CASE STUDY

Patient with Homogenous Emphysema and Multiple Comorbidities

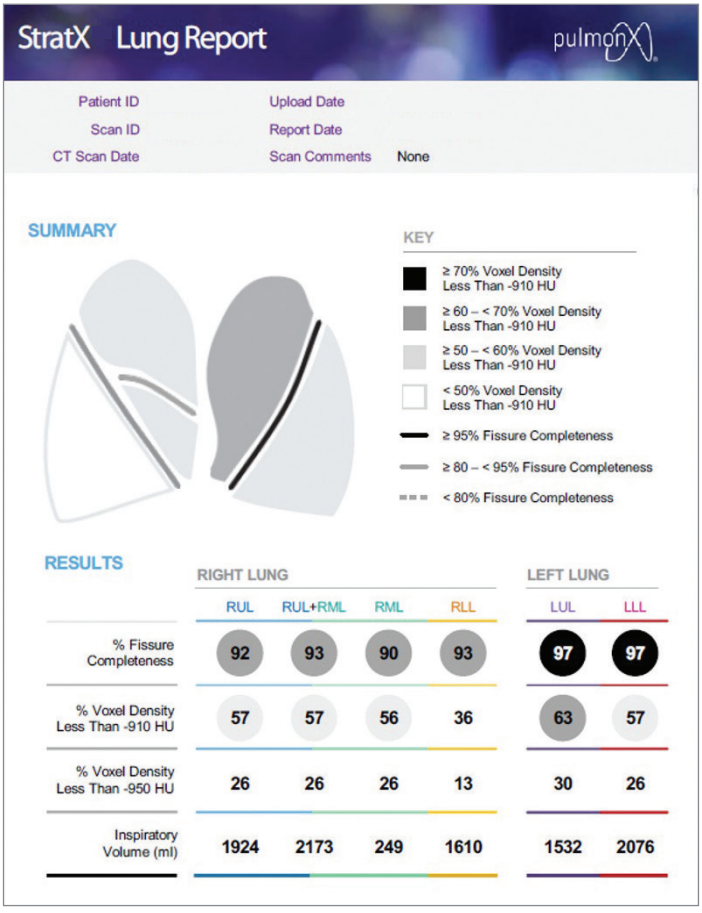
zephyr® by pulmonx

Physician: Jonathan Kurman, MD – Medical College of Wisconsin

Medical History

Gender	Male
Age	65
BMI	25
Smoking History	30 pack-years
Comorbities	Chronic hypoxia, lupus, rheumatoid arthritis, diastolic heart failure, and pulmonary hypertension (TTE: PASP 59 mm Hg., RHC:PAP 35/21/26)
Quality of Life Impact	Incapacitating dyspnea

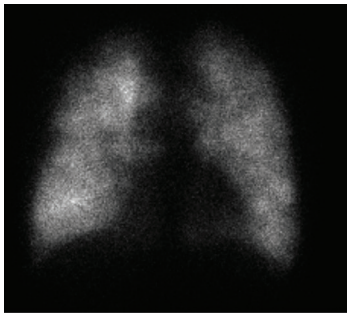
StratX® Lung Report



Treatment Details

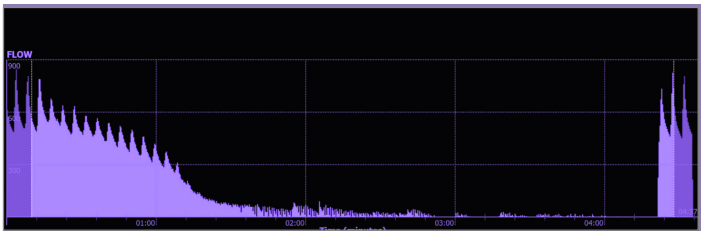
Lobe LUL	4.0LP in LB1-2 | 4.0 in LB3 | 4.0 in LB4a 4.0 LP in LB4b | 4.0 in LB5
Chartis	Collateral-ventilation negative
Post Notes	Increasing elevation of the left hemidiaphragm related to complete lobar atelectasis
Post Report	100% TLVR, 1532 mLs

Perfusion Scan & Values

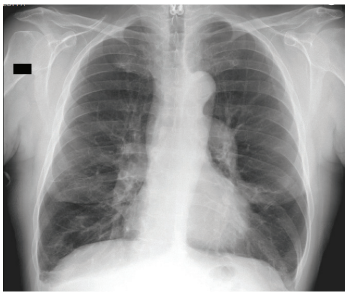


	Left	Right
Upper	10%	12%
Middle	19%	24%
Lower	16%	19%
Total	44%	55%

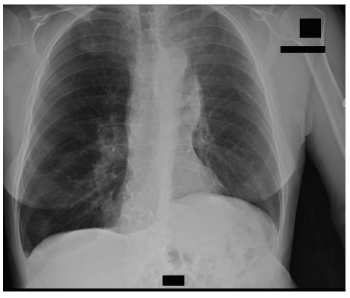
Chartis® Scan



Chest X-ray Pre & Post Treatment



PRE-TREATMENT



3 DAYS POST-TREATMENT

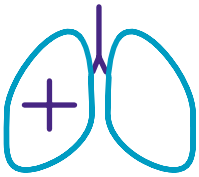
Case Results

- BLVR is safe and effective in patients with homogenous disease.
- Do not exclude a patient based on the TTE alone. If pulmonary hypertension is suggested, then get a RHC to further evaluate.
- Perfusion scans (or SPECT-CT) can be particularly helpful with target lobe selection in patients with homogeneous disease.
- Lobar atelectasis is often most likely to occur if valves are placed in segmental or subsegmental airways.

Variable	Pre-procedure	Post-procedure (6 mo.)
FEV_1 (% pred)	24	31
RV (% pred)	235	129
TLC (% pred)	126	95
DLCO (% pred)	46	53
6MWD (m)	160	320
Oxygen (L)	3	2
Quality of life improvements		Tremendous

6MWD:
100%
INCREASE

Oxygen Use:
33%
DECREASE



FEV_1:
30%
INCREASE

Complications of the Zephyr Endobronchial Valve treatment can include but are not limited to pneumothorax, worsening of COPD symptoms, hemoptysis, pneumonia, dyspnea and, in rare cases, death.

This is a single case study, individual results may vary.

Important Safety Information: The Chartis® System is indicated for use by bronchoscopists during a bronchoscopy in adult patients with emphysema, a form of Chronic Obstructive Pulmonary Disease (COPD), in a bronchoscopy suite. The system, composed of the Chartis Catheter and Chartis Console, is designed to measure pressure and flow in order to calculate resistance to airflow and quantify collateral ventilation in isolated lung compartments. The Chartis Catheter is used through the working channel of a bronchoscope and connects to the Chartis Console. The Chartis Console is capital equipment that is reusable and displays the patient information. The Chartis System is contraindicated in the presence of active infection or major bleeding diathesis. There are no known interfering substances. Use is restricted to a trained physician. Prior to use, please reference the Chartis System Instructions for Use/User Manual for more information on indications, contraindications, warnings, all precautions, and adverse events.

Important Safety Information: The Pulmonx Zephyr® Endobronchial Valves are implantable bronchial valves indicated for the bronchoscopic treatment of adult patients with hyperinflation associated with severe emphysema in regions of the lung that have little to no collateral ventilation. The Zephyr Valve is contraindicated for: Patients for whom bronchoscopic procedures are contraindicated; those with evidence of active pulmonary infection; known allergies to Nitinol (nickel-titanium) or its constituent metals (nickel or titanium); known allergies to silicone; or with large bullae encompassing greater than 30% of either lung; Patients who have not quit smoking. The Zephyr Valve should be used with caution and only after careful consideration in treating patients with: Prior lung transplant, LVRS, median sternotomy, lobectomy, or pleurodesis on the target lung side; Congestive heart failure or recent myocardial infarction; FEV1 <15% of predicted value. Use is restricted to a trained physician. Prior to use, please reference the Zephyr Endobronchial Valve System Instructions for more information on indications, contraindications, warnings, all precautions, and adverse events.

Caution: Federal law restricts this device to sale by or on the order of a physician

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by pulmonx