THE STUDY VAULT

Pneumonia

Respiratory

DISEASE / PATHOLOGY

- Infection of lung parenchyma causes inflammation and alveolar exudate.
- Primary process: bacteria, viruses, or aspiration impair gas exchange.
- Why it matters: can progress to hypoxemia, sepsis, or respiratory failure.

RISK FACTORS

- Who is most at risk? Older adults, infants, immunocompromised, chronic lung disease.
- History / exposure: smoking, recent viral illness, aspiration, immobilization, hospitalization.
- Genetics / lifestyle: poor nutrition and low vaccine uptake increase risk.

SIGNS AND SYMPTOMS

- Hallmark findings: fever, cough, dyspnea, crackles, pleuritic chest pain.
- Early: fatigue, tachypnea, sputum production, low SpO_2.
- Late / urgent: confusion, cyanosis, hypotension, worsening respiratory distress.

DIAGNOSTIC TESTING

- Tests, labs, imaging, procedures: chest x-ray, pulse oximetry, CBC, sputum culture, blood cultures if severe.
- Gold standard: clinical assessment supported by chest imaging.
- What confirms it: infiltrate on imaging plus compatible symptoms.

TREATMENT

- First-line: assess airway and oxygenation first; give oxygen, fluids, and antibiotics as ordered.
- Encourage coughing, deep breathing, incentive spirometry, and early ambulation.
- Antipyretics and bronchodilators may be used as indicated.
- Nursing considerations: monitor breath sounds, temperature, SpO_2, and response to antibiotics.
- Nursing need-to-know: obtain cultures before first antibiotic when possible.
- Nursing need-to-know: report increasing work of breathing or sepsis signs immediately.

PATIENT EDUCATION

- Home care: finish antibiotics, hydrate, rest, and use coughing/deep-breathing exercises.
- Keep vaccines current and avoid smoking.
- When to call: worsening shortness of breath, persistent fever, chest pain, or confusion.

ADDITIONAL NOTES:

- NCLEX must know: assess oxygenation first.
- Red flag: new confusion or hypotension can mean severe infection.
- Common exam trap: crackles and fever suggest pneumonia, not just atelectasis.
- Priority action: support oxygenation and start ordered therapy promptly.