COPD Management in the LTC Setting

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Speaker Disclosures

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Objectives

- Define methods to assess and monitor COPD within LTC, with a focus on the role of the MDS 3.0
- Identify signs and symptoms associated with COPD and how these should be used to monitor
- Define challenges associated with managing COPD in the LTC resident with co-morbidities
- Identify new and existing therapies that can be used to effectively manage COPD in LTC settings
Prevalence of Diagnosed COPD in Nursing Home Residents Is Rising

![Prevalence Graph]

Current Focus on Avoidable Re-Hospitalizations

- Congestive Heart Failure
- Acute Myocardial Infarction
- Pneumonia
  - Implemented October 1, 2012
  - COPD and other diagnoses to follow
Applying the Care Process

- Following a good care process is critical for COPD management in this setting
- There are four “phases” to a care process
  - Recognition
  - Assessment/Root cause analysis
  - Treatment
  - Monitoring
Impact of COPD

- Depends upon severity of symptoms:
  - Breathlessness *
  - Decreased exercise capacity *
  - Systemic effects
    - muscle wasting, altered nutrition, anemia, increased CAD risk, osteoporosis, depression
  - Comorbidities
    - cancer, tuberculosis, CHF, other
  - Not just the degree of airflow limitation

Recognition

- Screen the newly admitted patient for COPD and risk factors for COPD
  - On admission or during the pre-admission assessment, assess the patient’s respiratory status.
  - Examine the patient’s records for a diagnosis of COPD or for COPD risk factors.
  - Review the patient’s records for results of any prior tests of pulmonary function or arterial blood gases or pulse oximetry.

Risk Factors for COPD

- Current or past smoker with a 20-pack-year history of smoking, whether or not the patient complains of respiratory symptoms
- Recurrent or chronic respiratory symptoms, including cough and breathlessness on exertion
- History of significant occupational exposure to respiratory irritants
- Family history of pulmonary disease (Alpha-1 antitrypsin deficiency)
- Increased responsiveness to provocative agents (e.g., dust, air pollution, tobacco smoke)
- Childhood factors: low birth weight, frequent respiratory infections, environmental tobacco smoke
Assessment

- Develop a differential diagnosis
  - In addition to a physical exam, the following laboratory tests are recommended to develop a differential diagnosis:
    - Chest x-ray (if not already done)
    - Complete blood count
    - Chemistry profile
    - Electrocardiogram
    - Pulse oximetry at rest and with activity

Assessment

- Assess the severity of the patient's COPD
  - Assessment of the severity of COPD guides treatment planning
  - Typically, the disease is classified as mild, moderate or severe
  - The 6-minute walk test is a reproducible, practical measure of the level of everyday impairment and exercise tolerance

Assessment

- Assess the stability of the patient's COPD
  - Assess on admission and frequently during the course of care
  - Obtain Hx of the frequency and severity of prior exacerbations and knowledge of precipitating events
Assessment

- Obtain input from all members of the interdisciplinary team
  - The assessment of the patient should take into consideration the individual’s physical, cognitive, emotional, and spiritual functioning, associated comorbidities, and expectations

Assessment

- Assess the patient’s functional status
  - Should be done at:
    - Baseline
    - Annually
    - Following an acute exacerbation, or when comorbid disease is present

Assessment

- Summarize the patient’s condition
  - Written summary of the patient’s medical condition should:
    - Describe the patient’s medical conditions and stability, including control of COPD and severity of associated complications.
    - Assess the impact of COPD on the patient’s functioning and quality of life.
    - Where relevant, provide reasons why other suspected diagnoses were not pursued (e.g., patient too frail, terminal, unwilling to undergo further interventions.)
    - List applicable treatments for the patient’s COPD and coexisting medical conditions. Give reasons for recommending the use or non-use of identified treatment options in this patient, considering his or her overall state of health, advance directives, and preferences.
Assessment

- Staff education
- AMDA COPD CPG
- AMDA Know-it-all cards
- Physician notification
- SBAR
- INTERACT-3

Treatment

- Develop an individualized care plan and define treatment goals
  - Treatment goals appropriate for most patients with COPD:
    - Stop cigarette smoking
    - Relieve any reversible airway obstruction
    - Control cough and secretions
    - Eliminate and prevent infection
    - Address complications (heart failure, severe hypoxemia, polycythemia)
    - Avoid aggravating factors (bronchial irritants, harmful medications)
    - Relieve depression and anxiety
    - Maximize exercise tolerance
    - Avoid unnecessary, disabling, or expensive therapy

- Implement facility-wide programs and policies to encourage smoking cessation
  - Smoking cessation, with continued abstinence, is the single most effective way to improve outcomes for patients at all stages of COPD, from asymptomatic to severe
  - Smoking cessation substantially benefits lung function, slowing the decline of FEV1
Therapeutic Options: Smoking Cessation

- Counseling delivered by physicians and other health professionals significantly increases quit rates over self-initiated strategies. Even a brief (3-minute) period of counseling to urge a smoker to quit results in smoking quit rates of 5-10%.
- Nicotine replacement therapy (nicotine gum, inhaler, nasal spray, transdermal patch, sublingual tablet, or lozenge) as well as pharmacotherapy with varenicline, bupropion, and nortriptyline reliably increases long-term smoking abstinence rates and are significantly more effective than placebo.

Brief Strategies to Help the Patient Willing to Quit Smoking

- **ASK** Systematically identify all tobacco users at every visit
- **ADVISE** Strongly urge all tobacco users to quit
- **ASSESS** Determine willingness to make a quit attempt
- **ASSIST** Aid the patient in quitting
- **ARRANGE** Schedule follow-up contact.

Management of Stable COPD

- Individualize care
- Education
- Exercise (pulmonary rehabilitation)
- Medications
  - No medication can modify the long-term decline of the disease (trajectory)
  - Bronchodilators – Central to the management
  - Corticosteroids
  - Influenza and pneumococcal vaccines
  - Oxygen (2-5 liters/min)
Strategies for Effective Management of COPD in LTC

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Treatment

- Prescribe supplemental oxygen therapy if appropriate
  - Oxygen may be administered as long-term continuous therapy, during exercise, or as needed to relieve acute dyspnea
  - The primary goals of oxygen therapy are to increase baseline arterial oxygen pressure (PaO₂) to at least 60 mm Hg at rest (at sea level) and/or obtain arterial oxygen saturation (SaO₂) of at least 90 percent

- Ensure that the patient is protected against respiratory tract infections
  - Patients with COPD are at risk for increased morbidity and mortality from respiratory tract infections
  - Pneumococcal and influenza vaccinations, both alone and in combination, have been shown to reduce hospitalization and mortality

- Implement appropriate pharmacologic interventions
  - Goals are to:
    - prevent or control symptoms
    - reduce the frequency and severity of exacerbations
    - improve health status
    - improve exercise tolerance
  - None of the existing medications for COPD has been shown conclusively to modify the long-term decline in lung function
Inhaled Bronchodilators Are Central to the Symptomatic Management of COPD

- Goals for treatment of stable COPD
  - Relieve symptoms
  - Improve health status
  - Prevent exacerbations
  - Prevent disease progression
  - May be used PRN in mild cases
  - Long-acting agents - more effective/convenient
  - Two different agents may improve efficacy/decrease side effects
  - Spacers and nebulizers are very beneficial and recommended for inhaled agents

Principles for the use of pharmacologic agents to treat COPD

- Train patients and caregivers in the proper administration of inhaled medications.
- Carefully assess the patient’s response to therapy and adjust treatment accordingly.
- Tailor the medication delivery system to the patient’s needs.

Treatment challenges

- Use of inhalers
- Demented residents
- Spacers
- Incorrect cleaning and storages of MDIs and spacers
- Communication with physicians
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Treatment

- Treat acute exacerbations of COPD promptly
- Recognize and report the acute exacerbation
- Implement initial treatment of the acute exacerbation, assess the severity of the episode, and contact the practitioner
- Initiate treatment
- Decide whether the patient with an acute exacerbation of COPD should be hospitalized
- When the acute exacerbation resolves, taper or discontinue medications prescribed to treat it

The characteristic symptoms of COPD are chronic and progressive dyspnea, cough, and sputum production that can be variable from day-to-day.

**Dyspnea:** Progressive, persistent and characteristically worse with exercise.

**Chronic cough:** May be intermittent and may be unproductive.

**Chronic sputum production:** COPD patients commonly cough up sputum.

Risk Factors for Acute Exacerbations of COPD

- Active or passive smoking
- Adverse drug effect (sedatives, hypnotics, beta-blockers, etc.)
- Delayed diagnosis of COPD
- Diabetes mellitus
- Electrolyte disturbances
- Episode of CHF
- Exposure to air pollution
- Failure to use oxygen therapy
- Inappropriate use of bronchodilators
- Mouth infections, lack of dental care
- Pneumonia
- Pulmonary thromboembolism
- Recurrent gastroesophageal reflux
- Renal failure
- Viral or bacterial respiratory tract infection

Table 9 from the AMDA COPD Management in the Long Term Care Setting clinical practice guideline
Signs and Symptoms of an Acute Exacerbation of COPD

- Delirium
- Lethargy
- Change from baseline in breath sounds
cognitive status
sputum color
sputum production
- Increase from baseline in anxiety
heart rate
respiratory rate
shortness of breath
wheezing

Table 10 from the AMDA COPD Management in the Long Term Care Setting clinical practice guideline

Glucocorticosteroid Benefits

- Shorten recovery time
- Improve FEV\textsubscript{1} and PaO2
- Reduce risk of early relapse
- Reduce risk of treatment failure
- Reduce risk of hospitalization
- Reduce length of hospital stay

Manage Exacerbations: Key Points

- The most common causes of COPD exacerbations are viral upper respiratory tract infections and infection of the tracheobronchial tree.
- Diagnosis relies exclusively on the clinical presentation of the patient complaining of an acute change of symptoms that is beyond normal day-to-day variation.
- The goal of treatment is to minimize the impact of the current exacerbation and to prevent the development of subsequent exacerbations.
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- Short-acting inhaled beta₂-agonists with or without short-acting anticholinergics are usually the preferred bronchodilators for treatment of an exacerbation.
- Systemic corticosteroids and antibiotics can shorten recovery time, improve lung function (FEV₁) and arterial hypoxemia (PaO₂), and reduce the risk of early relapse, treatment failure, and length of hospital stay.
- COPD exacerbations can often be prevented.

Treatment

- When the acute exacerbation resolves, taper or discontinue medications prescribed to treat it
- Intervene as appropriate to minimize comorbidities and complications
- Determine when the patient's condition should be considered end-stage

Cardiovascular disease (including ischemic heart disease, heart failure, atrial fibrillation, and hypertension) is a major comorbidity in COPD and probably both the most frequent and most important disease coexisting with COPD. Benefits of cardioselective beta-blocker treatment in heart failure outweigh potential risk even in patients with severe COPD.
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Osteoporosis and anxiety/depression: often under-diagnosed and associated with poor health status and prognosis.

Lung cancer: frequent in patients with COPD; the most frequent cause of death in patients with mild COPD.

Serious infections: respiratory infections are especially frequent.

Metabolic syndrome and manifest diabetes: more frequent in COPD and the latter is likely to impact on prognosis.

Prognostic Indicators for Palliative or Hospice Care in Pulmonary Disease
- Disabling shortness of breath at rest
- Progressive respiratory decline
- Increased emergency room visits or hospitalizations
- Low oxygenation at rest (PaO2 <55 mm Hg or SaO2 <88%)
- Progressive weight loss greater than 10% in last 6 months
- Resting heart rate >100 beats/minute

Risk Factors for Poor Outcome*
- Presence of comorbid diseases
- Severe COPD
- > 3 exacerbations/year
- Antimicrobial use within previous three months

* (RF)
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Monitoring

- Monitor the patient’s symptoms and functional ability
  - Reassess the following aspects of the patient’s status at regular intervals:
    - Stability of vital signs
    - Ability to speak in full sentences without breathlessness
    - Severity of respiratory symptoms
    - Mental status
    - Ability to perform ADLs independently
    - Endurance
    - Weight
    - Food intake and hydration status
    - Change in sputum production or color
    - Symptoms of anxiety and/or depression

- Monitor for the appearance or progression of comorbidities and complications
  - Monitor medications regularly to ensure that drug interactions and side effects are addressed promptly
  - Review medications at any time that a significant change is noted in the patient’s clinical condition

- Step 20 - Monitor the facility’s management of COPD
  - Systematic monitoring is needed to determine the extent to which a long-term facility is successful in managing COPD
  - The medical director should be actively involved in this process
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MDS 3.0 Section O Special Treatments

Potential MDS triggers to better managed COPD
- Delerium
- Cognitive loss/dementia
- ADL function/rehab potential
- Psychosocial well-being
- Mood state
- Behaviors
- Activities
- Falls
- Nutritional status/feeding tubes/dehydration/fluid maintenance
- Pressure ulcers
- Pain
- Return to community

Link to MDS care area triggers
- ADL decline
- Falls
- Depressive symptoms
- Behaviors affecting others (perhaps with increasing antipsychotic usage, anxiolytic/hypnotic usage)
- Weight loss

Resident Care Planning

- The care plan should be individualized, but may include the following:
  - Education of resident and family
  - Stop cigarette smoking and avoid aggravating factors
  - Reduce symptoms and complications associated with COPD
  - Maximize exercise tolerance
  - Reduce acute exacerbations
  - Prevent and treat any infections
  - Use evidence-based treatment options to optimize drug therapy
  - Avoid or minimize therapy-related adverse events


SUMMARY

- Chronic obstructive pulmonary disease (COPD) is the fourth leading cause of death in the United States
- In contrast to other major chronic diseases, prevalence of and mortality from COPD are increasing
- Although COPD is by definition not fully reversible, effective interventions exist that can ameliorate symptoms of the disease and significantly improve patients' quality of life

Access to clinical tools
- Clinical guidance
- Practice management
- Timely communications and publications
- Grassroots advocacy
- Networking, connection and collegiality
- Member benefits continually grow and evolve
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THANK YOU!!

QUESTIONS?
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