Nursing Care Plan

Patient With Chronic Obstructive Pulmonary Disease

Data: A 68-year-old man was admitted to the hospital for severe shortness of breath and inability to care for himself at home. He was diagnosed with chronic obstructive pulmonary disease (COPD) about 9 years ago, most likely related to his 40-year history of cigarette smoking. He is widowed, lives alone, and ordinarily manages his care and disease without difficulty. The patient states that the cold, rainy weather has made his breathing much worse over the past couple of days. He complains of being severely fatigued and short of breath.

Physical examination reveals a thin appearing man who is diaphoretic, leaning forward in a sitting position, and in obvious respiratory distress. Vital signs are temperature, 100.8°F orally; heart rate, 104 beats/min; respiratory rate, 36 breaths/min and labored; and blood pressure, 146/92 mm Hg. He has wheezing and crackles throughout all lung fields. Humidified oxygen is initiated at 2 L/min via mask, 5% dextrose in water (D5W) is started at 75 ml/hr, and 125 mg of methylprednisolone (Solu-Medrol) is administered intravenously. The respiratory care department is notified to administer humidified oxygen therapy as prescribed.

Nursing Diagnosis

Impaired gas exchange related to chronic obstructive lung disease

Goals and Outcomes

- Patient will regain and maintain gas exchange within baseline.
- Patient will be free from changes in mental status.

Related NOC Outcomes

- Respiratory Status: Airway Patency
- Respiratory Status: Gas Exchange

Related NIC Interventions

- Cough Enhancement
- Oxygen Therapy
- Respiratory Monitoring

Nursing Activities and Rationales

- Monitor respirations and assess breath sounds hourly and more often as needed. To establish baseline for future comparisons to determine whether treatment is effective or different interventions are required to prevent further respiratory distress.
- Monitor arterial blood gases (ABGs), oxygen saturation, and mentation. To detect early signs of hypoxemia, respiratory acidosis, and respiratory alkalosis so corrective interventions may be implemented. Hypoxemia and hypercapnia often occur simultaneously, and the signs and symptoms are similar. Decreasing PaO2, coupled with increasing PaCO2, is a sign of respiratory failure and may be manifest by changes in mentation.
- Administer pulmonar y toilet (turning, chest physiotherapy) every 2 hours and as needed. To maintain patent airway and prevent complications.
- Assess peripheral pulses and warmth and color of extremities. To detect changes that indicate inadequate oxygenation and to determine effectiveness of ventilation.

- Position for maximum ventilation. A high Fowler’s or sitting, forward-leaning position relieves pressure on the diaphragm and allows for improved lung expansion and ventilation. Improved ventilation prevents stasis of lung secretions. The forward-leaning position allows more air to be removed from the lungs on exhalation, prevents use of accessory muscles of respiration, and improves the upward action of the diaphragm.
- Encourage slow, pursed-lip breathing. Pursed-lip breathing decreases the respiratory rate, increases tidal volume, decreases PaCO2, and increases PaO2, all of which help reduce dyspnea.
- Encourage abdominal breathing and abdominal muscle exercises. To improve breathing efficiency by elevating the diaphragm. Exercises strengthen the abdominal muscles and help patients empty their lungs more effectively.
- Administer humidified oxygen therapy as prescribed. Low-flow oxygen is generally prescribed because COPD patients chronically retain carbon dioxide and depend on their hypoxic drive to stimulate respiration. Apnea can occur if the oxygen delivery is too high.

Nursing Diagnosis

Risk for infection related to inability to clear trapped secretions secondary to chronic lung disease

Goals and Outcomes

- Patient will remain free from infections.

Related NOC Outcomes

- Immune Status
- Risk Control

Related NIC Interventions

- Infection Protection
- Surveillance

Nursing Activities and Rationales

- Assess white blood cell (WBC) count. Patients with COPD are at high risk for lung infection because of trapping of secretions, which serve as media for bacterial growth. An elevated WBC count is associated with systemic infection and may indicate the presence of pneumonia.
- Monitor for signs of systemic infection (chills, fever, diaphoresis). Indi- cates the presence of actual or developing infection.
- Obtain sputum culture and sensitivity as prescribed. To identify causative organism of infection and to monitor effectiveness of therapy.
- Maintain hydration. To thin secretions, prevent stasis, and facilitate expectoration.
- Administer antibiotics on time if prescribed. To maintain steady blood levels to eradicate infectious organism.
- Encourage patient to obtain influenza vaccine annually and the pneumococcal pneumonia vaccine as indicated by the Centers for Disease Control and Prevention. Patients with COPD are at high risk for respiratory complications secondary to influenza or bacterial pneumonia. Vaccines reduce the risk for and duration of these illnesses.
Nursing Diagnosis
Activity Intolerance related to dyspnea secondary to COPD
Goals and Outcomes
- Patient will report decreased fatigue.
- Patient will achieve heart rate, respirations, and blood pressure at baseline within 3 minutes after increased activity.

Related NOC Outcomes
- Activity Tolerance
- Endurance
- Energy Conservation

Related NIC Interventions
- Energy Management
- Progressive Muscle Relaxation
- Teaching: Prescribed Activity/Exercise

Nursing Activities and Rationales
- Assess and monitor patient’s response to activity (vital signs, dyspnea, signs of exertion). To determine patient’s response to self-care or other activities. Activity tolerance depends on the ability to physiologically adapt to changes in demand.
- Assist the patient in sequencing activities to provide for rest periods. Rest decreases myocardial oxygen consumption, allowing intervals of low energy demand. Decreased oxygen consumption allows more oxygen to be available for ventilation.
- Provide an environment conducive to rest. Environmental stimulation inhibits the patient’s ability to enter a state of relaxation and subsequent rest.
- Assist with activities of daily living as needed. Patients are unable to perform self-care during periods of severe dyspnea. Activity increases metabolic demand and decreases available oxygen for breathing.

Nursing Diagnosis
Risk for imbalanced nutrition: less than body requirements related to increased energy expenditure from difficulty breathing
Goals and Outcomes
- Patient will remain within 5 pounds of preillness (or ideal) body weight.
- Patient will gain weight as condition stabilizes and breathing effort decreases.

NOC Suggested Outcomes
- Nutritional Status
- Nutritional Status: Food & Fluid Intake
- Nutritional Status: Nutrient Intake

NIC Suggested Interventions
- Nutrition Management
- Nutrition Therapy
- Nutritional Monitoring

Nursing Activities and Rationales
- Provide small, frequent meals and nutritional supplements. Difficult breathing increases the metabolic demands on the body. Nutritional status must be maintained to meet the caloric needs of patients expending excessive calories on breathing and prevent weight loss, especially in patients who are below their ideal weight.
- Monitor intake and output. Decreased urinary output or concentrated urine is an indication of inadequate fluid replacement.
- Weigh daily. To determine whether nutritional needs are being met and to evaluate the effectiveness of nutritional interventions.
- Administer albumin and plasma expanders as prescribed. Protein and volume expanders increase colloid osmotic pressure, thus maintaining fluid within the intravascular compartment.
- Monitor serum albumin levels. Serum albumin levels reflect the adequacy of protein intake. Decreased levels are associated with peripheral edema caused by loss of osmotic pull from within the vascular space.

Nursing Diagnosis
Risk for Ineffective Therapeutic Regimen Management related to chronic disability secondary to COPD
Goals and Outcomes
- Patient will verbalize understanding of therapeutic regimen.
- Patient will report ability to adhere to therapeutic regimen.

Related NOC Outcomes
- Adherence Behavior
- Compliance Behavior
- Knowledge: Treatment Regimen

Related NIC Interventions
- Behavior Modification
- Referral
- Self-Modification Assistance

Nursing Activities and Rationales
- Assess patient’s understanding of the disease process. To identify specific learning needs so teaching can be individualized. Patients with longstanding COPD may be familiar with how to control their disease, which will change the type and amount of teaching.
- Provide verbal and written instructions as needed. Teaching reinforces the need to comply with recommended management. Written material provides additional resources for home reference.
- Teach the importance of maintaining prescribed medication dosages and schedules. To maintain blood levels to control symptoms while also preventing underdosing or overdosing.
- Stress the importance of compliance with follow-up care recommendations. Follow-up care is essential for patients with COPD so complications can be identified early and corrective measures implemented.

Evaluation
Evaluation is based on comparing the patient’s outcomes with desired goals and outcomes.