Preconference Form

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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

Air flows in the following direction=
Upper Respiratory tract:
Nose/nasal cavity, Pharynx, Larynx
Lower Respiratory tract:
Trachea, Bronchi and bronchial tree, Lungs, alveoli, Diaphragm and intercostal muscles.

Pathophysiology of Disease

COPD is an inflammatory disease within the airways, lunch parenchyma and pulmonary vasculature; this is thought to involve oxidative stress and protease-antiprotease imbalances. This is irreversible and is characterized by chronic airflow limitation due to airway inflammation, mucus hypersecretion, and alveolar damage. Primarily includes chronic bronchitis and emphysema (destruction of the alveolar air sacs leading to the destruction of the air mediators.

Anticipated Diagnostics

Labs

- Spirometry
- 6-min walk test
- COPD Assessment Test CAT
- Chest x-ray
- CT scan

Additional Diagnostics

- Acute exacerbation/worsening of respiratory sxs
- Lab tests like CBC and Alpha-1 anditrypsin

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

NCLEX IV *(7)*: Reduction of Risk

Contributing Risk Factors

- Cigarette smoking
- Secondhand smoke
- Environmental and occupational exposure to harmful particles/gasses
- Alpha-1 antitrypsin deficiency

Signs and Symptoms

- Wheezing
- Cyanosis
- SOB (Inc exertion when performing ADL)
- Difficulty gathering deep breath
- Excess sputum production
- Chest tightness
- Accessory respiratory muscle use (barrel Chest)
- Pursed lip breathing
- Digital clubbing
- Lower extremity edema when in combination with heart failure. 2

Possible Therapeutic Procedures

Non-surgical

- Smoking cessation
- Pulmonary rehabilitation
- Flu vaccine
- Beta2-agonists, SABAs

Surgical

- Bullectomy
- Lung volume reduction surgery
- Lung transplant

Prevention of Complications

- Acute exacerbation of COPD
- Acute/chronic respiratory failure
- Pulmonary hypertension
- Cor Pulmonale
- Weight loss
- Bacterial infections

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

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

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

Anticipated Medication Management

Bronchodilators (beta2-agonists, antimuscarinics, methylxanthines), inhaled corticosteroids (ICS), systemic glucocorticoids, phosphodiesterase-4 inhibitors and antibiotics

Non-Pharmacologic Care Measures

Spirometry tests (incentive), Pulmonary rehabilitation, smoking cessation, O2 therapy, physical activity, environmental control

What stressors might a patient with this diagnosis be experiencing?

Inadequate coping with onset of increased fatigue and difficulty with ADLS, anxiety due to SOB which can exacerbate sxs, Loss of independence.

Client/Family Education

List 3 potential teaching topics/areas

•Smoking cessation or avoidance of secondhand smoke and areas with hazardous particles or gasses (Occupational, environmental)
•Compliance with follow up- medications and rehab directions
•Education of proper inhaler use (w/wo spacer and how to detect oral thrush)

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)

Pulmonologist, Respiratory therapy, Physical therapy, Occupational therapy, Dietician, Palliative care team if COPD advance and necessary.

Definitions/NOTES:
COPD Assessment test: Verbal questions to gauge the impact of COPD on a client's life. PARENCHYMA: functional tissue of the lungs that is directly involved I the gas exchange. Spirometry: performed before and after admin inhaled bronchodilator, A ratio of forced expiratory volume in 1 second FEV1 less than 0.7 confirm the diagnosis of COPD. Clients with reduced FEV1 and signs of dyspnea should be evaluated for oxygenation with pulse oximetry or arterial blood gas analysis. ALPHA-1 ANTITRYPSIN: crucial protein that protects the lungs from damage caused by enzymes. Beta2-agonists work by relaxing the smooth muscle in the airways. SABAs and long-acting beta2-agonists are commonly used in treatment. SABAs are used as needed to provide immediate relief. LABAs are normally for maintenance therapy. BULLECTOMY: Surgical removal of bullae (Large air-filled space in the lung). Cor Pulmonale: right side of the heart fails due to chronic lung disease and pulmonary hypertension (most common complication of COPD.