



National Hospice and Palliative Care Organization
Palliative Care Resource Series

**PALLIATIVE CARE FOR COPD PATIENTS:
PRACTICAL TIPS FOR HOME BASED
PROGRAMS**

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PALLIATIVE CARE FOR COPD: THE NEED

Chronic obstructive pulmonary disease (COPD) is the third leading cause of death and morbidity worldwide. In the United States, it affects 12 to 16 million people (1). Patients in the latter stages of advanced lung disease experience deterioration of symptoms and quality of life on a scope similar to those with advanced malignancy, but over a longer trajectory (2,3). These patients and families would benefit from a well-constructed, active palliative care plan that addresses their goals.

DEFINITION OF COPD

COPD is an irreversible chronic progressive disease. It is characterized by persistent airflow limitation associated with an enhanced chronic inflammatory response, in the airways and the lung, to noxious particles or gases. The chronic airflow limitation is caused by a mixture of small airways disease (obstructive bronchiolitis) and parenchymal destruction (emphysema), the relative contributions of which vary from person to person. Exacerbations and comorbidities contribute to the overall severity in individual patients (4).

RELEVANT PATHOPHYSIOLOGY

Chronic inflammation causes structural changes and narrowing of the small airways. Destruction of the lung parenchyma, also by inflammatory processes, leads to the loss of alveolar attachments to the small airways and decreases lung elastic recoil; in turn, these changes diminish the ability of the airways to remain open during expiration (1,4).

Other features of COPD include: gas trapping during expiration, resulting in hyperinflation; gas exchange abnormalities, which may result in hypoxemia and/or hypercapnia; mucus hypersecretion, resulting in chronic productive cough and further airflow limitation; and pulmonary hypertension (1,4).

CLINICAL FEATURES

The characteristics symptoms of COPD are:

- Dyspnea
- Chronic cough
- Sputum production
- Episodes of acute exacerbation (AE) of the chronic symptoms
- Pain around the chest and other parts of the body – this symptom is underdiagnosed and underreported but significantly impairs quality of life in COPD patients
- Non-specific symptoms, which can include fatigue, muscle wasting (“pulmonary cachexia”), sexual dysfunction, and sleep disturbance.

DISEASE MANAGEMENT

Treatment for COPD requires both pharmacological and non-pharmacological interventions. The aim is to prevent disease progression, improve health status and exercise tolerance, and reduce the frequency and severity of acute exacerbations (3). Depending on disease severity, COPD patients may benefit from exercise, diet, and control of comorbidities.

Non-pharmacological

- Smoking cessation is the most important initial step in the management of a COPD patient who continues to smoke.
- While smoking cessation is likely to help control the symptoms of the COPD patient who is still smoking, the patient's goals of care and quality of life need to be considered when deciding how strongly to urge smoking cessation.
- Influenza and pneumococcal vaccination should be offered.
- Maintenance of regular physical activity and exercise.
- Respiratory Therapy.
- Pulmonary Rehabilitation should be offered to a patient who gets short of breath while walking.
 - ◆ Pulmonary rehabilitation (PR) has demonstrated physiological, symptom reducing, psychosocial, and health economic benefits for patients with chronic respiratory diseases. PR is a comprehensive intervention of patient-tailored therapies that include, but are not limited to, exercise training, education, and behavior change, designed to improve the physical and psychological condition of people with chronic respiratory disease and to promote the long-term adherence to health-enhancing behaviors (5).

Pharmacological

- Bronchodilators
 - ◆ Short and long acting
 - By Metered Dose Inhaler (MDI) - Teaching proper technique is critical; the drug will not be efficacious if it doesn't reach the airway.
 - By Nebulizer
 - ◆ Beta2 Agonists
 - ◆ Anticholinergics
- Steroids
 - ◆ High dose, short term, rapid taper for AE of COPD
 - ◆ Low dose (minimal dose), long term
 - ◆ Inhaled

Long-term therapy with oral corticosteroids should be avoided, if possible, but may be appropriate for selected patients.

- Opioids
 - ◆ Opioids can relieve refractory dyspnea without increasing side-effects. There is no excess mortality when opioids are used in low doses (<30mg per 24-hr) (3).
- Benzodiazepines (Benzos)
 - ◆ Are effective for anxiety, but have not been shown to be effective for dyspnea (3).
- Mucolytics
 - ◆ Are of questionable efficacy.

- Cough suppressants
 - ◆ Are of questionable efficacy.
- The choice of medication depends on availability and response of the patient.
- A beta-2-agonist, preferably as an inhaled, long-acting formulation, is the main therapy.
 - ◆ Combination with a short-acting (“rescue”) agent is usually necessary.
 - ◆ Inhaled long-acting anti-cholinergics, inhaled corticosteroids, or a phosphodiesterase-IV inhibitor can be added if symptoms are not well controlled (4).
- Dyspnea causes anxiety; anxiety may cause dyspnea.
 - ◆ For the patient with refractory dyspnea **AND** anxiety, control the dyspnea first with opioids.
 - ◆ If the patient is still anxious after the dyspnea is controlled, benzos may be useful.
 - ◆ Be mindful that the combination of opioids & benzos may precipitate hypercapnia.

Invasive Therapies

- Supplemental oxygen (O₂) may be useful, but often is overused. Focus should be on relief of dyspnea rather than an arbitrary O₂ saturation number.
 - ◆ Patients with mild to moderate hypoxemia do not benefit from supplemental O₂ (6).
 - ◆ Even some patients with severe hypoxemia do not achieve symptom relief from supplemental O₂.
 - ◆ Oxygen delivery in the home environment is limited to O₂ tanks or an O₂ concentrator and can be delivered by either nasal canulae or a simple face mask. Maximum flow rates are 8-10 l/m; maximum achievable fraction of inspired O₂ (F_iO₂) is about 40% (7).

| Flow, l/min | Approximate F _i O ₂ |
|-------------|---|
| 1 | 24% |
| 2 | 27% |
| 4 | 33% |
| 6 | 39% |

- BiPAP
 - ◆ Is useful only if there is ventilatory (hypercapnic) failure and/or if there is symptomatic relief.
- Lung Volume Reduction Surgery (LVRS) may be useful for highly selected patients.

PALLIATIVE CARE FOR COPD PATIENTS AT HOME

Palliative care aims to increase the quality of life for patients with advanced disease and their families. Palliative care can, and should, be a standard offered to the patient and family. To set a common goal, effective and empathetic communication with patients and families is important. Attention to psychosocial and spiritual needs is essential (3). Meeting the patient’s needs at home lessens patient and caregiver burden and helps prevent avoidable admissions to the hospital. The delivery of this type of care requires intense planning and care coordination between all involved medical specialties as well as family, caregivers, and psychosocial supports.

Disease assessment

Areas of focus during visits at home may include:

- Symptoms – Assess and address any change in symptoms, such as cough, sputum production, breathlessness, and sleep disturbances, since the last visit. Pain is often underdiagnosed and underreported in COPD patients.
- Smoking status – Determine current smoking status, including second-hand exposure. Encourage the patient to reduce and eliminate exposure to smoke whenever possible.
- Medications
 - ◆ The current therapeutic regimen should be discussed at each visit. Compliance, dosage of various medications, and possible side effects should be noted.
 - ◆ Avoid polypharmacy.
 - ◆ Teach and evaluate the proper use of MDIs.
- Exacerbation history – Evaluate the cause, frequency and severity of each exacerbation.
- Co-morbidity – Identify and manage any co-morbidity.
- Pulse oximetry – For tracking or adjusting oxygen supplementation. (An arterial blood gas is required only if ventilatory failure is suspected and would be treated with more aggressive measures.)

Patient goals

- Patient goals should be reviewed frequently and should be discussed when there is a change in patient status.
- The patient's End-of-Life decisions should be protected with an Advance Directive or Physician Order for Life-Sustaining Treatments (POLST). These documents must be readily available to physicians and other providers, including paramedics. We recommend placing a copy on the refrigerator door.
- Most people would prefer to die at home (9). By providing nursing support in the home, meeting the emotional needs of patients/family, and providing physician home visits when needed, Hospice Care can achieve a preferred home death.

Review and education

- Any change in the treatment plan should be carefully discussed with the patient and family. A good practice is to ask the patient/caregiver to repeat back the changes.
- Ensure that patient and family can contact medical team at any time if needed.
- Develop an individualized Action Plan to help patients recognize the early symptoms of an exacerbation and to support the patient with an AE until the care team can be reached (3,8). Everything that was discussed at the meeting should be reviewed before the palliative care team leaves the patient's residence.

SUMMARY: LESSONS LEARNED AND BEST PRACTICES

Key components for palliative care in advanced lung disease (4) include:

- A Plan of Care based on the patient's individualized needs and goals of care. Every patient and home setting are unique.
- 24/7 access to medical support and advice.
- Dedicated medical providers skilled in medical and psychosocial assessment and in advanced care planning.
- Patient and caregiver education.
- Regular home visits, with physician assessment when needed.
- Support for a home environment that is comfortable and safe.
- An Individualized Action Plan, to support the patient/caregivers, in event of an AE.
- A focus on keeping the patient comfortable and on meeting patient/family goals, not just avoiding hospitalizations, since some hospitalizations may be appropriate.
- Direct hospital admission, bypassing the emergency department, when indicated.
- Availability of Hospice Care.
- Access to respiratory and palliative medicine expertise.

ABBREVIATIONS USED

AE – Acute Exacerbation

Benzos – Benzodiazepines

COPD – Chronic Obstructive Pulmonary Disease

MDI – Metered Dose Inhaler

O₂ – Oxygen

POLST – Physician Order for Life-Sustaining Treatments

PR – Pulmonary Rehabilitation

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