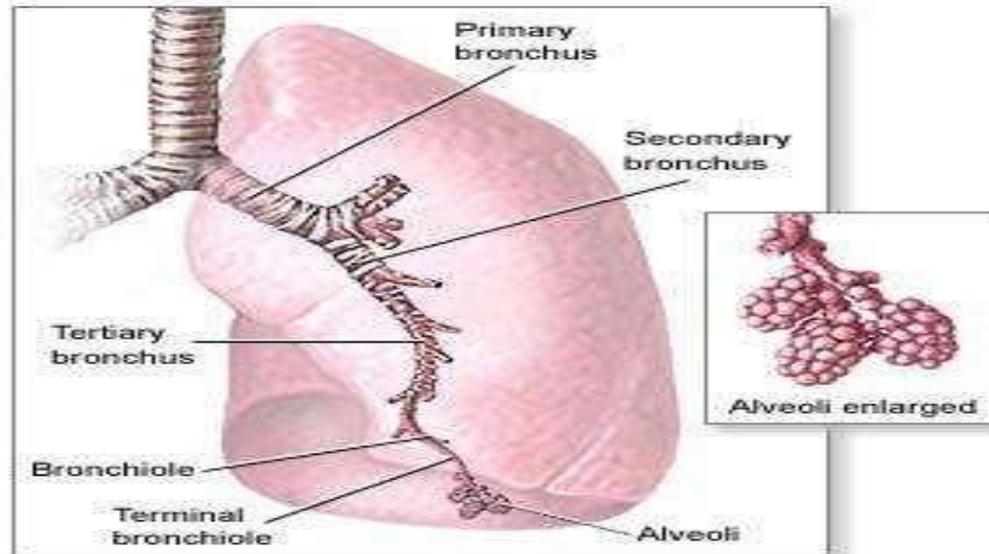
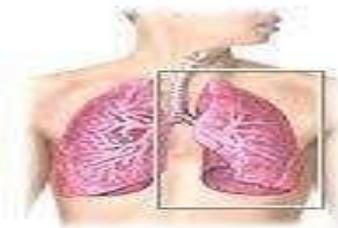


# PNEUMONIA

**PRESENTED BY:-  
BHAGAWATI RAY**

# DEFINITION

- Pneumonia is an inflammation of the lung parenchyma (i.e. alveoli rather than the bronchi) of infective origin.



- It is the most common infectious cause of death.
- It is usually characterized by consolidation.
- Consolidation is a pathological process in which the alveoli are filled with a mixture of inflammatory exudate, bacteria & WBC

# ETIOLOGY

- Bacteria : Streptococcus pneumoniae, Legionella pneumophila.
- Viruses : Influenza virus, Adenoviruses, Rhinovirus
- Other infectious agents, such as fungi : Pneumocystis carini



**RISK  
FACTORS**



- 1. Pollution**
- 2. Malnutrition**
- 3. Recurrent rhinitis**
- 4. Children**
- 5. Old age**
- 6. Smoking**

# CLASSIFICATION

Classified based on three types

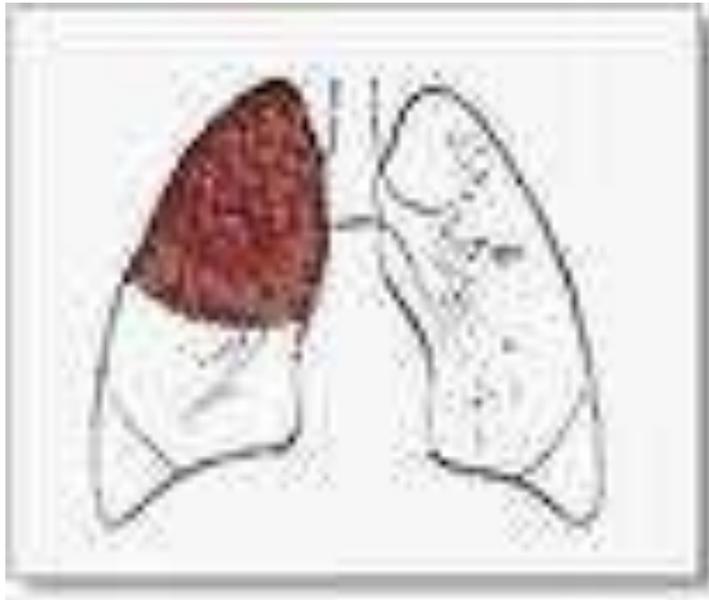
- 1. Type 1 Based on area infected**
  - Lobar pneumonia
  - Bronchopneumonia
- 2. Type 2 Based on place Infection acquired**
  - Community- acquired pneumonia (CAP)
  - Hospital-acquired pneumonia (HAP)

### **3. Type 3 Based on etiology**

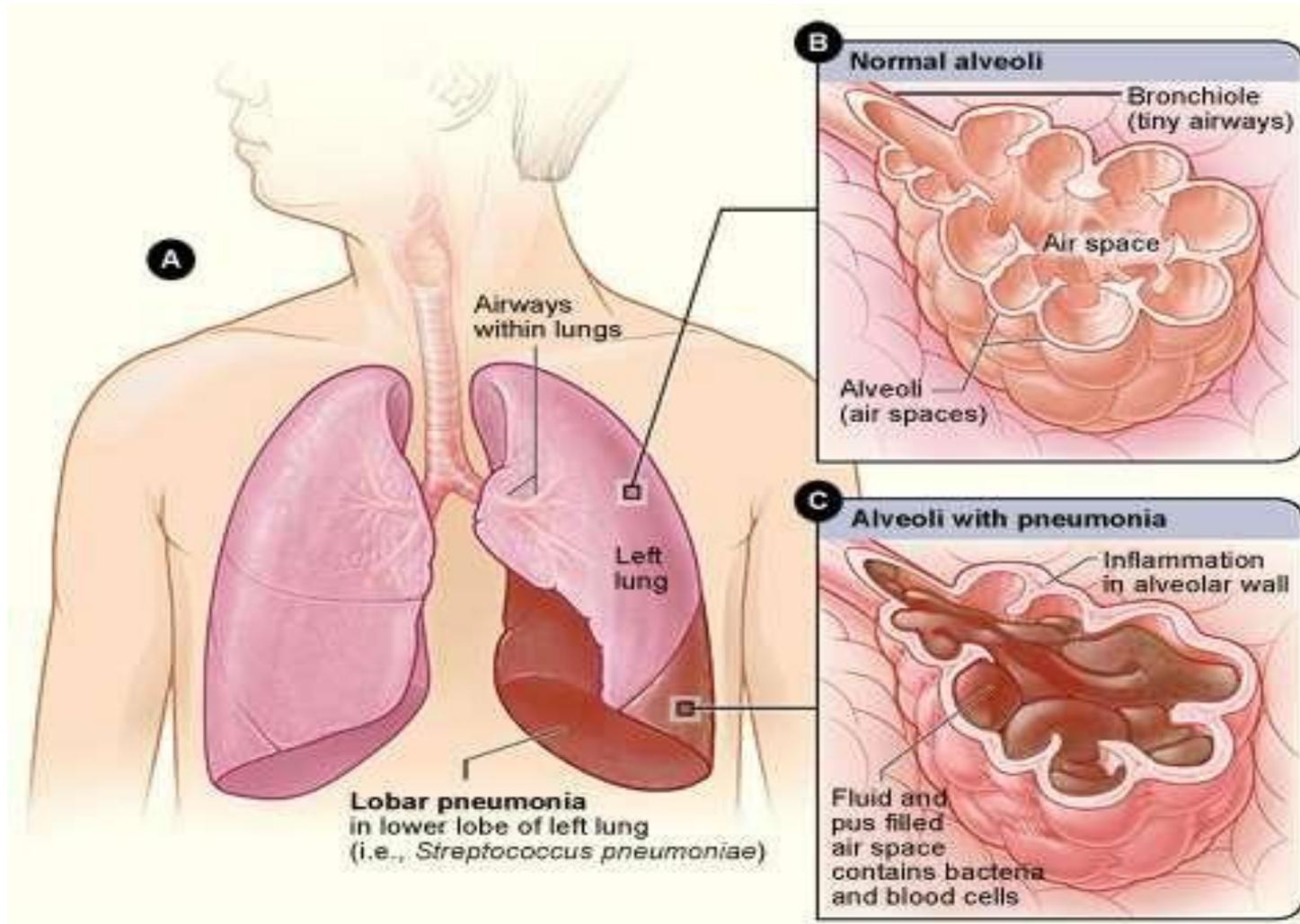
1. Bacterial pneumonia :- caused due to bacteria
2. Viral pneumonia :- caused due to virus
3. Fungal pneumonia :- caused due to fungus
4. Mycoplasmic pneumonia :- caused due to mycoplasmas

# LOBAR PNEUMONIA

- Lobar pneumonia is acute bacterial infection of a part of lobe the entire lobe, or even two lobes of one or both the lungs.

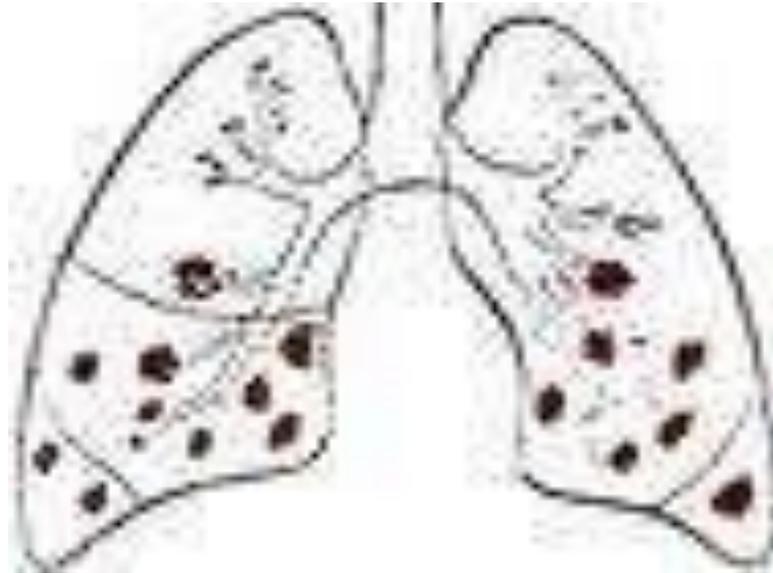


# LOBAR PNEUMONIA

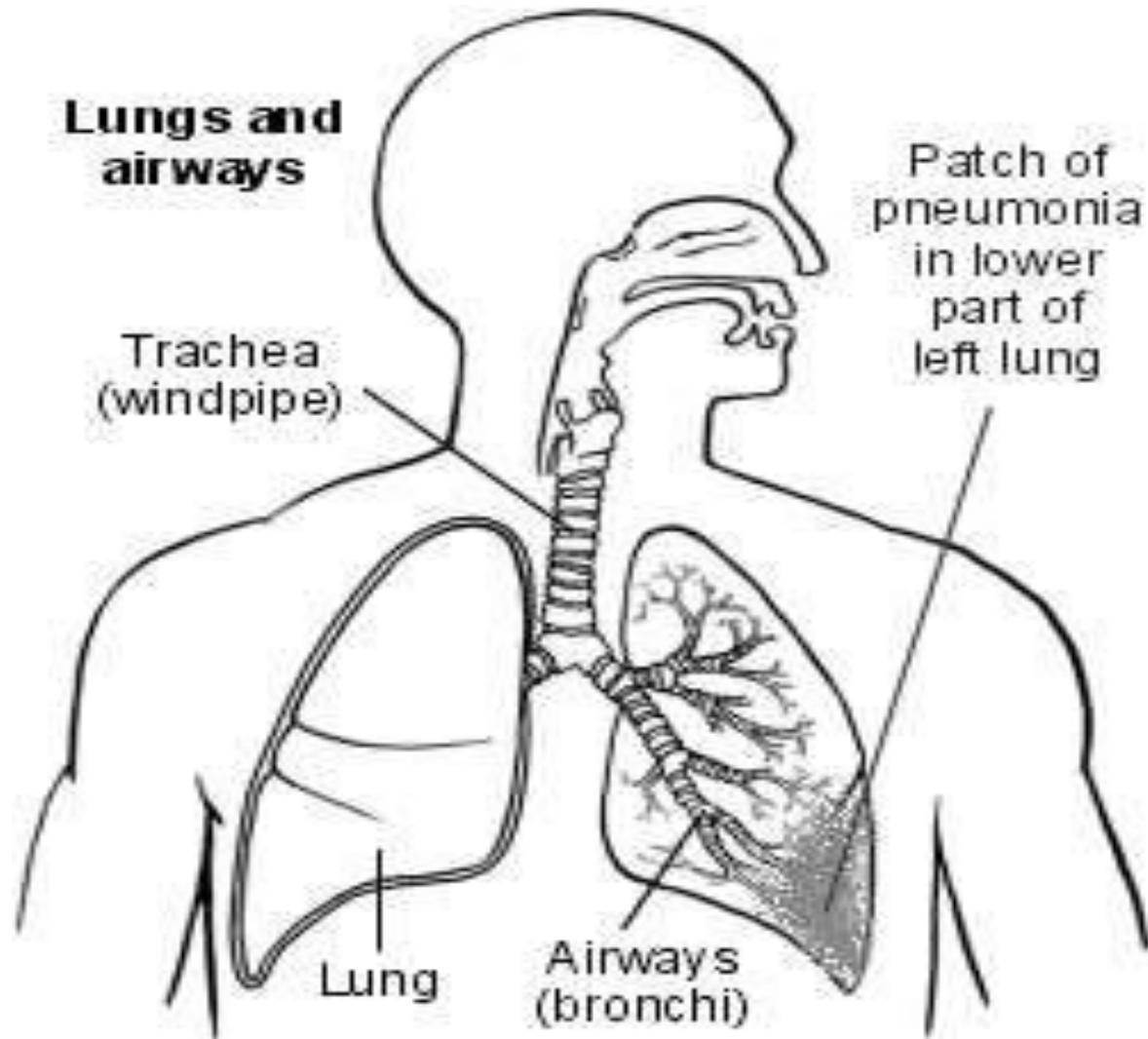


# BRONCHOPNEUMONIA

- Bronchopneumonia is infection of the terminal bronchioles that extends into the surrounding alveoli resulting in patchy consolidation of the lung.



# BRONCHOPNEUMONIA



(Bronchitis and Pneumonia occur together)

# PATHOPHYSIOLOGY

- It includes 4 stages
  1. congestion
  2. red hepatization
  3. gray hepatization
  4. resolution

# CONGESTION

- After the pneumococcus organism reaches the alveoli, there is an outpouring of fluids into alveoli.
- The organism multiplies in the serous fluid and infection spreads

# RED HEPATIZATION

- The massive dialation of the capillaries and alveoli that are filled with this organism, neutrophils, RBC, and fibrin.
- The lung appears red and granular, similar to that of liver which is why the process is called hepatization.

# GRAY HEPATIZATION

- Blood flow decreases and leukocytes and fibrin consolidate in the affected part of lung.

# RESOLUTION

- Complete resolution and healing occurs if there is no complications.
- The exudates become lysed and is processed by macrophages.
- The normal lung tissue is restored and the persons gas exchange ability returns to normal.

# SIGNS AND SYMPTOMS

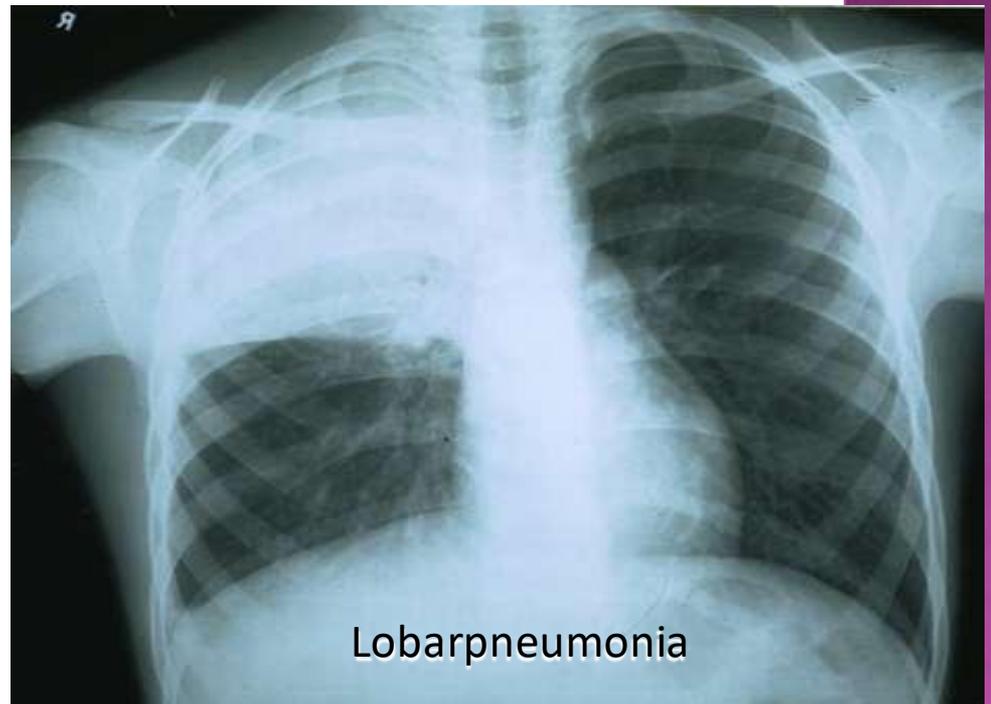
- High fever, Shaking Chills
- Shortness of breath (Dyspnoea)
- Increased breathing rate
- Chest pain when you breathe deeply or cough
- Dusky or purplish skin colour (cyanosis) from poorly oxygenated blood
- Fatigue and muscle aches
- Nausea, vomiting or diarrhoea
- Cough, particularly cough productive of sputum

# DIAGNOSTIC EVALUATION

- History collection
- Physical examination
- Chest x-ray
- Sputum culture
- CT scan of Chest
- Fiberoptic bronchoscopy

# CHEST X-RAY FOR LOBAR PNEUMONIA

Consolidation  
confined to  
one or more  
lobes (or  
segments of  
lobes) of  
lungs.



# CHEST X-RAY FOR BRONCHOPNEUMONIA

- Patchy consolidation usually in the bases of both lungs.



# Community Acquired pneumonia (CAP)

Pneumonia which develops in an otherwise healthy person outside of hospital or have been in

Pneumonia which develops in an otherwise healthy person outside of hospital or have been in hospital for less than 48hrs.

# Hospital Acquired pneumonia (CAP)

Pneumonia that was not incubating upon admission or developing in a patient hospitalized for greater than 48 hrs.

Pneumonia that was not incubating upon admission developing in a patient hospitalized for greater than 48 hrs.

# COMPLICATIONS

- Bacteria in the bloodstream (bacteremia)
- Lung abscess.
- Build up of fluid in the space between the lung and chest wall (pleural effusion).
- Difficulty breathing.
- Shock and respiratory failure
- Septic arthritis
- Endocarditis

# MANAGEMENT OF PNEUMONIA

- Broad-spectrum antibiotic therapy – streptomycin, Gentamicin
- Postural Drainage
- Chest physiotherapy

# NURSING MANAGEMENT

- Don't smoke.
- Practice good hygiene.
- Stay rested and fit.
- Wearing surgical masks by the sick may also prevent illness.
- Appropriately treating underlying illnesses (such as HIV/AIDS, diabetes mellitus, and malnutrition) can decrease the risk of pneumonia.
- Get a Pneumonia Vaccination.

# VACCINATION

- **Pneumococcal conjugate vaccine (Prevnar):**  
For children less than 2 years of age or between two and four years with certain medical conditions.
- **Pneumococcal polysaccharide vaccine (Pneumovax) :**  
Adults who are at increased risk of developing pneumococcal pneumonia, such as the elderly, diabetics, those with chronic heart, lung, or kidney disease, alcoholics, smokers, and those without a spleen.

**THANK**

**YOU!!!**