

## BLVR Module Content

**HIGHLIGHT QUESTION ANSWERS IN RED**

**RETURN VIA EMAIL TO [AABIPforAPP@gmail.com](mailto:AABIPforAPP@gmail.com) ONCE COMPLETED BY JANUARY 30, 2022**

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### Case Presentation

Mr. Smith is a 79-year-old Caucasian male with a 55-pack year smoking history who in January 2018. He was diagnosed with COPD- emphysema type over 10 years ago after a hospitalization for an exacerbation. He is currently enrolled in pulmonary rehab twice a week and wears 2L NC oxygen with exertion only. His COPD medications include Advair 500/50 twice daily, Spiriva once daily and Albuterol as needed. He has not been treated for or hospitalized for a COPD exacerbation or pneumonia in over 12-months. His last Lung cancer screening CT chest was 6-months ago and was without any suspicious nodules or masses. He complains of exertional dyspnea that has been worsening over the past year to the point he can no longer golf.

He presented to Interventional Pulmonology clinic today to see if he is a candidate for lung volume reduction using valves.

### Testing done:

1) Complete pulmonary function testing 3-months ago which shows an FEV1 33%, TLC 110%, RV 210% and DLCO 35%.

2) ABG performed at rest on room air with pH 7.35, PaO<sub>2</sub> 46, PaCO<sub>2</sub> 49, HCO<sub>3</sub> 26.

3) Six minute walk distance is 140 meters

4) Echocardiogram revealed an EF of 60-65%, Normal left and right ventricular size & function and estimated RVSP of 34 mmHg.

5) CT analysis demonstrates heterogeneous emphysema:

- Left upper lobe 75% emphysema, left lower lobe 70% emphysema
- Right upper lobe 70% emphysema, right lower lobe 45% emphysema
- Fissure integrity between the left upper lobe and left lower lobe is 98% F
- Fissure integrity between the right upper lobe and right lower lobe is 91%.

Amber

Peoples

Questions to consider:

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Name: \_\_\_\_\_

Email Address: amberlpeoples@yahoo.com

1. True or False. The Zephyr and Spiration valves can both be used for BLVR
2. Quantitative CT analysis is a tool to assess
  - a. collateral ventilation
  - b. emphysema destruction only
  - c. COPD severity
  - d. Fissure integrity and emphysema destruction
3. True or False. Zephyr valves are approved for both homogeneous and heterogeneous emphysema.
4. True or False. The goal of the BLVR procedure is to improve a patient's oxygen requirements.
5. True or False. A -900 Hounsfield units is the cut off used for emphysema by Radiologists and the major BLVR studies.
6. True or False. An FEV1  $\leq$  45% was consistently used as a cut off across the major BLVR studies.
7. True or False. 6-minute walk distance demonstrated consistent clinically and statistically significant improvement across all major BLVR trials.
8. True or False. Patients with chronic bronchitis, producing > 2 tablespoons of mucus per day, were excluded from BLVR clinical trials
9. In homogenous emphysema, what minimum RV cut off has been studied?
  - a.  $\geq$  200%
  - b.  $\geq$  175%
  - c.  $\geq$  150%
  - d.  $\geq$  100%
10. True or False. Bronchoscopic valve placement has demonstrated improved mortality in COPD patients.

11. The highest risk complication after BLVR is
- COPD exacerbation
  - Pneumothorax
  - Pneumonia
  - Hemoptysis
12. After performing a BLVR procedure, the floor team asks you when they should expect a pneumothorax to occur. You describe the range of days and uncertainty of when a pneumothorax may develop. Ultimately you recommend hospitalization and inpatient monitoring for a pneumothorax during which period of time?
- Immediately after the procedure
  - First 24 hours
  - First 3-5 days
  - First year
13. Yes or No -- Is the patient in the module appropriate for BLVR??
14. If Yes, Where would you place valves?
- Right upper lobe
  - Right lower lobe
  - Left upper lobe
  - Left lower lobe
  - Patient is not a candidate

