OPTN

Notice of OPTN Policy and Data Collection Changes

Update Data Collection for Lung Mortality Models

Sponsoring Committee:	**OPTN Lung Transplantation Committee**
Policies Affected:	***10.1.F Lung Disease Diagnosis Groups***
	21.2.A Values Used in the Calculation of Lung Waiting List Survival
	21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes
Data Collection Affected:	**Lung OPTN Waiting List**
	Lung Data System for Organ Procurement and Transplantation Network
Public Comment:	**August 3, 2022 – September 28, 2022**
Board Approved:	**December 5, 2022**
Effective Date:	**Pending implementation and notice to members**

Note: This policy notice was updated in November 2023 to include the data definitions to be implemented, with some modifications (annotated with footnotes). For more information regarding the updates, please contact member.questions@unos.org.

Purpose of Policy and Data Collection Changes

The OPTN will update data collection in OPTN Waiting List and the Data System for OPTN on disease severity of lung candidates by removing, revising, and adding data collection. These data collection updates will not change the variables, coefficients, rating scales, or weights used to calculate the lung composite allocation score (CAS), but values will be assigned for parts of the score for candidates on extracorporeal membrane oxygenation (ECMO) or high flow nasal cannula. The purpose of the data collection changes is to inform future updates to the mortality models used for calculating the lung CAS.

Proposal History

The OPTN implemented several improvements[1,2] to the waiting list and post-transplant survival components of the score used for allocation while developing the new lung composite allocation score (CAS) for continuous distribution of lungs.[3] The changes outlined in this notice build upon those improvements by removing data collection not used to calculate the allocation score and revising data collection to improve data quality. Based on clinical literature, historic review board exception requests, and community feedback, the Committee also identified other clinical criteria not currently captured in

[1] "Updated Cohort for Calculation of the Lung Allocation Score," OPTN, accessed November 30, 2022, https://optn.transplant.hrsa.gov/policies-bylaws/public-comment/updated-cohort-for-calculation-of-the-lung-allocation-score-las/.
[2] "Refine Lung Data Fields," OPTN, accessed November 30, 2022, https://optn.transplant.hrsa.gov/policies-bylaws/public-comment/refine-lung-data-fields/.
[3] "Establish Continuous Distribution of Lungs," OPTN, Briefing Paper, accessed June 29, 2022, https://optn.transplant.hrsa.gov/media/esjb4ztn/20211206-bp-lung-establish-cont-dist-lungs.pdf.

the mortality models that are expected to impact a lung candidate's waiting list survival or post-transplant outcomes. The OPTN will also implement new data collection on these criteria.

Summary of Changes

The OPTN will implement changes to data collection for lung candidates in OPTN Waiting List and Data System for OPTN, including removing data collection on five clinical criteria; revising data collection for seven clinical criteria; and adding data collection on nine clinical criteria. The revisions will include updates to the lung Transplant Candidate Registration (TCR) and Transplant Recipient Registration (TRR). The OPTN will also implement serial data collection for three clinical criteria, two of which are already currently collected by the OPTN. Serial data collection allows transplant programs to enter data for multiple dates.

The OPTN will implement three policy changes related to the modified data collection: one change to add a new diagnosis code, and two changes in substituted values used in the waiting list survival score calculation for supplemental oxygen data collection.

Implementation

Transplant hospitals will need to become familiar with the changes to data collection for lung transplant candidates. This proposal requires the submission of official OPTN data that are not presently collected by the OPTN or collected in a different format. The OPTN Contractor has agreed that data collected pursuant to the OPTN's regulatory requirements in §121.11 of the OPTN Final Rule will be collected through Office of Management and Budget (OMB) approved data collection forms. Therefore, the modifications to the data collection may be submitted for OMB approval under the Paperwork Reduction Act of 1995.

Affected Policy Language

New language is underlined (<u>example</u>) and language that is deleted is struck through (~~example~~).

10.1.F Lung Disease Diagnosis Groups

Each candidate is assigned a diagnosis group, based on their lung disease diagnosis, which is used in the calculation of their medical urgency score and their post-transplant survival score.
[…]

Group D

A candidate is in Group D if the candidate has *any* of the following diagnoses:

- ABCA3 transporter mutation
- Alveolar proteinosis
- Amyloidosis
- Acute respiratory distress syndrome or pneumonia
- Bronchioloalveolar carcinoma (BAC)
- Carcinoid tumorlets
- Chronic pneumonitis of infancy
- <u>Combined pulmonary fibrosis and emphysema (CPFE)</u>
- Constrictive bronchiolitis
- COVID-19: acute respiratory distress syndrome

- COVID-19: pulmonary fibrosis
- CREST – Restrictive
- Eosinophilic granuloma
- Fibrosing Mediastinitis
- Graft versus host disease (GVHD)
- Hermansky Pudlak syndrome
- Hypersensitivity pneumonitis
- Idiopathic interstitial pneumonia, with at least one of the following disease entities:
  - Acute interstitial pneumonia
  - Cryptogenic organizing pneumonia/Bronchiolitis obliterans with organizing pneumonia (BOOP)
  - Desquamative interstitial pneumonia
  - Idiopathic pulmonary fibrosis (IPF)
  - Nonspecific interstitial pneumonia
  - Lymphocytic interstitial pneumonia (LIP)
  - Respiratory bronchiolitis-associated interstitial lung disease
    - Idiopathic pulmonary hemosiderosis
    - Lung retransplant or graft failure: acute rejection
    - Lung retransplant or graft failure: non-specific
    - Lung retransplant or graft failure: obliterative bronchiolitis-obstructive
    - Lung retransplant or graft failure: obliterative bronchiolitis-restrictive
    - Lung retransplant or graft failure: obstructive
    - Lung retransplant or graft failure: other specify
    - Lung retransplant or graft failure: primary graft failure
    - Lung retransplant or graft failure: restrictive
    - Lupus
    - Mixed connective tissue disease
    - Obliterative bronchiolitis: non-retransplant
    - Occupational lung disease: other specify
    - Paraneoplastic pemphigus associated Castleman’s disease
    - Polymyositis
    - Pulmonary fibrosis: other specify cause
    - Pulmonary hyalinizing granuloma
    - Pulmonary lymphangiectasia (PL)
    - Pulmonary telangiectasia – restrictive
    - Rheumatoid disease
    - Sarcoidosis with PA mean pressure greater than 30 mm Hg
    - Scleroderma – restrictive
    - Silicosis
    - Sjogren’s syndrome
    - Surfactant protein B deficiency
    - Surfactant protein C deficiency
    - Teratoma
    - Wegener’s granuloma – restrictive

21.2.A Values Used in the Calculation of Lung Waiting List Survival

[…]

If values for certain covariates are missing, expired, or ~~below~~outside the threshold as defined by *Table 21-4*, then the composite allocation score calculation will substitute ~~normal or least beneficial~~ values to calculate the candidate's waiting list survival score. *Table 21-4: Substituted Values in Calculating Waiting List Survival Score* lists the ~~normal and least beneficial~~ values that will be substituted.

Table 21-4: ~~Values~~ Substituted Values ~~for Missing or Expired Actual Values~~ in Calculating Waiting List Survival Score

If this covariate's value:	Is:	Then the waiting list survival calculation will use this substituted value:
Bilirubin	Missing, expired, or less than 0.7 mg/dL	0.7 mg/dL
Height or weight to determine body mass index (BMI)	Missing	100 kg/m^2
Weight to determine BMI	Expired	100 kg/m^2
Assisted ventilation	ECMO, and not expired	26.33L/min needed at rest for the "amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) (L/min)" covariate
Assisted ventilation	Missing or expired	No mechanical ventilation
Creatinine (serum) (mg/dL)	Missing or expired	0.1 mg/dL
Functional status	Missing or expired	No assistance needed
Amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) (L/min)	Greater than 26.33 L/min at rest, and not expired	26.33L/min needed at rest

If this covariate's value:	Is:	Then the waiting list survival calculation will use this substituted value:
Amount of supplemental oxygen required to maintain adequate oxygen saturation (88% or greater) (L/min)	Missing or expired	No supplemental oxygen needed at rest
PCO_2	Missing, expired, or less than 40 mm Hg	40 mm Hg
Pulmonary artery (PA) systolic pressure	Missing or less than 20 mm Hg	20 mm Hg
Six-minute-walk distance	Missing or expired	4,000 feet

21.2.B.1 Coefficients Used in Calculating Lung Post-Transplant Outcomes

[…]

If values for certain covariates are missing, expired, or ~~below~~outside the threshold as defined by *Table ~~10-4~~21-7*, then the composite allocation score calculation will substitute ~~normal or least beneficial~~ values to calculate the candidate's post-transplant outcomes score. *Table 21-7: ~~Values~~ Substituted Values ~~for Missing or Expired Actual Values~~ in Calculating Post-Transplant Outcomes Score* lists the ~~normal and least beneficial~~ values that will be substituted.

Table 21-7: ~~Values~~ Substituted Values ~~for Missing or Expired Actual Values~~ in Calculating Post-Transplant Outcomes Score

If this covariate's value:	Is:	Then the post-transplant outcomes score calculation will use this substituted value:
Cardiac index	Missing, or greater than 5	5.0 L/min/m^2
Assisted ventilation	Missing or expired	Continuous mechanical ventilation while hospitalized
Creatinine (serum) (mg/dL)	Missing, expired or greater than 1.6	1.6 mg/dL
Functional status	Missing or expired	Total assistance needed
Six-minute-walk distance	Missing or expired	200 feet
	Greater than 1,600	1,600 feet

Affected Data Collection

Data Removals: Lung OPTN Waiting List

Clinical Criteria	Values	Changes & Comments
Percent Predicted FVC	Calculated %	Remove from the OPTN Waiting List
Post Bronchodilator Actual FEV_1	Actual %	Remove from the OPTN Waiting List
Pre Bronchodilator Percent Predicted FEV_1	Calculated %	Remove from the OPTN Waiting List
Post Bronchodilator Percent Predicted FEV_1	Calculated %	Remove from the OPTN Waiting List
Requires Supplemental O2: How was the value obtained	Calculated from formula Read from oxygen delivery device	Remove from the OPTN Waiting List

Data Revisions: Lung OPTN Waiting List

Clinical Criteria	Values	Changes & Comments
Lung Diagnosis Code	Combined Pulmonary Fibrosis and Emphysema (CPFE)	Add this diagnosis code to options under existing data collection for "Lung Diagnosis Code" Diagnosis code will be assigned the coefficient for diagnosis group D for the purposes of calculating the lung CAS.
Diabetes	**Current selection options:** Dependency unknown Insulin dependent Not diabetic Not insulin dependent	**Revise selection options to:** Treated with insulin Not treated with insulin Not diabetic
Assisted Ventilation	**Current selection options:** BiPAP CPAP Continuous mechanical – hospitalized Continuous mechanical – not hospitalized ECMO Intermittent mechanical	**Revise selection options to:** BiPAP CPAP Continuous mechanical – hospitalized Continuous mechanical – not hospitalized ECMO VA – mechanically ventilated VA – not mechanically ventilated VV – mechanically ventilated

Clinical Criteria	Values	Changes & Comments
	No assisted ventilation needed	VV – not mechanically ventilated Intermittent mechanical – hospitalized Intermittent mechanical – not hospitalized No assisted ventilation needed
Requires Supplemental O_2	**Current selection options with the ability to enter one with one evaluation date:** At rest At night With exercise only **Current units:** Max of 26.33 L/min	**Revise selection options to allow for multiple entries and add evaluation dates for all three:** At rest With exercise With sleep **Proposed units:** Max of 100 L/min **Add device selection options:**[4] High flow nasal cannula (L/min and %) Nasal cannula (L/min only) Reservoir cannula (L/min only) Face mask (% only) BiPAP (Either L/min or %) CPAP (Either L/min or %) Continuous mechanical – hospitalized (% only) Continuous mechanical – not hospitalized (% only) Intermittent mechanical – hospitalized (% only) Intermittent mechanical – not hospitalized (% only)
Six Minute Walk Distance	Integer value (no change)	Moved field to be below *Requires Supplemental O_2* for better flow of data entry

[4] November 2023 update: "Trach collar" will also be included as a selection option for device type since it cannot be easily categorized under the other selection options. For trach collar, supplemental oxygen will be entered as % only and will be converted to L/min for calculating the allocation score. Additionally, permitted values for reservoir cannula will include either L/min or %.

Data Changes: Lung Data System for OPTN

Clinical Criteria	Values	Changes & Comments
Prior Lung Surgery	**Current selection options (TRR):** Pneuomoreduction Pneumothorax Surgery-Nodule Pneumothorax Decortication Lobectomy Pneumonectomy Left Thoracotomy Right Thoracotomy Other, specify	Remove from TRR; add to TCR with revised selection options (can select more than one) **Selection options:** None **Left, Right** Prior lung transplant Pneumonectomy Lung Volume Reduction Surgery Wedge Resection Lobectomy Pleural procedures Decortication Pleurectomy Pleurodesis Chemical Mechanical Talc Other, specify (with free text)
Prior Cardiac Surgery	**Current selection options (TCR and TRR):** CABG Valve Replacement/Repair Congenital Left Ventricular Modeling Other, specify	Remove from TRR and update selection options on the TCR (can select more than one) **Selection options:** None Sternotomy CABG Congenital Maze Valve replacement Other, specify (with free text)

Data Additions: Lung OPTN Waiting List

Clinical Criteria	Values	Changes & Comments
NYHA Functional Classification (PH Diagnosis Only)	Class I, Class II, Class III, Class IV	Add to the OPTN Waiting List
Choose one: BNP NT-proBNP (PH Diagnosis Only)	pg/mL or ng/L	Add to the OPTN Waiting List
Pericardial effusion (PH Diagnosis Only)	Yes, No	Add to the OPTN Waiting List
Massive hemoptysis, number of times in the last year	Free text integer number	Add to the OPTN Waiting List
Exacerbations, number of times in the last year	Free text integer number Check box to indicate if candidate has been on continuous intravenous antibiotics for longer than 60 days in the last year	Add to the OPTN Waiting List

Clinical Criteria	Values	Changes & Comments
Microbiology	**Selection options:** None Burkholderia cenocepacia (genomovar III) ≤ 1 year Burkholderia cenocepacia (genomovar III) > 1 year ago Burkholderia gladioli ≤ 1 year Burkholderia gladioli > 1 year ago MDR or Pan-R gram negative bacteria ≤ 1 year MDR or Pan-R gram negative bacteria > 1 year ago Mycobacterium abscessus ≤ 1 year Mycobacterium abscessus > 1 year ago *Scedosporium/Pseudallescheria* species Complex/*Lomentospora* ≤ 1 year *Scedosporium/Pseudallescheria* species Complex/*Lomentospora* > 1 year ago	Add to the OPTN Waiting List with option to select more than one
Diffusing Capacity of the Lungs for Carbon Monoxide (DLCO)	mL/min/mmHg Too sick to perform DLCO test? Yes/No	Add to the OPTN Waiting List as part of the pulmonary function test data section
Mean Right Atrial Pressure (mRAP)[5]	mmHg	Add to the OPTN Waiting List as part of the most recent heart catheterization data section
Pulmonary Vascular Resistance (PVR)	dynes/sec/cm5 or Wood units (mmHg/L/min)	Add to the OPTN Waiting List as part of the most recent heart catheterization data section

Serial Data Collection: Lung OPTN Waiting List

Clinical Criteria *Six-month prior to listing data*	Values	Recommended Changes & Comments
Actual Forced Vital Capacity (FVC)	Liters (L)	These data are currently collected in the OPTN Waiting List. The Committee proposes expanding this

[5] November 2023 update: This data field will display as "right atrial pressure" rather than "mean right atrial pressure" to reflect the Committee's intent to capture the value as indicated by a heart catheterization rather than a mean value.

Clinical Criteria *Six-month prior to listing data*	Values	Recommended Changes & Comments
		data collection to allow programs to enter values for multiple dates, including six months prior to listing.
Pre Bronchodilator Actual FEV1	Liters (L)	These data are currently collected in the OPTN Waiting List. The Committee proposes expanding this data collection to allow programs to enter values for multiple dates, including six months prior to listing.
Diffusing Capacity of the Lungs for Carbon Monoxide (DLCO)	mL/min/mmHg Too sick to perform DLCO test? Yes/No	These data are not currently collected in the OPTN Waiting List, so the Committee proposes adding this data collection and allowing programs to enter values for multiple dates, including six months prior to listing.

Data Definitions: Lung OPTN Waiting List

Assisted Ventilation: Indicate the type of assisted ventilation the candidate requires. If the candidate does not require assisted ventilation, select **No assisted ventilation needed**. These fields must be updated every 6 months from the time the candidate was added to the Waitlist. If the fields are incomplete or the evaluation date has expired, the least beneficial value will be used to calculate the candidate's lung allocation score. Use of average volume-assured pressure support (AVAPS) should be reported as **intermittent mechanical**.

BNP or NT-proBNP: Enter the candidate's BNP or NT-proBNP lab values in pg/mL or ng/mL.

Definition: BNP (B-type natriuretic peptide) and NT-proBNP (N-terminal pro-BNP) are fragments cleaved from proBNP (pro B-type natriuretic peptide) that is secreted by cardiomyocytes in response to stretch.

Test Date: Enter the date when this information was obtained.

Diabetes: If the candidate has diabetes, select the option to indicate insulin dependency. If the candidate does not have diabetes, select **Not Diabetic**. A patient should *not* be considered as having diabetes based on a diagnosis of gestational diabetes only.

Treated with insulin

Not treated with insulin

Not diabetic

Eval Date: Enter the date when this information was obtained.

Diffusing Capacity of the Lungs for Carbon Monoxide (DLCO): Enter the value of the diffusing capacity of the lungs for carbon monoxide in mL/min/mmHg, obtained from a pulmonary function test. Do not enter values corrected for hemoglobin or alveolar volume. If the patient cannot perform this test due to their medical status, select **Yes** for "Too sick to perform DLCO test?"

> **Definition:** Diffusing capacity of the lungs for carbon monoxide is a measurement to assess the lungs' ability to transfer gas from inspired air to the bloodstream.
>
> **Test Date:** Enter the date when this information was obtained.

Exacerbations, number of times in the last year: Enter the number of times within the last year from the date of entry that the patient has experienced an exacerbation. Select checkbox if patient has been on continuous intravenous antibiotics for longer than 60 days in the last year.

> **Definition:** For patients with a diagnosis of chronic obstructive pulmonary disease (COPD), exacerbations are episodes of increasing respiratory symptoms that required treatment, particularly dyspnea, cough, and sputum production, and increased sputum purulence.
>
> For patients with a diagnosis of interstitial lung disease (ILD), exacerbations are a sudden acceleration of the disease or an idiopathic acute injury superimposed on diseased lung that leads to a significant decline in lung function, acute increased need for oxygen, or need for hospitalization.
>
> For patients with a diagnosis of cystic fibrosis, exacerbations are a general increase in respiratory symptoms that required treatment accompanied by an acute decrease in lung function.
>
> **Eval Date:** Enter the date when this information was obtained.

Massive hemoptysis, number of times in the last year: If the patient has experienced massive hemoptysis in the last year, enter the number of times experienced.

> **Definition:** Hemoptysis is the coughing up of blood or bloody sputum from the lungs or airway. For adult patients, massive hemoptysis is defined as acute bleeding of ≥240 mL in a 24 hour period or recurrent bleeding of >100 mL each day for more than two days. For pediatric patients, massive hemoptysis is defined as acute bleeding of ≥8 mL/kg at once or recurrent bleeding over several days equaling 8 mL/kg or more.
>
> **Eval Date:** Enter the date when this information was obtained.

Right Atrial Pressure (RAP):[6] Enter the patient's right atrial pressure in mmHg. The expected value range is 0 – 25 mmHG, although the absolute value range is 0 – 50 mmHg.

> **Definition:** Right atrial pressure refers to blood pressure in the right atrium. Abnormal readings collected during the cardiac cycle may indicate functional deterioration of the heart.

[6] To reflect the Committee's intent to capture the value reported by heart catheterization rather than a mean, the OPTN will implement the field name and data definition shown in this policy notice for "right atrial pressure." This field was described as "mean right atrial pressure" in the briefing paper. See "Update Data Collection for Lung Mortality Models," OPTN, accessed November 1, 2023, available https://optn.transplant.hrsa.gov/media/xi5hvjtj/bp_update-data-collection-for-lung-mortality-models_lung.pdf.

Report the value that most accurately reflects the patient's cardiac status. If the RAP is not available, enter the central venous pressure (CVP).

Test Date: Enter the date when this information was obtained.

Microbiology: If the patient has a history of infection (either within the last year or more than one year ago) with a multi-drug resistant (MDR) organism select the type of organism. MDR is defined as resistance to at least one agent in three or more antimicrobial classes. If the history of infection is not listed below, it does not need to be reported.

Burkholderia cenocepacia (genomovar III)

Burkholderia gladioli

MDR or Pan-R gram negative bacteria

Mycobacterium abscessus

Scedosporium/Pseudallescheria species complex/LomentosporaTest Date: Enter the date when this information was obtained.

NYHA Functional Classification:[7] If the patient has pulmonary hypertension as a primary diagnosis, select the patient's New York Heart Association (NYHA) classification. The NYHA classification classifies patients in one of four categories based on their limitations during physical activity; the limitations/symptoms are in regards to normal breathing and varying degrees in shortness of breath and/or angina pain. For patients under the age of 6, select the patient's modified Ross classification.

Class I - No symptoms and no limitation in ordinary physical activity, e.g. shortness of breath when walking, climbing stairs, etc. For patients under the age of 6: Asymptomatic.
Class II - Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity. For patients under the age of 6: Mild tachypnea or diaphoresis with feeding in infants; dyspnea on exertion in older children.
Class III – Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g. walking short distances (20–100 m). Comfortable only at rest. For patients under the age of 6: Marked tachypnea or diaphoresis with feeding in infants. Prolonged feeding times with growth failure; marked dyspnea on exertion in older children.
Class IV - Severe limitations. Experiences symptoms even while at rest. Mostly bedbound patients. For patients under the age of 6: Symptoms such as tachypnea, retractions, grunting, or diaphoresis at rest.

Eval Date: Enter the date when this information was obtained

Pericardial Effusion: If the patient is currently experiencing pericardial effusion as detected on echocardiogram, select **Yes**. If not select **No**.

Definition: Pericardial effusion refers to increased fluid within the pericardial sac which can cause circulatory compromise by compression of the heart; most often caused by inflammation, infection, malignancy, and uremia.

[7] To provide more instruction on completing this data collection for younger candidates, the OPTN will implement the data definition shown in this policy notice referencing the modified Ross classification. See "Update Data Collection for Lung Mortality Models," OPTN, accessed November 1, 2023, available https://optn.transplant.hrsa.gov/media/xi5hvjtj/bp_update-data-collection-for-lung-mortality-models_lung.pdf.

Test Date: Enter the date when this information was obtained.

Pulmonary Vascular Resistance (PVR): Enter the pulmonary vascular resistance value obtained from a right heart catheterization in dynes/sec/cm5 OR wood units (mmHg/L/min).

Definition: Pulmonary vascular resistance is the resistance against blood flow from the pulmonary artery to the left atrium.

Test Date: Enter the date when this information was obtained.

Requires Supplemental O_2:[8] If the patient requires supplemental oxygen, indicate when supplemental oxygen is required and what type of oxygen supply system is used (face mask, high flow nasal cannula, nasal cannula, reservoir cannula, trach collar, BiPAP, CPAP, continuous mechanical – hospitalized, continuous mechanical – not hospitalized, intermittent mechanical – hospitalized, or Intermittent mechanical – not hospitalized). A high flow nasal cannula is a device that allows for independent titration of L/min and FiO_2. Enter the amount needed in L/min (the value must fall between 0.25 and 100) or in percent (the value must fall between 22 and 100). For the purposes of calculating the patient's composite allocation score, a substituted value of 26.33 will be used for any values entered over 26.33. Use of average volume-assured pressure support (AVAPS) should be reported as **intermittent mechanical.**

At rest (not moving or exerting oneself)

With exercise

With sleep

Eval Date: Enter the date when this information was obtained.

Six minute walk distance: Enter the total exertional distance on a flat surface the candidate is able to walk in six minutes in feet. The distance walked is a measure of functional status. The normal range is between 0 and 3000, although a value outside of this range may be entered. Enter the **Test Date** when this information was obtained. These fields must be updated every 6 months from the time the candidate was added to the waiting list. If they are incomplete or expired, the least beneficial value will be used to calculate the candidate's lung composite allocation score.

Data Definitions: Lung Data System for OPTN

Prior Lung Surgery: If the patient had prior lung surgery select the laterality (left, right, or both) and type of surgery.

Prior lung transplant

Pneumonectomy

Lung volume reduction surgery

Wedge resection

Lobectomy

Pleural procedures

[8] November 2023 update: "Trach collar" was added to the list of potential selection options since it cannot be easily categorized under the other selection options. See "Update Data Collection for Lung Mortality Models," OPTN, accessed November 1, 2023, available https://optn.transplant.hrsa.gov/media/xi5hvjtj/bp_update-data-collection-for-lung-mortality-models_lung.pdf.

Decortication

Pleurectomy

Pleurodesis

Chemical

Mechanical

Talc

Other, specify

Prior Cardiac Surgery: If the patient had prior cardiac surgery select the type of surgery. Only non-percutaneous interventions should be reported.

Sternotomy – CABG (coronary artery bypass graft surgery)

Sternotomy – Congenital

Sternotomy – Maze

Sternotomy – Valve replacement

Other, specify