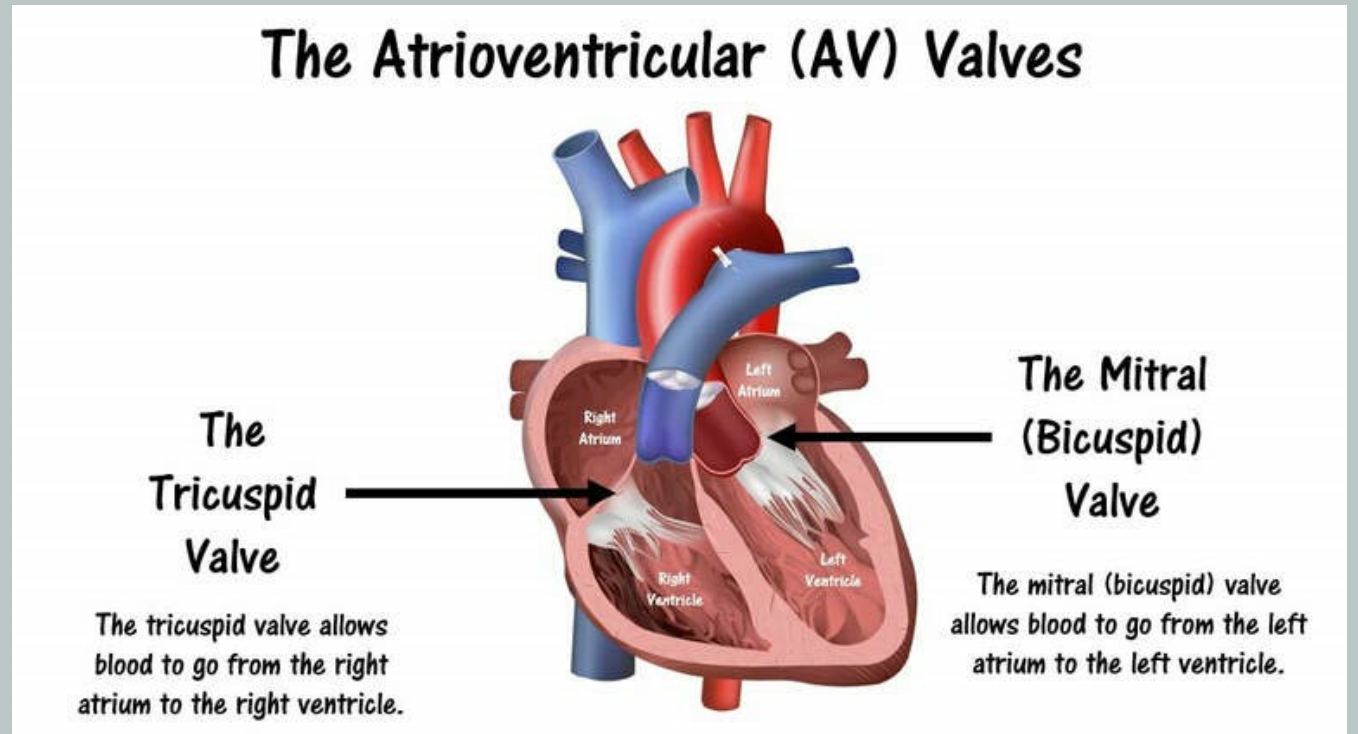|	
☐	830= Valvuloplasty, Mitral or Systemic Atrioventricualr Valve
☑	5005= Mitral or systemic atrioventricular Valvuloplasty + Valvuloplasty, Aortic/Neo-Aortic/Truncal
☐	2260= Valvuloplasty converted to valve replacement in the same operation, Mitral or Systemic Atrioventricular Valve
☐	840= Mitral or Systemic Atrioventricular Valve Stenosis, Supravalvar ring repair
☐	850= Valve replacement, Mitral or Systemic Atrioventricular Valve (MVR)
☐	860= Valve surgery, Other, Mitral or Systemic Atrioventricular Valve

Systemic vs. Non-Systemic AV Valves

In version 6.23.2 –
valve related diagnoses and procedures are to be captured based on the valve function
(e.g., systemic vs. non-systemic)
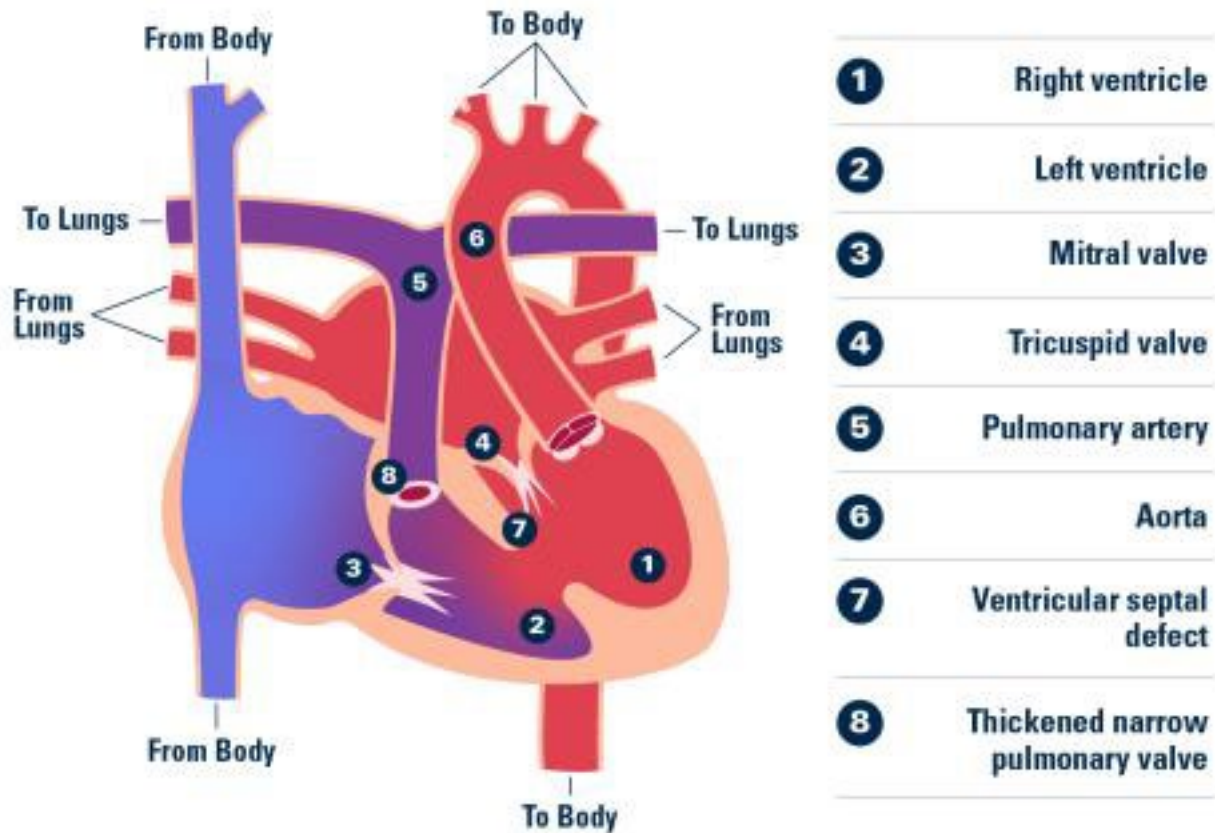
Systemic vs. Non-Systemic AV Valves

Atrioventricular (AV) Valve:
valves separate the atria from the ventricles

Systemic AV Valve: valve supporting the systemic circulation (blood flow to the body)

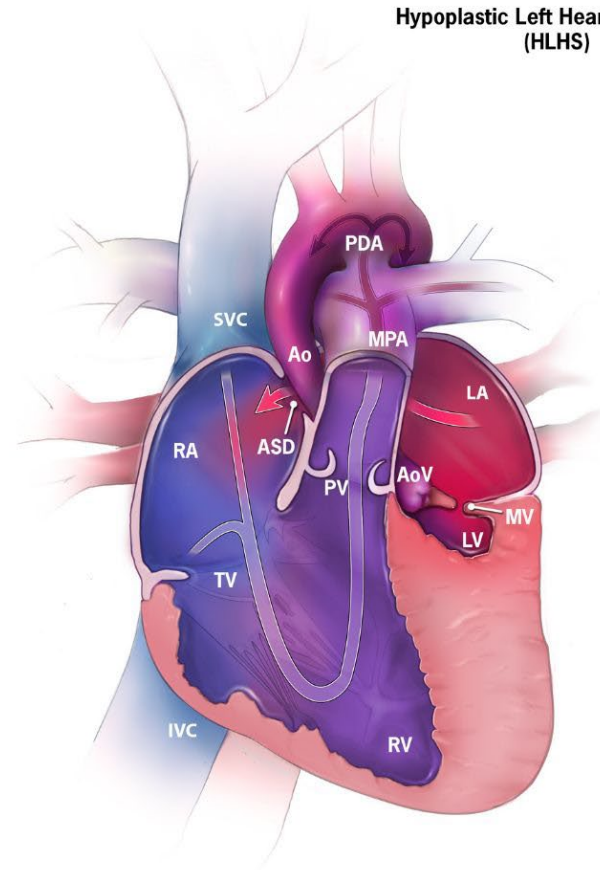Non-Systemic AV Valve: valve not providing systemic support (pulmonary blood flow)

The Atrioventricular (AV) Valves

The Tricuspid Valve

The tricuspid valve allows blood to go from the right atrium to the right ventricle.

The Mitral (Bicuspid) Valve

The mitral (bicuspid) valve allows blood to go from the left atrium to the left ventricle.

https://www.scientistcindy.com/cardiovascular-system.html#google_vignette

Systemic vs. Non-Systemic AV Valves

From Body
To Body
To Lungs
From Lungs
From Lungs
From Body
To Body

1. Right ventricle
2. Left ventricle
3. Mitral valve
4. Tricuspid valve
5. Pulmonary artery
6. Aorta
7. Ventricular septal defect
8. Thickened narrow pulmonary valve

There are congenital heart defects where the systemic support is provided by the tricuspid valve

Normal Heart

Hypoplastic Left Heart Syndrome (HLHS)
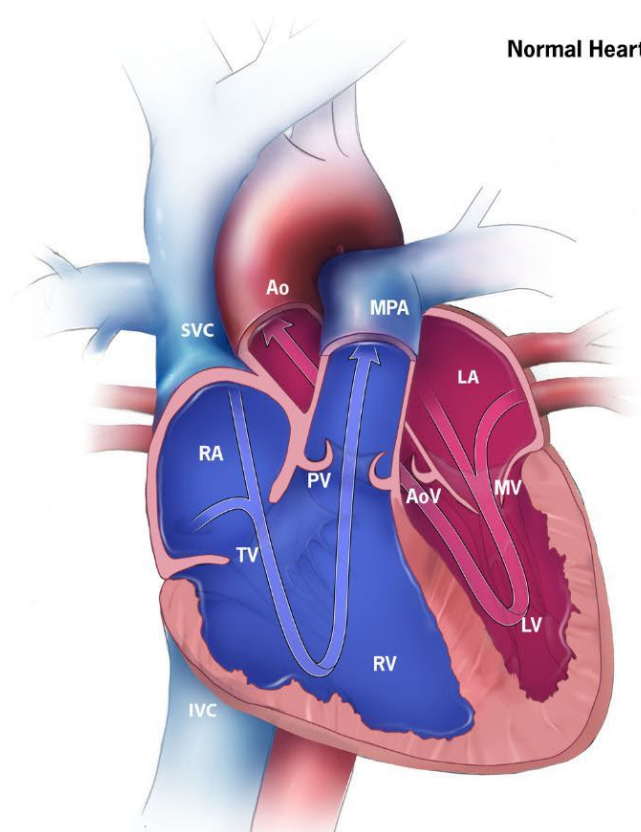
RA: Right Atrium
RV: Right Ventricle
LA: Left Atrium
LV: Left Ventricle
SVC: Superior Vena Cava
IVC: Inferior Vena Cava
MPA: Main Pulmonary Artery
Ao: Aorta
TV: Tricuspid Valve
MV: Mitral Valve
PV: Pulmonary Valve
AoV: Aortic Valve
PDA: Patent Ductus Arteriosis
ASD: Atrial Septal Defect

Centers for Disease
Control and Prevention
National Center on Birth Defects
and Developmental Disabilities

Systemic vs. Non-Systemic AV Valves

Example: Patient with CC-TGA, VSD undergoes repair with VSD patch closure, and AV valvuloplasty.

From the op note... I inspected the tricuspid valve, which was in the systemic ventricle, and noted several chordal attachments impacting the leaflets of the tricuspid valve. These were removed freeing up the leaflets of the valve.

Which of the following correctly captures the valve procedure?

❑ Valvuloplasty, Tricuspid or Non-Systemic Atrioventricular Valve

❑ Valvuloplasty, Mitral or Systemic Atrioventricular Valve

Systemic vs. Non-Systemic AV Valves

Example: Patient with CC-TGA, VSD undergoes repair with VSD patch closure, and AV valvuloplasty.

From the op note... I inspected the tricuspid valve, which was in the systemic ventricle, and noted several chordal attachments impacting the leaflets of the tricuspid valve. These were removed freeing up the leaflets of the valve.

Which of the following correctly captures the valve procedure?

- ☐ Valvuloplasty, Tricuspid or Non-Systemic Atrioventricular Valve
- ☑ Valvuloplasty, Mitral or Systemic Atrioventricular Valve

Systemic vs. Non-Systemic AV Valves

Example: Patient with Single ventricle, Mitral atresia undergoes main PA banding, PDA closure, tricuspid valvuloplasty, and atrial septectomy.

Which of the following correctly captures the valve procedure?

❑ Valvuloplasty, Tricuspid or Non-Systemic Atrioventricular Valve

❑ Valvuloplasty, Mitral or Systemic Atrioventricular Valve

Systemic vs. Non-Systemic AV Valves

Example: Patient with Single ventricle, Mitral atresia undergoes main PA banding, PDA closure, tricuspid valvuloplasty, and atrial septectomy.

Which of the following correctly captures the valve procedure?

❑ Valvuloplasty, Tricuspid or Non-Systemic Atrioventricular Valve

☑ Valvuloplasty, Mitral or Systemic Atrioventricular Valve

Open Discussion

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!

Contact Information

Leigh Ann Jones, STS National Database Manager, Congenital and General Thoracic

- Ljones@sts.org

Tech Support

Analysis Report/Data Submission Questions

- STSDB_helpdesk@sts.org

Database Operational Questions

- STSDB@sts.org

Congenital STS Database Consultants

- Leslie Wacker   lwacker@sts.org
- Chasity Wellnitz   cwellnitz@sts.org

THANK YOU FOR JOINING!