Chronic Obstructive Pulmonary Disease (COPD) – Clinical Protocol

Assessment and Recognition

1. As part of the initial assessment, the physician will help identify individuals with a history of COPD or other chronic respiratory conditions.
   a. Examples include a review of recent hospitalizations for exacerbations of existing COPD or respiratory failure, chest X-Ray results showing changes consistent with COPD, or results of pulmonary function tests.

2. In addition, the nurse shall assess and document/report the following:
   a. Vital signs (including detailed description of respirations)
   b. Full lung assessment (including sounds of wheezing, sputum production)
   c. Level of consciousness
   d. Pulse oximetry result
   e. Onset, duration, frequency, severity
   f. What has been done so far to manage the situation
   g. All current medications, any changes plus allergies
   h. Precipitating and relieving factors
   i. All current diagnoses

3. The physician and staff will identify individuals with risk factors for developing COPD or for exacerbation of existing COPD; for example, a history of smoking, environmental or occupational exposure; a family history of COPD or other chronic respiratory diseases; a history of previous complications of, or hospitalization for, respiratory illnesses; current and previous treatments for COPD, etc.

4. The physician and staff will identify individuals who may have symptoms suggesting undiagnosed COPD or exacerbation of COPD.
   a. The staff should describe signs and symptoms in sufficient detail; for example, the staff should not just document that someone has “shortness of breath,” which could imply dyspnea (difficult or labored breathing), tachypnea (excessively rapid respirations), or hyperventilation (abnormally prolonged, rapid, shallow breathing associated with decreased pCO2).

5. Based on an examination and possible additional screening tests (if indicated), the physician will identify the presence of COPD and/or clarify its severity.
   a. A physical examination alone cannot diagnose COPD, but it may help identify related signs and symptoms as well as the nature and severity of related complications and co-existing conditions.
   b. Screening tests may include pulse oximetry at rest and with activity, pulmonary function tests, or simple observations such as the 6-minute walk test (how far someone can walk in 6 minutes on flat terrain with a coaching companion) or timing how long it takes someone to expel a full breath after a full inspiration.
   c. Additional diagnostic or screening tests might include chest x-ray or blood gases.

6. The staff and physician will identify the impact of existing COPD on an individual’s function and quality of life; for example, activity intolerance, dyspnea on exertion, anxiety, or depression.

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7. The physician will identify individuals at risk for worsening or complications of existing COPD; for example, cor pulmonale, arrhythmia, lethargy, or confusion due to hypoxia.

1. Where the diagnosis of COPD is unclear, the physician will help verify it.
   a. Chronic obstructive pulmonary disease (COPD) is a chronic, progressive disease characterized by airflow limitation that is not fully reversible.
   b. COPD is identified by a combination of factors including chronic productive cough present daily or intermittently, chronic sputum production, progressive or persistent dyspnea that is worse with exercise or with respiratory infections, and a history of exposure to risk factors such as cigarette smoke and chemicals. COPD symptoms often are non-specific and may mimic those found in other respiratory and cardiac conditions.
   c. The definitive diagnosis is made via pulmonary function testing (spirometry). COPD is considered to be present if the ratio of FEV1 (forced expiratory volume in 1 second) to forced vital capacity (FVC) \([\text{FEV1/FVC ratio}]\) is less than 70 percent after bronchodilator treatment.

2. The physician will help identify factors causing or contributing to COPD and complications in individuals with COPD, or will document why causes could not or should not be identified.

1. The physician and staff will identify relevant elements of the care plan; for example, what symptoms to expect (dyspnea, cough, fever, progressive activity intolerance, etc.), how often and what to monitor, when to report findings to the physician, and so on.

2. Key objectives of COPD management include:
   a. Prevent disease progression, where possible
   b. Relieve symptoms
   c. Improve exercise tolerance
   d. Improve health status, where possible
   e. Prevent and treat exacerbations
   f. Prevent and treat complications
   g. Reduce mortality
   h. Minimize side effects from treatments

3. The physician and staff will manage COPD, and address causes and exacerbating factors.
   a. This includes promoting adequate hydration and nutritional status, stabilizing cardiac function, seeking and addressing causes of anemia, etc.

4. The staff and physician will address individuals who smoke.
   a. Smoking cessation is a primary preventive measure. Where possible, the staff will limit smoking areas and, along with the physician, encourage smokers to stop or cut back significantly.

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5. The staff will check for adequate ventilation systems and keep central air and furnace filters clean.
   a. Indoor air pollution may cause or exacerbate symptoms in COPD residents as well as in non-impaired individuals.

6. The staff and physician will identify and address infection risks in individuals with COPD or COPD risk.
   a. Staff will encourage COPD residents to take the influenza and pneumococcal vaccines.
   b. During influenza season and respiratory outbreaks, staff will try to keep individuals with COPD away from individuals with respiratory infections.

7. The physician will prescribe treatments for residents with COPD that are consistent with relevant guidelines and protocols; for example, those provided by the Global Initiative for Chronic Lung Disease (GOLD) or American Medical Directors Association (AMDA).
   a. Medications should be utilized from the following categories in a sequence determined by the clinical situation, including severity of COPD, contraindications, and responses to previous interventions: a) anticholinergic agent (short-acting PRN or routinely), b) anticholinergic agent (long-acting routinely), c) short-acting beta-2 agonist PRN, d) short-acting beta-2 agonist routinely, e) long-acting beta-2 agonist, f) corticosteroids (oral or inhaled), g) long-acting theophylline.

8. The physician will prescribe ancillary treatments as indicated; for example, supplemental oxygen, diuretics, and antibiotics as indicated.
   a. Supplemental oxygen has been demonstrated to be helpful in treating hypoxia associated with COPD and related conditions such as cor pulmonale and primary pulmonary hypertension. Oxygen therapy during exercise may help increase walking distance and endurance.
   b. Oxygen may be administered as long-term continuous therapy, during exercise, or to relieve acute dyspnea (for example, nasal-prong oxygen at flow rates of 1-3 liters/minute in stable individuals).

9. The physician and staff will encourage a resident with COPD to improve his/her endurance and exercise tolerance by formulating an individualized exercise and activity program when feasible; for example, breathing exercises, riding a stationary bicycle, or pulmonary rehabilitation.

10. The physician and staff will identify and manage complications of COPD, such as acute infections, hypoxia, polycythemia, heart failure, and acute respiratory failure.
    a. The physician will identify situations where hospitalization may be indicated; for example, dyspnea accompanied by a respiratory rate above 28 per minute.
    b. Respiratory rate and overall status should be considered in addition to pulse oximetry results to gauge the stability of a resident with pulmonary symptoms. Although maintaining oxygen saturation above 90 percent is desirable for the long term, a pulse oximetry reading below 90 percent by itself does not necessarily imply an emergency or a need for hospitalization.
11. The staff and physician will identify and treat acute exacerbations of COPD; for example, recognizing and reporting when an individual with COPD has a change in function or activity tolerance, increased dyspnea, sputum production, cough, increasing lethargy or confusion, increased wheezing, increased respiratory or heart rates, etc.

a. The physician will review the situation and order appropriate interventions.

1. The staff and physician will monitor the progress of individuals with COPD, including ongoing evaluation and documentation of signs and symptoms and condition changes.

a. The physician and staff will use screening tests such as pulse oximetry appropriately and in accordance with their known limitations. They should be realistic about goals for correcting and maintaining oxygen saturation. Individuals with chronically low oxygen saturation often compensate for hypoxia.

2. The physician will monitor the individual for beneficial and adverse effects (for example, candidal esophagitis, cardiac arrhythmia, restlessness, or insomnia) of medications used to treat COPD.

3. The physician will help the staff, resident/resident, and family address healthcare treatment issues that arise in individuals with end-stage COPD, such as the futility of CPR or the inadvisability of hospitalization or intubation.

a. The staff and physician will also encourage advance care planning in individuals with less severe COPD, as for anyone with significant irreversible or progressive chronic conditions.

References

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