

DISEASE / PATHOLOGY

- Chronic inflammatory airway disorder with reversible bronchoconstriction and airway hyperresponsiveness.
- Trigger exposure activates mast cells/eosinophils -> bronchospasm, mucosal edema, and thick mucus.
- Air trapping causes expiratory wheeze, prolonged exhalation, and increased work of breathing.
- Severity ranges from intermittent symptoms to status asthmaticus: severe attack not responding to rescue therapy.
- NCLEX focus: ventilation problem first; worsening silence can mean little air movement, not improvement.

RISK FACTORS

- Personal/family history of asthma, eczema, allergic rhinitis, or atopy.
- Triggers: viral URI, exercise, cold air, smoke/vaping, dust mites, pets, mold, pollen, strong odors.
- Obesity, GERD, chronic sinus disease, occupational exposures, and poor air quality.
- Medication triggers: nonselective beta-blockers, aspirin/NSAIDs in sensitive patients.
- High-risk history: prior intubation, ICU admission, frequent SABA use, or poor inhaler technique.

SIGNS AND SYMPTOMS

- Early/classic: dyspnea, chest tightness, cough, expiratory wheezing, tachypnea, prolonged expiratory phase.
- Assessment cues: accessory muscle use, tripod positioning, decreased peak flow, anxiety/restlessness.
- Late/urgent: SpO2 falling, inability to speak full sentences, fatigue, cyanosis, altered LOC.
- Silent chest, bradycardia, or rising CO2 = impending respiratory failure; requires immediate intervention.
- Unexpected: absent wheeze in severe distress is worse than loud wheezing.

DIAGNOSTIC TESTING

- Spirometry: obstructive pattern with reversibility after bronchodilator supports diagnosis.
- Peak expiratory flow: compares personal best; falling values show worsening airflow obstruction.
- Pulse ox/ABG for moderate-severe attack; normal or high CO2 during distress is a late danger sign.
- CXR is not routine for simple asthma; use for fever, focal findings, trauma, or suspected pneumothorax.
- Before testing: assess respiratory status first; do not delay treatment for labs/imaging in severe distress.

TREATMENT

- Assess first: airway, breathing, SpO2, work of breathing, lung sounds, ability to speak, peak flow if able.
- Acute attack: oxygen, inhaled SABA(Albuterol), add ipratropium for moderate-severe exacerbation, systemic steroids
- Controller therapy: inhaled corticosteroid-containing regimen; SABA-only treatment is not preferred for adults/adolescents.
- Monitor for tachycardia/tremor with albuterol; rinse mouth after ICS to prevent thrush.
- Hold nonselective beta-blockers if bronchospasm risk and clarify orders.
- Need-to-know: if rescue inhaler is needed often or nocturnal symptoms increase, asthma is not controlled.

PATIENT EDUCATION

- Use written asthma action plan: green/yellow/red zones based on symptoms and peak flow.
- Teach correct inhaler/spacer technique; wait about 1 minute between rescue puffs when ordered.
- Use rescue bronchodilator before exercise if prescribed; carry rescue medication at all times.
- Avoid triggers; stop smoking/vaping; keep influenza/COVID/pneumococcal vaccines current as advised.
- Call provider for increasing rescue use, waking at night, fever, or peak flow in yellow zone.
- Call 911 for severe dyspnea, blue lips, confusion, silent chest, or no relief after rescue treatment.

ADDITIONAL NOTES:

- Priority: sit upright, oxygen, bronchodilator, reassess breath sounds/work of breathing.
- Exam trap: loud wheeze improving to no breath sounds is deterioration.
- Common confusion: asthma is usually reversible; COPD is not fully reversible.