Society of Thoracic Surgeons

General Thoracic Surgery Database
New Data Manager Webinar

October 25, 2023

STS National Database™
Trusted. Transformed. Real-Time.

Agenda

- Welcome and Introductions

- Introduction to STS and the Databases

- Role of the Data Manager

- Data Manager Resources

- How to read the Data Collection Form (DCF)

- Required fields

- Intro to Data Specs

- Intro to Training Manual

- Submitting a question

- Keys to abstracting data

- Building a relationship with your surgeon

- Ensuring Clean Data

- Data Submission Deadlines

- Additional STS Resources

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Operations Manager

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Core Group/GTSD Consultant
Trinity Health

Introduction to STS and the Databases

- Society founded in 1964

"To enhance the ability of cardiothoracic surgeons to provide the highest quality care through education, research, and advocacy"

- Today has more than 7500 members in 99 countries

- More than 80 employees in Chicago and D.C.

- The first database was started in 1989 as an initiative for quality improvement and patient safety among cardio-thoracic surgeons
  - Response to HHS/HCFA (now CMS)
  - Malpractice lawsuits related to a misperception of the risk associated with surgery
  - JCAHO's requirement of all health systems to have a QA program used for surgeon recredentialing
  - Threats to reimbursement

Introduction to STS and the Databases

- Accomplishments of the STS National Databases
  - Improved Patient Outcomes/Patient Safety
  - Developed Clinical Practice Guidelines
    - Blood Conservation
    - Antibiotic Usage
  - Voluntary Public Reporting
    - Sites who publicly report have better outcomes

Introduction to STS and the Databases

- General Thoracic Surgery Database (GTSD) started in 2003

- Today has more than 903 surgeons at 287 national and international site(s)
  - International site: New Zeland
  - Approximately 60% of these sites participate in GTSD Public Reporting

- Contains more than 719,000 records for more than 612,000 patients

The Data Abstractor/Data Manager Role

- Your Role
  - Abstract Data
  - Submit Data
  - Clean Data
  - Quality Improvement Projects
  - Charting
  - Best Practices
  - Improve Workflow on Units
  - Improve Team Work
  - Quality Assurance Meetings with Surgeons and Supporting Departments
  - Administration Reporting on Star Ratings

Data Manager Resources

STS Website

Webinars

Mentorship Program

Advances in Quality and Outcomes
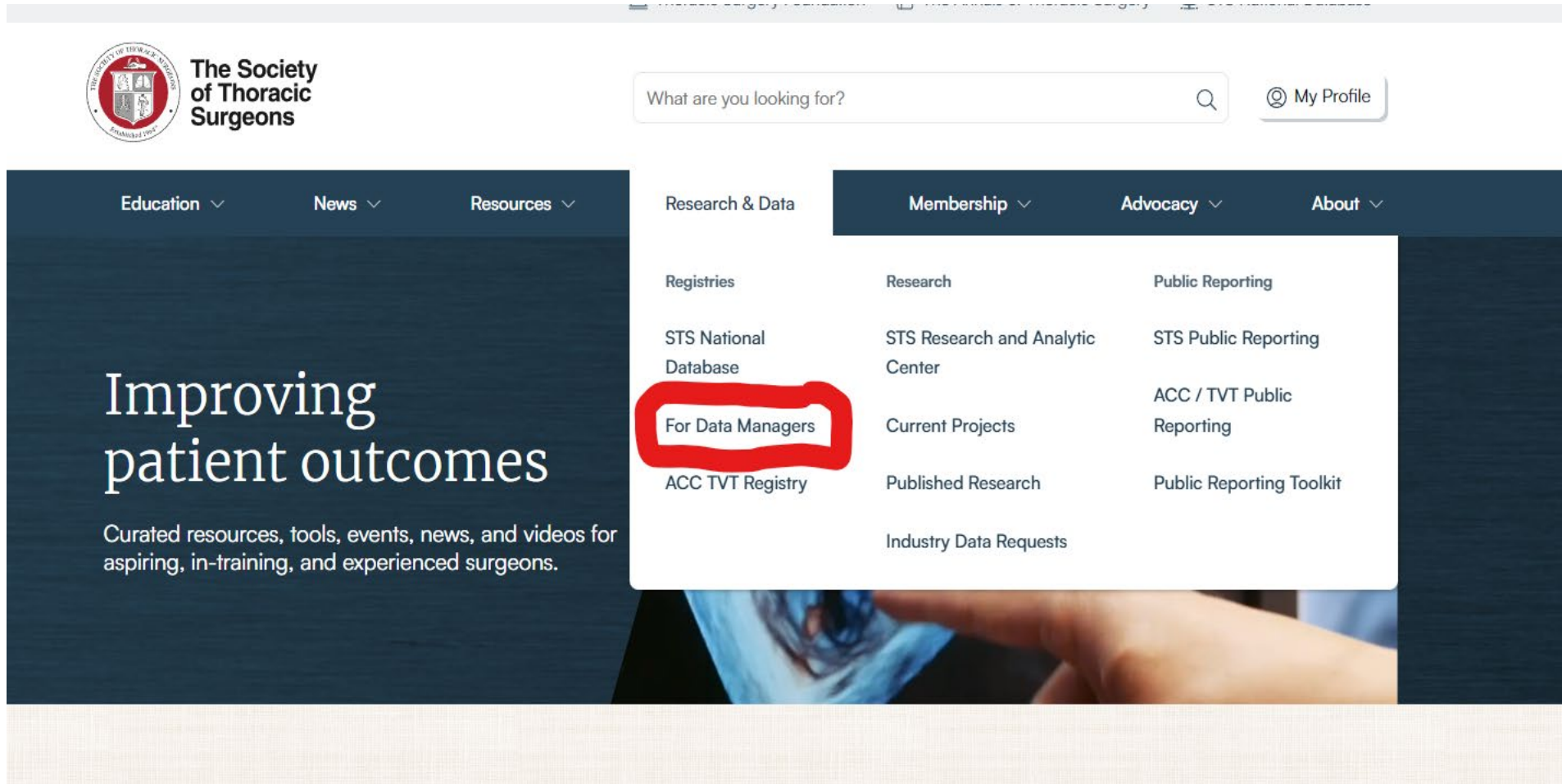
Database Newsletter

Clinical Support

STS National Database Website

Data Manager Resources

Data Manager Resources

Data Manager Resources

sts.org

STS Database Newsletter

General News

STS Launches Next-Generation Adult Cardiac Surgery Risk Calculator

The Society of Thoracic Surgeons has launched its next-generation Operative Risk Calculator to assess the risk of adult cardiac surgery operations.

The STS Adult Cardiac Surgery Database represents 97% of all cardiac operations performed in the United States and the new calculator is based on precise statistical models from the experience of more than 8 million patients. The dynamic Risk Calculator is mobile-friendly and features a simplified, intuitive user design to improve physician-patient decision-making allowing surgeons and multidisciplinary medical providers to estimate a patient's risk in real time. The risk calculations are based on the most current nationwide 2023 data from the STS Adult Cardiac Surgery Database and these are informed by robust risk models that continuously update every three months. Learn More.

Join the Data Manager Mentorship Program

The STS National Database mentorship program pairs experienced data managers with those seeking advice related to data abstraction. And it's easy to participate. Simply fill out a questionnaire and mentors and mentees will be matched based on database type, experience in specific areas, and other key factors.

Apply as either a mentor or mentee. You will be notified once you have been matched.

If you have questions about the program or any feedback on the sign-up forms, contact National Database Coordinator Adelaide Dolan.

Adult Cardiac

If you couldn't join us for the ACSD Quality Improvement Series: Decreasing Vent Times webinar held July 19, 2023, be sure to check out the recorded session. This webinar, featuring a presentation on reporting dashboards by Diana Alejo, director of informatics at Johns Hopkins, is designed to help improve national quality initiatives. Watch it here.

Harvest Schedule Update

The Harvest submission window for Harvest 3 term is August 18, 2023. Opt-out date is August 22, 2023. This reporting period includes procedures performed by June 30, 2023.

General Thoracic

GTSD Update

GTSD New Data Managers Recorded Webinar Now Available

If you missed the June webinar for GTSD data managers, originally held on June 14, 2023, check out the recorded session now available. This monthly educational webinar for data managers in the GTSD includes updates from STS, such as harvest deadlines, audit notifications, information about the 2023 AQO meeting, and attendee questions. Watch it here.

Harvest Schedule Update

The Harvest submission window for the fall 2023 term closes on September 8, 2023. Opt-out date is September 12, 2023. This reporting period includes procedures performed by June 30, 2023.

Congenital

sts.org

Data Manager Mentorship Program

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STS Mentorship Program

Advances In Quality and Outcomes: A Data Managers Meeting (AQO)

Clinical Support and Database Support

Clinical Question Request Form

Are you struggling with a clinical question regarding data abstraction? Fill out the Clinical Question Request Form and get a response within 30 days.

Submit a Request

⊙ Scroll to top

Contact and Support

STS is available to help you with questions regarding the STS National Database.

If you have specific questions regarding the platform or participant reports, contact the STS National Database helpdesk. You will receive a helpdesk ticket, and STS will aim to follow up with you within 2 business days. Note: Heavy call and email volumes are anticipated as harvest deadlines approach. We appreciate your patience.

For general questions (like invoicing, updating contacts, or harvest schedules), contact the STS National Database staff team. For public reporting questions, contact STS Public Reporting.

Contact Helpdesk

Essential Forms and Resources

- Database participant role descriptions
- Database participant and platform roles
- Participant contact form
- Schedule A
- Schedule B

Established 1964*

sts.org

Data Collection Organization

Who

What

When

? Identify surgical cases

Data fields to collect

When to collect data

sts.org

Identification of Surgical Population

- Identify gold standard source
  - reliable and reproduceable
  - OR log, IT report...

- Identify secondary source as a double check

- May update overtime

Who

What
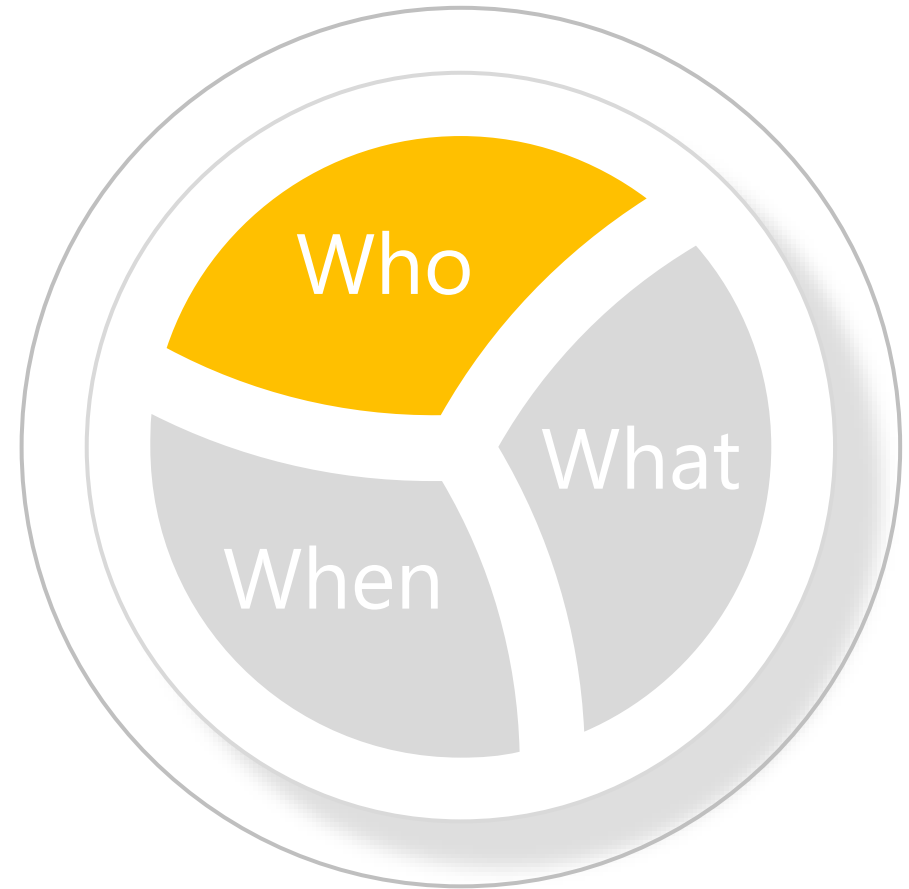
When

Data Collection Fields

- Identify sources for all fields
  - reliable and reproduceable
  - EHR documentation, IT reports

- Utilize database Training Manual for guidance/definitions

- Utilize available resources for any questions/confusion

When to Perform Data Functions?

Program dependent
- Resources
- Volume
- EHR
- Data needs

Who

What

When
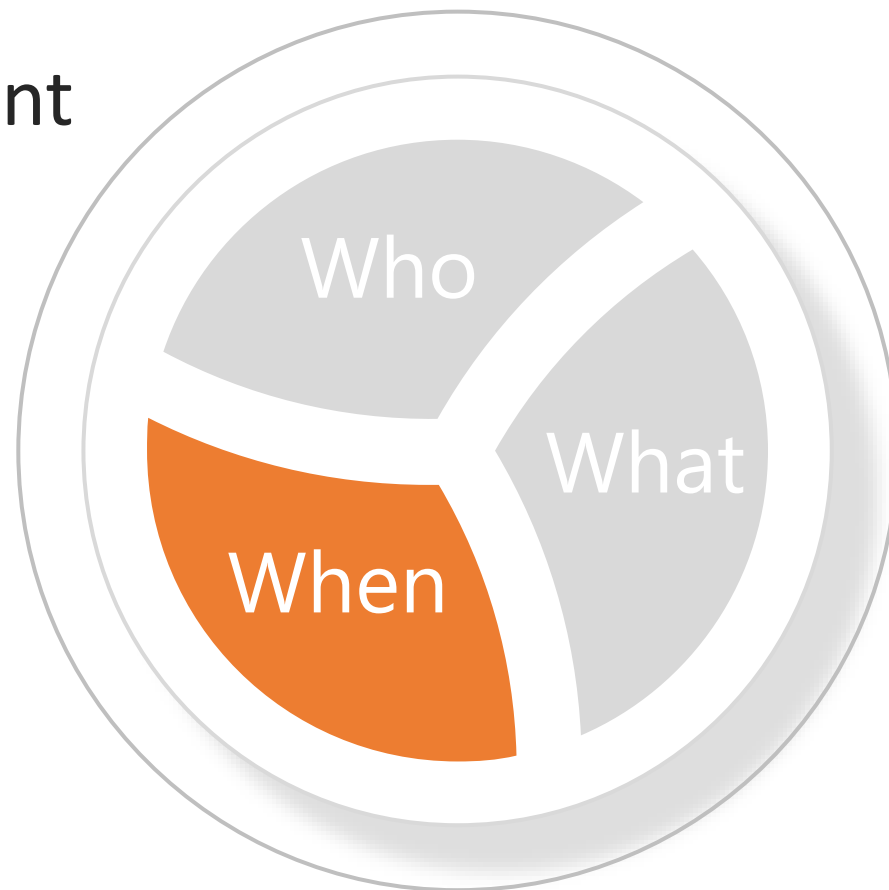
Real time
data collection

Post discharge data
collection

Hybrid - combination

Reading the Data Collection Form (DCF)

National Identifier Known ☐ Yes ☐ No ☐ Pt. Refused (If Yes →)

Known (140)

SSN: _____
SSN (150)

Patient Street Address: _____
...ur (160)

City: _____
PatCity (170)

State/ Region: _____
PatRegion (180)

...try: _____
...Country (190)

Patient Postal Code:_____
PostalCode (200)

...nt participating in STS-related clinical trial: ☐ None ☐ Trial 1 ☐ Trial 2 ☐ Trial 3 ☐ Trial 4 ☐ Trial 5 ☐ Trial

...al (210)

(...None →) Clinical trial patient ID: _____
ClinTrialPatID (220)

...of Birth:____/____/_____
...230)   (mm/dd/yyyy)

Age: ** _____
Age (240)

Gender: ** ☐ Male ☐ Female
Gender (250)

...Patient's Race Documented? ☐ Yes ☐ No ☐ Patient Declined to Disclose (If Yes, select all that apply ↓)
...Documented (260)

☐ White/Caucasian
☐ Asian
☐ Native Hawaiian/Pacific Islander

☐ Black/African American **
☐ American Indian/Alaskan Native
☐ Other

...Multi (270)

...or Latino Ethnicity: ☐ Yes ☐ No ☐ Not Documented
...ty (340)

Admission

...ission Status: ☐ Inpatient ☐ Outpatient / Observation
...ssionStat (350)

(If Inpatient →)
AdmitDt (360)

Admission Date: ____/____/_____
(mm/dd/yyyy)

...ndicate the **Primary** Payor:
...Prim (370)

(If Primary Payor is not None/Self ↓)
Indicate the **Secondary (supplemental)** Payor:
PayorSecond (420)

...one/Self

☐ None/Self

...dicare (includes commercially managed options)

☐ Medicare (includes commercially managed options)

(...es/e →)
Commercially Managed Medicare Plan:
☐Yes ☐No (If No ↓)
ComMngMedPlnPrim (380)

(If Medicare →)
Commercially Managed Medicare Plan:
☐Yes ☐No (If No ↓)
ComMngMedPlnSec (430)

HICN/MBI Known: ☐ Yes ☐ No (If Yes ↓)
HICNMBIKnown (390)

HICN/MBI Known: ☐ Yes ☐ No (If Yes
HICNMBIKnownSec (440)

HICN/MBI: _____
HICNMBI (400)

HICN/MBI: _____
HICNMBINumberSec (450)

Primary Payor Medicare Part B: ☐ Yes ☐ No
PrimMCareFFS (410)

Secondary Payor Medicare Part B: ☐ Yes
SecondMCareFFS (460)

Procedure Inclusion – The STS General Thoracic Registry version 5.21.1 requires submission of all lung resections for primary lung cancer and all esophageal resections for primary esophageal cancer. Lung and esophageal resections for primary cancer are analyzed including national outcomes for benchmarking, risk adjusted outcomes, and star rating. Participants in the General Thoracic Registry may choose to submit Thymus/Mediastinal Mass

Resection, Tracheal Resection, and Hiatal Hernia/GERD cases. These case types are optional modules for submission to the registry and benchmark data will be available in the national report if submitted. All other case types are not required for collection or submission. They will not be available in the national report if submitted.

Submitting Cases

Major/Analyzed (Required)

- Confirmed Lung Cancer Resections
- Confirmed Esophageal Cancer Resections
- Risk Adjusted

Major/ Analyzed Procedures (Not Required)

- Optional Procedures
- Thymus/Mediastinal Mass/Myasthenia Gravis
- Tracheal Resection
- Hiatal Hernia/GERD
- Benchmark data provided

Minor/Non-Analyzed Procedures

- Accepted into the database if you choose to collect
- Required fields "On Save" checks will be applied to these records

Concomitant Procedures

- If a procedure considered 'minor' or 'optional' is done at the same time as an 'analyzed' procedure, then it needs to be included on the same DCF

Which Variables are Required?

- Per STS all variables are important
  - Parent/child relationships help reduce the number of missing data in the feedback reports

- Do not omit the fields included in the analysis report:

    - Mortality Variables   - Risk Model Variables

    - 'Required' Variables

- Complete all fields consistently so they are meaningful internally and over time

A. Demographics

Patient ID: _____
PatID (90)

Medical Record #:_____
MedRecN (100)

First Name:_____
PatFName (110)

Middle Name:_____
PatMName (120)

Last Name:_____
PatLName (130)

SSN/National Identifier Known ☐ Yes   ☐ No ☐ Pt. Refused   *(If Yes →)*
SSNKnown (140)

SSN:_____
SSN (150)

Permanent Street Address: _____
PatAddr (160)

City: _____
PatCity (170)

State/ Region: _____
PatRegion (180)

Country: _____
PatientCount (190)

Patient Postal Code:_____
PostalCode (200)

Patient participating in STS-related clinical trial: ☐ No   ☐ Trial 1   ☐ Trial 2   ☐ Trial 3   ☐ Trial 4   ☐ Trial 5   ☐ Trial 6
ClinTrial (210)

(If not None – Clinical trial patient ID: _____
ClinTrialPatID (220)

Date of Birth ____/____/_____
DOB (230)   (mm/dd/yyyy)

Age: ** _____
Age (240)

Gender: ** ☐ Male   ☐ Female
Gender (250)

Is the Patient's Race Documented? ☐ Yes   ☐ No   ☐ Patient Declined to Disclose   *(If Yes, select all that apply ↓)*
RaceDocumented (260)

Race **:

☐ White/Caucasian
☐ Asian
☐ Native Hawaiian/Pacific Islander

☐ Black/African American **
☐ American Indian/Alaskan Native
☐ Other

RaceMulti (270)

Hispanic or Latino Ethnicity: ☐ Yes ☐ No   ☐ Not Documented
Ethnicity (340)

Required Variables for Case Inclusion

The variables underlined in blue must be included for your case to be included in analysis

Understanding the Data Collection Form

What do these "weights" mean?

- Lung Cancer Resection
  - Weight = 60
- Esophagus Resection
  - Weight = 70
- Hiatal Hernia/Gerd
  - Weight = 30
- Trachea Resection
  - Weight = 40
- Thymus/Mediastinal Mass
  - Weight = 50
- Concomitant Procedures
  - Weight = 20
- Minor Procedures
  - Weight = 10

Data and Software Specifications

- The database is updated every 3 years

- The data and software specifications are key tools in this process

- It is important to understand how to read them
    - Definitions
    - Allowable values
    - Field type
    - Parent/Child Relationships
    - Specify vendor requirements

Allowable Values

Below 8.00 will show a warning, verify data

Above 16.00 will show a warning, verify data

3.00   8.00   16.00   50.0

Allowable Values

For values outside of the allowable value zone then you will code the highest or lowest ALLOWABLE value

Long Name: Last Hemoglobin Level

Short Name: **HemoglobinLst**

Section Name: Pre-Operative Evaluation

DBTableName   Operations

Definition: Indicate the hemoglobin level closest
                  management (induction area or opera

LowValue: 3.00   UsualRangeLow: 8.00

HighValue: 50.00   UsualRangeHigh: 16.00

Parent Long Name: Hemoglobin Level Measured

ParentShortName: HemoglobinMeasured

ParentValue: = "Yes"

ParentHarvestCodes: 1

The Training Manual

- Guidance on abstracting variables

- Intent/Clarification provided to further explain definitions

- Update monthly with new FAQ's

- Refer to this to ensure you are abstracting correctly

- Check here first!

SeqNo: 500
Long Name: Valvular Heart Disease
Short Name: VHD
Definition: Indicate if the patient has had or has the presence of dysfunction of at least one heart valve graded as 2+ or greater on an echocardiogram. Excludes surgically corrected disease.

Intent/Clarification: Valvular heart disease is characterized by damage to or a defect in one of the four heart valves: the mitral, aortic, tricuspid or pulmonary. If a range is provided (i.e., 1 – 2+) use the highest number given, in this example, 2.
May 2019: Valvular heart disease is _not_ limited to just insufficiency or stenosis. If the patient has valvular heart disease that is documented as 2+ (moderate) or greater this field should be captured.

The **mitral and tricuspid valves** control the flow of blood between the atria and the ventricles (the upper and lower chambers of the heart). The **pulmonary valve** controls the flow of blood from the heart to the lungs, and the **aortic valve** controls the flow of blood from the heart to the aorta, and thereby the blood vessels to the rest of the body. The **mitral and aortic valves** are the ones most frequently affected by valvular heart disease.

August 2018: 1+ = mild, 2+ = moderate, 3+ = severe. Mild to moderate is less than 2+ and would not qualify as 2+ or greater.

Harvest Codes:

Code:	Value:
1	Yes
2	No
3	

January 2019: In the patient's H&P it specifies that the patient has mitral valve prolapse. There is no echo to confirm 2+ or greater. Should I count MVP as Valvular Heart Disease in this case? **No, do not count MVP as VHD.**

April 2019: Prior to index admission, echocardiogram was done at OSH. Actual report is not available but per Cardiology consult summary, echo shows "moderate mitral and tricuspid regurgitation." No mention of valvular structure. During lung resection admission, echocardiogram was repeated. This one documents that both MV and TV are "normal in structure" but also notes moderate regurgitation. Does moderate regurgitation in presence of normal structure constitute valvular disease? **Yes, Moderate regurgitation = 2+**

May 2019: What are the date parameters of the echocardiogram to be used to gather this data? **Within 6 months.**

SeqNo: 510
Long Name: Valvular Heart Disease Location - Aortic Valve
Short Name: VHDLocAV
Definition: Indicate whether the patient has or had the presence of dysfunction of the aortic valve

Training Manual

FAQ Summary Document

Seq. Number	Short Name	Update
580	Reop	**Aug 2021**: Only capture prior surgical procedures within the same anatomical space – not percutaneous procedures such as chest tubes, thoracentesis, paracentesis etc.
650	HistCancer	**Aug 2021**: Photodynamic therapy is not equivalent to thoracic radiation therapy and is not captured.
870	ECOGScore	**Aug 2021**: Lung and esophagus cases will NOT be rejected due to a missing ECOG score.
1250	CategoryPrim	**Aug 2021**: Metastatic lung cancer from a lung primary should be captured here, however new primary lung cancer or synchronous primary lung cancers should be captured with the appropriate lung cancer category of disease and not with C78.00.
1505	Laterality	**Aug 2021**: Lung resections have laterality, most hernia repairs and esophagectomies do not and will be coded as N/A.
1620	ClinStagMeth	**Aug 2021**: Question - How do I capture a Core Needle Biopsy of the lung mass itself preop? It is not a mediastinal lymph node biopsy? Answer – core needle biopsies of the lung mass are not captured in V5.21.
4270	Readm30Dis	**Aug 2021**: Readmission applies to IP readmissions only. If a patient returns to the hospital and is in OP/OBS status for their entire stay, please code 'no' to 4270.

Preoperative diagnosis: Right bronchus intermedius typical carcinoid

Postoperative diagnosis: Right bronchus intermedius typical carcinoid

Procedures:
1. Right robotic assisted thoracoscopic mediastinal lymph node staging.
2. Right robotic-assisted thoracoscopic middle and lower bi-lobectomy.
3. Right bronchus intermedius bronchoplasty with pericardial flap.
4. Mediastinal lymphadenectomy
5. Thoracic field block
6. Flexible fiberoptic bronchoscopy.

To Abstract or To Not Abstract, that is the question...

TUMOR

Tumor Focality	Single focus
Tumor Site	Bronchus intermedius
Tumor Size	
Total Tumor Size (size of entire tumor)	Greatest Dimension (Centimeters): 2 cm
Histologic Type	Typical carcinoid / Neuroendocrine tumor, grade 1
Histologic Grade	G1, well differentiated
Visceral Pleura Invasion	Not identified
Direct Invasion of Adjacent Structures	Not applicable (no adjacent structures present)
Treatment Effect	No known presurgical therapy
Lymphovascular Invasion	Present: lympovascular invasion present, favor venous invasion

MARGINS

Margin Status for Invasive Carcinoma	Invasive carcinoma present at margin
Margin(s) Involved by Invasive Carcinoma	Bronchial: Tumor focally involves the superficial mucosal aspect of the bronchial margin; it is not deeply invasive at this site.
Margin Status for Non-Invasive Tumor	Not applicable

REGIONAL LYMPH NODES

Lymph Node(s) from Prior Procedures	No known prior lymph node sampling performed
Regional Lymph Node Status	All regional lymph nodes negative for tumor
Number of Lymph Nodes Examined	13

Seq 1510: Make sure you read your FAQ's

SeqNo: 1510
Long Name: Primary Lung Cancer Resection Performed
Short Name: LungCancer
Format: Text (categorical values specified by STS)

Definition: Indicate whether a major lung resection was performed for a primary lung cancer (e.g. wedge, segment, lobe, pneumonectomy), open or VATS.

If yes complete clinical and pathological staging.

Harvest Codes:
Code: Value:
1   Yes
2   No

July 2022: Code 'yes' to 1510 for new primary carcinoid tumors of the lung that are therapeutically resected.

Choosing Primary Category of Disease

Be mindful of what will and will not be included in analyses. This is a lung cancer case, a lung cancer COD should be selected. Your options are:

Data versions 2.41 and 5.21.1:
Any of the following disease categories have been chosen as 'Primary' using SeqNo. 1250 (v2.41 and 5.21.1):
- 150 = Lung cancer, main bronchus, carina 162.2
- 160 = Lung cancer, upper lobe 162.3
- 170 = Lung cancer, middle lobe 162.4
- 180 = Lung cancer, lower lobe 162.5
- 190 = Lung cancer, location unspecified 162.9

The location of this lung cancer is technically hilar, which is not an option – I would therefore choose 'location unspecified.'

Choosing Primary Category of Disease

Do NOT choose any of the below for a case with pathology that confirms the presence of new primary lung cancer:

- Solitary Pulmonary Nodule

- Lung Tumor, Metastatic

- Lung Nodule/Mass/Other

- Abnormal Radiologic Finding

- Lymphadenopathy

- Other Unlisted Category of Disease

A Word on Invasive Mediastinal Staging

By definition, staging must occur prior to surgical treatment. The surgeon's pre-op H&P indicates that they planned to perform mediastinal staging at the time of surgery.

Plan:
1. Schedule robotic-assisted thoracoscopic bilobectomy, possible thoracotomy.
2. Intraoperative mediastinal lymph node staging will be performed.
3. Preoperative nurse teaching visit.

Did they carry out that plan? The procedure list makes me think so, but the operative note must be read to confirm that surgical resection of the lesion did not begin prior to pathology returning results on any staging procedure performed.

...I started with mediastinal nodal staging, and the inferior pulmonary ligament was taken down with bipolar cautery and the level 9 lymph nodes sent for frozen section. The lung was retracted anteriorly, and the level 7 nodal station dissected out and sent for frozen section. This was a large node, quite inflamed and adherent to the underlying bronchus intermedius and mainstem bronchus. The lung was then retracted inferiorly, and the level 2 and 4 nodal stations were dissected and sent for frozen section. Surgicel was packed into the nodal dissection beds for hemostasis. The frozen sections were reported as negative for any metastatic disease in the lymph nodes. As such, I then proceeded with the anatomic pulmonary resection...

Submitting a Clinical Question

If you have a question about submitting a case that is clinical in nature, then please submit it to the FAQ Mailbox.

- You will need
    - Participant Identification (PID)
        - This is a 5-digit number starting with a 4
    - Shortname and Sequence Number
        - Can be found on the annotated DCF or TM
    - As much information you can provide to help us answer your question
        - We can only answer based off the information you provide
- It can take up to 30 days for a response
    - We may have to discuss it with Surgeon Leaders
    - We may ask you for additional information
    - Please ensure the email you use is complete and correct when submitting an FAQ

Clinical Question Request Form

Are you struggling with a clinical question regarding data abstraction? Fill out the Clinical Question Request Form and get a response within 30 days.

Ask a Question

Full Name *

Email *

Phone *

Participant ID #

Database Version *

- Select -

State/Province *

- Select -

Keys to Abstraction
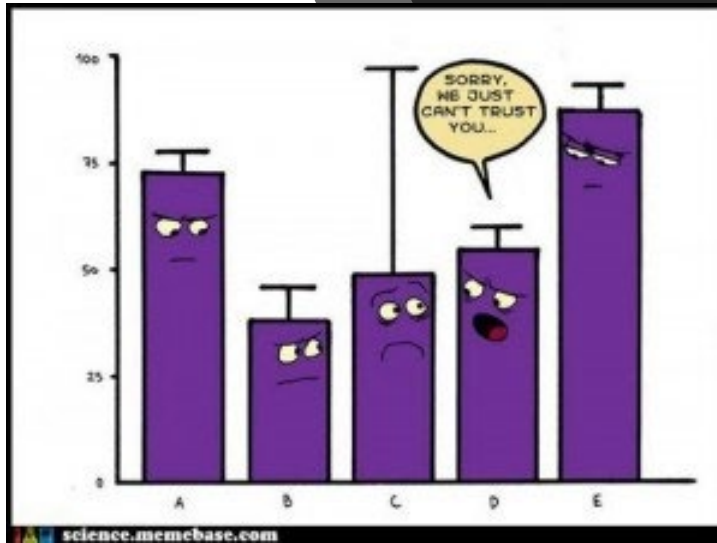
- Be consistent in where you obtain information but…
- Pay attention to source documentation
  - Use data that meets the listed requirements
    - Timeframe
    - Mode of testing
- If you can't find it, ask your surgeon
- Do not guess. No data is better than bad data.
  - If you can't find it, ask
  - This is different than out of range high/low value

Working with your Surgeons

- Surgeons are busy, be patient but persistent

- Be clear and concise

- Know what you are going to ask before you ask it

- Do your homework and know the facts

- Get involved with Quality Meetings and Department Meetings where the data is being discussed

- Ask to observe a case

- Offer to review data with the surgeon

- Offer tips on how documentation can be improved
  - Build EHR templates
  - Use Surgeon Worksheets

- Work with Nursing and OR staff – they can help you

Clean Data

- Your vendor will allow you to run internal QA checks on your data prior to submission

- IQVIA, the data warehouse provides you with
  - Data Quality Report
  - Harvest Summary Report
  - Critical Error Report

- Version 5.21.1 has 'on-save' consistency checks built into your vendors software that will prevent you from exporting your data if certain errors are present

Data Submission Deadlines

- Harvest submission deadlines occur twice a year for General Thoracic
  - Spring and Fall
    - Each report will be a star-rating
  - Voluntary Public Reporting Result are based on the Spring Harvest
    - Lung Cancer and Esophageal Cancer Cases

Additional STS Resources

- Monthly Didactic Webinar

- Monthly User Group Calls

- New Data Manager Webinars

- Advances in Quality and Outcomes: A Data Managers Meeting
  - AQO 2024 will be held September 11 – 13; *Location annoncement coming soon!!*

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

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**Ruth Raleigh, Trinity Health,
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Thank you for joining!