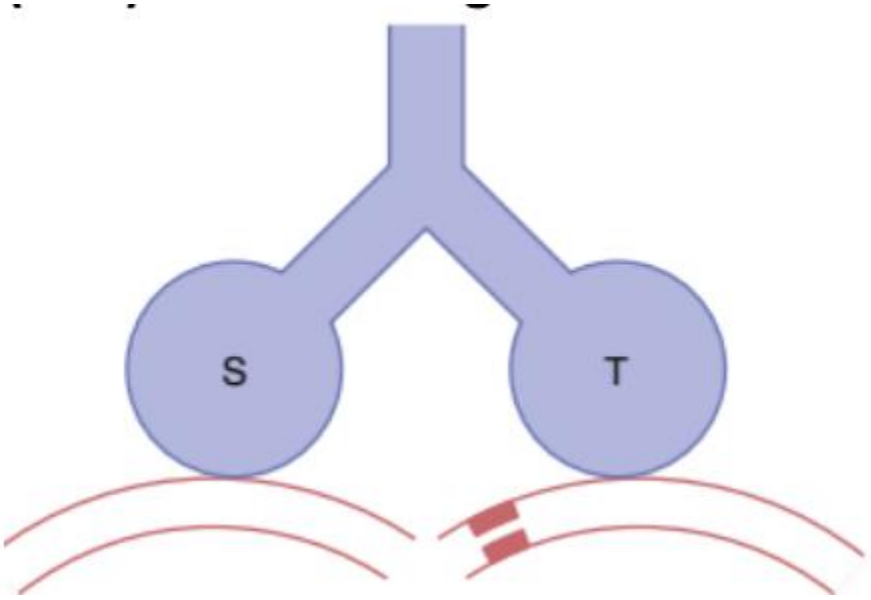
1. The maximum amount of gas that can be exhaled after a full inspiration is called:
A. Expiratory reserve volume
B. **Vital capacity**
C. Total lung capacity
D. Functional residual capacity

2. The figure below shows two lung units (S and T) with their blood supplies. Lung unit S has an ideal relationship between blood flow and ventilation. Lung unit T has a compromised blood flow. What is the relationship between total dead space (TDS), physiologic dead space (PDS) and anatomic dead space (ADS) for these lung units? Lung unit S Lung unit T

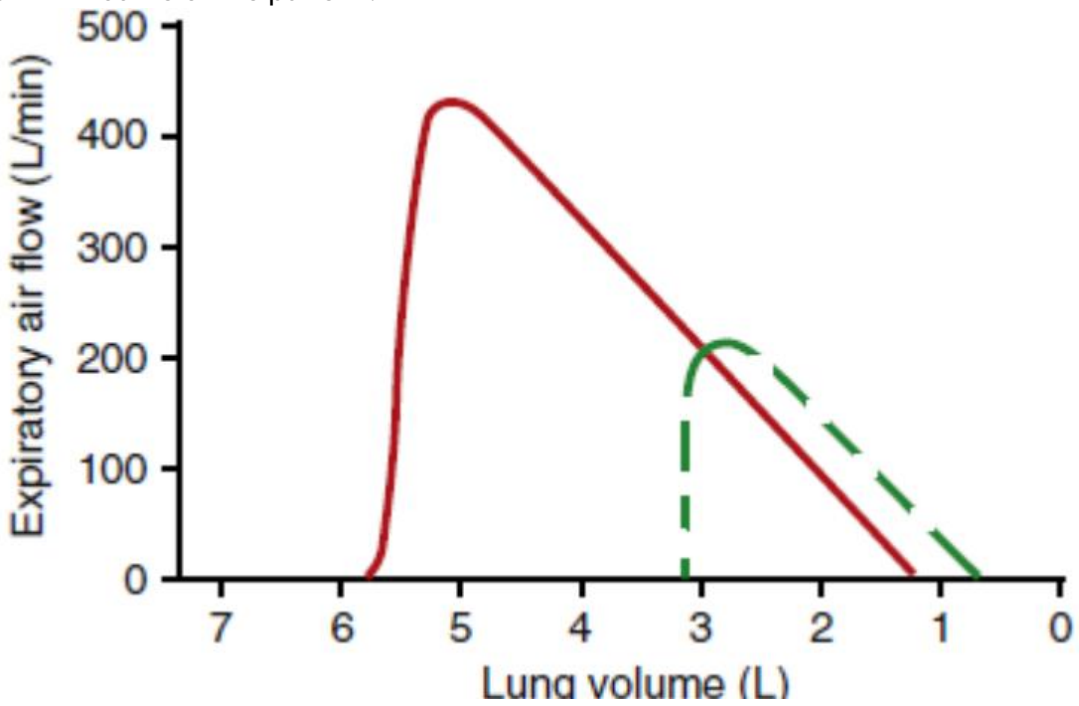
	Lung unit S	Lung unit T
A	TDS < ADS	TDS = ADS
B	TDS = PDS	TDS > PDS
C	TDS = ADS	TDS < ADS
D	TDS = ADS	TDS > ADS
E	TDS > ADS	TDS < ADS



Answer D

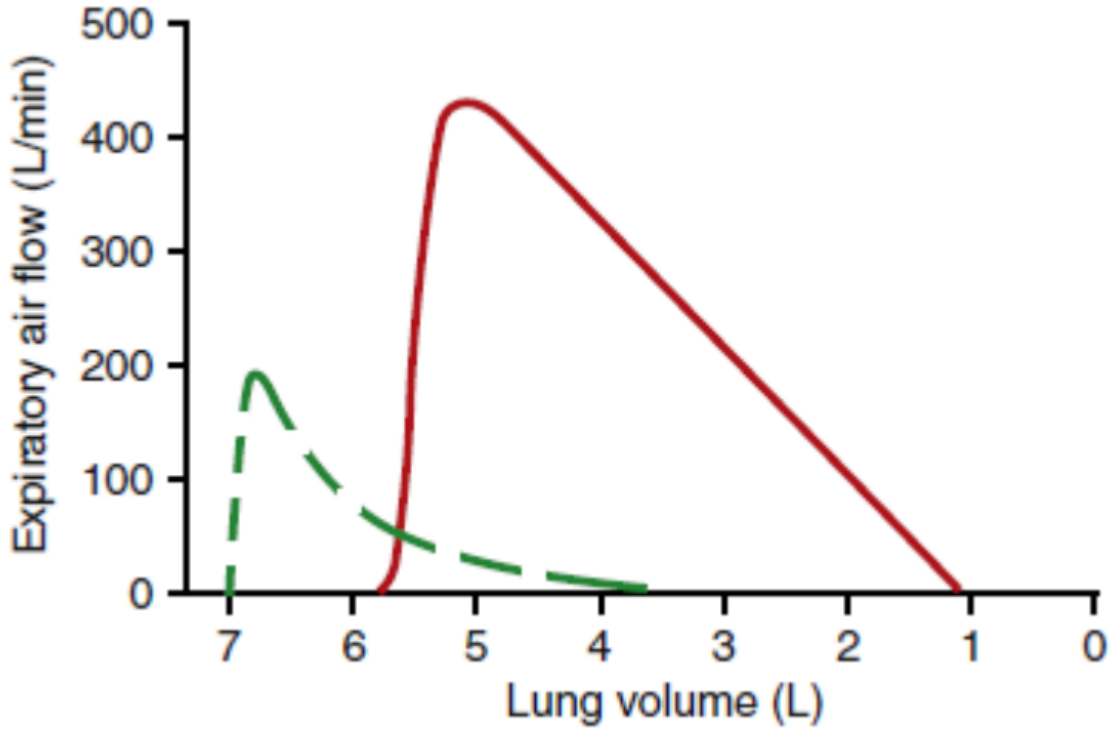
3. The residual volume is
A. The gas remaining in the lungs at the end of a full expiration
B. Greater on average in men than in women
C. 3–4 liters on average in young adults
D. Measured directly using a spirometer
E. Smaller in old than in young people

4. A 62–year–old man reports difficulty breathing. The figure below shows an MEFV (maximum expiratory flow–volume curve from the patient (green solid line) and from a typical healthy individual (red dotted curve). Which of the following best explains the MEFV curve of the patient?



A. Fibrosis
B. Asthma
C. Bronchospasm
D. Emphysema
E. Old age

5. The maximum expiratory flow–volume (MEF–V) curves shown in the figure below were obtained from a healthy person (red solid curve) and a 57–year–old man with shortness of breath (green dotted curve). The man with shortness of breath likely has which disorder?



A. Asbestosis
B. Emphysema
C. Kyphosis
D. Scoliosis

6. By conventional spirometry, one can be determined:
A. Vital capacity
B. Functional residual capacity
C. Residual volume
D. Total lung capacity

7. The FEV1/FVC ratio is normally around:
A. 0.8
B. 0.7
C. 0.9
D. 0.5

8. The most sensitive index of small airways resistance in a patient with bronchial asthma is:
A. vital capacity
B. FEV1
C. FEV1/FVC
D. PEFR
E. Maximal Mid-Expiratory Flow Rate (Forced Expiratory Flow 25%–75%)

9. In severe chronic obstructive lung disease:
A. FRC decreases
B. TLC decreases
C. VC decreases
D. RV decreases