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Medical Diagnosis/Disease: COPD

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

NCLEX IV *(7)*: Reduction of Risk

Anatomy and Physiology

Normal Structures

The respiratory system is comprised on the nose/mouth, pharynx, larynx, trachea, bronchi, bronchioles, alveoli, and the 2 lungs. The right lung has a upper, middle, and lower lobe. The left lung has an upper and lower lobe. Oxygen is inhaled through the nose and mouth from the environment where it then travels to the oral cavity to the pharynx, larynx, and trachea. From there the air travels to the primary bronchi and to the alveoli where gas exchange occurs. O2 and CO2 and exchanged between the alveoli and capillaries via diffusion.

Pathophysiology of Disease

COPD is characterized as a progressive lung in which airflow is limited. COPD is associated with enhanced chronic inflammatory response in the airways and lungs. Chronic inflammation is present in the airways, lung parenchyma, and pulmonary blood vessels. The defining feature is airflow limitation not fully reversible during forced exhalation. The cause is due to loss of elastic recoil and airflow obstruction from mucus hypersecretion, mucosal edema, and bronchospasm. As the disease progresses, airflow limitation, air trapping, and gas exchange worsens.

Anticipated Diagnostics

Labs

ABGs, sputum culture

Additional Diagnostics

Spirometry, chest x-ray

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

NCLEX IV *(7)*: Reduction of Risk

Contributing Risk Factors

Smoking, TB, HIV, asthma, air pollution, occupational exposure to chemicals and dust, genetics, Alpha-1 antitrypsin deficiency

Signs and Symptoms

SOB, frequent coughing, wheezing, tightness in the chest, frequent respiratory infections

Possible Therapeutic Procedures

Non-surgical

Oxygen therapy, breathing retraining exercises, nutritional therapy, incentive spirometer

Surgical

Lung volume reduction surgery, bronchoscopy lung volume reduction surgery, bullectomy

Prevention of Complications

(What are some potential complications associated with this disease process)

Pulmonary hypertension, cor pulmonale, acute exacerbations, ARF

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

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

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

Anticipated Medication Management

Bronchodilator, SABA, mucolytics, anticholinergics

Non-Pharmacologic Care Measures

Provide necessary information of available resources

What stressors might a patient with this diagnosis be experiencing?

Decreased ability to perform ADLs

Client/Family Education

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

List 3 potential teaching topics/areas

- Proper coughing techniques to expectorate mucus
- Importance of smoking cessation
- Energy saving practices to complete ADLs

Multidisciplinary Team Involvement

(Which other disciplines do you expect to share in the care of this patient)

Pulmonologist, RT, dietician, pharmacist