

# Introduction

## Respiratory anatomy and physiology

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# Learning outcomes

Be able to:

- Describe the relevant anatomy and physiology of the respiratory system

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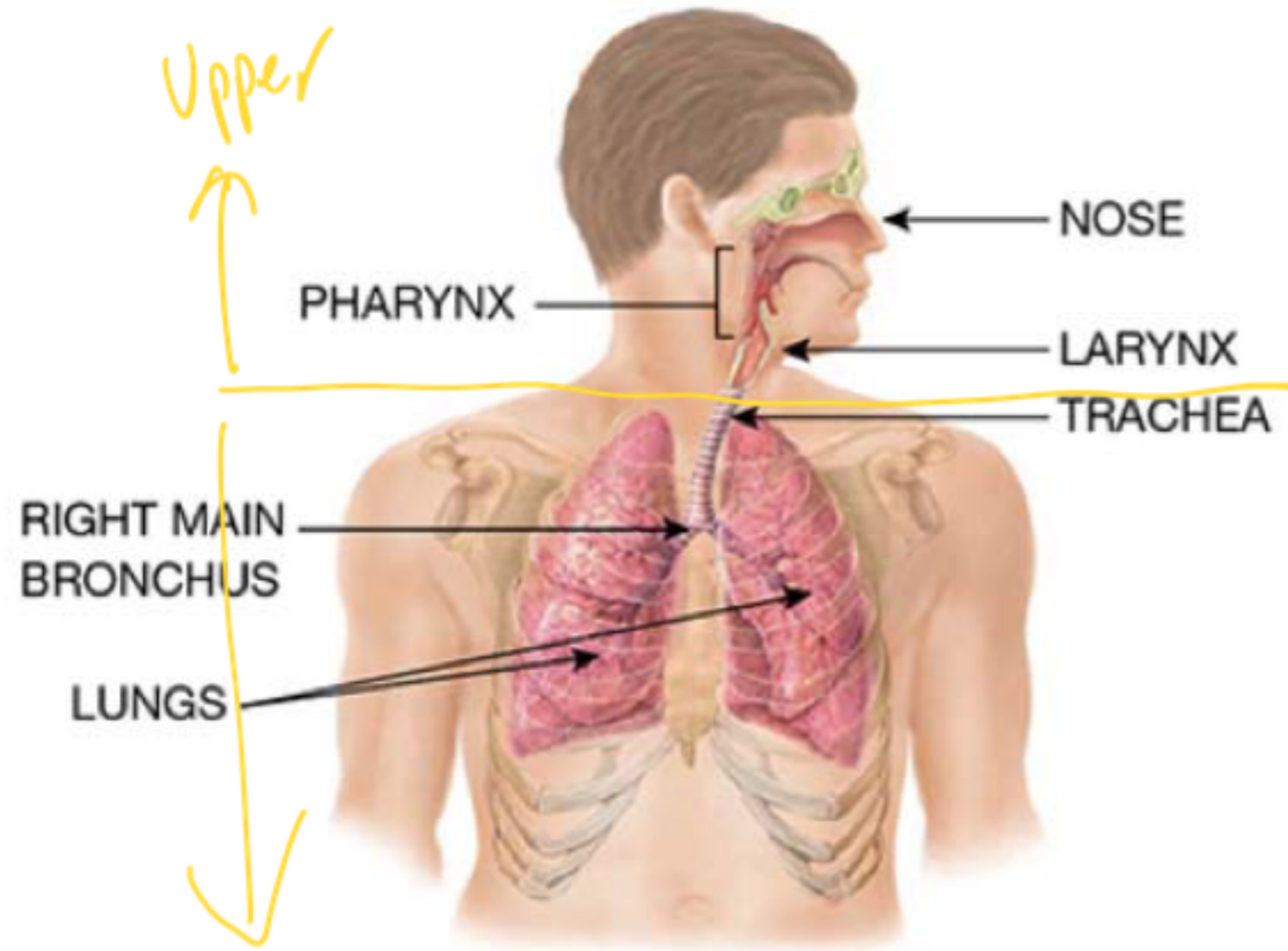
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# Structure of the respiratory system



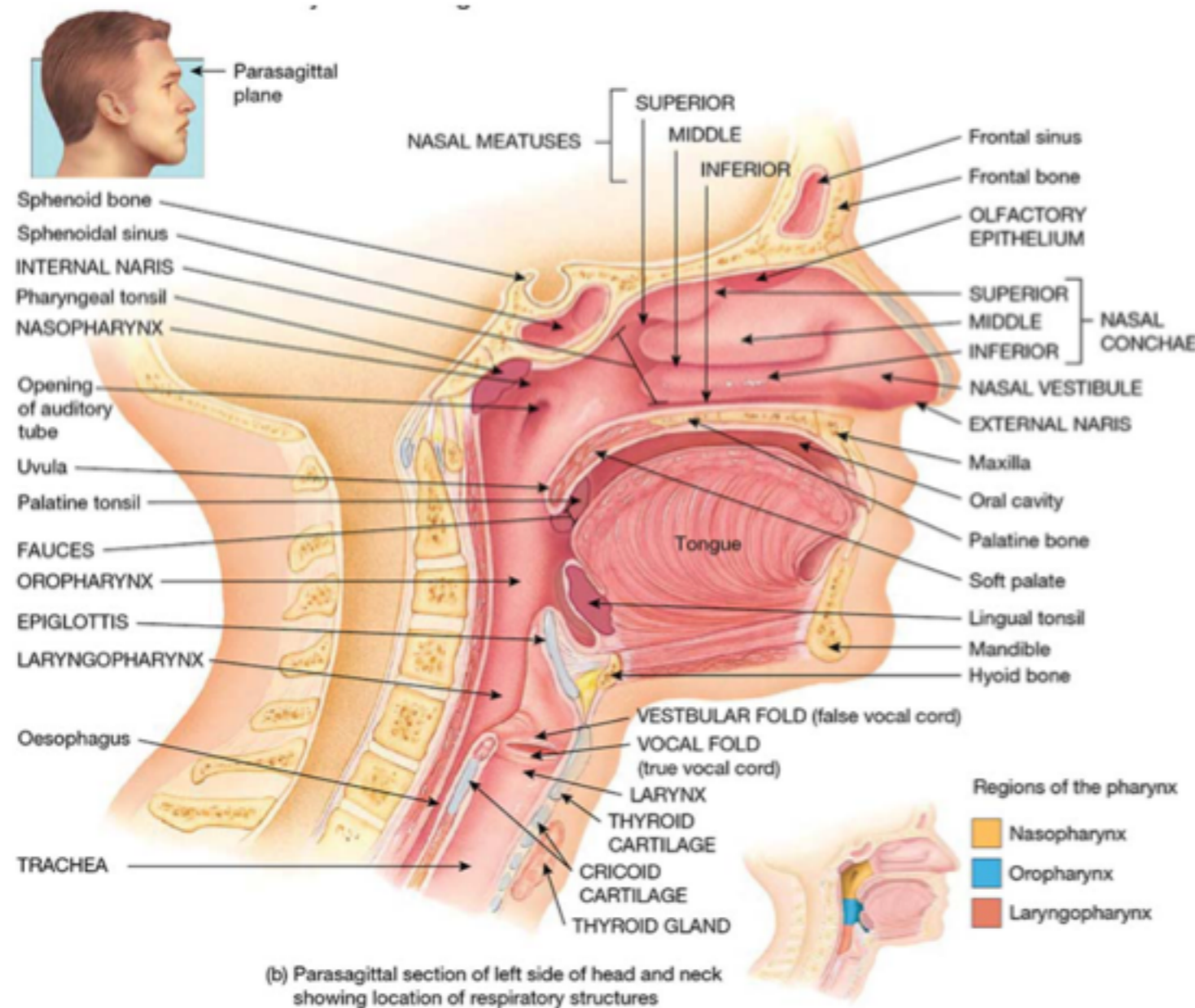
(a) Anterior view showing organs of respiration

## • Figure 23.1

- Nose
- Pharynx
  - Nasopharynx
  - Oropharynx
  - Laryngopharynx
- Trachea
- Bronchus
- Lungs (R=3, L=2 lobes)
- Cardiac notch

Images taken from Tortora, GJ., Derrickson, B., Burkett, B., Peoples, G., Dye, D., Cooke, J., et al. Principles of anatomy and physiology. Second Asia-Pacific ed. Queensland, Australia: John Wiley & Sons; 2019.

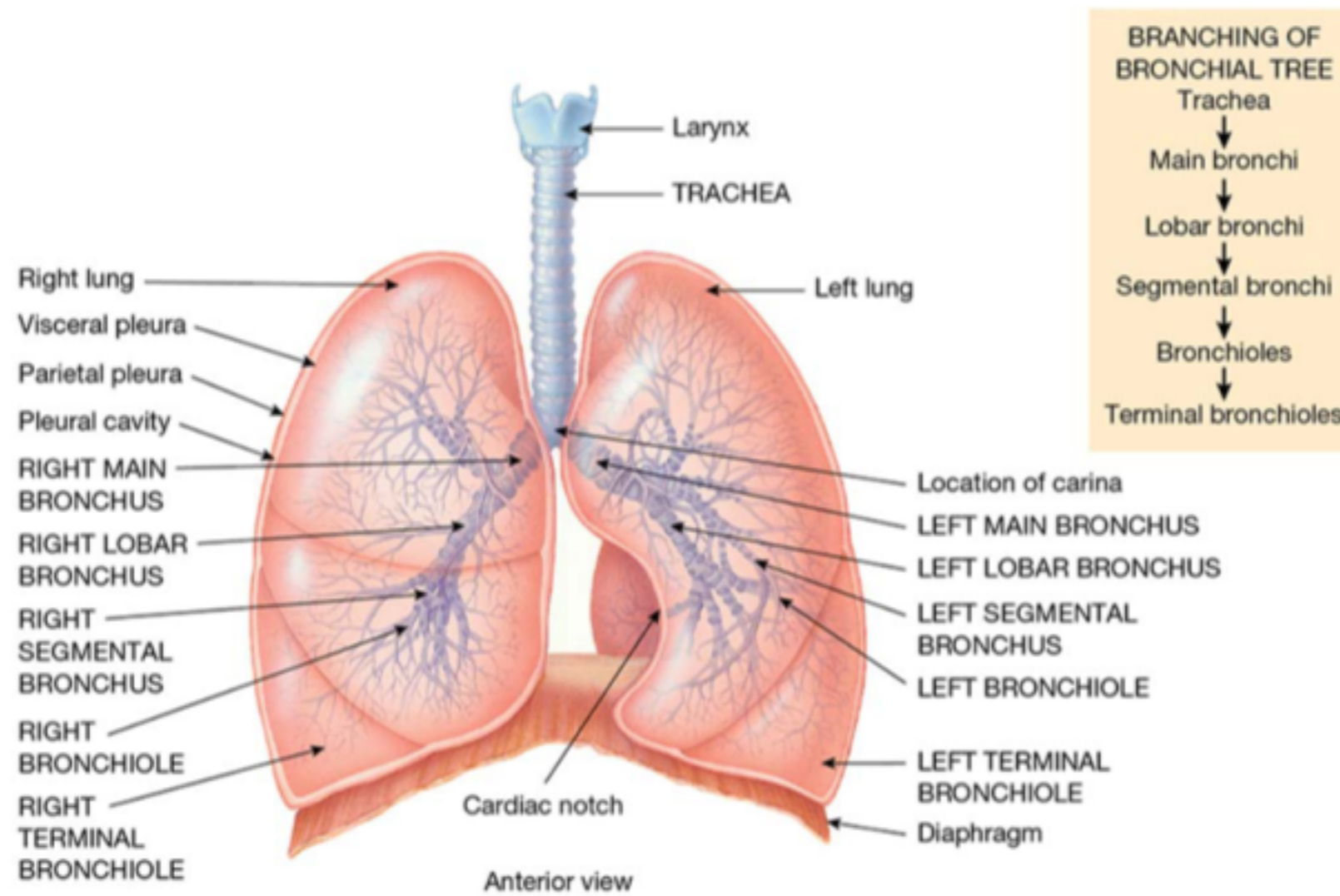
# Respiratory structures of the head and neck



- Figure 23.2
  - Nasal meatus
  - Nasal Conchae
  - Nasopharynx
  - Oropharynx
  - Laryngopharynx
  - Thyroid cartilage
  - Epiglottis
  - Trachea
  - Oesophagus

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# Bronchi

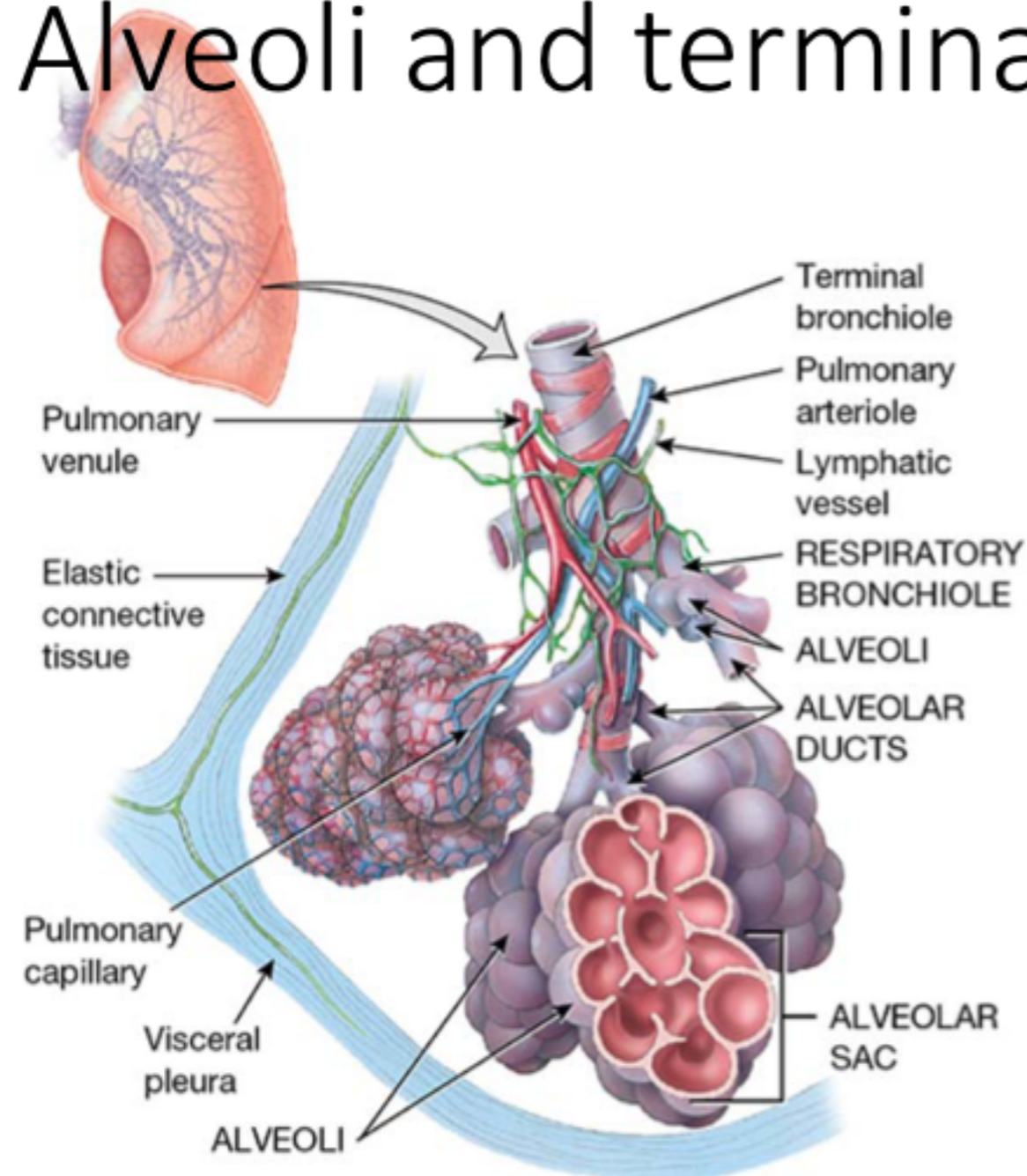


## • Figure 23.7

- Larynx
- Trachea
- Carina
- Main bronchi
- Bronchioles
- Terminal bronchioles

Images taken from Tortora, GJ., Derrickson, B., Burkett, B., Peoples, G., Dye, D., Cooke, J., et al. Principles of anatomy and physiology. Second Asia-Pacific ed. Queensland, Australia: John Wiley & Sons; 2019.

# Alveoli and terminal bronchioles



- Figure 23.10

- Helical arrangement of smooth muscle
- Lymphatic vessel
- Pulmonary arteriole
- Pulmonary venule
- Alveolar sac
- Alveoli

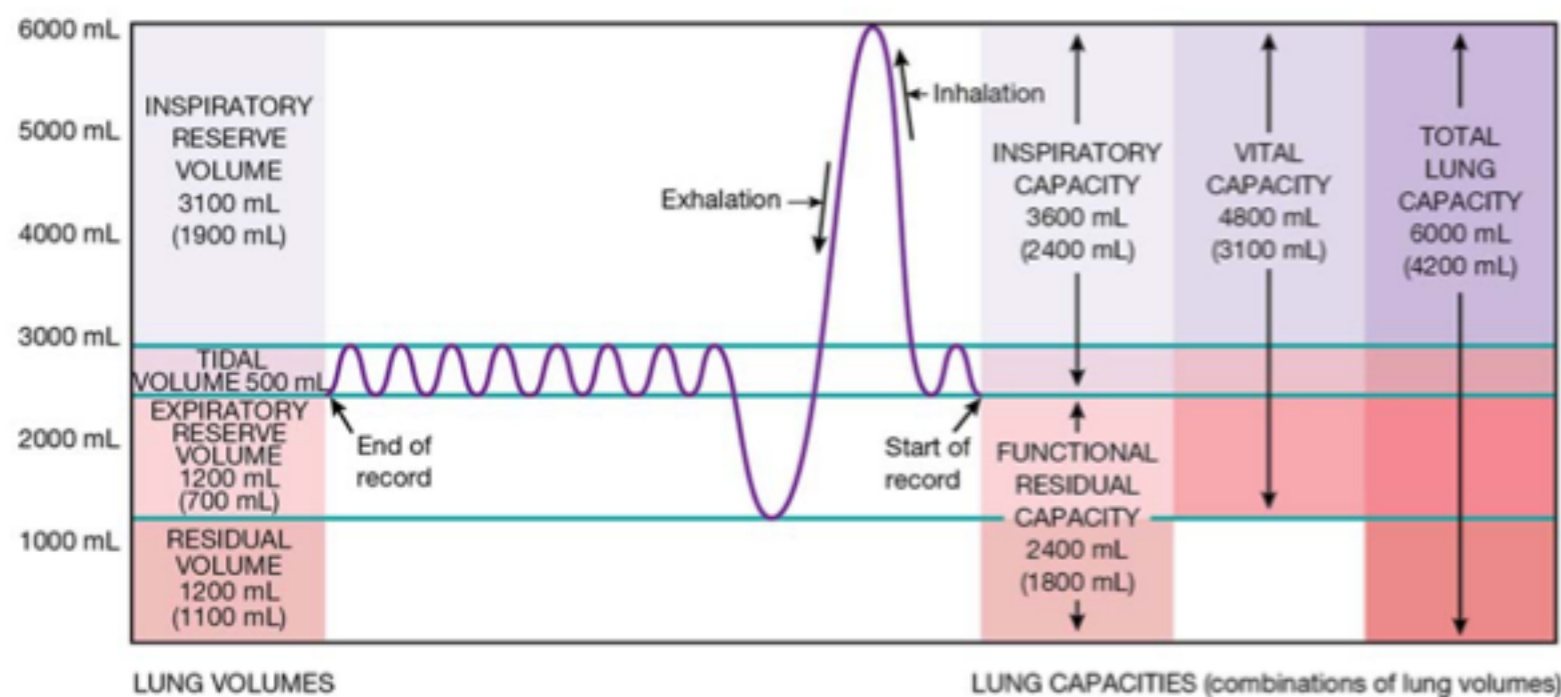
(a) Diagram of portion of lobule of lung

Images taken from Tortora, GJ., Derrickson, B., Burkett, B., Peoples, G., Dye, D., Cooke, J., et al. Principles of anatomy and physiology. Second Asia-Pacific ed. Queensland, Australia: John Wiley & Sons; 2019.

# Important lung volumes



- Figure 23.15
  - Tidal volume
  - Inspiratory reserve volume
  - Forced Vital Capacity (FVC)
  - Forced Expiratory Volume<sub>1</sub> (FEV<sub>1</sub>)



Images taken from Tortora, GJ., Derrickson, B., Burkett, B., Peoples, G., Dye, D., Cooke, J., et al. Principles of anatomy and physiology. Second Asia-Pacific ed. Queensland, Australia: John Wiley & Sons; 2019.