



# Respiratory System Diseases & Disorders

Berryhill & Cashion

HSI, DHO8, 7.10, pg 206

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# Objectives

- Discuss the diseases and disorders of the respiratory system and related signs, symptoms, and treatment methods
- Identify diseases and disorders that affect the respiratory system, including the following:

asthma, pleurisy, bronchitis, pneumonia, COPD, rhinitis, emphysema, sinusitis, epistaxis, sleep apnea, influenza, TB, laryngitis, URI, and lung cancer

# Upper Respiratory Tract

The major passages and structures of the **upper respiratory tract** include the nose, nasal cavity, pharynx, and larynx.

## Upper respiratory tract

Nasal cavity

Pharynx

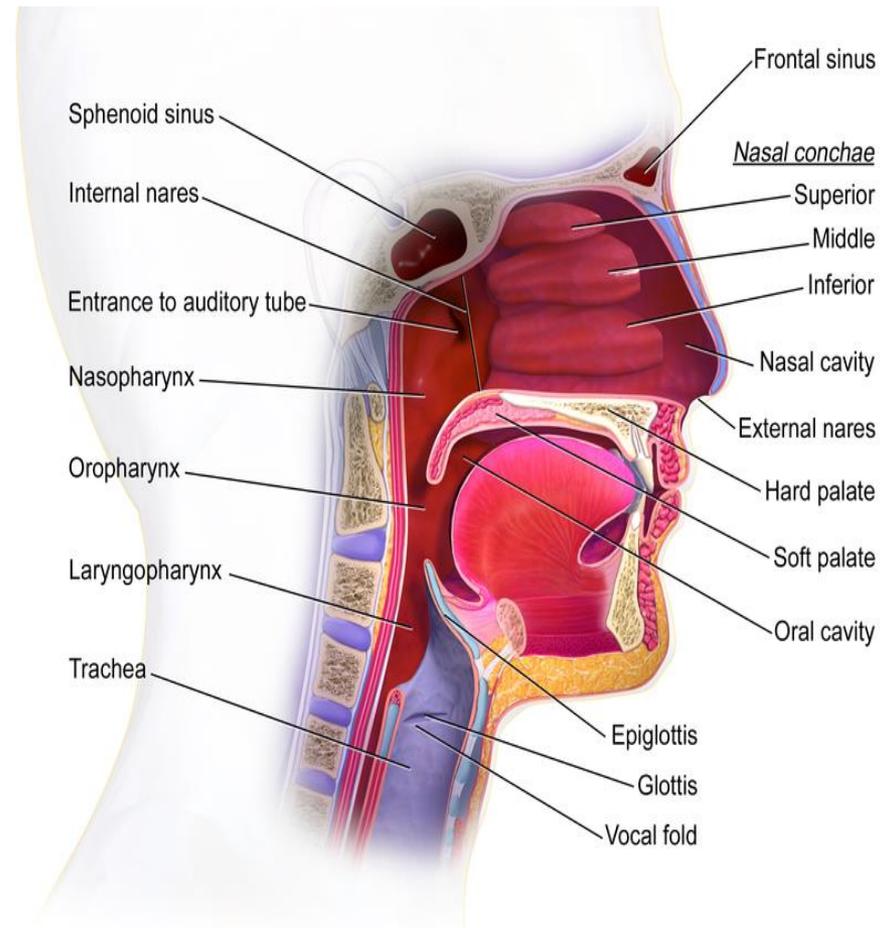
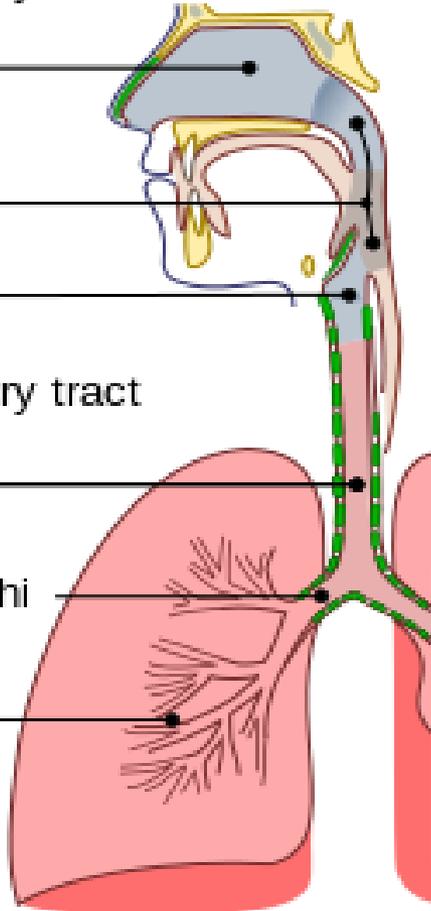
Larynx

## Lower respiratory tract

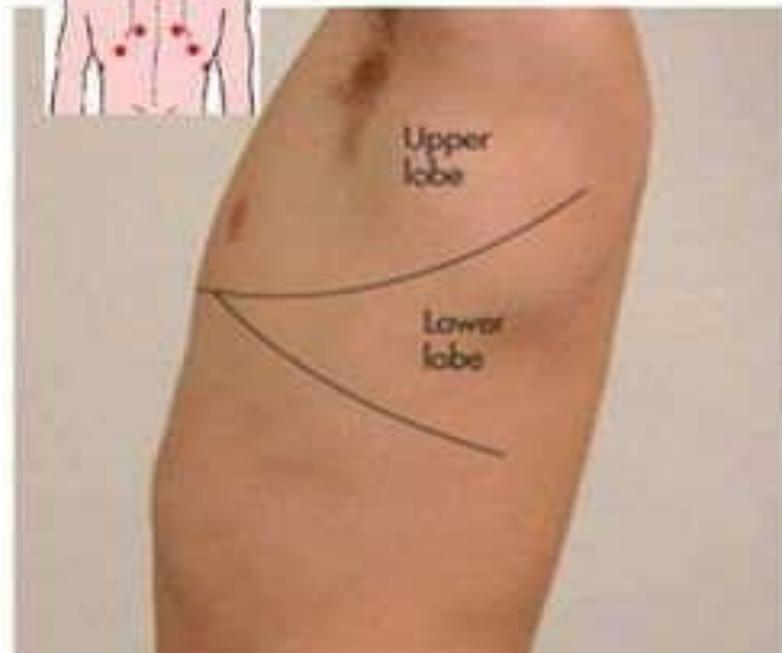
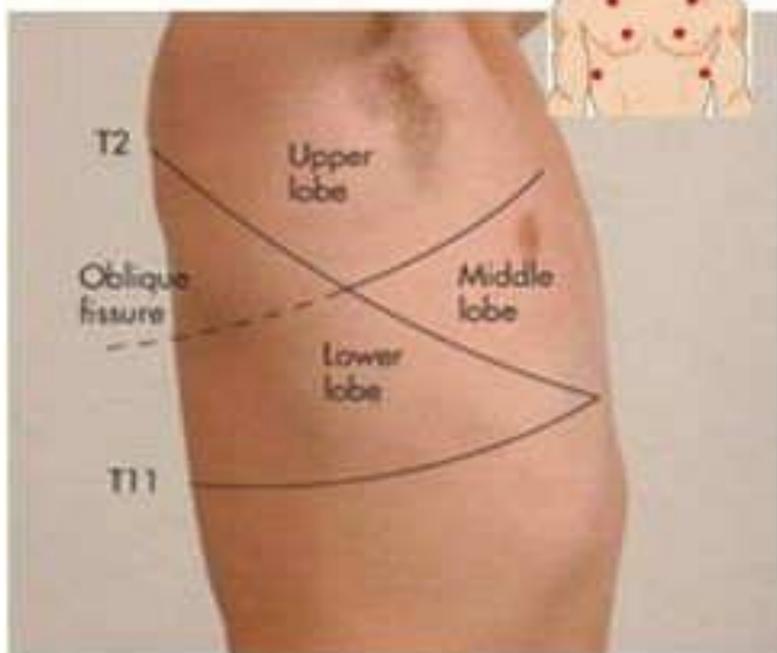
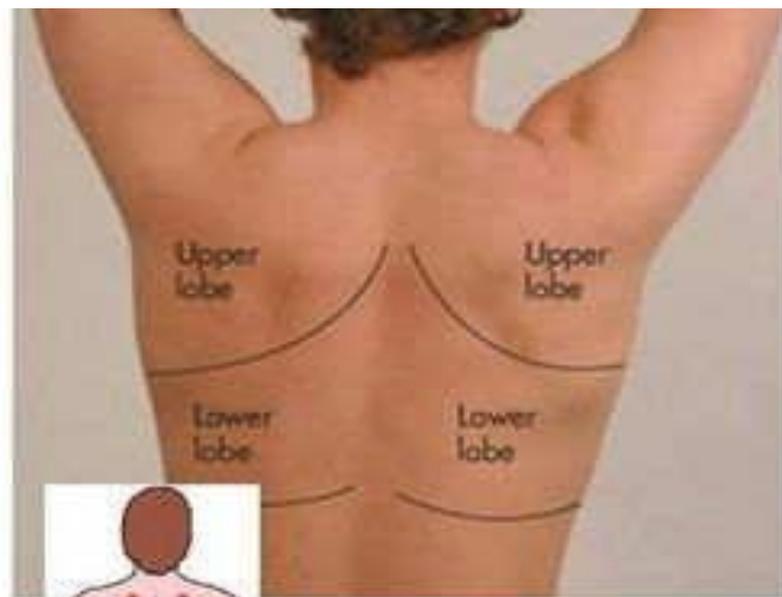
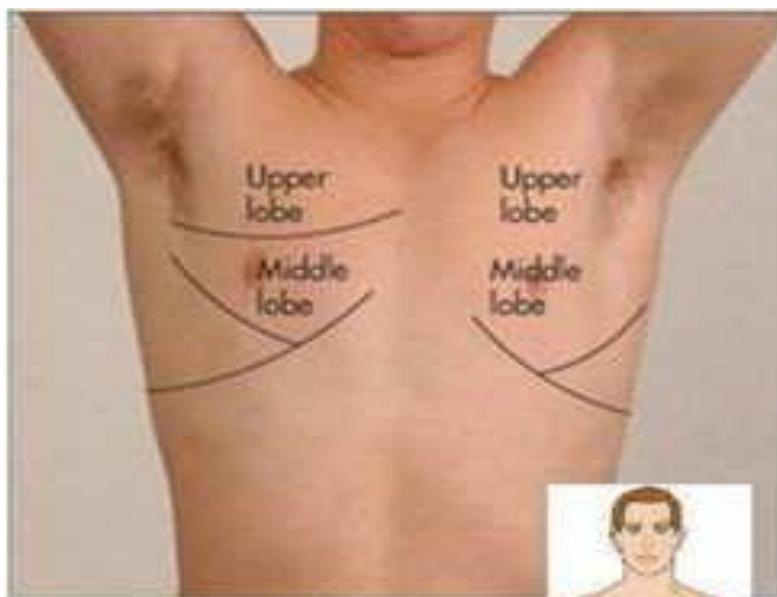
Trachea

Primary bronchi

Lungs



**The Upper Respiratory System**

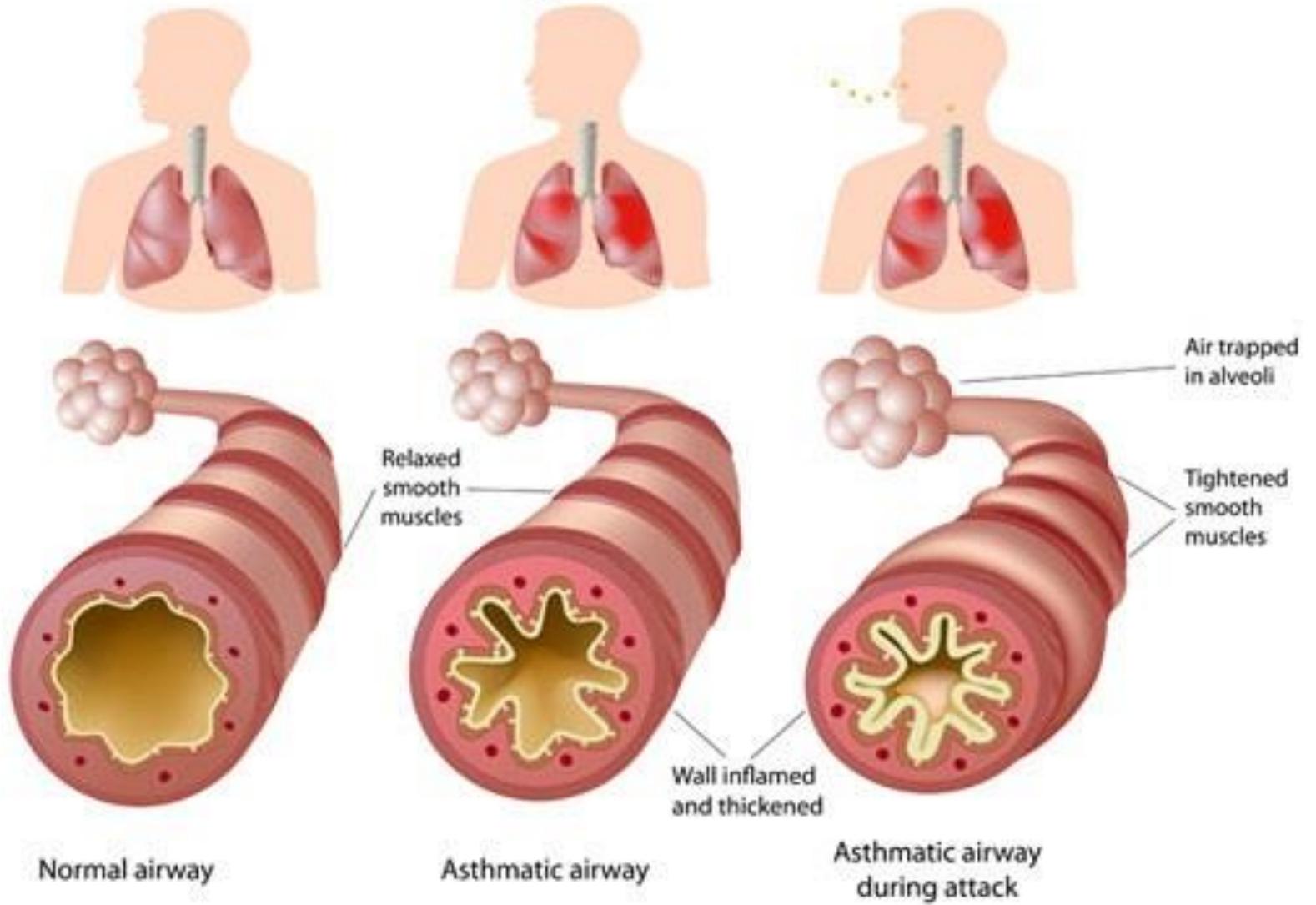


# Asthma

Bronchospasms with \_\_\_\_\_ in mucous, and  
\_\_\_\_\_ in mucosal lining

- Caused by sensitivity to allergen such as \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.
- \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ can cause asthma attack
- Prevent asthma attacks by eliminating or desensitizing to allergens
- Symptoms: \_\_\_\_\_, wheezing, \_\_\_\_\_, and \_\_\_\_\_
- Treatment: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ med, epinephrine, and \_\_\_\_\_ therapy

# Pathology of Asthma



# Test Your Knowledge

- Barbara has asthma and uses an inhaler when she starts to wheeze. The purpose of the device is to:
  - a) Dissolve mucus
  - b) Contract blood vessels
  - c) Liquefy secretions in the lungs
  - d) Enlarge the bronchioles

Correct answer:

## Acute Bronchitis

- Caused by \_\_\_\_\_
- S/S: \_\_\_\_\_ cough, dyspnea, \_\_\_\_\_ (bubbly breath sounds), chest pain, and fever
- Treatment: abx, \_\_\_\_\_, (to remove excess mucous), rest, & drinking \_\_\_\_\_

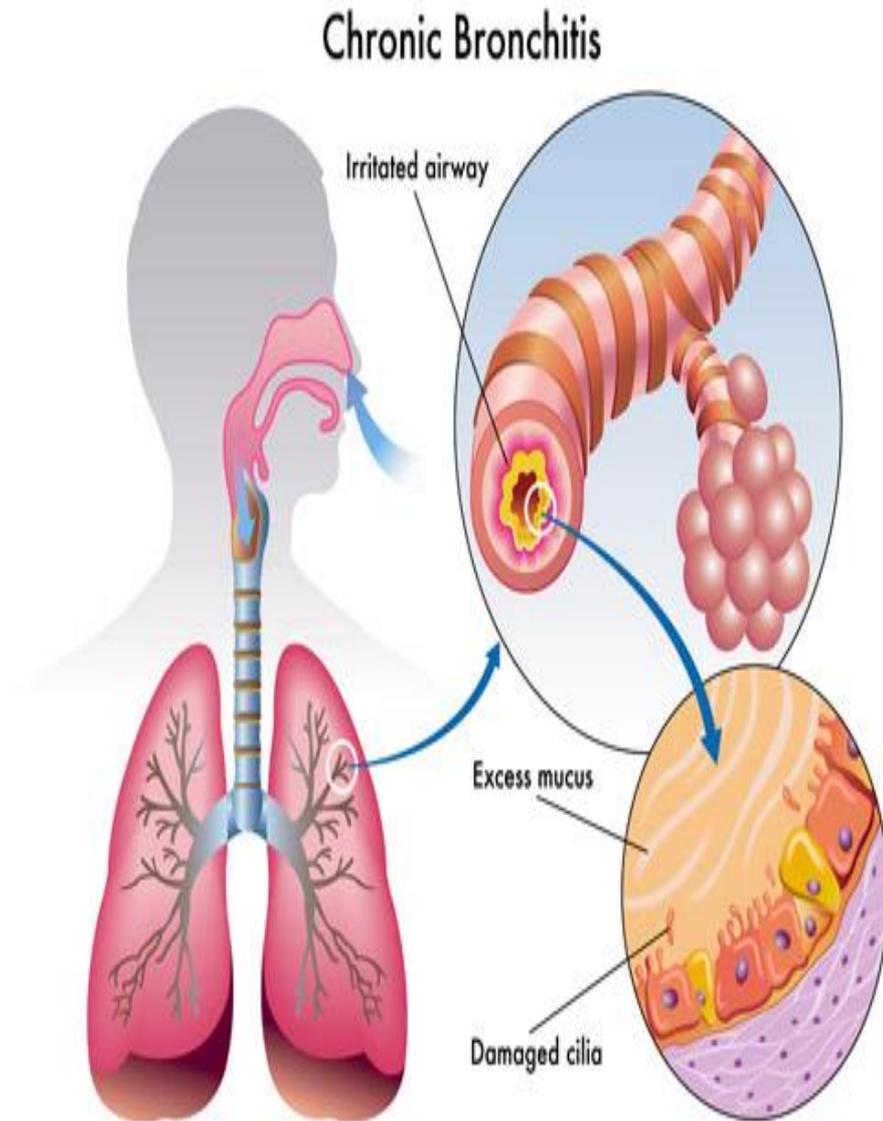
## Chronic Bronchitis

- Caused by frequent attacks of \_\_\_\_\_ or long-term exposure to \_\_\_\_\_
- Has chronic inflammation, \_\_\_\_\_ cilia, & enlarged mucous glands
- S/S: productive cough, wheezing, dyspnea, chest pain, & \_\_\_\_\_ air expiration
- Treatment: NO CURE-abx, bronchodilators, and \_\_\_\_\_ therapy

# Bronchitis

Inflammation of \_\_\_\_\_ and bronchial tubes

# Acute vs Chronic Bronchitis

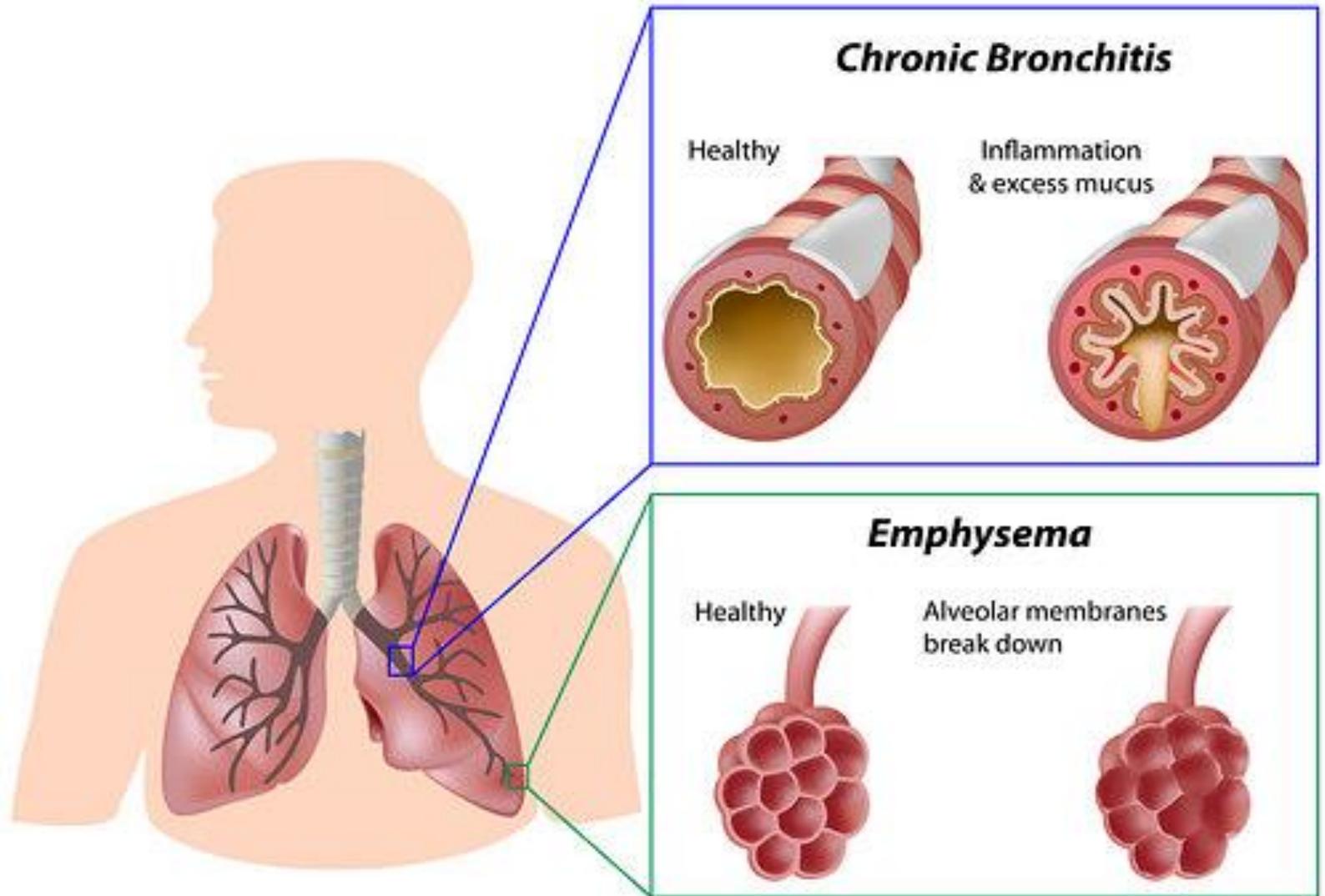


# Chronic Obstructive Pulmonary Disease (COPD)

\_\_\_\_\_ lung dx with obstruction of airway

- Primary cause: \_\_\_\_\_
- Chronic asthma, chronic bronchitis, emphysema, and TB lead to COPD
- Trx: bronchodilators, \_\_\_\_\_ (loosen mucous secretions), & cough meds
- Prognosis: \_\_\_\_\_ d/t damaged lungs causing \_\_\_\_\_ in pulmonary function, leading to \_\_\_\_\_, and then \_\_\_\_\_

# Chronic Obstructive Pulmonary Disease (COPD)

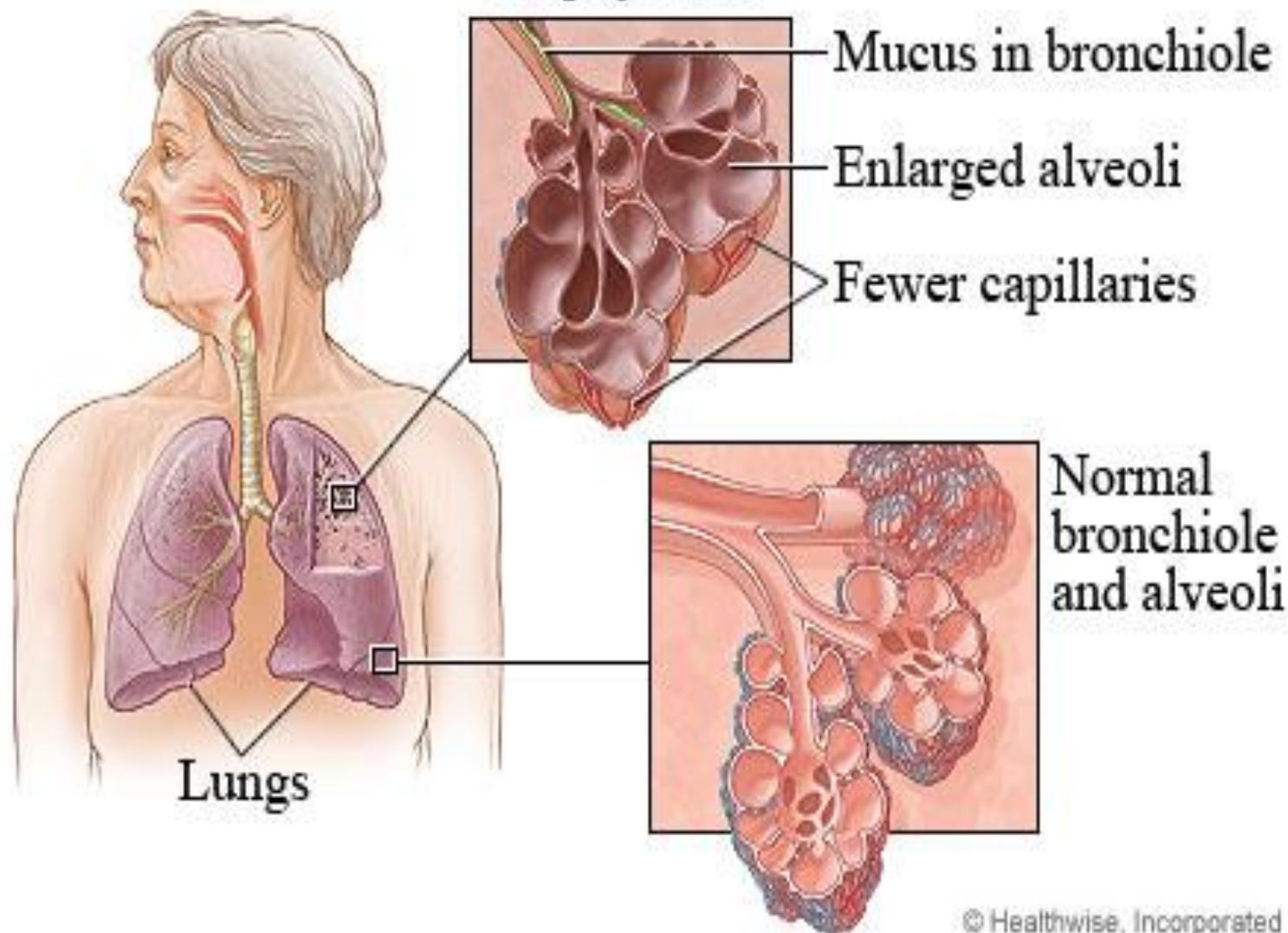


# Emphysema

\_\_\_\_\_ chronic condition that occurs when the \_\_\_\_\_ of the alveoli deteriorate & loss of \_\_\_\_\_

- \_\_\_\_\_ remains trapped in alveoli and poor \_\_\_\_\_ occurs
- Causes: heavy \_\_\_\_\_ & prolonged exposure to pollutants
- S/S: dyspnea, feeling of \_\_\_\_\_, pain, \_\_\_\_\_, chronic cough, cyanosis, increased RR with \_\_\_\_\_, respiratory failure, and death
- NO CURE
- Trx: bronchodilators, \_\_\_\_\_ exercises, \_\_\_\_\_ therapy, \_\_\_\_\_ therapy, avoid smoking, and prompt treatment of \_\_\_\_\_.

## Emphysema



# Test Your Knowledge

- Mr. Arnot is a heavy smoker with a chronic cough, bluish tint to his skin, and a barrel chest. He most likely suffers from:
  - a) Emphysema
  - b) Epistaxis
  - c) TB
  - d) Pleurisy

Correct answer:

# Test Your Knowledge

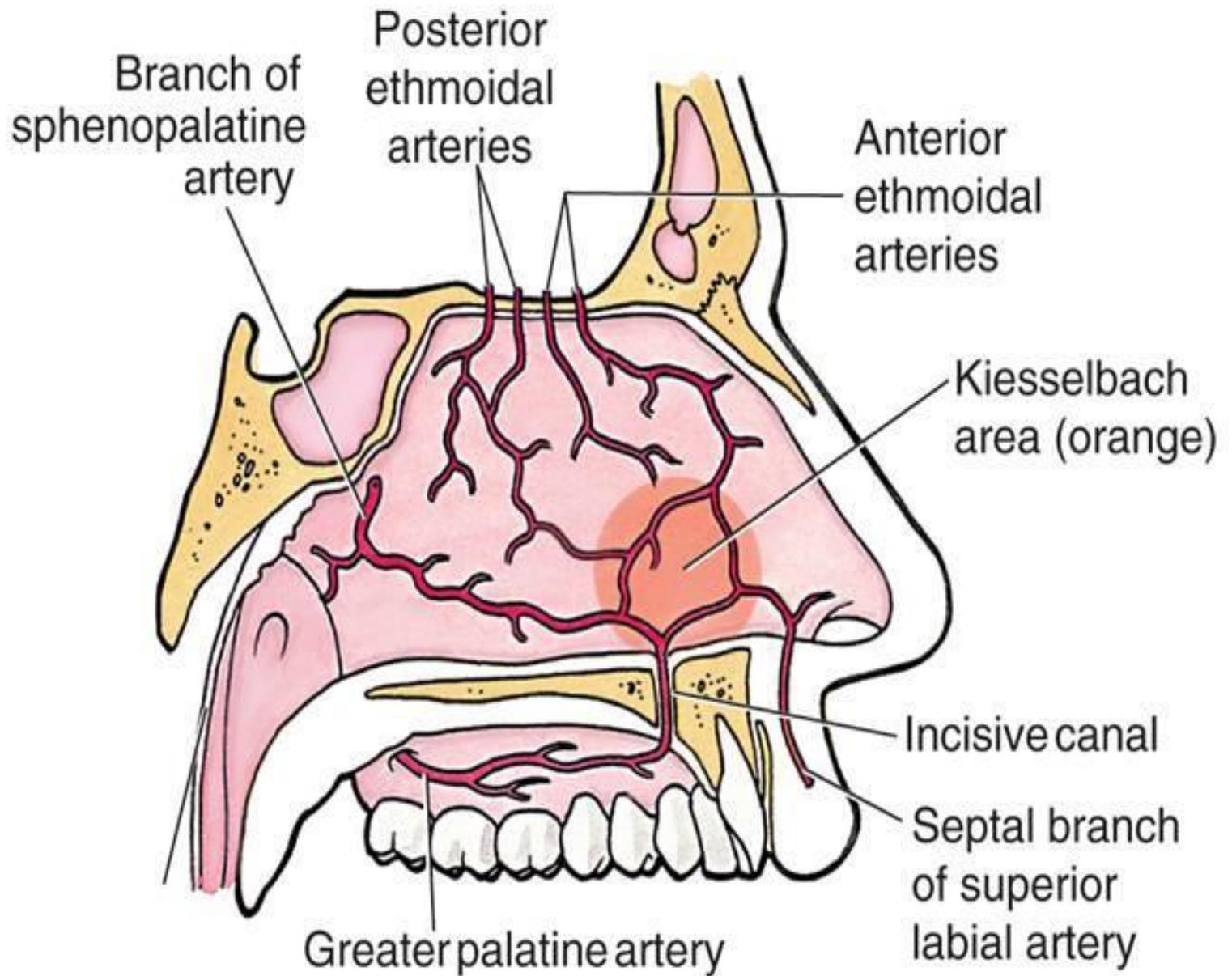
- What diagnostic test provides physicians with a direct look at the lining of the respiratory tract?
  - a) CPAP
  - b) Bronchoscopy
  - c) Pulmonary function tests
  - d) Chest x-ray

Correct answer:

# Epistaxis

## Nose bleeds

- Occurs when \_\_\_\_\_ in the nose become \_\_\_\_\_ and \_\_\_\_\_.
- Caused by injury, blow to nose, \_\_\_\_\_, chronic infection, anticoagulant drugs, & blood dx ie. \_\_\_\_\_ & \_\_\_\_\_.
- Prevent: Treatment of underlying cause such as HTN
- Control: press \_\_\_\_\_ septum, \_\_\_\_\_ the head and tilt slightly \_\_\_\_\_, & applying \_\_\_\_\_.
- May need \_\_\_\_\_ or \_\_\_\_\_ (burn and destroy) the bleeding vessels

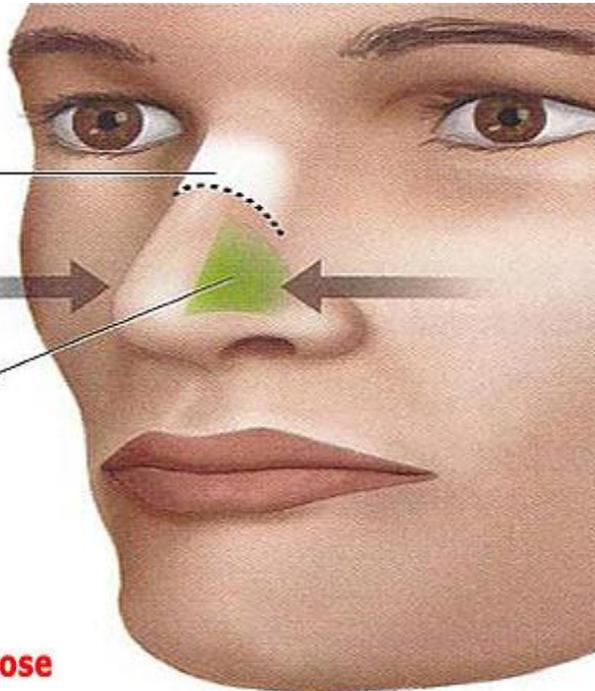


# How to Stop a Nosebleed

Lean forward...

Nasal bone

Pinch soft part  
of nose here



**Stop A Bloody Nose**



# Test Your Knowledge

- What is the best treatment for mild epistaxis caused by a bump in the nose?
  - a) Pack the nose with gauze
  - b) Compress the nostrils, elevate & tilt the head slightly forward
  - c) Cauterize the bleeder
  - d) Lay flat on the back, head back, and pack the nose with tissue

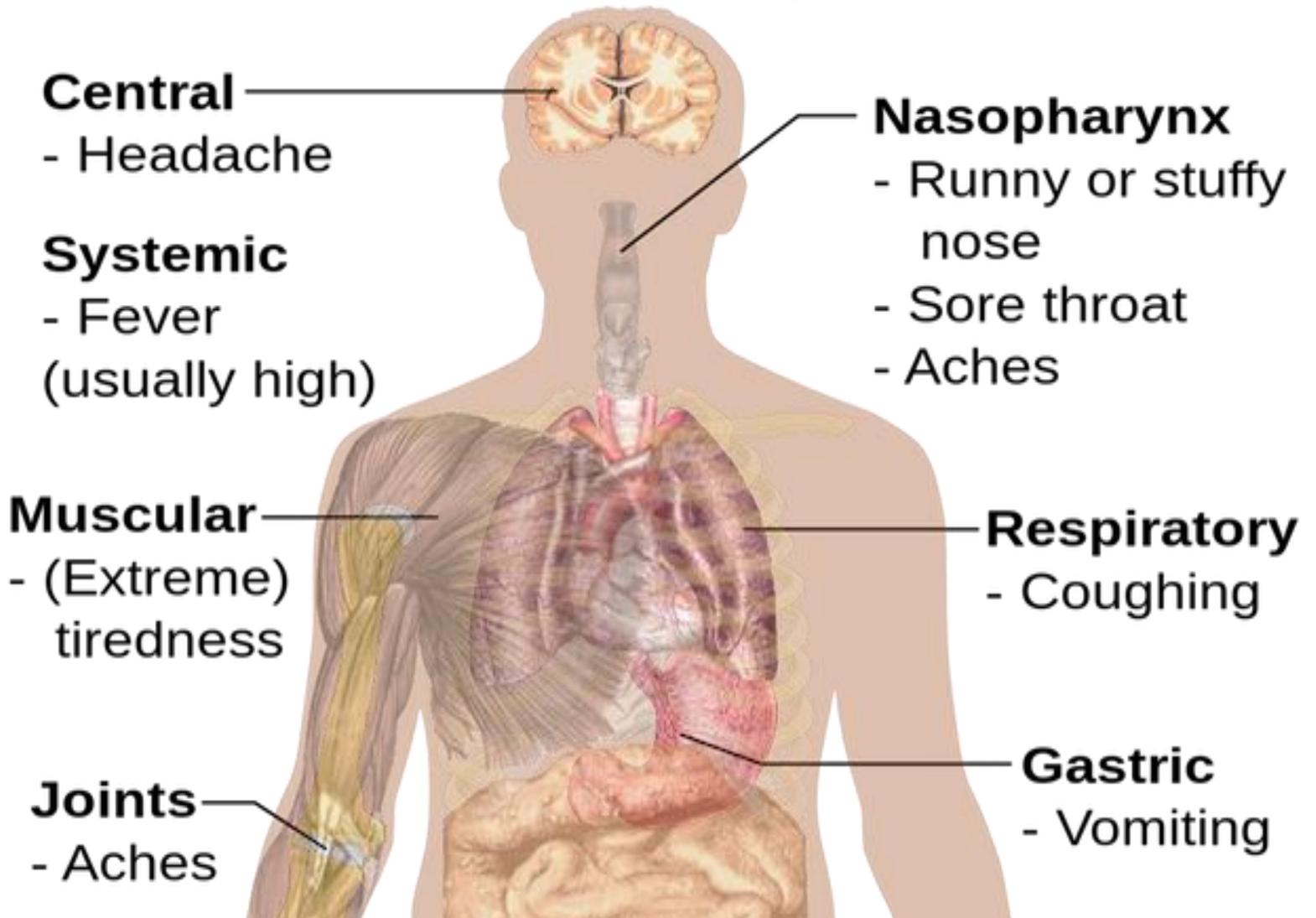
Correct answer:

# Influenza aka flu

\_\_\_\_\_ contagious \_\_\_\_\_ infection  
of upper respiratory system

- Sudden \_\_\_\_\_
- S/S: \_\_\_\_\_, \_\_\_\_\_, cough, sore throat, runny nose, \_\_\_\_\_ pain, & \_\_\_\_\_
- Trx: bedrest, fluids, \_\_\_\_\_ (for pain), & \_\_\_\_\_ (for fever reduction)
- Abx not effective against virus, but given \_\_\_\_\_ like pneumonia
- \_\_\_\_\_ immunizations for \_\_\_\_\_, pregnant women, people with chronic \_\_\_\_\_, and \_\_\_\_\_

# Symptoms of **Influenza**



## COLD SYMPTOMS

Low or no fever

Occasional Headache

Stuffy, runny Nose

Sneezing

Mild, Hacking cough

Slight aches and pains

Mild fatigue

Sore throat

Normal energy level

## FLU SYMPTOMS

High fever

Constant Headache

Clear nose

Occasional Sneezing

Cough, often becoming severe

Often severe aches and pains

Several weeks of fatigue

Occasional sore throat

Extreme exhaustion



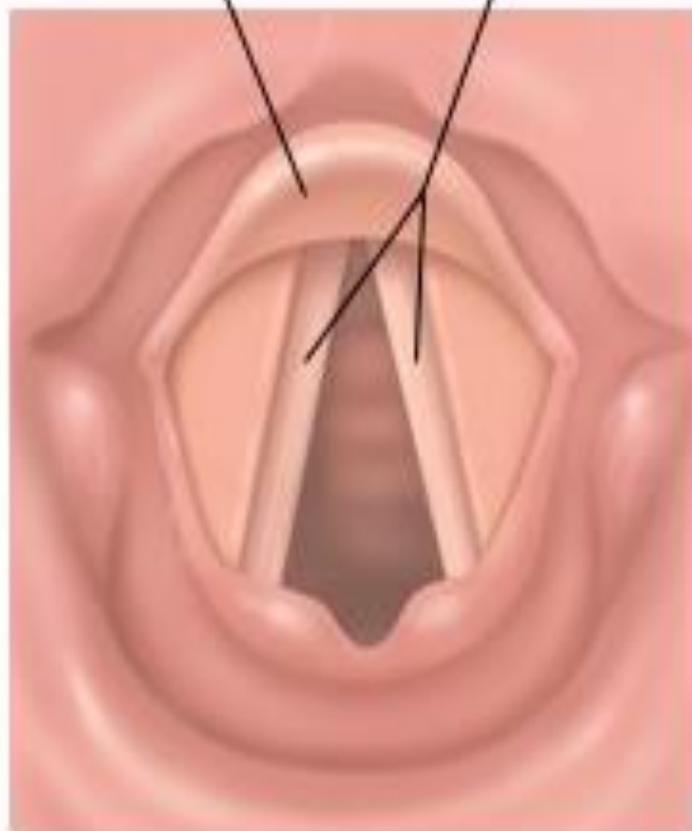
# Laryngitis

Inflammation of \_\_\_\_\_ & vocal \_\_\_\_\_

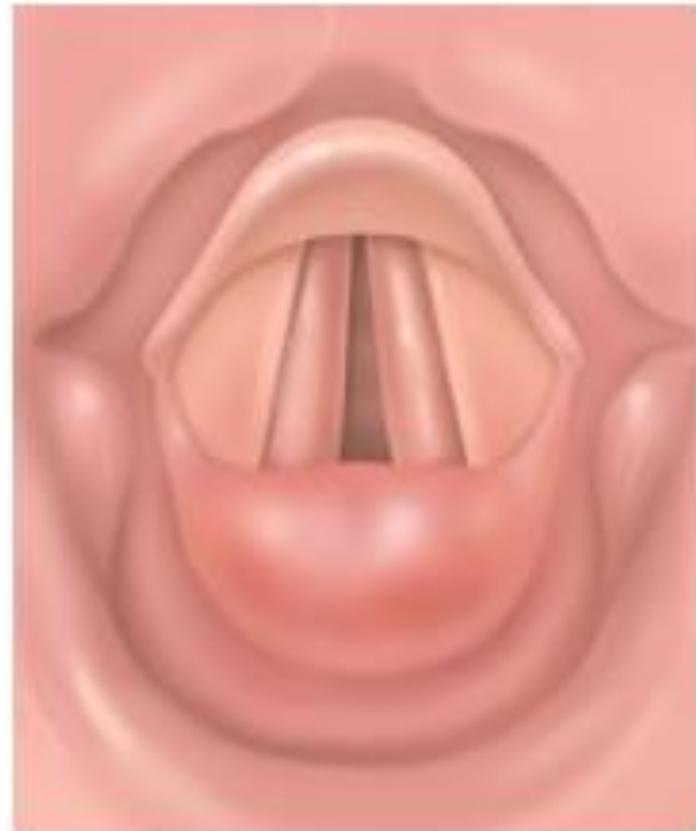
- Occurs with other respiratory infections
- S/S: \_\_\_\_\_ or loss of voice, sore throat, & \_\_\_\_\_
- Trx: rest, \_\_\_\_\_ voice use, fluids, and meds if infection present

Epiglottis

Vocal cords



**Normal larynx**



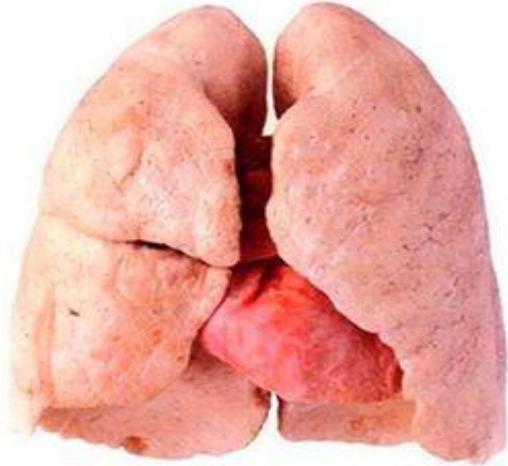
**Inflamed larynx**

# Lung Cancer

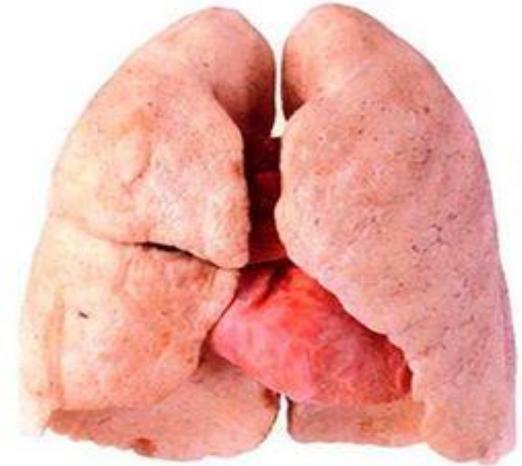
\_\_\_\_\_ cause of cancer death in both men & women

- Caused by exposure to \_\_\_\_\_ in tobacco, either as \_\_\_\_\_ or \_\_\_\_\_ hand exposure
- PREVENTABLE
- S/S: early stage: \_\_\_\_\_
- S/S: later stage: chronic cough, \_\_\_\_\_, (coughing up blood), \_\_\_\_\_, fatigue, weight \_\_\_\_\_, & chest pain
- Trx: sx removal, radiation, and chemotherapy
- Prognosis: \_\_\_\_\_ d/t late diagnosis r/t S/S

**LUNGS OF NON SMOKER**



**LUNGS OF SMOKER**



**LUNGS OF NON SMOKER  
WITH LUNG CANCER**

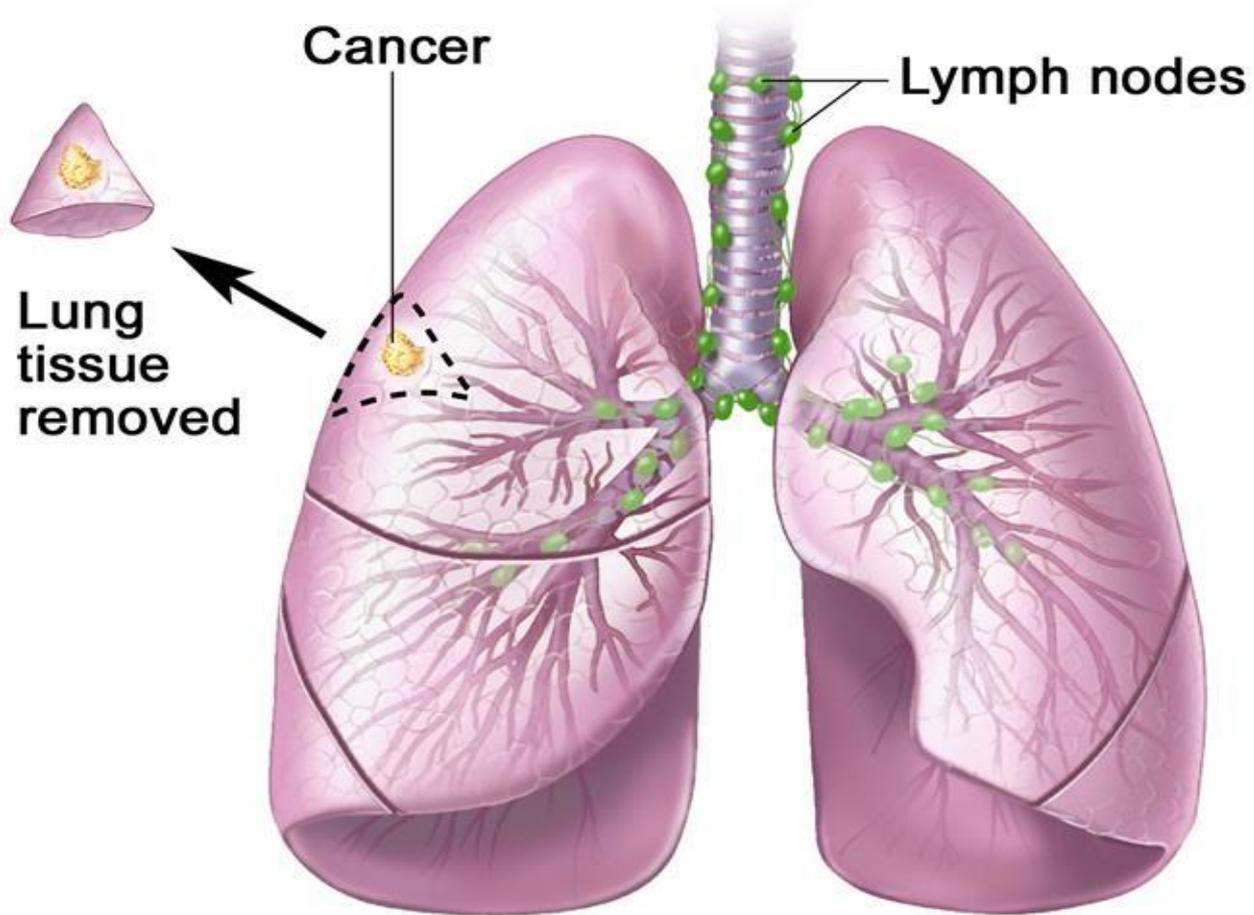


**LUNGS OF SMOKER  
WITH LUNG CANCER**



**80% OF PEOPLE DIAGNOSED WITH LUNG CANCER ARE NON SMOKERS**

## Wedge Resection of the Lung



# Test Your Knowledge

- What statement is true about lung cancer?
  - a) The prognosis is good
  - b) Trx includes hormone therapy and blood transfusions
  - c) It is the leading cause of cancer death in men & women
  - d) Second hand smoke rarely contributes to the development of lung cancer

Correct answer:

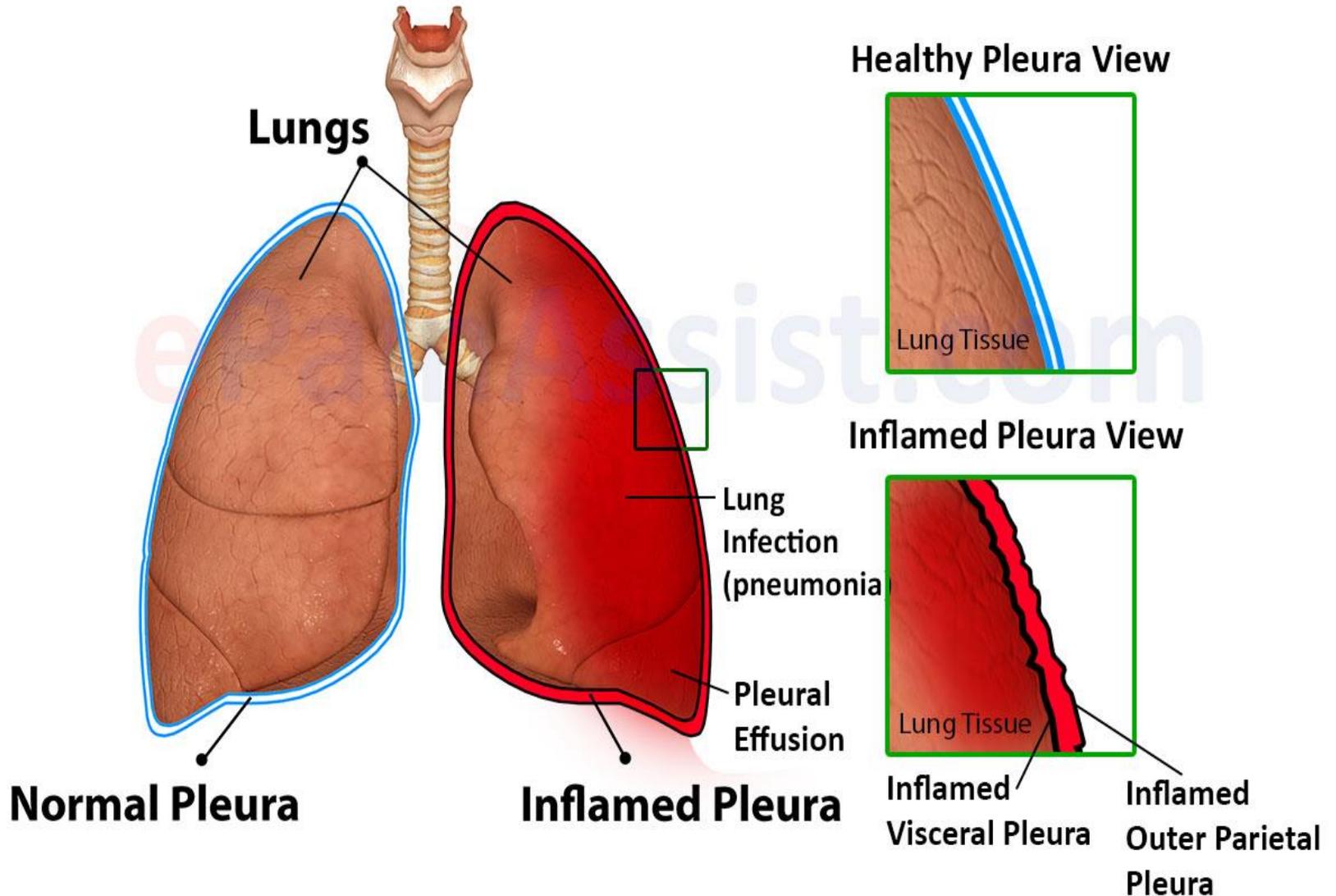
# Pleurisy

Inflammation of \_\_\_\_\_ or membranes of lungs

- Occurs with pneumonia or other lung infections
- S/S: sharp, \_\_\_\_\_ while breathing, \_\_\_\_\_ (grating sounds in lungs), dyspnea, & fever
- Trx: rest, meds to treat \_\_\_\_\_ & \_\_\_\_\_
- \_\_\_\_\_: if fluid collects in the pleural space, fluid is removed with a needle to prevent \_\_\_\_\_ of the lungs

# Pleurisy or Pleuritis

ePainAssist.com

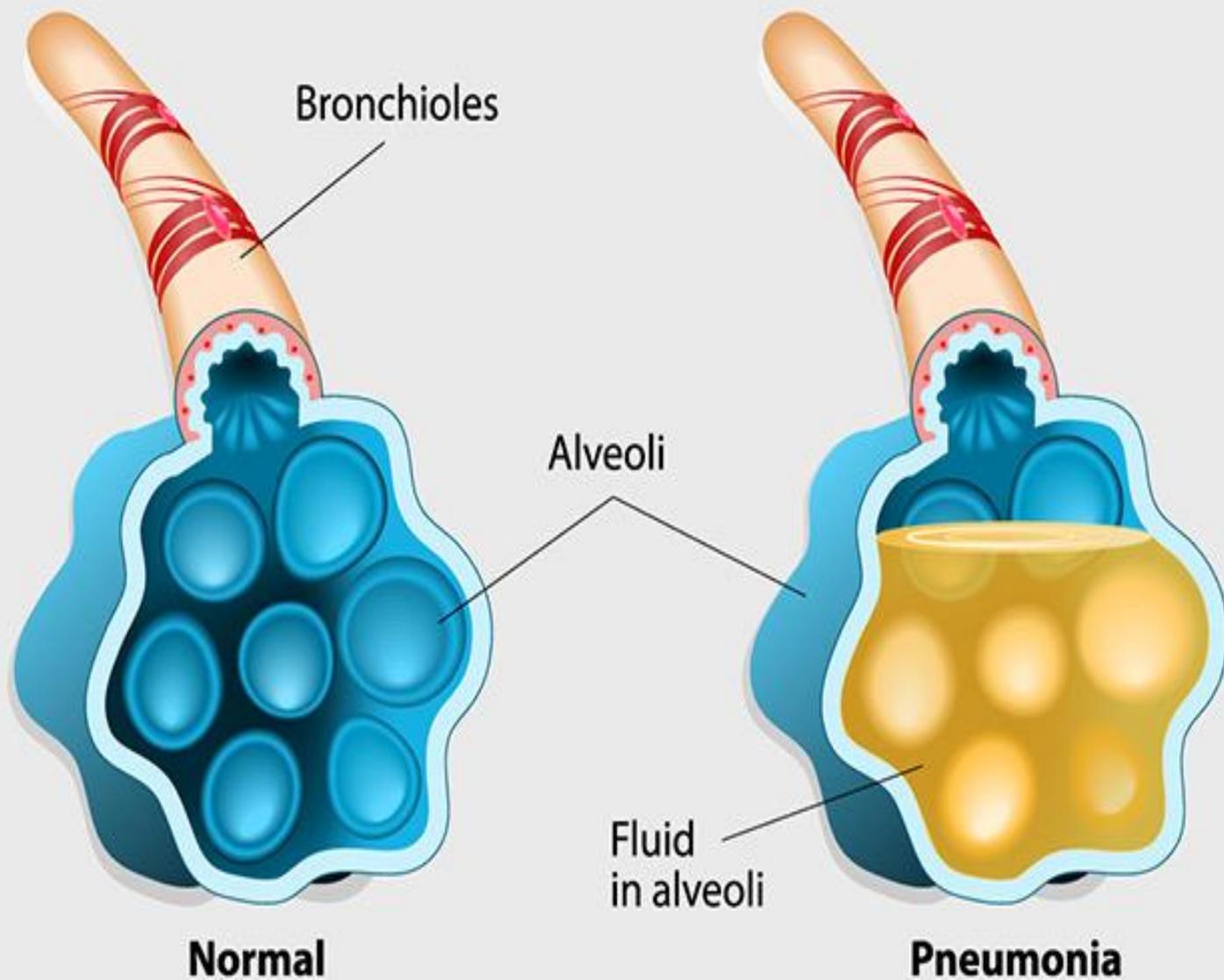


# Pneumonia

Inflammation or \_\_\_\_\_ of the lungs with  
\_\_\_\_\_ in alveoli

- Caused by \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_
- S/S: chills, fever, chest pain, \_\_\_\_\_ cough, dyspnea, and fatigue
- Trx: bed rest, \_\_\_\_\_ therapy, fluids, \_\_\_\_\_ if needed, \_\_\_\_\_ therapy, & pain meds

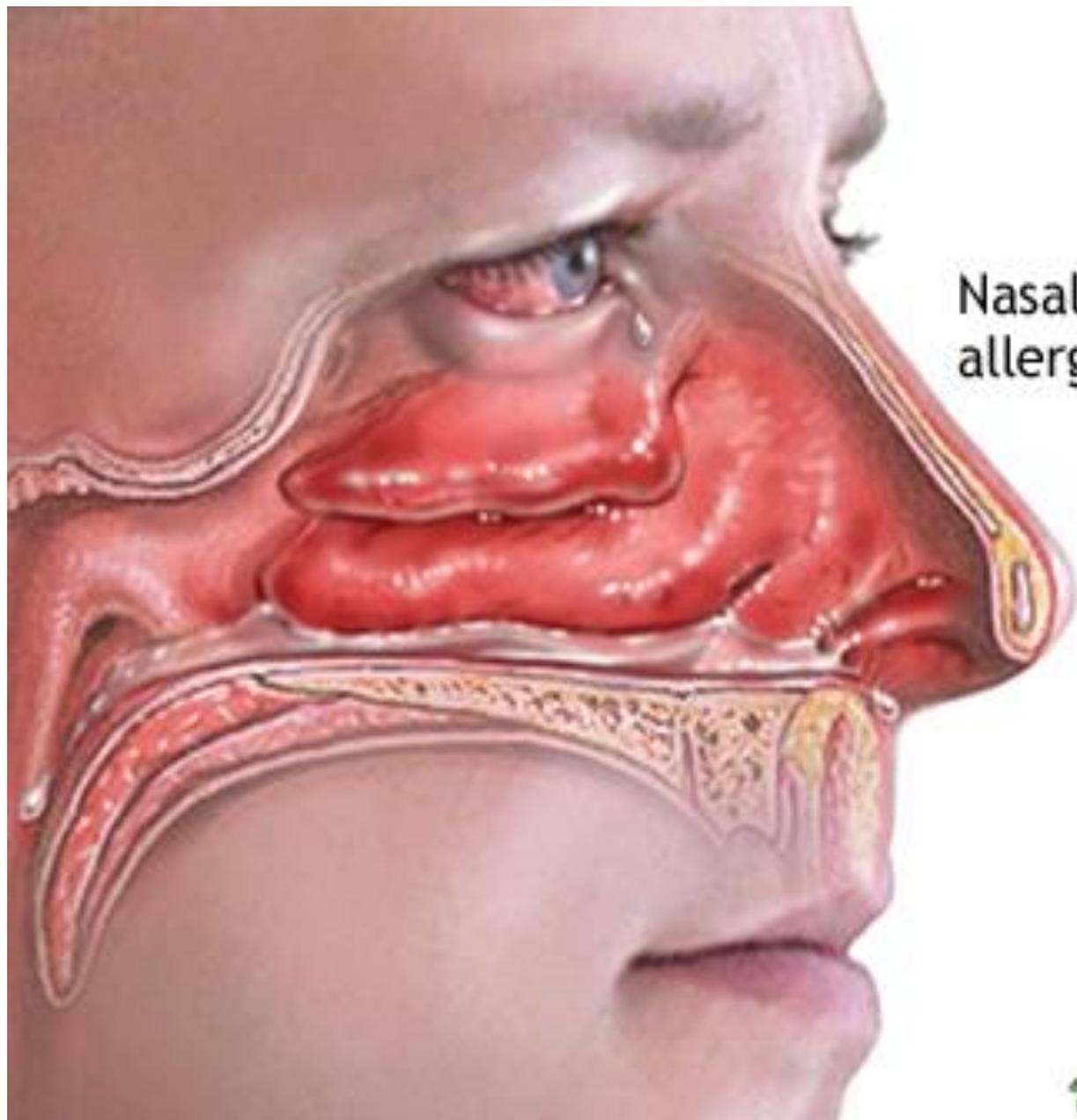
# PNEUMONIA



# Rhinitis

Inflammation of \_\_\_\_\_ mucous membrane

- Causes: \_\_\_\_\_ & \_\_\_\_\_
- S/S: \_\_\_\_\_ nose, \_\_\_\_\_ eyes, sneezing, \_\_\_\_\_, & \_\_\_\_\_
- Trx: fluids & meds for congestion
- It is usually \_\_\_\_\_



Nasal cavity:  
allergic rhinitis

# Sinusitis

Inflammation of mucous membrane lining the \_\_\_\_\_

- Caused by \_\_\_\_\_ or \_\_\_\_\_
- S/S: \_\_\_\_\_ or pressure, dizziness, \_\_\_\_\_ discharge, congestion, & loss of voice \_\_\_\_\_
- Trx: \_\_\_\_\_ for pain, \_\_\_\_\_ if needed, \_\_\_\_\_ to loosen secretions, & \_\_\_\_\_ inhalations
- \_\_\_\_\_ for chronic sinusitis to open the \_\_\_\_\_ and encourage \_\_\_\_\_

## HEALTHY SINUS

Frontal Sinus

Sphenoid Sinus

Ethmoid Sinus

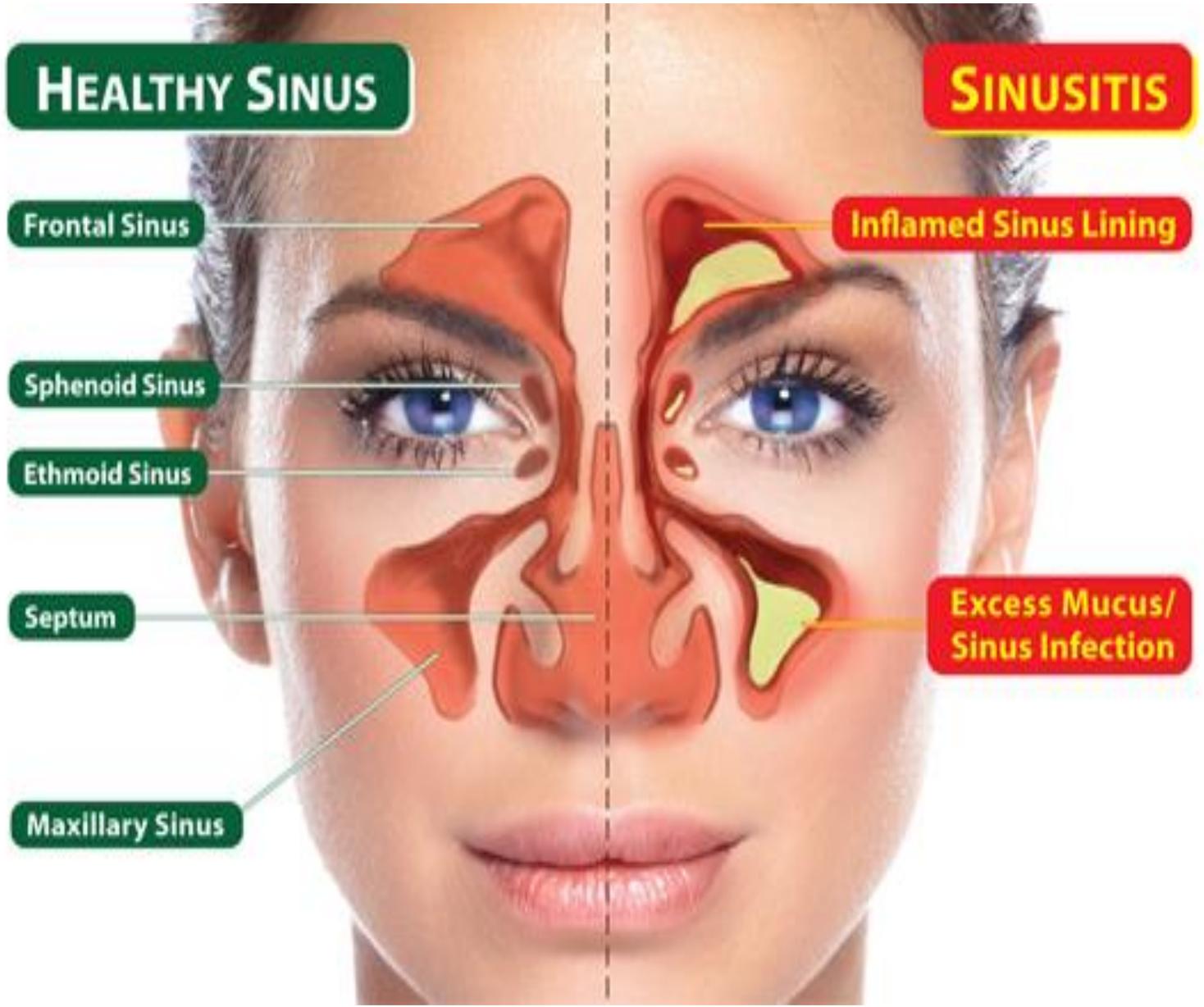
Septum

Maxillary Sinus

## SINUSITIS

Inflamed Sinus Lining

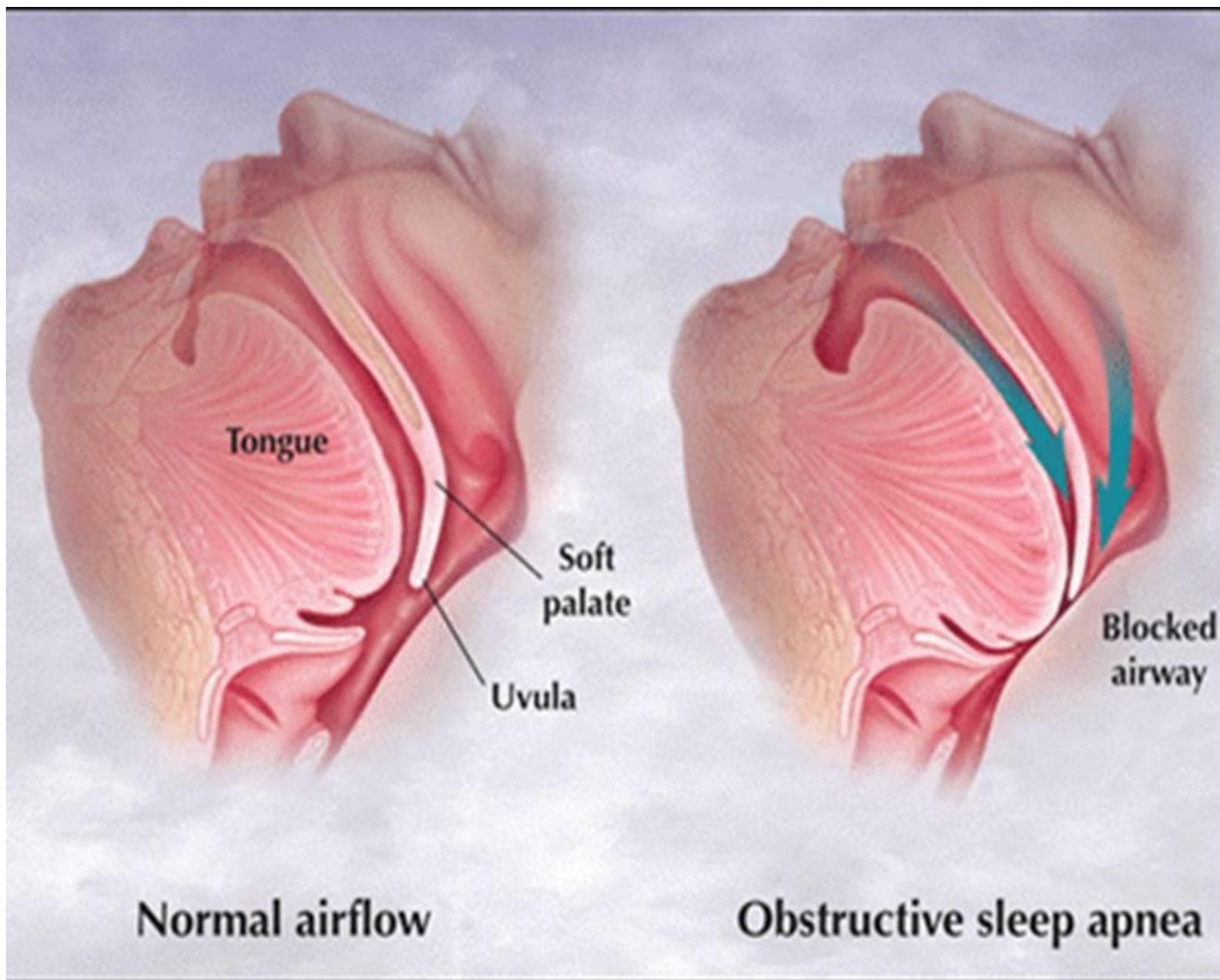
Excess Mucus/  
Sinus Infection



# Sleep Apnea

Condition when you stop breathing while asleep, causing \_\_\_\_\_ in blood O<sub>2</sub> levels

- Two kinds: \_\_\_\_\_ and \_\_\_\_\_
- More common in \_\_\_\_\_
- Factors: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, alcohol, & sedatives
- Dx: 5 periods (at least 10 sec. ea.) in 1 hr.
- Apnea reduces \_\_\_\_\_ levels, then brain awakens pt, who then \_\_\_\_\_ and \_\_\_\_\_.
- Apnea leads to \_\_\_\_\_ sleep cycles and \_\_\_\_\_ tiredness or drowsiness during day



## Obstructive Sleep Apnea

- Blockage in the \_\_\_\_\_ when the airway muscles relax & allow the \_\_\_\_\_ and \_\_\_\_\_ to block the airway
- Trx: \_\_\_\_\_ weight, no \_\_\_\_\_, \_\_\_\_\_, or sedatives, & sleeping on your \_\_\_\_\_ or \_\_\_\_\_
- Severe cases may need \_\_\_\_\_-machine that delivers air pressure to the airway to keep it open while pt sleeps

## Central Sleep Apnea

- Disorder in the respiratory \_\_\_\_\_ of the \_\_\_\_\_
- Trx: meds to \_\_\_\_\_ breathing

# Sleep Apnea

**Condition when you stop breathing while asleep, causing decrease in blood O<sub>2</sub> levels**

# Tuberculosis

## Infectious lung disease

- Caused by \_\_\_\_\_
- WBC can wall off TB organisms & create \_\_\_\_\_ or *tubercles* in the lungs
- TB \_\_\_\_\_ in tubercles but can become active case of TB later (if body resistance is low)
- S/S: fatigue, \_\_\_\_\_, \_\_\_\_\_, weight loss, \_\_\_\_\_, & chest pain
- Trx: drugs for \_\_\_\_\_ year to destroy bacteria, \_\_\_\_\_ and rest
- New strain of TB \_\_\_\_\_ to drug therapy=widespread infectious disease

# Main symptoms of Pulmonary tuberculosis

## Central

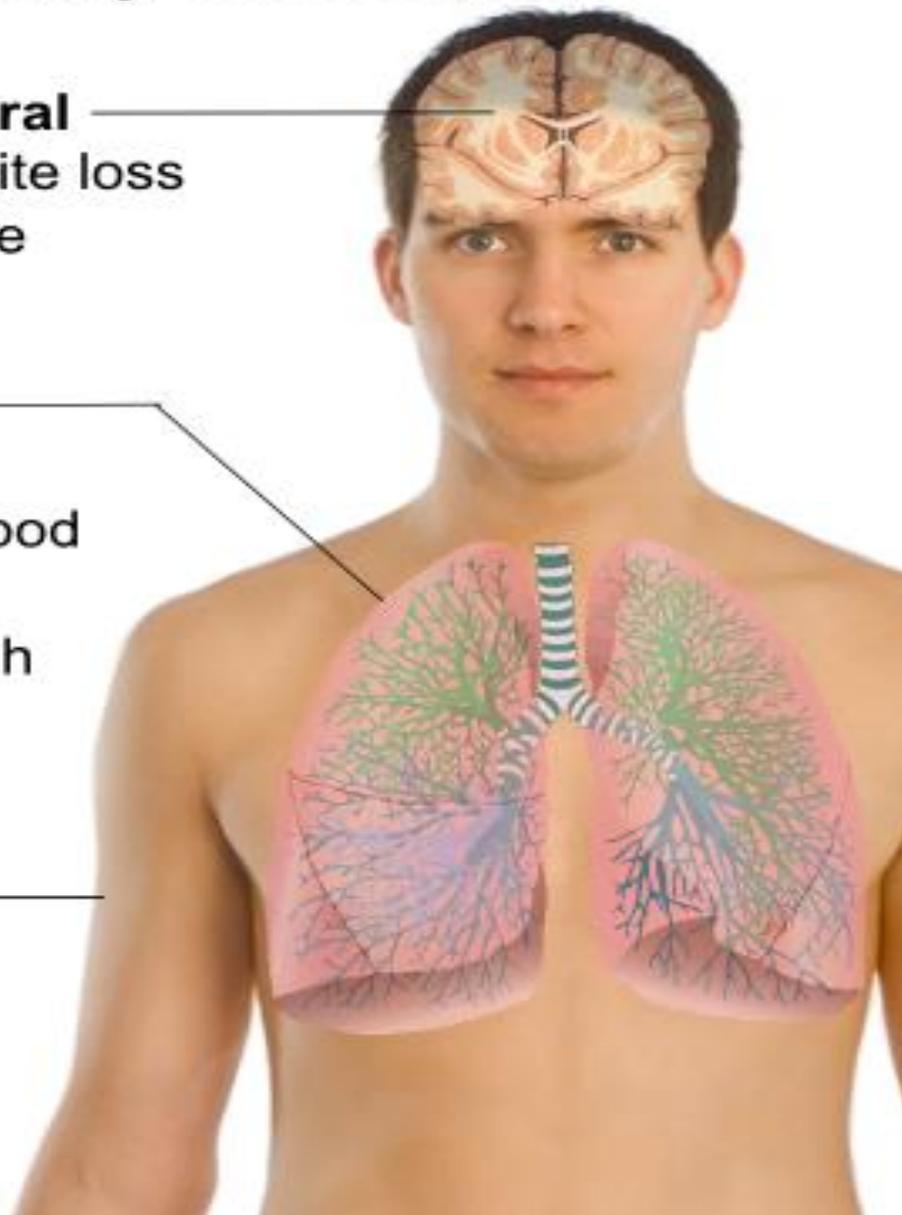
- appetite loss
- fatigue

## Lungs

- chest pain
- coughing up blood
- productive,  
prolonged cough

## Skin

- night sweats,
- pallor



# Mantoux Skin Test



# Test Your Knowledge

- Sarah has a chest x-ray that shows she has tubercles in her lungs. What does that mean?
  - a) She had TB in the past but has recovered
  - b) she has a dormant form of TB that could become active if her resistance is lowered
  - c) She has an active case of TB & is being treated with abx
  - d) She has a hx of an infx that is similar to TB & is immune to TB

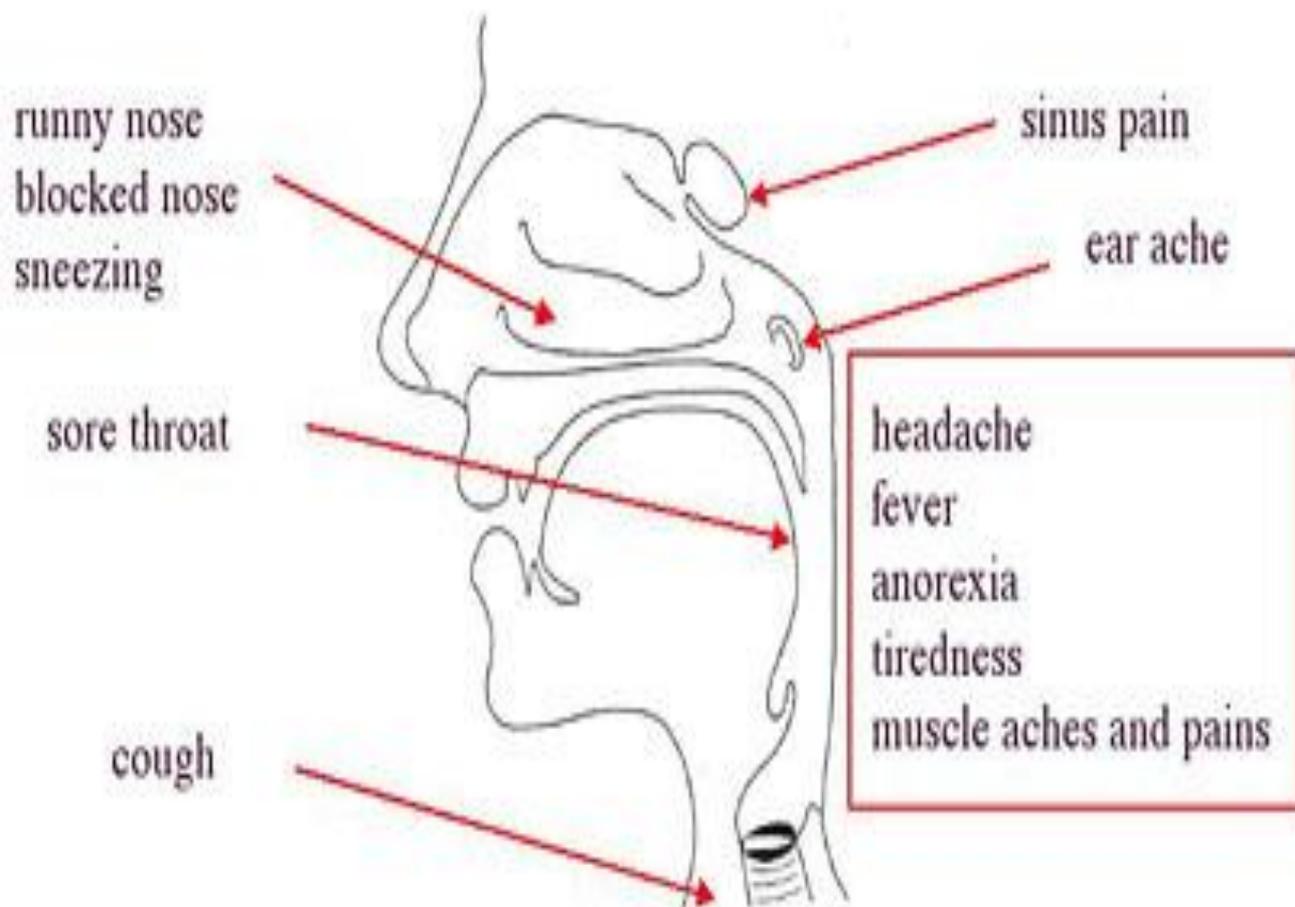
Correct answer:

# Upper Respiratory Infection

Inflammation of \_\_\_\_\_ lining  
the \_\_\_\_\_ tract

- AKA \_\_\_\_\_
- Caused by \_\_\_\_\_
- \_\_\_\_\_ contagious
- S/S: \_\_\_\_\_, \_\_\_\_\_ nose, watery eyes, congestion, sore throat, & \_\_\_\_\_ cough
- No cure and lasts for \_\_\_\_\_ week
- Trx: analgesics, antipyretics, rest, increased fluids, \_\_\_\_\_ (for congestion)

## Symptoms of common cold



## COLD SYMPTOMS

Low or no fever

Occasional Headache

Stuffy, runny Nose

Sneezing

Mild, Hacking cough

Slight aches and pains

Mild fatigue

Sore throat

Normal energy level

## FLU SYMPTOMS

High fever

Constant Headache

Clear nose

Occasional Sneezing

Cough, often becoming severe

Often severe aches and pains

Several weeks of fatigue

Occasional sore throat

Extreme exhaustion



# Test Your Knowledge

- Most respiratory disorders are caused by:
  - a) Infection
  - b) Lack of exercise
  - c) Heredity
  - d) Poor circulation

Correct answer:

# Test Your Knowledge

- What respiratory disorders are highly contagious?
  - a) Laryngitis and pleurisy
  - b) Influenza and URI
  - c) Sinusitis and epistaxis
  - d) Emphysema and asthma

Correct answer: