Sri Aurobindo College of Dentistry

Indore, Madhya Pradesh

INDIA

MODULE PLAN

- TOPIC :ORAL MANIFESTATIONS OF SYSTEMIC DISEASES
- SUBJECT: OMDR
- TARGET GROUP: UNDERGRADUATE DENTISTRY
- MODE: POWERPOINT – WEBINAR
- PLATFORM: INSTITUTIONAL LMS
- PRESENTER: DR.PRAGYA SANGHI

"Mouth is a mirror of the body, which reflects the systemic diseases "

Disease in Greek means **"the loss of ease".** The oral cavity reflects the state of systemic health more frequently than other parts of the body.

CLASSIFICATION OF RESPIRATORY DISEASES

Upper respiratory tract disorders

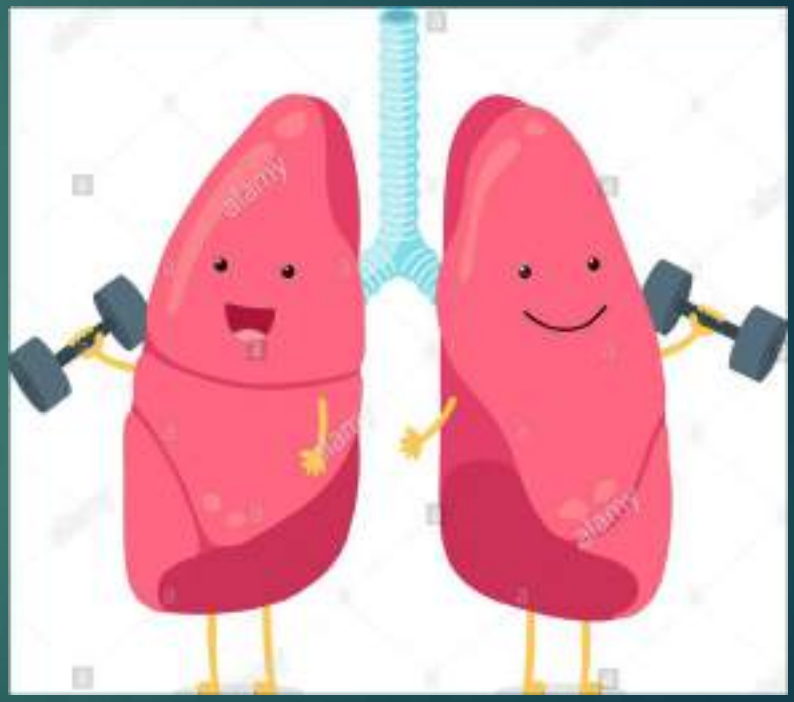
- Sinusitis
- Infections

Lower respiratory tract disorders

- Acute bronchitis
- Pneumonia
- Bronchiolitis
- Asthma
- COPD (Chronic bronchitis and emphysema)
- Cystic fibrosis
- Pulmonary embolism

Granulomatous lung disorders

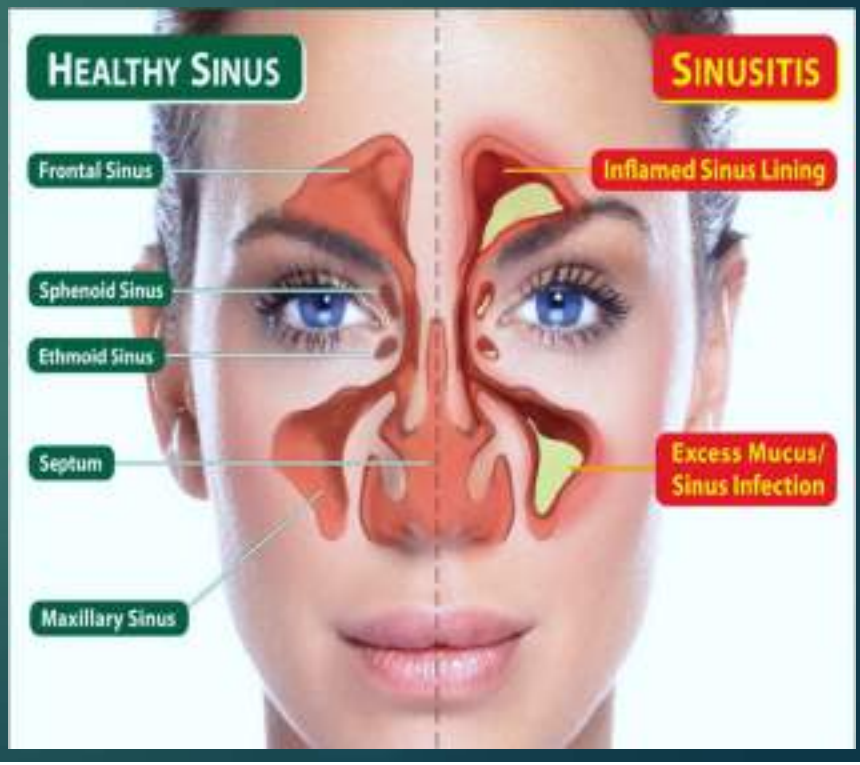
- Tuberculosis
- Sarcoidosis



SINUSITIS

- Inflammation of the epithelial lining of the paranasal sinuses.
- causes mucosal edema and increase in mucosal secretions
- Streptococci, staphylococci, pneumococci,and haemophilus influenza, are the major involved microorganisms

- Classified into three:
- Acute Sinusitis-inflammation of less than 4 weeks.
- Subacute- inflammation of 4-8 weeks
- Chronic- longer than 8-12 weeks



Clinical findings :

Acute Sinusitis

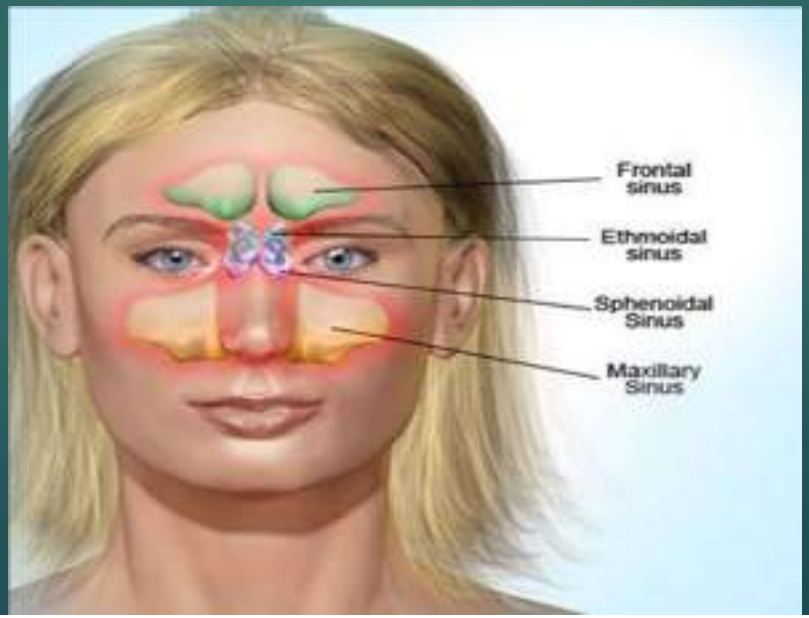
- Nasal obstruction, fever, malaise, constant midface head pain that is most severe when patient leans forward or lies down- Stomp sign
- Pain may be unilteral or bilateral
- Palpation of the sinus often reveals tenderness and swelling
- Post - nasal drip and sore throat are common

Chronic sinusitis

similar but less painful

Location of pain may help in diagnosis:

- Ethmoidal sinusitis - Deep pain between & behind eyes (predominantly children)
- Frontal sinus - Splitting pain between & above eyes (predominantly adults)
- Maxillary sinus –pain and tenderness over the cheeks and infraorbital area (predominantly adults)
- Sphenoid sinus – pain over vertex of skull & mastoid and occipital region



Oral manifestations in sinusitis :

•Proximity of maxillary teeth and superior alveolar nerves to maxillary antrum can mimic pain of dental origin.

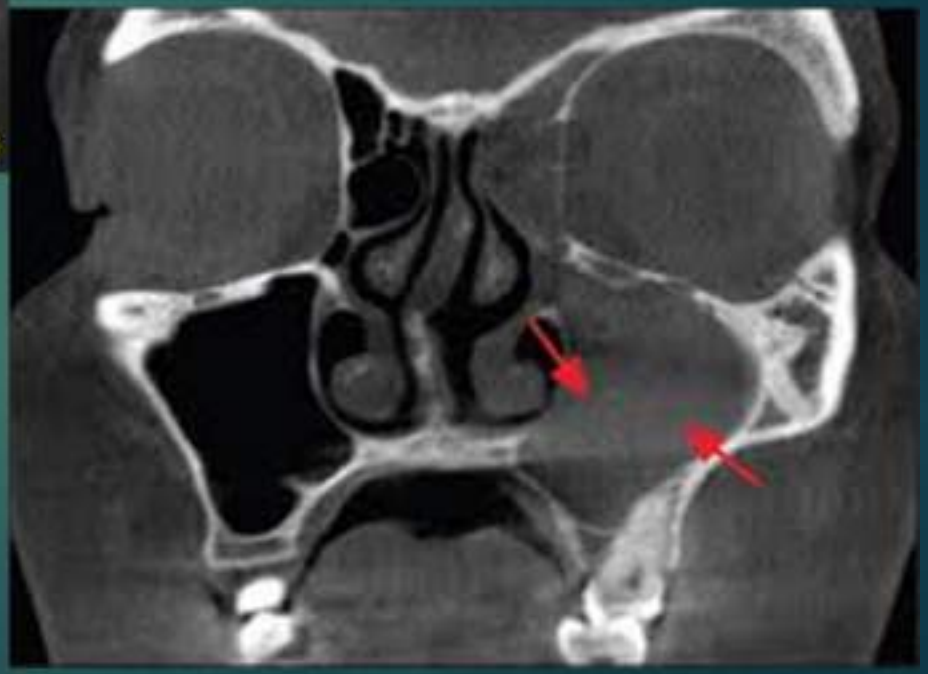
- Conversely, about 25% of maxillary sinusitis are associated to dental infections.
- Important clinical sign is sensitivity to percussion of group of maxillary teeth without any obvious periodontal or pulp pathology.

•Stomp positive sign is when teeth hurt while patient is descending stairs, jumps or runs.

•Chronic sinus infections causes a patient to breath through the mouth leading to dry mouth and is susceptible to gingivitis.

- Use of decongestants causes dry mouth.

- Radiographs – Water's view & panoramic show cloudy antrum, fluid level & often polyps.



VIRAL UPPER RESPIRATORY INFECTIONS

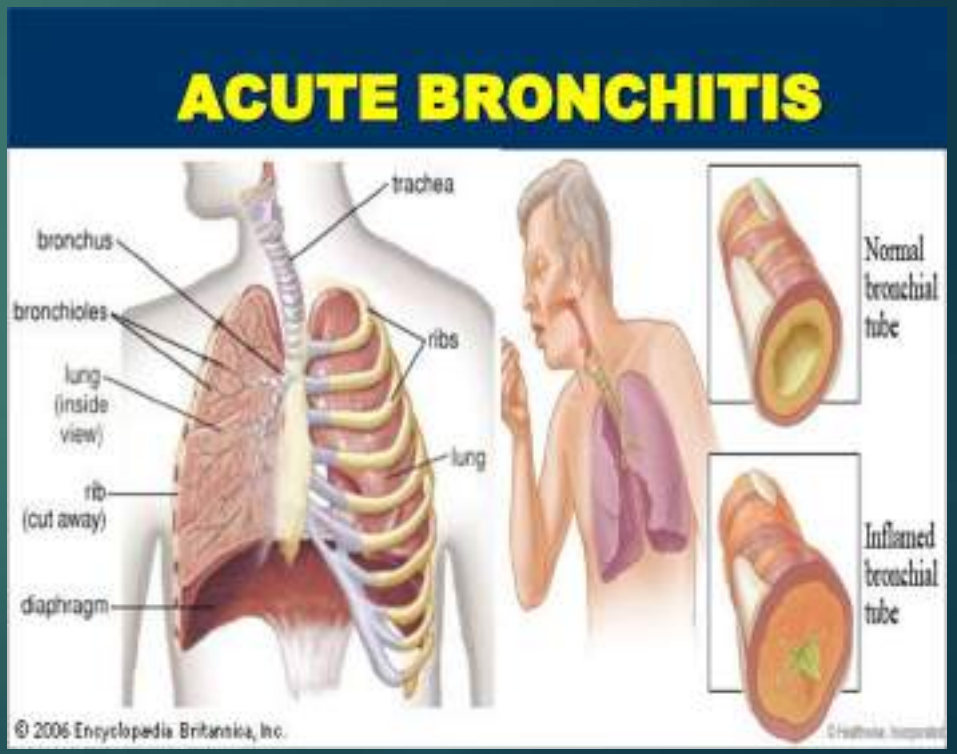
- Viral infections are the most common cause of acute respiratory illness in children.
- It is transmitted by person-to-person contact through respiratory droplets

Lower respiratory tract infections

Acute bronchitis :

- It is an inflammatory process of the large airways (trachea and bronchi) or what is commonly termed the lower respiratory tract.

- Manifestation- cough with or without phlegm production that lasts upto 3 weeks.



- Viruses most commonly implicated are Rhinovirus, Coronavirus, influenza virus, parainfluenza virus, and adenovirus.

- Causes of acute bacterial bronchitis include Mycoplasma pneumoniae, Chlamydia pneumoniae, Bordetella pertussis, Legionella and Streptococcus pneumoniae.

- Staphylococcus and gram-negative bacteria are common causes of bronchitis among hospitalized individuals.

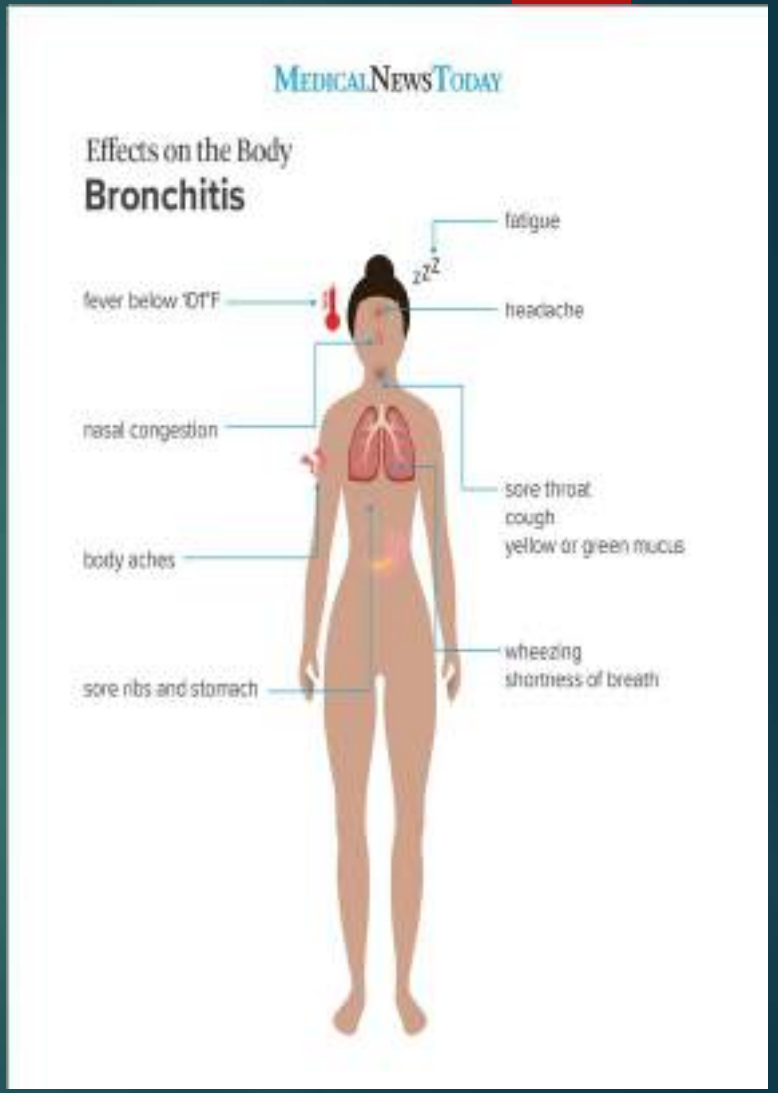
- CLINICAL FINDINGS :

❖Acute viral bronchitis usually presents with a viral prodrome consisting of fever, malaise,myalgias, headache, and weakness.

❖Upper-respiratory-tract symptoms that may include sore throat and rhinorrhea usually follow.

❖ As the illness progresses, lower tract symptoms develop, with a prominent nonproductive cough.

❖ Chest discomfort may occur; this usually worsens with persistent coughing bouts.



- Other symptoms, such as
- dyspnea
- respiratory distress, are variably present.

- Physical examination may reveal wheezing. Symptoms gradually resolve over a period of 1 to 2 weeks.

- Symptoms of acute bacterial bronchitis may include fever, dyspnoea, productive cough with purulent sputum, and chest pain.

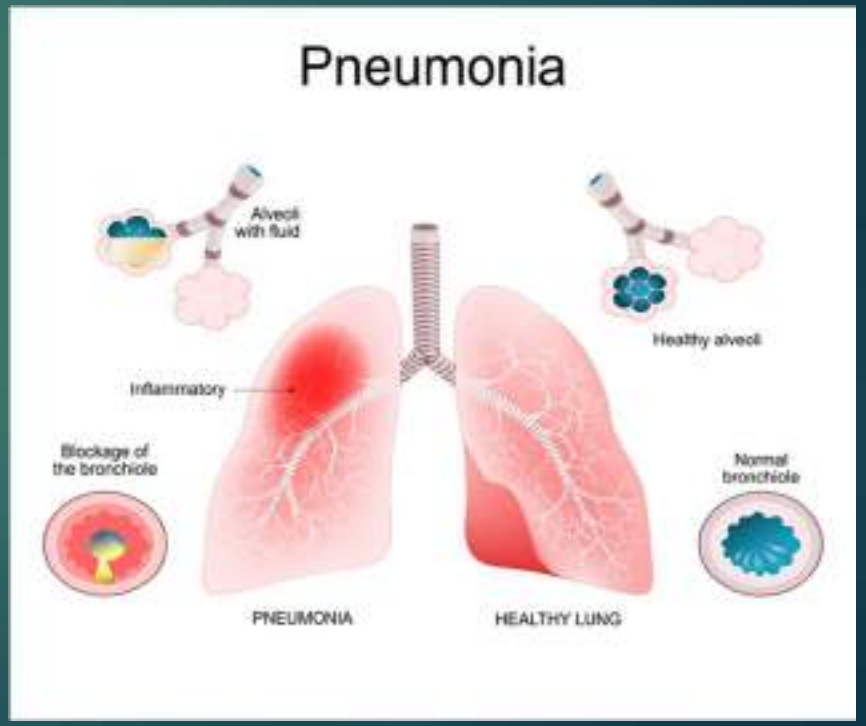
- ORAL HEALTH CONSIDERATIONS:

- Resistance to antibiotics may develop rapidly and last for 10 to 14 days.

- Thus, patients who are taking amoxicillin for acute bronchitis should be prescribed another type of antibiotic, (such as clindamycin or a cephalosporin) when an antibiotic is needed for an odontogenic infection.

Pneumonia

- ✓Pneumonia is defined pathologically as an infection and a subsequent inflammation involving the lung parenchyma.
- ✓Both viruses and bacteria are causes, and the presentation is dependent on the causative organism.
- ✓ It is broadly classified as either community- acquired or nosocomial.



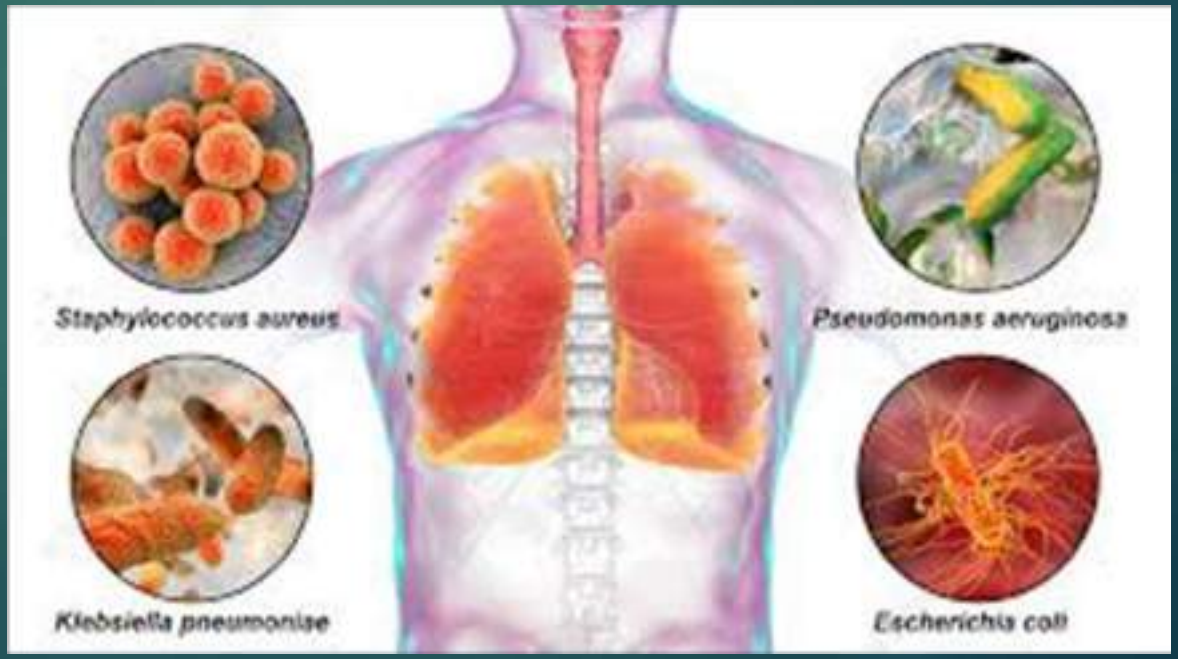
- ✓ Nosocomial infections are infections that are acquired in a hospital or health care facility and often affect debilitated or chronically ill individuals.

- ✓ Community-acquired infections can affect all persons but are more commonly seen in otherwise healthy individuals.

- ✓ The most common bacterial cause of community-acquired pneumonia is-Streptococcus pneumoniae, followed by Haemophilus influenzae.

- ✓ Common causes of nosocomial pneumonia- staphylococcus aureus and gram-negative bacteria.

- ✓ Pneumonia due to Klebsiella pneumoniae - seen in predominantly older patients and in those with a history of alcoholism.



Clinical Manifestations of Pneumonia

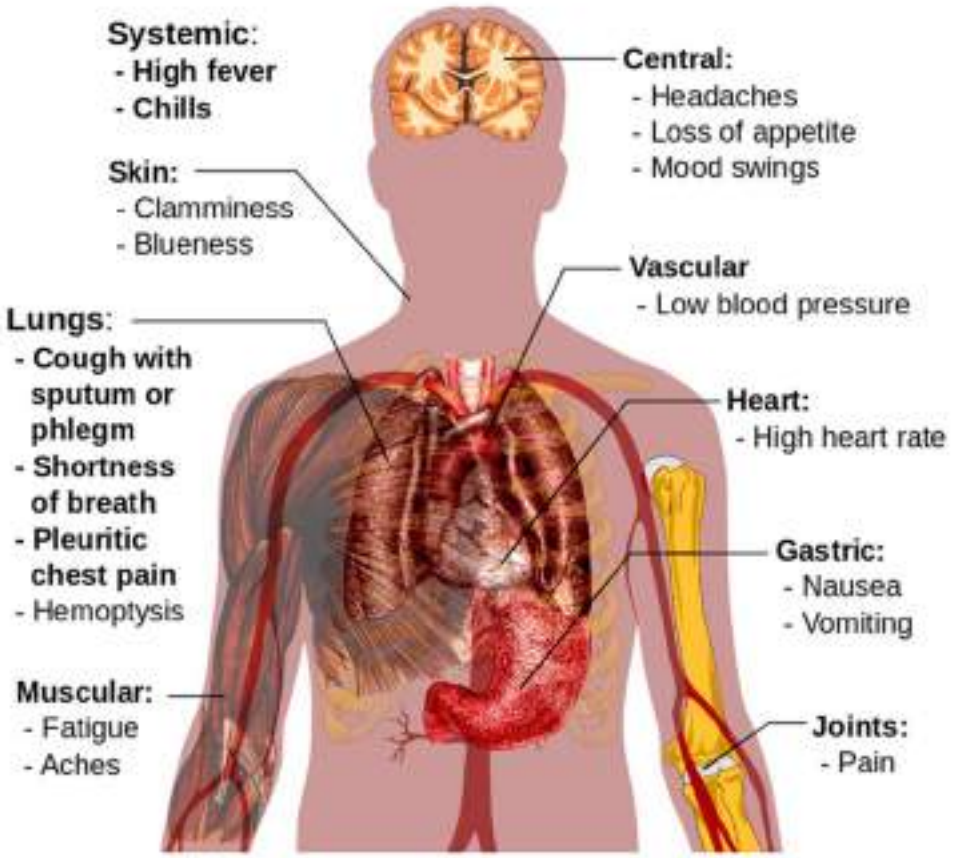
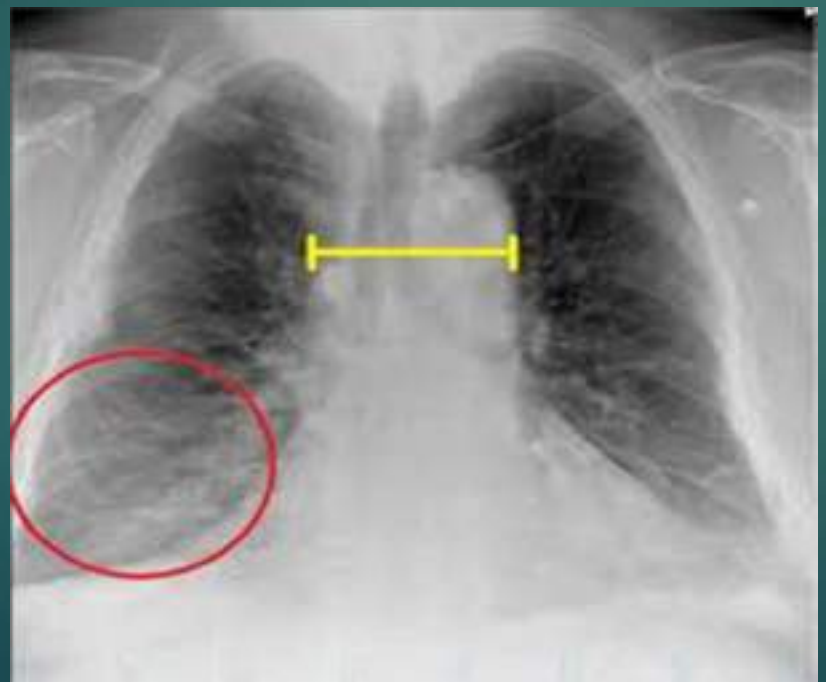


Image via Wikimedia

- Nosocomial pneumonia due to Staphylococcus or gram negative bacteria - associated with a prodrome due to an antecedent viral upper respiratory infection.
- Symptoms of pneumonia, including cough and fever, develop several days after the onset of the upper respiratory symptoms.
- community-acquired pneumonia usually develop over 3 to 4 days and initially consist of low-grade fever, malaise, a nonproductive cough, and headache.
- Sputum production, if present, is usually minimal.
- Physical examination demonstrates crackles (rales) in the affected lung fields.
- Decreased breath sounds and dullness to percussion might also be noted.

- Chest radiography - a valuable tool in the evaluation of the patient with pneumonia.
- A pattern of lobar consolidation – seen in pneumococcal pneumonia. The lower lobes and right middle lobe are most commonly involved.
- A pattern of patchy nonhomogenous infiltrates, pleural effusion, and cavitary lesions are common with staphylococcal pneumonia.

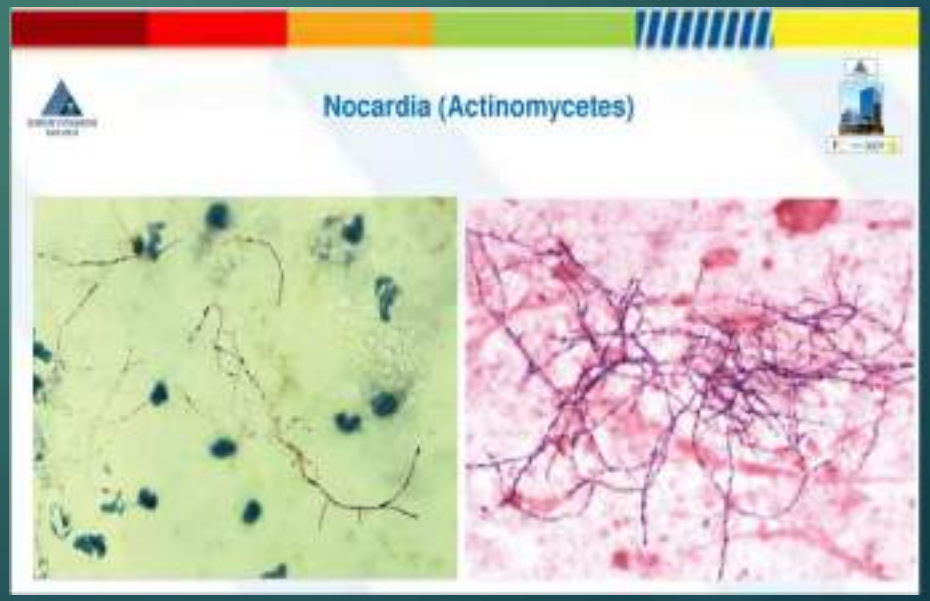


Lobar consolidation

- Klebsiella pneumonia - involves multiple lobes and can also be associated with effusion and cavitation.

- Viral or atypical organisms usually present with an interstitial infiltrative pattern or patchy segmental infiltrates.

- Organisms such as Nocardia, Mycobacterium, and fungi often cause nodular or cavitary lesions, which are demonstrable on chest radiography.



MANAGEMENT

- Empiric treatment is started immediately upon diagnosis of pneumonia.
- When a pneumococcal infection is suspected, treatment with penicillin is effective although penicillin resistance has emerged in several areas of the world.
- Alternatives include -cephalosporins and macrolide antibiotics.
- Symptoms begin to improve within 1 to 2 days although chest radiograph abnormalities may persist for months.
- Treatment for Haemophilus influenzae pneumonia includes second-generation cephalosporins or ampicillin/ clavulanate.
- Clarithromycin or quinolone antibiotics are alternatives.

- Erythromycin is the antibiotic of choice for pneumonia caused by Legionella or Mycoplasma.
- Alternatives include the quinolone antibiotics or clarithromycin.
- Nonspecific treatment for patients with pneumonia includes aggressive hydration to aid in sputum clearance.
- Chest physiotherapy is advocated by many clinicians although evidence of efficacy is lacking.
- If hypoxia is present, supplemental oxygen is given.

Oral Health Considerations

- The aspiration of salivary secretions containing oral bacteria into the lower respiratory tract can cause pneumonia.
- Numerous periodontally associated oral anaerobes and facultative species have been isolated from infected pulmonary fluids.
- Although most reports suggest increased susceptibility to the development of nosocomial pneumonia from periodontal pathogens, other oral bacteria (such as Streptococcus viridans) have been implicated in community-acquired pneumonia.
- Colonization of dental plaque and oral mucosa with respiratory pathogens is more prevalent among patients in medical intensive care units (ICUs).
- However, prerinsing with a 0.12% chlorhexidine gluconate mouth rinse may significantly reduce the mortality of nosocomial pneumonia in ICU patients.

- The connection of oral health to pneumonia involves aspiration of a pathogen from a proximal site, for example, the oral-pharyngeal cavity, into the lower airway.
- The teeth or dentures have non shedding surfaces upon which oral biofilms, that is, dental plaque, form, which are susceptible to colonization by respiratory pathogens.
- Indeed, intensive care subjects were found to harbuor greater levels of dental plaque than non hospitalized control patients, and bacterial pathogens known to cause pneumonia were found to be prevalent in the dental plaque from the intensive care subjects.
- Poor oral hygiene therefore may predispose high-risk patients to oral colonization

GUIDELINES FOR PROPER ORAL HYGIENE:

1. Provision of effective oral care is an important strategy in reducing nosocomial pneumonia.

2. The use of a designated oral care protocol.

3. Systematic clinical assessment of the oral cavity using standardized methods (to include the condition of the teeth, gums, tongue, mucous membranes and lips).

4. The use of a soft bristled brush can remove debris and subsequent plaque.

5. Mouth swabs (foam and cotton) should be used where there is a contraindication to brushing (e.g., bleeding gums associated with thrombocytopenia).

6. The use of one oral rinse over another was considered questionable (with the exception of chlorhexidine gluconate 0.12% in individuals undergoing cardiac surgery).

7. Tap water should not be used for oral hygiene in the critically ill (as it is often contaminated with potential respiratory pathogens).

8. Subglottic suctioning in mechanically ventilated patients to limit aspiration of contaminated secretions.

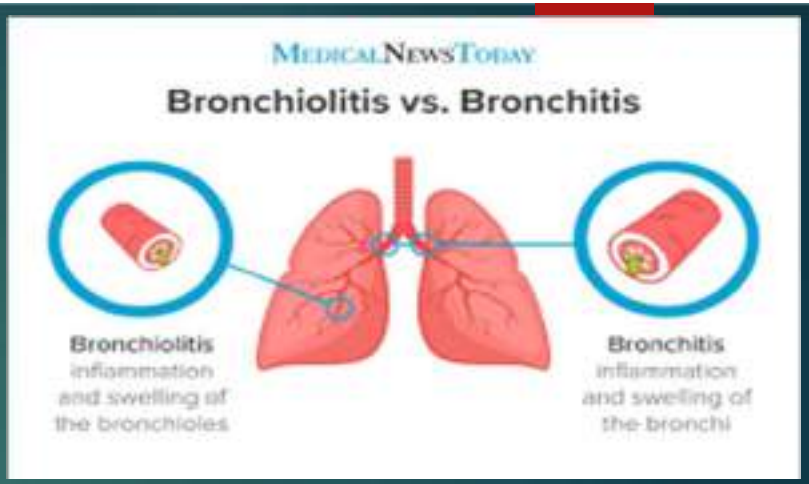
9. Although the optimal frequency for oral hygiene has never been evaluated, brushing at least twice a day was suggested.

10. Although the optimal duration for oral care has never been evaluated brushing, oral cleansing for 3–4 minutes using a brush that allows access to all areas of the mouth was suggested.

11. While there is no evidence available to support the use of individual, clean storage devices for oral hygiene tools, however the guideline committee recommends the use of designated container.

12.Removal of all dental appliances upon admission in the critical care unit.

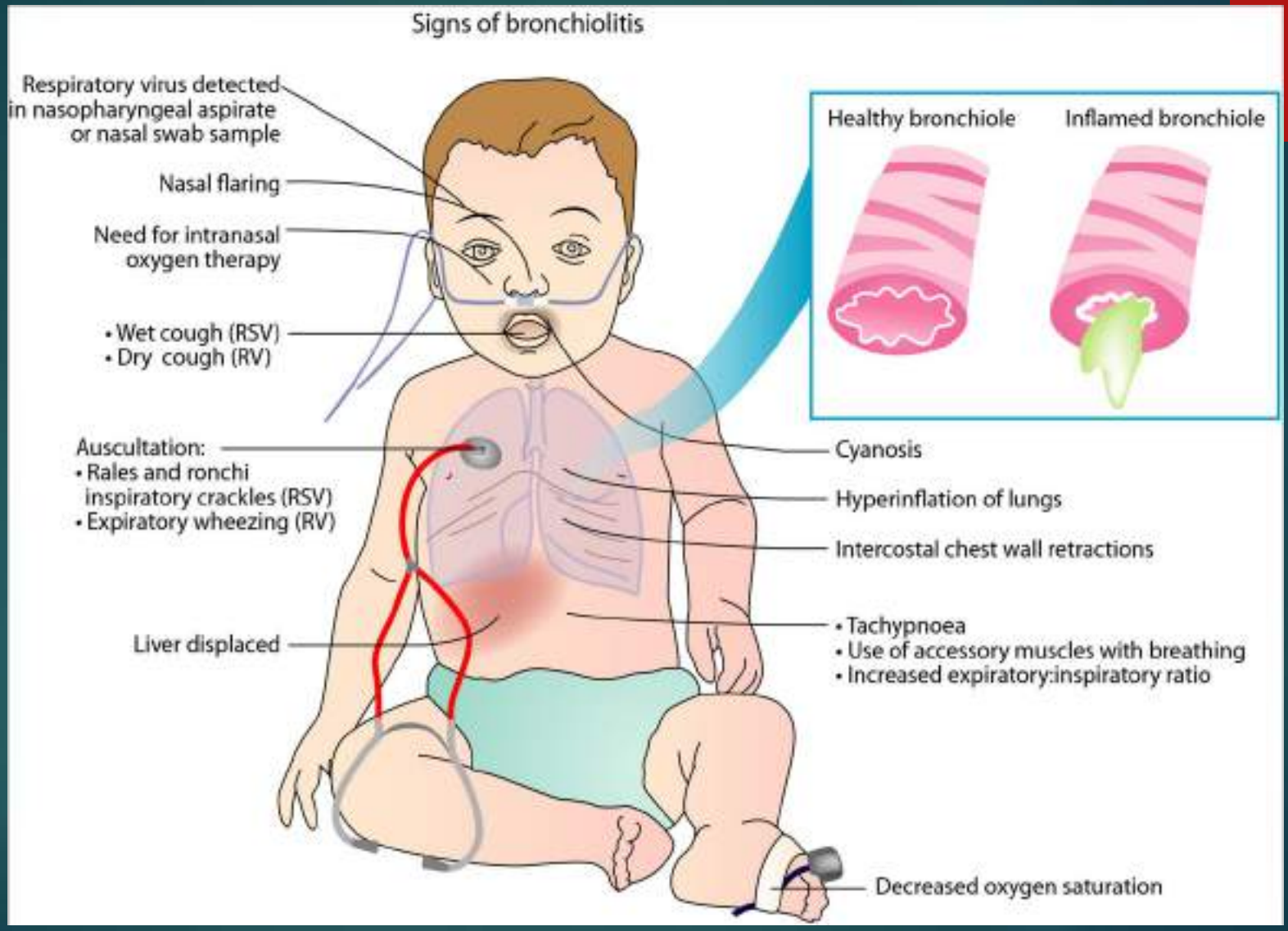
Bronchiolitis



- affects children under the age of 2 years.
- most common among infants aged 2 to 12 months.
- characterized by inflammation of the lower respiratory tract, with the bronchioles being most affected.
- The inflammatory response is secondary to an infectious trigger, usually respiratory syncytial virus (RSV).
- Organisms involved - parainfluenza virus, influenza virus, adenovirus, and Mycoplasma pneumoniae.

Clinical And Laboratory Findings

- Infants first develop signs and symptoms of an infection of the upper respiratory tract, with low-grade fever, profuse clear rhinorrhea, and cough.
- Signs of infection in the lower respiratory tract soon follow, including tachypnea, wheezing, and (on occasion) cyanosis,and thoracic hyper-resonance can be noted on percussion.
- Associated findings can include conjunctivitis, otitis media, and pharyngitis.
- Chest radiography shows peribronchial cuffing,flattening of the diaphragms, hyperinflation, and increased lung markings.
- Laboratory studies reveal a mild leukocytosis with a prominence of polymorphonuclear leukocytes.


Signs of bronchiolitis
Respiratory virus detected in nasopharyngeal aspirate or nasal swab sample
Nasal flaring
Need for intranasal oxygen therapy
• Wet cough (RSV)
• Dry cough (RV)
Auscultation:
• Rales and ronchi inspiratory crackles (RSV)
• Expiratory wheezing (RV)
Liver displaced
Healthy bronchiole
Inflamed bronchiole
Cyanosis
Hyperinflation of lungs
Intercostal chest wall retractions
• Tachypnoea
• Use of accessory muscles with breathing
• Increased expiratory:inspiratory ratio
Decreased oxygen saturation

Management

- Infants are usually managed in cool-mist oxygen tents, where continuous oxygen administration can be given.
- Due to an increase in water loss, hydration must be ensured.
- Aerosolized bronchodilators are often used although their routine use is not recommended.
- Oral or parenteral corticosteroids are often used.
- Antiviral therapy with ribavirin is recommended for infants with severe disease, congenital heart disease, or underlying pulmonary disease.
- Mechanical ventilation is required in the infant with respiratory failure

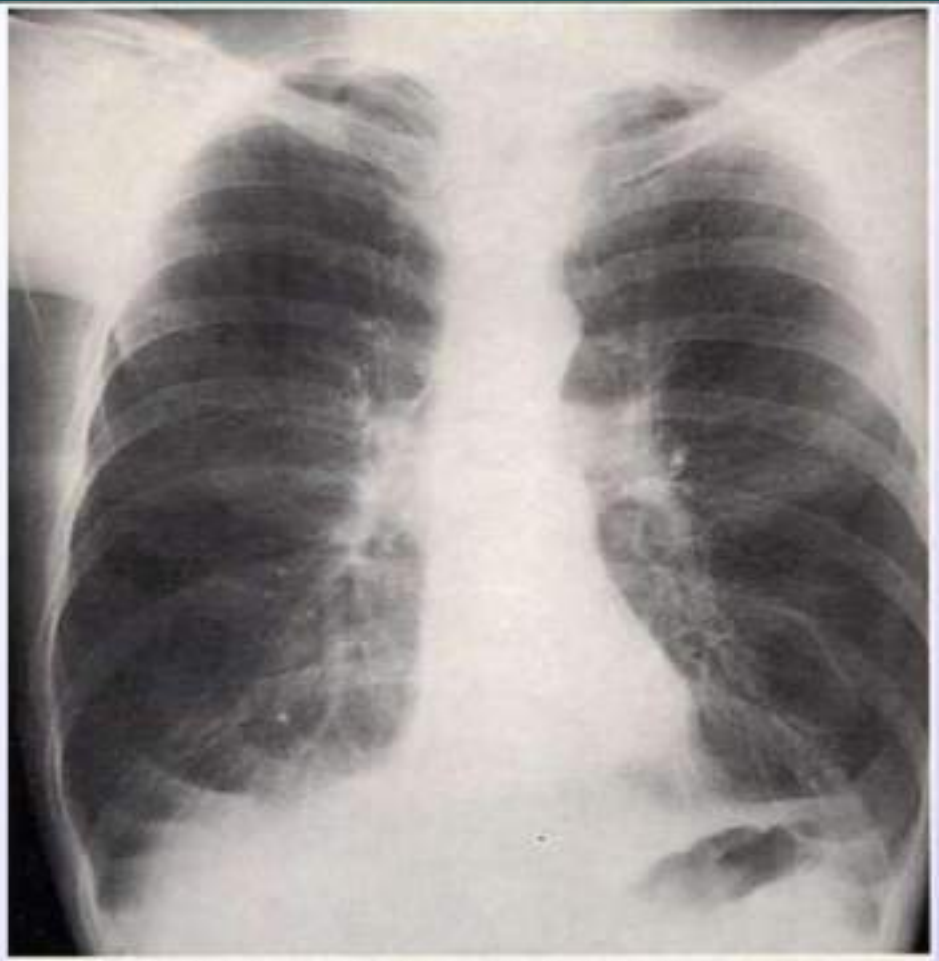
Asthma

•Asthma is an intermittent respiratory disorder characterized by airway hyperactivity to various stimuli.

• It produces recurrent bronchial smooth muscle spasm, inflammation and swelling of bronchial mucosa, hypersecretion of viscid mucus, and sputum plugging.

•The outcome is widespread narrowing of airway, decreased ventilation, increased airway resistance, especially on expiration.

• The lung distal to mucinous plugs become hyperinflated and eventually expands the thorax



A. Hyperinflation of lungs, [illegible] with its insertion to ribs evident; peripheral attenuation of pulmonary vessels; heart shadow small relative to lungs. Corresponds to "Pink Puffer"

Clinical findings

- Wheezing
- Coughing
- Cyanosis
- Perspiration
- Tachycardia
- Chest tightness
- Severe dyspnea
- Hyperresonance
- Posture fixed forward affixing the shoulder girdle by extending the arms and grabbing a stationary object
- Using extensory breathing muscle such as alla nasi
- Lasts for several minutes resolving spontaneously or by drugs

Classification of asthma

Intermittent asthma

- symptoms that occur < 5day/month

Chronic asthma

- >5 episodes/days/month for longer then 3 months

Status asthmaticus

- when condition lasts > 24 h despite therapy

Drugs	Oral manifestations
B2-agonists – short acting Albuterol	Oral candidiasis, xerostomia, decreased salivary flow rate
B2-agonists – long acting Salmeterol	Xerostomia, tooth pain, sores or white patches in mouth
Corticosteroids	Oral candidiasis, dental caries
Decongestants	Xerostomia
Antihistamines	Xerostomia

Oral manifestations

- Chronic use of corticosteroid inhalants can occasionally locally immunosuppress oral mucosa and promote pseudomembranous candidiasis overgrowth.

- decrease in salivary flow.

- Dysphonia may follow persistent steroid inhalant use.

- Increased risk for caries.

- Increased periodontal disease.

Calculus

Gingivitis

Dental implications

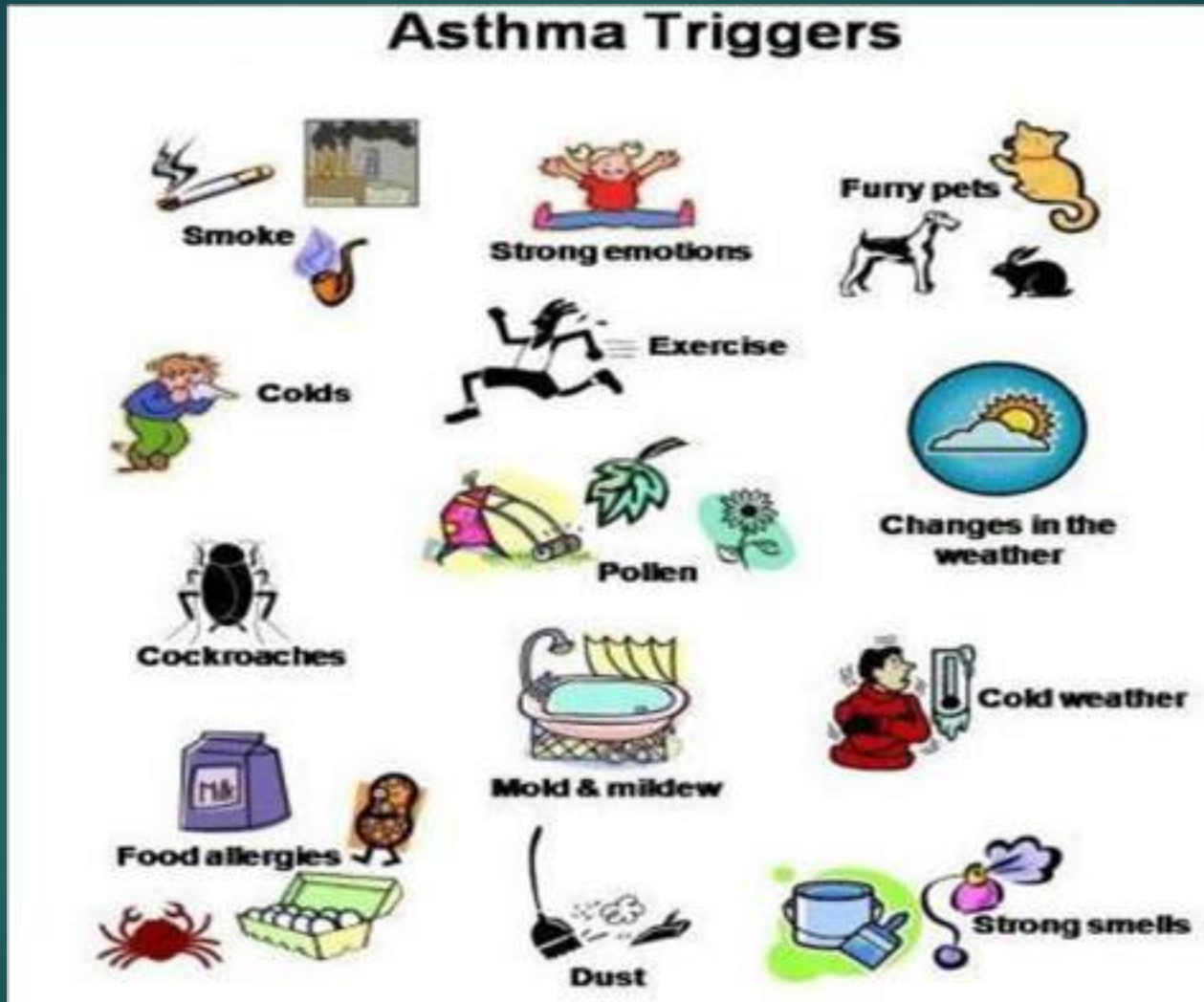
- Stress reduction protocol.
- Avoid dental materials that may aggravate or precipitate the attack.
- Acrylic appliances should be cured prior to insertion and usually a material without methyl methacrylate is preferred.
- Steroid prophylaxis.
- Late morning or afternoon appointments.

- Mouth rinses and toothpastes containing phenolic compounds, antiseptics, astringents, or flavoring agents have been known to cause type I, type III, and type IV hypersensitivity reactions involving the oral mucosa or lips.

- Dental agents that can lead to type iv hypersensitivity (contact stomatitis) include dental amalgam, acrylic, composite resin, nickel, palladium, chromium, cobalt, eugenol, rubber products, talcum powder, mouthwashes, and toothpastes.

- Antihistamines can precipitate dryness of the oropharyngeal area.
- Epinephrine containing local anesthetics can induce cardiostimulating effect.
- Sulfites containing local anesthetics can be allergenic on intrinsic asthma.
- Erythromycin, Ciprofloxacin and clindamycin should be prescribed with caution. These antibiotics displace plasma proteins- bound fraction of theophylline which can elevate plasma levels of the bronchodilator to toxic levels.

Asthma Triggers



The following are considerations and recommendations for administering dental care to patients who have asthma:

1. Fluoride supplements, particular those taking β2-agonists.

2. The patient should be instructed to rinse his or her mouth with water after using inhalers.

3. Oral hygiene should be reinforced to reduce the incidence of gingivitis and periodontitis.

4. Antifungal medications , particularly in patients who are taking inhaled corticosteroids.

5. Steroid prophylaxis needs to be used with patients who are taking long-term systemic corticosteroids .

6. Use stress-reducing techniques.

7.Acrylic appliances should be cured prior to insertion. Dental materials without methyl methacrylate should be considered.

8. Schedule these patients' appointments for late morning or later in the day to minimize the risk of an asthmatic attack.

9. Have oxygen and bronchodilators available in case of an exacerbation of asthma.

10. There are no contraindications to the use of local anesthetics containing epinephrine, but preservatives such as sodium metabisulfite may contribute to asthma exacerbation in susceptible patients.

11. Judicious use of rubber dams will prevent reduced breathing capability.

12. . Care should be taken in the positioning of suction tips as they may elicit a cough reflex.

13. Up to 10% of adult asthmatic patients have an allergy to aspirin and other nonsteroidal anti-inflammatory agents. A careful history concerning the use of these types of drugs needs to be elicited.

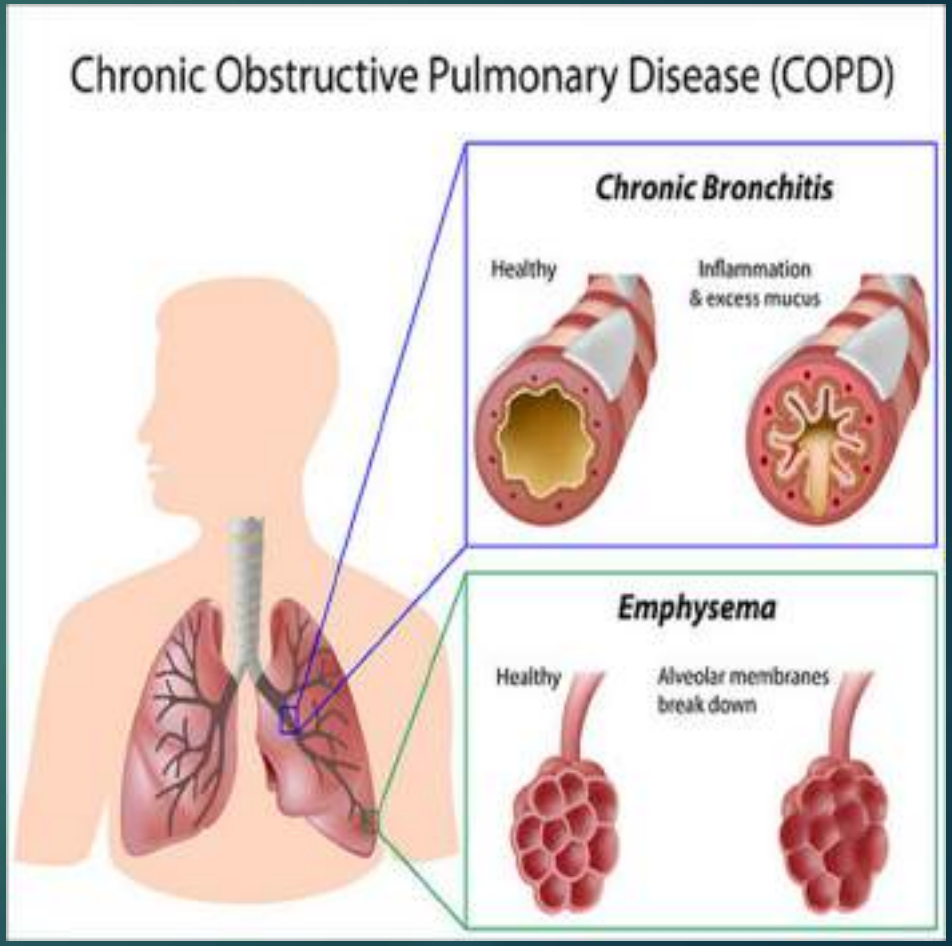
14. Drug interactions with theophylline are common.

15. During an acute asthmatic attack, discontinue the dental procedure, remove all intraoral devices, place the patient in a comfortable position, make sure the airway is opened, and administer a β2-agonist and oxygen.

If no improvement is noted, administer epinephrine subcutaneously (1:1,000 concentration, 0.01 mg/kg of body weight, up to a maximum of 0.3 mg) and alert emergency medical assistance.

Chronic obstructive pulmonary disease (COPD)

- It is a disease state characterized by airflow limitation.
- Consists of two major diseases
  - Chronic bronchitis
  - Emphysema
- They are both characterized by chronic airflow obstruction during normal ventilatory efforts.



Chronic bronchitis

Chronic inflammatory condition of the bronchoalveolar epithelium,of at least 3 month duration for more than 2 consecutive years characterized by:

- Productive cough
- Reduced forced rate of expiration
- Wheezing
- Shortness of breath
- Exertional dyspnea

- 7:1 male predominance
- Cigarette smoking is major etiologic factor (85%)
- Environmental pollution and dust are other factors.

Chronic bronchitis Clinical & pathologic features

1. Increased mucous secretion, mucous plugging
2. Edema, fibrosis
3. Hypertrophy of bronchial mucosa
4. Hyperplasia of mucous cells and goblet cells
5. Irreversible narrowing of bronchial airway
6. Decrease in ciliary and macrophage activity
7. Diminished gaseous air exchange leading to hypercarbia, hypoxemia
8. Increased risk for secondary bacterial infections mostly hemophilus influenza streptococcus pneumoniae
9. Increased risk for pulmonary hypertension respiratory failure

Oral manifestations

- Smoke related oral lesions such as
- Melanosis
- nicotine stomatitis
- dysplastic changes of oral mucosa
- leukoplakic or erythroplakic lesions

Dental management

•The most important concern of the dentist is to preserve patient's respiratory capacity during treatment

- A more upright chair position
- Refrain from CNS depressing drugs i.e. narcotics and barbiturates

•Refrain from xerostomic medications i.e. anticholinergic and antihistamines which also dry respiratory mucosa.

•Rubber dam with caution

- N_2O and other anesthetic gases should be contraindicated
- High flow of O_2 (> 2l/min) can deprive respiratory drive
- Supplemental corticosteroids should be considered

Emphysema (air in tissue)

- Irreversible lower airway obstructive lung disease.
- Alveolar wall destruction.
- Enlargement and dilatation of alveolar acini and collapse of terminal bronchioles.
- Diminished surface for gas exchange.
- Loss of elastic recoil.
- Long term air entrapment.
- It is estimated that 10 out of 1000 adults suffer from the disease. The incidence rate increases with age.

Etiology:

- alpha1 antitripsin deficiency.
- History of bronchitis.
- Tobacco smoking.

Characteristics

- Occur at 50 - 70years
- Heavy smoking
- Thin patient (asthenic)
- Exertional dyspnea
- Tachypnoea
- Pink face (pink puffer)
- Barrel-chested
- Carries his shoulders high, slightly forword; unable to catch his breath
- Increased use of accessory muscles (intercostal & supraclavicular)
- Cough nonproductive .
- Wheezing on expiration
- Distended neck veins

Oral manifestations

- Smoke related oral lesions such as
- Melanosis
- nicotine stomatitis
- dysplastic changes of oral mucosa
- leukoplakic or erythroplakic lesions
- Pursed lips expirations therefore xerostomia

Dental management

- Patients with mild to moderate disease can safely receive dental treatment as long as their respiratory capacity is adequate.
- Patients with severe disease are a poor risk for stressful dental treatment.
- Sedation, GA, bilateral mandibular block, anticholinergic antihistaminic medications should be avoided.
- Chair position should be adjusted to a more upright.

Cystic Fibrosis

- Cystic fibrosis (CF) is a genetic disorder characterized by hyperviscous secretions in the respiratory and gastrointestinal tracts.
- It is a rare disease but the most widespread life-shortening genetic diseases .
- The sweat glands, hepatobiliary system, and reproductive organs are also affected.
- Thickened secretions affect the pancreas and intestinal tract, causing malabsorption and intestinal obstruction.
- In the lungs, viscid mucous causes airway obstruction, infection, and bronchiectasis.
- Pulmonary complications are the major factors affecting life expectancy in patients with CF:

CLINICAL FINDINGS

- Pulmonary manifestations include coughing, recurrent infections of the lower respiratory tract, and bronchospasm.
- Tachypnea and crackles can be found on physical examination.
- As the disease progresses, digital clubbing and bronchiectasis may become apparent.
- Airway obstruction tends to worsen with disease progression although some patients with CF have mild pulmonary disease

MANAGEMENT

- Conventional treatment includes:
- antibiotics
- bronchodilators
- anti- inflammatory agents
- chest physiotherapy with postural drainage
- mucolytic agents.

- In addition to oral and parenteral antibiotics, inhaled antibiotics are used to help minimize systemic effects.
- The use of anti-inflammatory agents is controversial but may help minimize airway inflammation.
- Recombinant deoxyribonuclease therapy has been used,with some success, to minimize airway.

ORAL HEALTH CONSIDERATIONS

- It has been suggested that patients with CF may have the same type of dentofacial morphology as other mouth-breathing patients.
- However, larger prospective studies are need to confirm this.
- As with other patients with chronic lower respiratory infections, improved oral hygiene may minimize exacerbation of the underlying condition.
- Oral manifestations are enlargement of the salivary , xerostomia, gingivitis and halitosis.

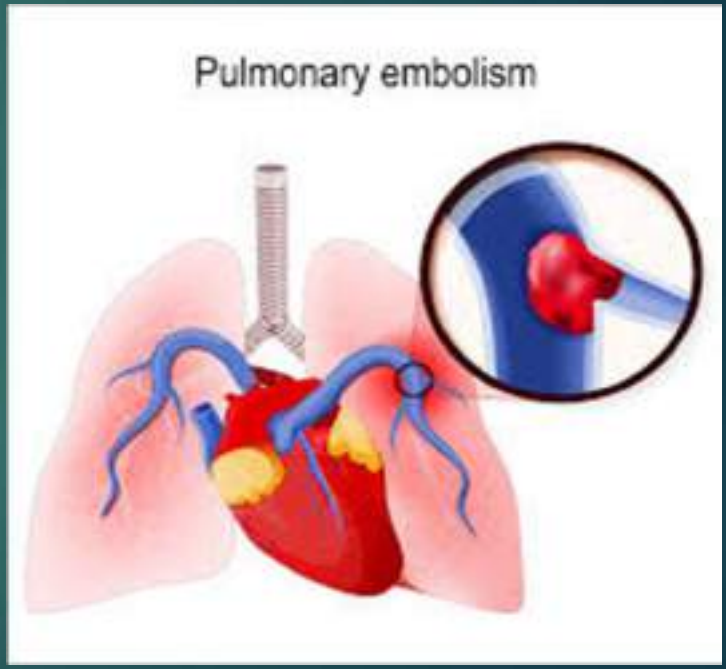
Pulmonary Embolism

- Pulmonary embolism is defined as a blockage of a pulmonary arterial vessel due to thromboembolic event.

- The embolus may originate anywhere, but it is usually due to a thrombosis in the lower extremities.

Risk factors –

- prolonged immobilization (such as in a postoperative state),
- lower-extremity trauma
- a history of deep-vein thromboses
- the use of estrogen- containing oral contraceptives.



CLINICAL AND LABORATORY FINDINGS

- Patients usually present with
- dyspnea
- chest pain
- Fever
- Diaphoresis
- cough
- hemoptysis
- syncope.

- Physical findings can include evidence of a lower- extremity deep-vein thrombosis, tachypnea, crackles or rub on lung auscultation, and heart murmur.

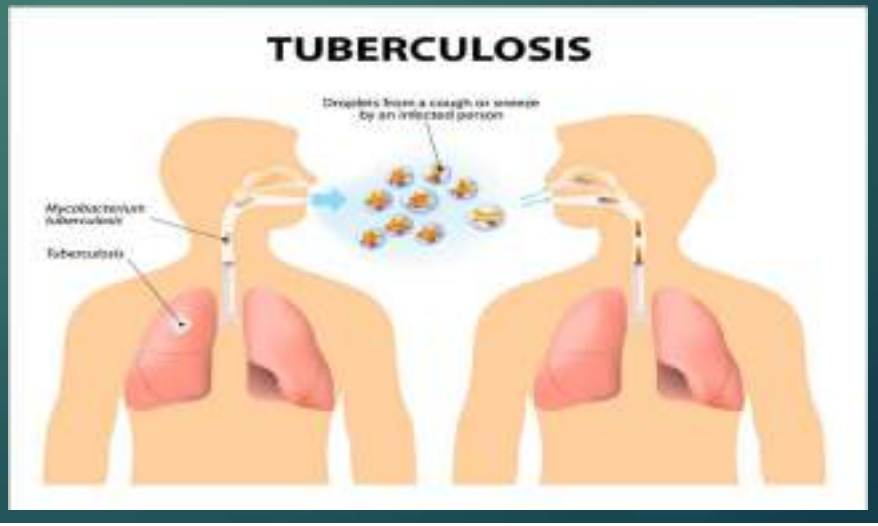
Oral Health Considerations

- The main concern in the provision of dental care for individuals with PE is the patient who is being managed with oral anticoagulants.
- As a general rule, dental care (including simple extractions) can safely be provided for patients with prothrombin times of up to 20 seconds or an international normalized ratio of 2.5.
- However, it is recommended that any dental care for these patients be coordinated with their primary medical care provider.

Tuberculosis

- It is a systemic infectious disease of worldwide prevalence and of varying clinical manifestations .It is an infectious granulomatous disease caused mycobacterium tuberculosis or rarely mycobacterium bovis.

- This disease has a worldwide distribution with gradual decrease in prevalence in the past 200 years
- Recently an increase of 5% in number of T.B. because of association with AIDS



Clinical findings

- Episodic fever chills
- Dyspnea
- Fatigue
- Anorexia
- Weight loss
- Sputum production can be green, yellow or purulent
- Persistent cough with hemoptysis typically in the morning
- Chest pain due to pleural

Tuberculin test

- Mantoux test is preferable skin test for detection of tuberculosis.
- 0.1 cc containing 5 tuberculin units (TU) of purified protein derivatives (PPD) from human strain is injected intrademally.
- 48 – 72 hours later skin is observed for induration & redness
- Positive - > 10mm
- Inconclusive – 5 – 9mm
- Negative - < 5mm

Oral manifestations

Irregular ulceration

Tongue is most commonly affected followed by palate, lips, buccal mucosa and gingiva

Primary oral lesion- gingiva diffuse, hyperemicro nodular papillary proliferation

Secondary oral lesion- ulceration of the mucosa

Enlarged cervical lymph nodes

At the mucocutaneous junction, tubercular ulcers are usually extremely shallow with granulating base.

Periapical tissue- the socket may be filled with so called tuberculosis granulation tissue, consisting of many small, pink and red elevations

Tubercular involvement of jaw bone causes swelling and the symptoms include difficulty in eating, trismus, paresthesia.

Oral considerations

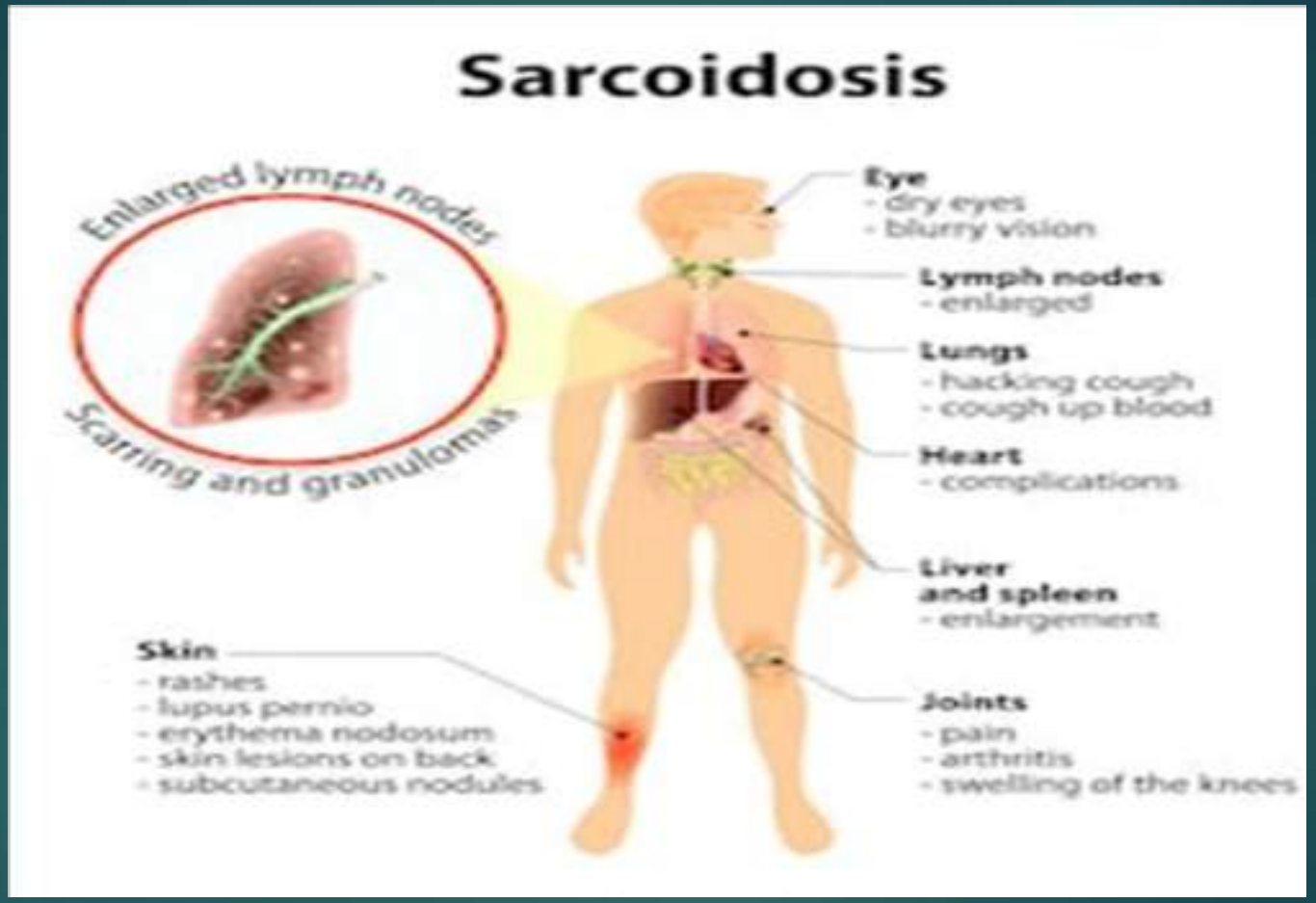
- Consultation with physician can determine the infective status of patient
- Patients on anti TB therapy can be safely treated after the second week of the antibiotic treatment
- Emergency situations in the infective period should be managed by palliative treatment (antibiotic analgesic)
- Dental personnel should be aware that cold sterilization or chemical sterilization solutions are ineffective for TB
- Patients pulmonary capacity should be evaluated before any sedation or narcotic administration
- Acetaminophen can interact with hepatotoxic effect of rifampin
- Aspirin or cephalosporine may cause ototoxicity when combined with sterptomycine
- Clearance of diazepam is accelerated by rifampin

Sarcoidosis

- Sarcoidosis is a systemic granulomatous disease that primarily affects the lungs and the lymphatic system but can also affect mucocutaneous surfaces, the eyes, and the salivary glands.
- The diagnosis is established when clinical and radiographic lesions are supported by histologic evidence of noncaseating epithelioid granulomas in more than one organ system and when other disorders that are known to cause granulomatous disease are excluded.
- Sarcoidosis commonly affects young and middle-aged adults (between 20 and 40 years of age) and frequently presents with bilateral hilar lymphadenopathy, pulmonary infiltration, and ocular and skin lesions.
- Although the cause of sarcoidosis remains unknown, there is evidence that it results from the exposure of genetically susceptible hosts to specific environmental agents.

- Sarcoidosis is characterized by distinctive laboratory abnormalities like
- including hyperglobulinemia
- an elevated level of serum angiotensin-converting enzyme
- evidence of depressed cellular immunity
- occasionally, hypercalcemia and hypercalciuria.

Sarcoidosis



Dental considerations

- The patient with sarcoidosis may require agent to moisten the mouth in presence of sjogren's syndrome.

- There may be osteoporosis
- lessened resistance to infection
- impaired healing
- lowered glucose tolerance
- mental changes in the patient with long term high dose steroid therapy.

Guidelines for oral health care of patients with respiratory disease

Medical consultation indicated:

- Signs & symptoms suggest respiratory disease
- Clinician is not certain about medical status
- Patient with systemic condition who have not seen their physician in the past year
- Patients on corticosteroids for > 12 month
- Patient who receive anti-infective medications to determine their infective status
- The medications and dosage used are not familiar to the patient
- When additional medications needed or a change in medication .

- Appointments should be scheduled for mornings and kept short
- Anxiolytic drugs which are not respiratory depressants can be prescribed
- Proper rest in the night prior to treatment is advised
- Identify and avoid precipitating factors of attacks such as anesthetic gases, sulfites, and aspirin containing analgesics
- COPD patients can develop dysrythmias with adrenaline containing LA
- Avoid bilateral mandibular block
- Aspirin or even NSAID can trigger attack in 10% of asthmatic patients – actaminophen is safe
- However prescribing acetaminophen to TB patient on rifampin can be hepatotoxic

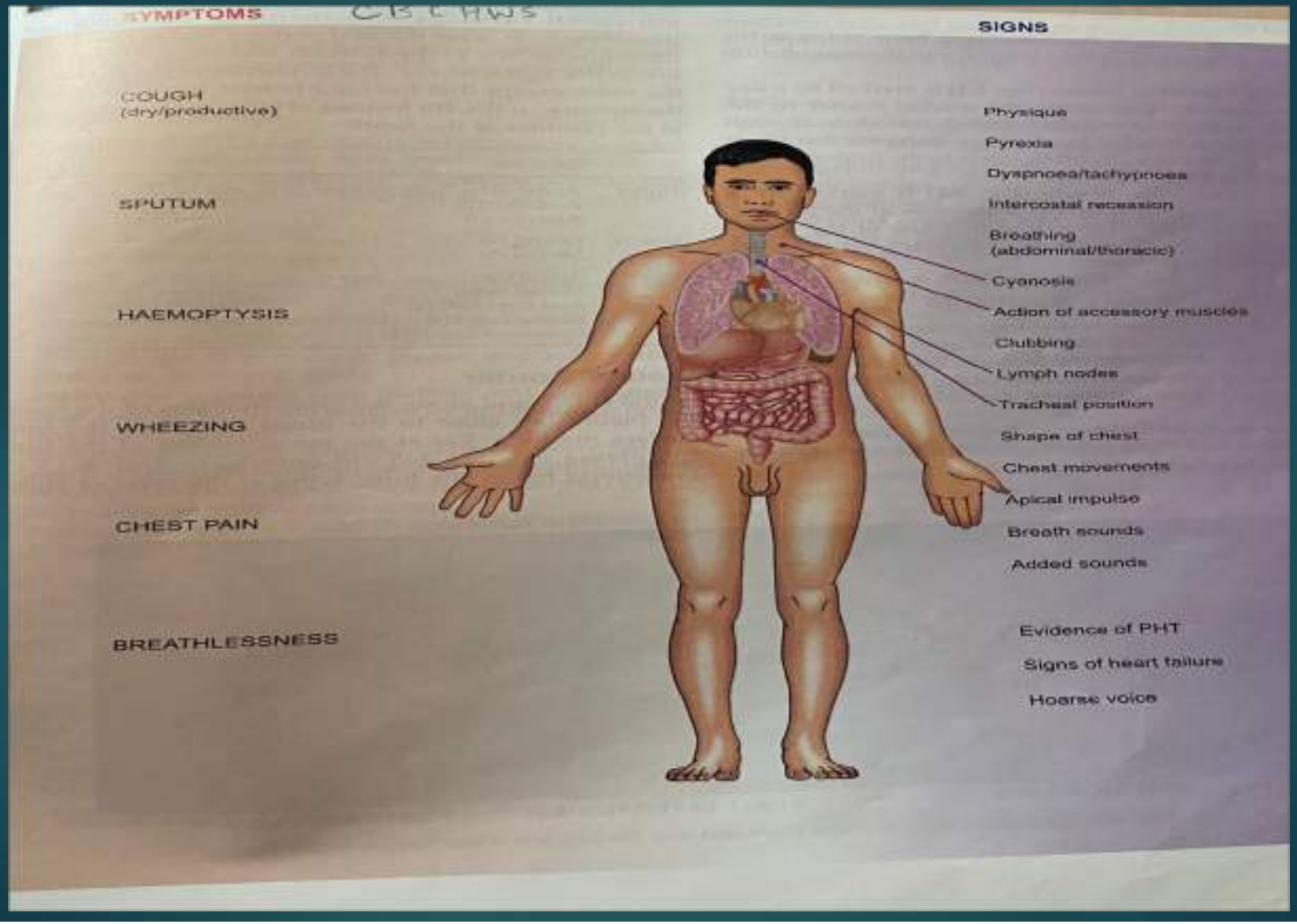
- Aspirin can prove ototoxic for patient on streptomycin
- Whenever oral infection is involved culture and sensitivity tests are recommended
- Penicillin is a safe drug for respiratory disease as far as the patient is not hypersensitive to it
- Patients with intrinsic asthma can be also allergic to medications or materials
- Erythromycin, cifrofloxacin and clindamycin are contraindicated in patients on thophylline (theophylline toxicity, thoephylline is diplaced from plasma binding proteins)
- Repiratory Patients on long term antibiotics need adjustments to antibiotic treatment for oral infections or prophylaxis

- Rubber dam is ill advised in patient with dyspnea
- Have the patient use their inhaler prophylactically
- Barbiturates can cause laryngeal spasm and precipitate an attack in asthmatic patients
- Benzodiazepines are the anxiolytic drugs of choice, avoid narcotics and barbiturates

•Pure oxygen is contraindicated in patients who are CO_2 retainers. In case of emergency not to exceed 2lit/min

•Minimize use of epinephrine (local anesthetics retraction cord) in patients who use bronchodilators.

- Closely monitor patients BP& pulse during treatment


SYMPTOMS
SIGNS
COUGH
(dry/productive)
SPUTUM
HAEMOPTYSIS
WHEEZING
CHEST PAIN
BREATHLESSNESS
Physique
Pyrexia
Dyspnoea/tachypnoea
Intercostal recession
Breathing
(abdominal/thoracic)
Cyanosis
Action of accessory muscles
Clubbing
Lymph nodes
Tracheal position
Shape of chest
Chest movements
Apical impulse
Breath sounds
Added sounds
Evidence of PHT
Signs of heart failure
Hoarse voice

Reference:

- Oral medicine-diagnosis and treatment,Burket:12th edition.


THANK YOU