

DISEASE / PATHOLOGY

- Elevated pressure in the pulmonary arteries increases right ventricular workload.
- Primary process: pulmonary vascular remodeling raises resistance to blood flow.
- Why it matters: can lead to right-sided heart failure and poor oxygenation.

RISK FACTORS

- *Who is most at risk?* Patients with chronic lung disease, congenital heart disease, or connective tissue disorders.
- History / exposure: sleep apnea, thromboembolic disease, liver disease, stimulant use.
- Genetics / lifestyle: family history and smoking worsen risk.

SIGNS AND SYMPTOMS

- *Hallmark findings:* exertional dyspnea, fatigue, chest discomfort, syncope.
- *Early:* mild activity intolerance, palpitations, dizziness.
- *Late / urgent:* edema, cyanosis, JVD, signs of right-sided failure.

DIAGNOSTIC TESTING

- *Tests, labs, imaging, procedures:* echocardiogram, ECG, chest imaging, BNP, pulse oximetry, right-heart cath.
- Gold standard: right-heart catheterization.
- What confirms it: elevated pulmonary artery pressures on catheterization.

TREATMENT

- First-line: assess oxygenation and activity tolerance first; provide oxygen as ordered.
- Diuretics, vasodilator therapy, anticoagulation, and supportive therapy may be used.
- Nursing considerations: monitor BP, edema, exercise tolerance, and medication effects.
- Nursing need-to-know: syncope with exertion is a concerning finding.
- Nursing need-to-know: pace activities to reduce oxygen demand.

PATIENT EDUCATION

- Home care: take meds consistently, avoid smoking, and pace activity.
- Keep vaccines and follow-up appointments current.
- When to call: worsening dyspnea, chest pain, syncope, or swelling.

ADDITIONAL NOTES:

- NCLEX must know: right-heart strain is the major danger.
- Red flag: worsening syncope or cyanosis.
- Common exam trap: pulmonary hypertension often presents gradually.
- Priority action: monitor oxygenation and signs of sor pulmonale.