

# Society of Thoracic Surgeons

## General Thoracic Surgery Database Monthly Webinar

April 10, 2024



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# Agenda

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- Welcome and Introduction
- STS Updates
- Education (Ruth Raleigh, GTSD Consultant)
- Q&A

# STS Updates

- March Training Manual available
  - April Training Manual to be posted week of Apr15
- Neoadjuvant Therapy Module Update
- GTSD Public Reporting
  - Public Reporting website has been updated in January to include results from the Fall 23 analysis.
  - Next website refresh is scheduled for January 2025 to include results from the Fall 24 analysis.
- Spring 24 Harvest Analysis
  - Surgery dates 1/1/2021 – 12/31/2023
  - Report posting late Spring/early Summer
- Fall 24 Harvest close is scheduled for September 6<sup>th</sup>
  - Surgery dates 7/1/2021 – 6/30/2024
  - Opt out date is September 10th

GTSD					
Harvest	Close	Opt-Out	Includes procedures performed through	Report Posting	Comments
Spring 2024	March 8	March 12	December 31, 2023	Summer 2024	Star Rating
Fall 2024	September 6	September 10	June 30, 2024	Winter 2024	Star Rating

# 2024 Harvest Schedule



## 2024 AQO: A Data Managers Meeting

- Join us in Music City: Nashville, Tennessee
- September 11 - 13 @ **Lowes Vanderbilt Hotel**
- **GTSD Session will be held on Wednesday, September 11th**
- <https://www.sts.org/form/sts-aqo-session-proposal-form>

AQO  
Registration  
Now Open

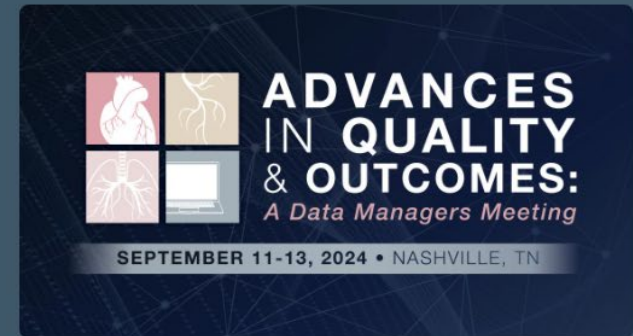
Event

## 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



Date(s)  
Sep 11–13, 2024

Location  
Nashville, TN  
Loews Vanderbilt Hotel

Audience  
Data Manager

# AQO Pricing (In-Person and Virtual)

## In-Person Pricing

## Virtual 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

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



# AQO Session Proposals

**\*\*Deadline for proposal submissions is Friday, April 19th**

## Submitter Name

Enter your Participant ID# or Site Code: \*

Contact Name: \*

Email: \*

Phone: \*

## Session Type

- None -

## Topic/Presentation Title

Enter your session title here: \*

## Session Format

- 1) Topic discussion regarding surgical procedures, pathological staging, clinical staging, anatomy, and physiology
- 2) How to abstract and code through case scenarios
- 3) Panel Discussion
- 4) Other

## Session Description

Example: This session will focus on understanding deep sternal wound infections (DSWI) and stroke and how to code these cases in the Adult Cardiac Surgery Database. The session is intended for data managers learning to abstract and code DSWI and stroke cases accurately.

## Learning Objectives

Upon completion of this session, participants should be able to:

1)

2)

3)

4)

## Speaker Name

Speaker Name:







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STS Education  
Ruth Raleigh  
(GTSD Consultant)

A doctor in a white lab coat is using a stethoscope to examine a patient's chest. The patient is wearing a blue t-shirt. The scene is set in a hospital room with a window with blinds and a clock on the wall in the background. The text "Pre-Operative Assessment" is overlaid in white on the image.

# Pre-Operative Assessment

**IT'S MY EYES**

**HOLDING ME BACK**

memegenerator

## Preoperative testing: Surgeon perspective

- A step beyond the eyeball test
  - Objective cardiopulmonary assessment
- Testing may beget more testing
- Guide with preoperative planning

# Preoperative testing: Database Perspective

- Preoperative testing data in the GTSD
  - Trends in patients presenting for surgery
  - Track adherence to guidelines/best practices as part of QI
- **Combating the lake Woebegon effect**
  - Detailed and objective data for accurate risk adjustment



**My patients**

**Your patients**



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# Pre-Operative Assessment: History of Cancer

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- Read your pre-op H&P and then read it again! Most data manager errors for these sequences occur when the data manager fails to capture documentation of prior chemo/RT that was in the surgeon's H&P.
  - If you use your anesthesia H&P as a source document and are going to submit it to your auditors, check there for this information as well.
- 



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*Romero*

**"I don't know what's worse - trying to read a doctor's handwriting in charts or their typing errors in the EMR."**

## Pre-Operative Assessment: History of Cancer

- Capture ALL instances of pre-op chemotherapy EVER for ANY type of cancer.
  - This includes immunotherapy and targeted therapy but excludes hormonal therapy
- Capture radiation ONLY when it's thoracic
  - This includes breast/axillary radiation
- Induction or Neoadjuvant chemotherapy and/or radiation are captured in seq 650 'History of Cancer'



# Training Manual Updates Seq 650

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There have been many updates on 'coexisting cancer' capture in the training Manual, but in summary – capture patients for being surveyed for cancer for up to 5 years post-treatment.

**Apr 2023:** To further clarify the Aug 2022 clarification on when to capture coexisting cancer, 'actively surveilled' is intended to capture patients being actively surveilled for a diagnosed cancer either pre or post treatment. If a patient is post-treatment, please capture as a coexisting cancer until 5 years post completion of treatment.

Note: This includes patients with a lung cancer history.

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# Audience Response Question: History of Cancer

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Patient has a history of colon cancer (2017) which was resected followed by adjuvant therapy. She is known to have recurrent colon cancer with metastatic disease in her pelvis for which she is currently on maintenance Xeloda. Surveillance imaging identified a left upper lobe pulmonary nodule, which is biopsied and is squamous cell lung cancer. Should coexisting cancer be captured in sequence 650 'History of Cancer'?

- ★ A. Yes
- B. No
- C. I'm just glad it's Wednesday



# Audience Response Question: History of Cancer

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Patient has a history of colon cancer (2017) which was resected followed by adjuvant therapy. She is known to have recurrent colon cancer with metastatic disease in her pelvis for which she is currently on maintenance Xeloda. Surveillance imaging identified a left upper lobe pulmonary nodule, which is biopsied and is squamous cell lung cancer. Should pre-operative chemotherapy be captured in sequence 650 'History of Cancer'?

- ★ A. Yes
- B. No
- C. I'm hoping Leigh Ann is a pharmacist because I'm not sure

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# Audience Response Question: History of Cancer

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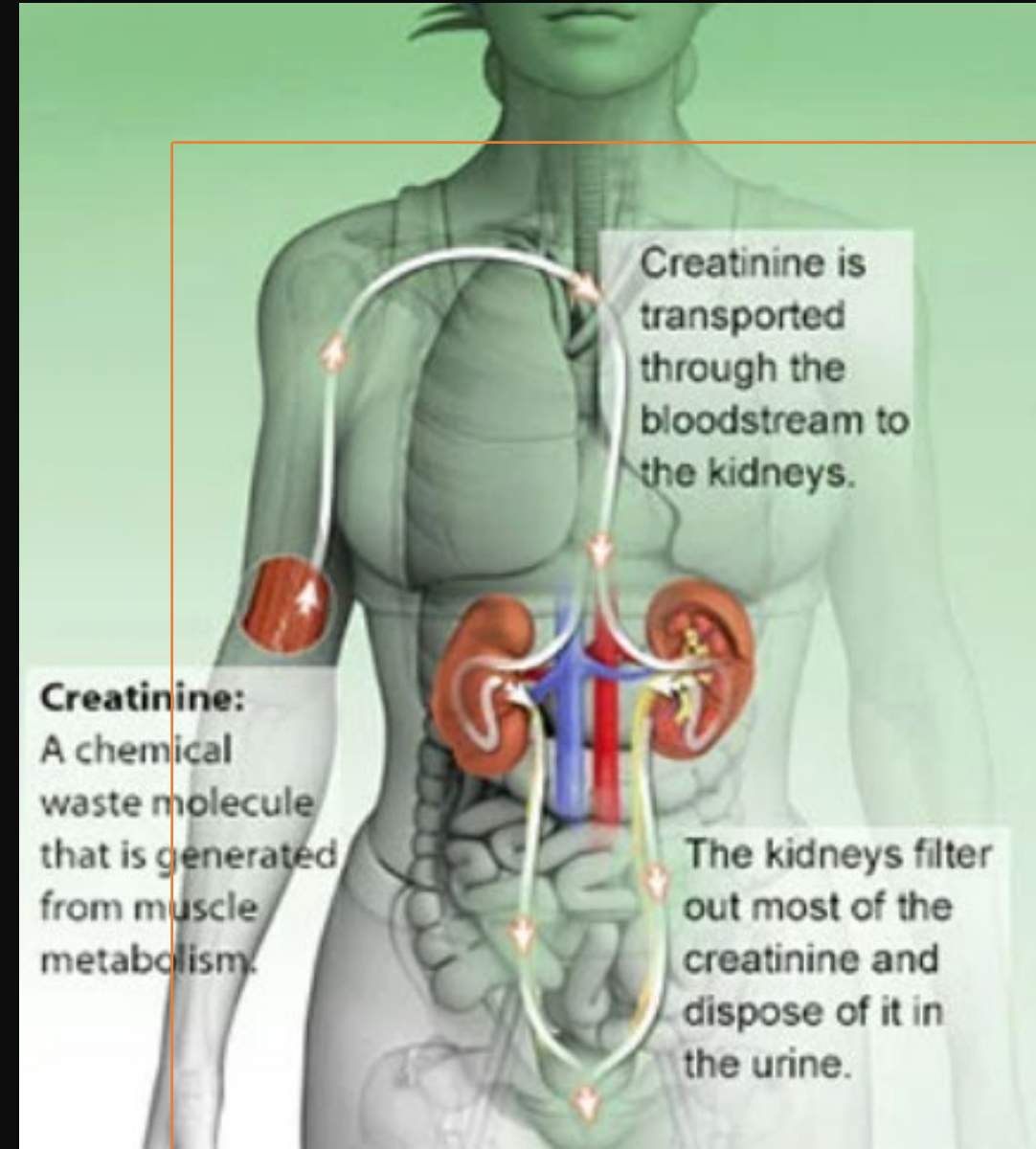
Patient was diagnosed with breast cancer in 2021, undergoing left breast radiation at that time and recently underwent a right upper lobectomy for lung cancer (1/6/22). How will you code seq 650: History of Cancer?

- A. Coexisting Cancer
- B. Preoperative Thoracic Radiation
- C. None
- ★ D. Coexisting Cancer & Preoperative Thoracic Radiation

# Pre-Operative Assessment: Last Creatine Level

## Key Points:

- Must be within 30 days of the index operation
- There may be multiple values in the chart, you will use the closest value to the surgical date prior to any fluids being administered.
  - Why? IV fluids administration potentially dilutes the blood and makes the creatinine value inaccurate
- Do not round lab values, enter to two decimal place
  - If your vendor software does not accommodate two decimal places, please contact them for resolution



# Audience Response Question: Last Creatinine

Betty Jones is a 47 y.o. female s/p right upper lobectomy on 2/15/23 for a cT1aN0 adenocarcinoma of the lung. The EMR shows lab values as follows:

## Outpatient Labs Drawn 1/25/23

Sodium	142 mmol/L
Potassium	3.6 mmol/L
Chloride	103 mmol/L
CO2	25 mmol/L
Anion Gap	14
Glucose	121 mg/dL
BUN	18 mg/dL
Creatinine	0.90 mg/dL
eGFR	79 mL/min/1.73m <sup>2</sup>
BUN/Creatinine Ratio	20.0
Calcium	9.0 mg/dL

## Pre-op Holding Labs Drawn 2/15/23 after initiation of fluids

Sodium	141 mmol/L
Potassium	3.1 mmol/L
Chloride	105 mmol/L
CO2	25 mmol/L
Anion Gap	11
Glucose	126 mg/dL
BUN	8 mg/dL
Creatinine	0.57 mg/dL
eGFR	115 mL/min/1.73m <sup>2</sup>
BUN/Creatinine Ratio	14.0
Calcium	8.5 mg/dL

What do you code for Seq 710: Last Creatinine Level?

# Audience Response

## Question: Last Creatinine

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What do you code for Seq 710: Last Creatinine Level?

A. 20.00

★ B. 0.90

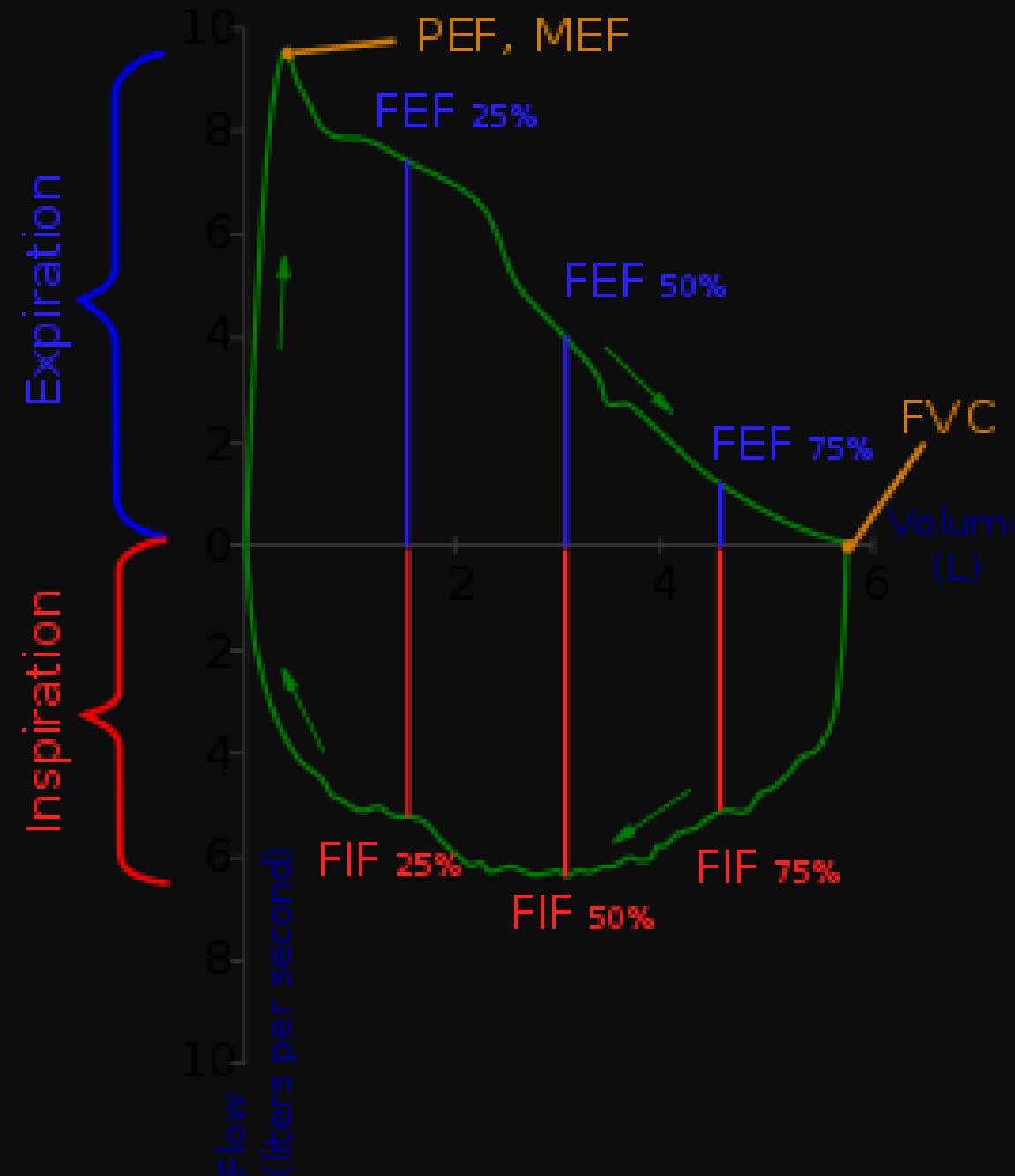
C. 0.57

D. I'm not sure, but I hope someone gives this patient some potassium soon!

# Pulmonary function testing (PFTs)

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- FEV1/DLCO
    - predictive of post-op complication
    - Estimation of postoperative function (operative planning)
  - Forced expiratory volume in 1 second (FEV1)
    - % predicted
    - Pre/post bronchodilator (always use the highest)
  - Diffusion capacity of the lung (DLCO) – use the lowest
- 



# Pre-Operative Assessment: FEV1



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Two most common errors made by Data Mangers:

1. The HIGHEST value for FEV1 was not selected
2. FEV1 was left blank, but PFTs were submitted to the auditor

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# Audience Response Question: FEV1

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How will you code this patients FEV1?

FEV 1

Pre 1.70, Ref 2.16, LLN 1.60, Pre%Ref 78

POST 1.93 Post%Ref 90, %Chg 14

- A. 78
- ★ B. 90
- C. 92
- D. I would leave it blank



# Audience Response Question:

## What is the FEV1 % predicted?

	Pre-RX			LLN	Post-RX			
	Pred	Actual	%Pred		ULN	Actual	%Pred	%Chng
--- SPIROMETRY ---								
FVC (L)	2.42	2.30	94	1.78	3.10	2.22	91	-3
FEV1 (L)	1.91	1.71	89	1.40	2.39	1.65	86	-3
FEV1/FVC (%)	79.07	74.63	94	65.96	90.33	74.59	94	+0
FEF 25-75% (L/sec)	1.74	1.30	74	0.82	3.02	1.10	63	-14
FIVC (L)		2.32				2.33		+0
FEF Max (L/sec)	5.05	5.02	99	3.59	6.51	5.18	102	+3
--- LUNG VOLUMES ---								
TLC (Pleth) (L)	4.18	4.52	108	3.33	5.13			
SVC (L)	2.42	2.13	87	1.78	3.10			
RV (Pleth) (L)	1.60	2.39	149	0.96	2.42			
RV/TLC (Pleth) (%)	37.75	52.86	140	25.84	50.46			
TGV (L)	2.24	2.59	115	1.59	3.05			
Vpant (L)		2.62						
ERV (L)	0.82	0.20	24					
IC (L)	1.63	1.93	118					
--- DIFFUSION ---								
DLCOunc (ml/min/mmHg)	16.77	15.69	93	12.67	21.80			
DLCOcor (ml/min/mmHg)	16.77	16.76	99	12.67	21.80			
DL/VA (ml/min/mmHg/L)	4.01	4.21	104					
VA (L)	4.18	3.98	95					

- A. 86
- ★ B. 89
- C. 94
- D. 91

# What is the FEV1 % predicted?

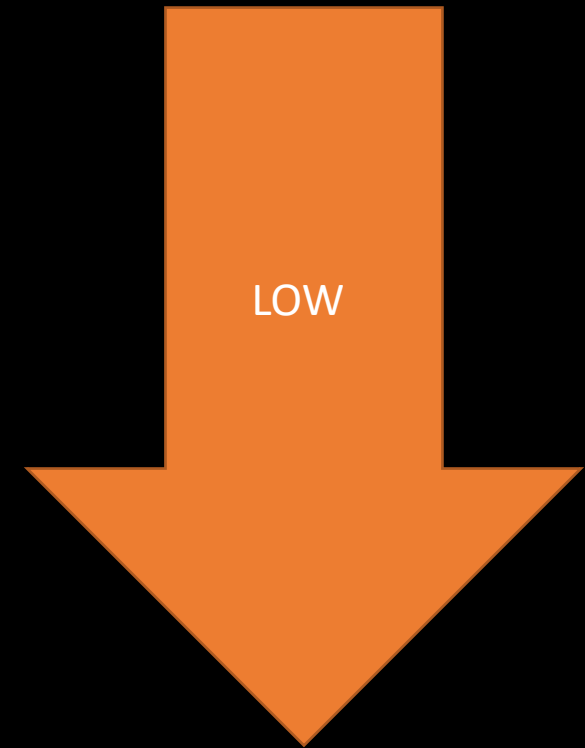
	Pre-RX				Post-RX		
	<u>Actual</u>	<u>Pred</u>	<u>LLN</u>	<u>ULN</u>	<u>%Pred</u>	<u>Actual</u>	<u>%Chng</u>
---- SPIROMETRY ----							
FVC (L)	4.52	4.07	3.06	5.09	111	4.44	-1
FEV1 (L)	2.76	3.14	2.32	3.91	88	2.89	+4
FEV1/FVC (%)	61	77	64	88	79	65	+6
FEF 25-75% (L/sec)	1.09	2.55	1.18	4.43	42	1.39	+27
FIVC (L)	4.36					4.02	-7
FEF Max (L/sec)	5.99	8.21	5.73	10.68	72	6.27	+4
---- LUNG VOLUMES ----							
SVC (L)	4.14	4.07	3.06	5.09	101		
ERV (L)	0.80	0.95			83		
IC (L)	3.35	3.12			107		
---- DIFFUSION ----							
DLCOunc (ml/min/mmHg)	30.17	28.97			104		
DLCOcor (ml/min/mmHg)	30.09	28.97			103		
DL/VA (ml/min/mmHg/L)	5	5			94		
VA (L)	6.55	5.94	4.79	7.18	110		
Hgb (gm/dL)	14.7	12-18					
IVC (L)	3.52						

- ★ A. 92
- B. 88
- C. 79
- D. 87

# Pre-Operative Assessment: DLCO

Two most common data manager errors:

1. Values corrected for hemoglobin were used
2. The LOWEST uncorrected (for hgb) value was not used



**Intent/Clarification:** The diffusing capacity (DLCO) may be reduced, <80% predicted, in disorders such as emphysema, pulmonary fibrosis, obstructive lung disease, pulmonary embolism, pulmonary hypertension and anemia.

DLCO>120% of predicted may be seen in normal lungs, asthma, pulmonary hemorrhage, polycythemia, and left to right intracardiac shunt.

The lowest value for DLCO uncorrected should be captured. A PFT may report DLCO\_SB, DLCOcSB, DLCO/VA. The difference in the DLCO SB (simple DLCO) and the DLCOcSB is that the DLCOcSB is corrected for the hgb value. In this scenario, capture the lowest DLCO\_SB or DLCO/VA value. Do not use the DLCOcSB since it is a corrected value.

**Choose the value that represents the lowest % predicted unadjusted/uncorrected DLCO.**

DO NOT USE the DLCO/VA (adjusted/corrected), regardless of altitude. — (Jan 2022)

**Oct 2021:** Round to the nearest whole integer at entry.

**Jan 2022:** Capture the lowest DLCO\_SB or DLCO/VA. Values corrected for hemoglobin should not be utilized for sequence 781.

**Sept 2022:** A DLCO that is 'corrected for alveolar volume' is acceptable a DLCO that is corrected for hemoglobin is not acceptable.

~~**Oct 2023:** Capture the lowest of DLCO\_SB, DLCO/VA or KCO, ensuring that none are corrected for hemoglobin. Carbon monoxide transfer coefficient (often abbreviated as KCO) is a parameter often performed as part of pulmonary function tests. It is also often written as DLCO/VA (diffusing capacity per liter of lung volume) and is an index of the efficiency of alveolar transfer of carbon monoxide. As such, KCO has been added to the values that may be reported in sequence 781. (lined through March 2024 to provide additional clarity after the Nov 2023 update)~~

**Nov 2023:** While DLCO/VA and KCO are the same value, they are not the same as an uncorrected DLCO. If an uncorrected DLCO is available, please enter the uncorrected DLCO. If you do not have an uncorrected DLCO, you may alternatively enter DLCO/VA or KCO.

# The Training Manual Updates...

...unfortunately, there have been many for this sequence.

**In summary:**

1. If you have an unadjusted/uncorrected DLCO, use it!
2. If you only have an uncorrected DLCO/VA or KCO, that can be used.

# Audience Response Question: DLCO

How will you code this  
patients' DLCO?

- A. 26
- B. 73
- C. 79
- ★ D. 75

Parameter	Pred	LLN	Result	%Pred
DLCO [ml/min/mmHg]	25.5	17.5	19.0	75
DLadj [ml/min/mmHg]	25.5	17.5	18.7	73
VA sb [L]	6.48	5.11	5.91	91
DLCO/VA (KCO) [ml/min/mmHg/L]	4.05	2.85	3.22	79
TLC sb [L]	6.63	5.26	6.06	91
VI [L]	-	-	3.31	-
BHT [s]	-	-	-	-
ERV [L]	-	-	1.02	-
RV sb [L]	2.49	1.71	2.75	110
DLCO/VA (KCO) [mmol/min/kPa/L]	1.36	0.95	1.08	79
VT [L]	-	-	1.00	-
Message No.	-	-	-	-
Session Quality	A (DLCO Var=0.52ml/min/mmHg (2.7%))			
System Interpretation	--			

# Audience Response Question: DLCO

How will you code this patients DLCO?

- A. 22
- B. 90
- C. 95
- ★ D. 92

		<b>Ref</b>	<b>Diffusion</b> <b>Pre</b>	<b>Pre</b>
			<b>Meas</b>	<b>% Ref</b>
<b>DLCO</b>	<b>mL/min/mmHg</b>	<b>21.5</b>	<b>19.8</b>	<b>92</b>
<b>DL Adj</b>	<b>mL/min/mmHg</b>	<b>21.5</b>	<b>19.3</b>	<b>90</b>
<b>DLCO/VA</b>	<b>mL/min/mHg/L</b>	<b>3.60</b>	<b>3.40</b>	<b>95</b>
<b>DLVA Adj</b>	<b>mL/min/mHg/L</b>		<b>3.33</b>	

# Audience Response Question: DLCO

How will you code this patients DLCO?

- ★ A. 102
- B. 103
- C. 83
- D. 19

	Pre-BD				Post BD			
	<u>Actual</u>	<u>LLN</u>	<u>Z Score</u>	<u>%Pred</u>	<u>Actual</u>	<u>%Pred</u>	<u>VolChng</u>	<u>%Chng</u>
DLCOunc (ml/min/mmHg)	18.89	13.97	+0.17	102				
DLCOcor (ml/min/mmHg)	19.07	13.97	+0.23	103				
Hgb (gm/dL)					13.1			
VA (L)	3.58	3.47	-1.42	83				
TLC (SB) (L)	3.73							
Kco (ml/min/mmHg/L)	5.32	3.28	+1.55	124				

# Pre-Operative Assessment: ECOG

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## Most Common Data Manager Errors:

1. Data Manager entered an ECOG score without provider documentation
2. Data Manager entered an ECOG score that disagreed with provider documentation



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# Audience Response Question: ECOG

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If my provider states 'patient runs 3 miles/day', then I can code an ECOG score of 0 for sequence 870?

- A. True
- ★ B. False
- C. I'm not sure

# Audience Response Question: ECOG

A clinician charts that my patient has an ECOG score of 3, but that they run everyday for 5 miles. I choose to code an ECOG score of:

- A. 3
- B. 0
- C. Blank
- ★ D. I ask for clarification from the clinical team prior to coding this sequence





## Pre-Operative Assessment: Primary Category of Disease

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Tips for Selecting the Correct Primary Category of Disease:

1. Start at the end first, look at your pathology report to determine primary category of disease
  2. Remember, you are not trying to tell the patients story in chronological order on the DCF
  3. Your operative note is probably not the best place to determine your primary category of disease – lung cancer resections often start and end as ‘lung nodules’
  4. Do not use ‘...cancer, location unspecified’ unless there is absolutely no way to determine the location of the cancer after reading all notes and discussing with the treatment team
-

## Upcoming GTSD Webinars

# Monthly Webinars

- May 8 @ 2:30pmET (1:30pm CT)
- June 12 @ 2:30pmET (1:30pm CT)



# 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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Report Questions)

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Database Operational  
Questions  
(Database Participation,  
Contracts, etc.)

- [STSDB@sts.org](mailto:STSDB@sts.org)



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