2.06 Understand the functions and disorders of the respiratory system
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Essential questions

- What are the functions of the respiratory system?
- What are some disorders of the respiratory system?
- How are disorders of the respiratory system treated?
- What is the importance of the respiratory system as it relates to immunity?
- How do you relate the body’s use of nutrients to the respiratory system?
Functions of the Respiratory System

**Upper Respiratory System**
- Nose
- Sinuses
- Pharynx
- Epiglottis
- Larynx

**Lower Respiratory System**
- Trachea
- Lungs

2.06 Understand the functions and disorders of the respiratory system
Discuss the Functions of the Upper Respiratory System Structures

- **NOSE**
- **SINUSES**
- **PHARYNX**
- **EPIGLOTTIS**
- **LARYNX**
- **TRACHEA**
Discuss the Functions of the Lower Respiratory System Structures

**TRACHEA**
- Bronchi
- Bronchial tubes
- Bronchioles
- Alveoli

**LUNGS**
- Pleura
- Mediastinum
- Diaphragm

2.06 Understand the functions and disorders of the respiratory system
Functions of the Respiratory System

Discuss the functions of the respiratory system.

What is the relevance to YOUR health?
Breathing

Discuss the process of breathing.

- **EXTERNAL RESPIRATION**

- **INTERNAL RESPIRATION**
Breathing

1 inspiration + 1 expiration = 1 respiration

How many times does a normal adult breath per minute?

Calculate your respirations
Control of breathing

**NEURAL FACTORS**

- Explain the role of the Medulla Oblongata
- What does the Phrenic Nerve do?
2.06 Understand the functions and disorders of the respiratory system

Control of breathing

- **Chemical Factors**
  - What are the chemical factors involved in breathing?
  - Compare to **Neural Factors**.
Respiratory Movements

Compare respiratory movements.

- Coughing
- Hiccups
- Sneezing
- Yawning

Why do they occur?
Types of breathing

- Apnea
- Dyspnea
- Eupnea
- Hyperpnea
- Orthopnea
- Tachypnea
- Hyperventilation
Lung capacity and volume

- Tidal volume
- Inspiratory reserve volume (IRV)
- Expiratory reserve volume (ERV)
Lung capacity and volume

- Vital lung capacity
- Residual volume
- Functional residual capacity
Lung capacity and volume

- Total lung capacity
  - Tidal volume
  - Inspiratory reserve
  - Expiratory reserve
  - Residual air

Sample

TOTAL LUNG CAPACITY (6,000 ml or 6 l)
Respiratory disorders

- Asthma
  What is asthma?

  Who most likely has it?
Respiratory disorders

- **Bronchitis**
  - What is bronchitis?
    - Acute
    - Chronic
Respiratory disorders

- Chronic obstructive pulmonary disorder

What is COPD and what is the leading cause?
Respiratory disorders

- **COMMON COLD**
  - What is it? What causes it?
  - **HAND-WASHING - BEST PREVENTATIVE MEASURE**

2.06 Understand the functions and disorders of the respiratory system
Respiratory disorders

- **Emphysema**

What is emphysema?

Who is most likely to have it?

How is it treated?
Respiratory disorders

- **INFLUENZA**
  Discuss the symptoms of influenza.

Is a flu shot beneficial? Why or why not?
Respiratory disorders

- Pneumonia
Respiratory disorders

- Pneumothorax

What can cause a pneumothorax?
Respiratory disorders

- Sinusitis

2.06 Understand the functions and disorders of the respiratory system
Respiratory disorders

- Tuberculosis

What type of standard precautions should be followed?

- Cough
- Afternoon Fever
- Weight loss
- Blood stained sputum
- Night sweats
Relevance of nutrients to the respiratory system

- The respiratory system plays a vital role in homeostasis
  - Discuss the relevance to your health.
  - What is the relevance to the body’s use of nutrients?

Did you know???

Vitamin D - prevents respiratory disease in newborns
Folate - prevents respiratory infections
Vitamin E - prevents common colds
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