

RESPIRATION

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OBJECTIVES

- What is respiration?
- Structures of the respiration system
- Process of Respiration

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RESPIRATION

- The process by which oxygen is obtained from the environment and delivered to the cells.
 - Pulmonary Ventilation
 - External Exchange of Gases
 - Internal Exchange of Gases
- Cellular Respiration

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THE RESPIRATORY SYSTEM

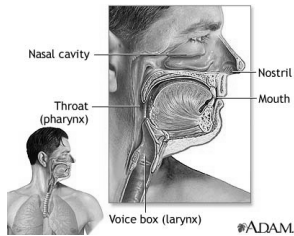
- System consisting of the lungs and breathing passages involved in the exchange of oxygen and carbon dioxide between the outside air and the blood
 - Nasal Cavities
 - Pharynx
 - Larynx
 - Trachea

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STRUCTURES OF THE RESPIRATORY SYSTEM

■ NASAL CAVITIES

- Nostrils (Nares)
- Nasal Cavities
- Nasal Septum
- Conchae



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STRUCTURES OF THE RESPIRATORY SYSTEM (cont'd)

- Pharynx – “throat”
 - Nasopharynx
 - Laryngeal Pharynx
- Larynx – “voice box”
 - Vocal cords
 - Glottis
 - Epiglottis

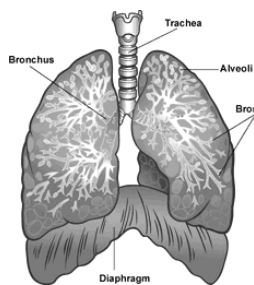
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STRUCTURES OF THE RESPIRATORY SYSTEM (cont'd)

- Trachea – “windpipe”
- Bronchi
 - Hilum
- Lungs
 - Mediastinum
 - Bronchioles

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THE LUNGS



- Alveoli
 - Terminal Bronchioles
 - Surfactant
- Lung Cavities and Pleura
 - Diaphragm
 - Parietal Pleura
 - Visceral Pleura
 - Pleural Space

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PROCESS OF RESPIRATION

- Pulmonary Ventilation
 - Inhalation
 - Exhalation
 - Compliance
 - Spirometer
 - Spirogram

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PROCESS OF RESPIRATION (cont'd)

- Gas Exchange
 - Diffusion
- Transport of Oxygem
 - Hemoglobin
 - Partial Pressure
- Transport of Carbon Dioxide
 - Carbonic Anhydrase

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PROCESS OF RESPIRATION (cont'd)

- Regulation of Respiration
 - Nervous Control
 - Phrenic Nerve – branch of the Vagus Nerve
 - Chemical Control
 - Chemoreceptors
 - Hypercapnia

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PROCESS OF RESPIRATION (cont'd)

- Abnormal Ventilation
 - Hyperventilation
 - Hypocapnia
 - Hypoventilation
- Breathing Patterns
 - 12 to 20 times per minute – Adults
 - 20 to 40 times per minute - Children

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PROCESS OF RESPIRATION (cont'd)

■ Altered Breathing

- Hypernea
- Hypopnea
- Tachypnea
- Apnea
- Dyspnea
- Orthopnea

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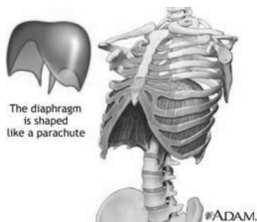
PROCESS OF RESPIRATION (cont'd)

■ Inadequate Breathing

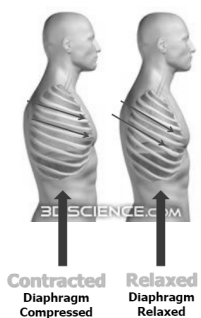
- Cyanosis
- Hypoxia
- Hypoxemia
- Suffocation

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DIAPHRAGM

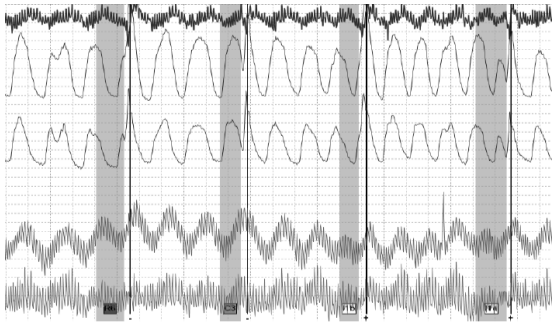


- Primary muscle for respiration
- Assisted by intercostal muscles
- Sits slightly higher on the right.



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Respiratory Blood Pressure Fluctuation



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THE END

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