



inflates in the correct amount of exercise O<sub>2</sub> to balance out V / CO<sub>2</sub>

**Anticipated Diagnostics**  
 Labs → Identify severity of exacerbation  
 → ABG  
 → chest x-ray  
 → Spirometry

**Additional Diagnostics**  
 HF assessment  
 ECG can show R HF  
 6 min walk  
 clinical COPD questionnaire

**Prevention of Complications**  
 (What are some potential complications associated with this disease process?)  
 → Pulmonary hypertension  
 → Cor Pulmonale  
 → acute exacerbation  
 → Acute respiratory failure

**Psychosocial/Holistic Care Needs**

**Factors that might affect a patient's prognosis**  
 from smoking or intolerance of being able to do what they previously could

**Environment Involvement**  
 (What are the environmental factors in the care of this patient?)

Propose is to capture foreign in the airway  
 COPD usually → bacterial

Mucus → cause ↓ passage way surface to & from the lungs  
 Sputum → Goblet cells produce → over production & hypersecretion causes it in COPD pt

**Pulmonary Hypertension** → constriction of pulmonary vessels from alveolar hypoxia  
 → cause → dyspnea on exertion (chest pain), fatigue, dizziness  
 → ↑ the workload of the R ventricle & causes right, SOB  
 Cor Pulmonale

ventricular hypertrophy, eventually HF  
 → Pulmonary function test → measure lung volume & air flow  
 ↳ Pt. Blows into a spirometry → Deep breath, exhale as fast & hard as possible

**Cor Pulmonale**  
 → Enlargement of the R ventricle → once developed, prognosis worsens  
 → Most common symptom Dyspnea → lung sounds normal, or crackles in bases  
 → Results from pulmonary hypertension → heart sound S<sub>3</sub> & S<sub>4</sub>, & systolic murmur

**Acute Exacerbation**  
 ↳ signaled by sudden change in pt. usual dyspnea, cough, or sputum  
 ↳ ↑ in frequency as disease progresses

**Acute Respiratory Failure** → Oxygenation, ventilation are inadequate  
 ↳ Pt w/ severe COPD w/ severe exacerbation  
 → NOT a disease, a symptom that reflects insufficient lung function  
 → Not enough O<sub>2</sub> transferred to blood, or inadequate CO<sub>2</sub> removal

**Exacerbation** → caused by a ~~viral~~ bacterial infection in lungs or airway

**Chest x-ray** → show flattening of diaphragm  
 ↳ ABG → Identify the severity of exacerbation by assessing abnormal

**Oxygenation**  
 ↳ ECG → can show signs of R HF  
 ↳ Serum α<sub>1</sub>-antitrypsin levels = Blood test, measures a protein that protects the lungs from damage

Student Name: Destiny Klinzer  
 Medical Diagnosis/Disease: COPD Exacerbation (Bronchitis)

*Alveoli over inflated & not taking in the correct amount of O<sub>2</sub> to balance out V / CO<sub>2</sub>*  
*→ Pt. become w/ exercise ↓ resp. capacity*

Inability to exhale air main characteristic of COPD

**NCLEX IV (8): Physiological Integrity/Physiological Adaptation**

Anatomy and Physiology  
Normal Structures  
 - Respiratory tract consist of Mouth/nose (Pull air into body), Pharynx (delivers air to trachea), Trachea (connects throat to lungs), Bronchial tubes (bottom of windpipe connect each lung), Bronchioles (small branch bronchial tube lead to alveoli), Alveoli (where gas exchange happens), Capillaries (blood vessels)  
 - Diaphragm contract → inhale, relax → exhale

Pathophysiology of Disease  
 - The loss of elastic recoil & airflow obstruction, from mucus hypersecretion, mucosal edema, & bronchospasms  
 - Inflammation caused by the oxidants made by cigarette smoke & other inhaled particles  
 - Oxidants affect the lungs as they inactivate anti-proteases (prevent natural destruction of lungs)  
 - The main site of airflow limitation is in sm. airways  
 - As peripheral airway becomes obstructed air is progressively trapped during expiration  
 - As air is trapped, chest hyper-expands & becomes barrel shaped bcz resp. muscles can't effectively function

**NCLEX IV (7): Reduction of Risk**

Anticipated Diagnostics  
 Labs → Identify severity of exacerbation  
 → ABG  
 → Chest X-Ray  
 → Spirometry  
Additional Diagnostics  
 H&P assessment  
 ECG scan show R HF  
 6 min-walk  
 clinical COPD questionnaire

- Pleura - separate lungs from chest wall (neg. pressure)

- Functional residual capacity is less residual air & ↓ elastic recoil, makes passive expiration of air difficult  
 Pt inhale when in over-inflated

**NCLEX II (3): Health Promotion and Maintenance**

Contributing Risk Factors  
 - cigarette smoking  
 → Infection  
 → Asthma  
 → Air Pollution  
 → Occupational chemicals  
 → Dusts  
 → Alpha  
 → Genetics  
 → Alpha-1 Antitrypsin Deficiency = Autosomal recessive disorder

Signs and Symptoms  
 - chronic intermittent cough  
 - dyspnea progressive (exercise)  
 - report chest heaviness  
 is not able to take deep breath  
 - chest tightness  
 - fatigue, weight loss, anorexia  
 - ↓ breath sounds, wheeze in all lung fields  
 - sputum color & amount not normal

Possible Therapeutic Procedures  
Non-surgical O<sub>2</sub> therapy  
 Nutrition therapy → extra protein & calories  
Surgical lung volume reduction → reduce lung size, remove diseased lung tissue  
 Bronchoscopic lung volume reduction  
 Allow air to leave lung

**NCLEX IV (7): Reduction of Risk**

Prevention of Complications  
 (What are some potential complications associated with this disease process)  
 → pulmonary hypertension  
 → cor pulmonale  
 → acute exacerbation  
 → acute respiratory failure

**NCLEX IV (6): Pharmacological and Parenteral Therapies**

Anticipated Medication Management  
 → bronchodilators  
 → diuretics  
 → antibiotics  
 → oral systemic corticosteroids

**NCLEX IV (5): Basic Care and Comfort**

Non-Pharmacologic Care Measures  
 → place pt in high Fowler's for optimal resp. function  
 → promote adequate rest 90min  
 → adequate nutrition + small frequent meals  
 → administer O<sub>2</sub> therapy

**NCLEX III (4): Psychosocial/Holistic Care Needs**

What stressors might a patient with this diagnosis be experiencing?  
 - Guilt from smoking  
 - loss of independence  
 - Not being able to do what they previously could

**Client/Family Education**

List 3 potential teaching topics/areas  
 • Deep breathing & airway clearance exercise  
 • Energy conservation techniques  
 • Teach about meds & the set schedule the pt. will most likely follow

**NCLEX I (1): Safe and Effective Care Environment**

Multidisciplinary Team Involvement  
 (Which other disciplines do you expect to share in the care of this patient)  
 → RT  
 → Dietitian  
 → Physical therapy  
 → Social Worker