


**Interdisciplinary Approach to Managing a Patient with Chronic Lung Disease Across Settings – Part 2**

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**Learning Objectives:**

- \* Describe three hands-on treatment techniques for the patient with COPD that are practical in the home setting
- \* Describe the interdisciplinary approach and what each discipline can offer the patient with COPD
- \* Describe appropriate referrals to Palliative Care and Hospice care for this patient population

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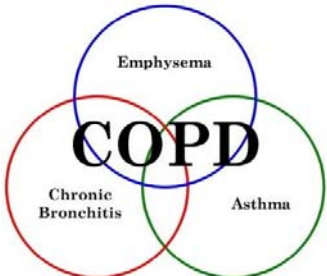
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**Chronic Obstructive Pulmonary Disease**



<http://freedrugcard.us/blog/wp-content/uploads/2012/11/copd3.jpg>

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## Our Assessment From Part 1

- \* Assessed Vitals, General Inspection
  - \* Including assessment of dyspnea
- \* Assessed Breathing Pattern
- \* Assessed Viability of Diaphragm
- \* Assessed Cough
- \* Assessed Aerobic Capacity
- \* Now our treatment!

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*COPD Requires an Interdisciplinary Approach for Successful Intervention!*



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## **PATIENT GOALS**

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## What does the patient want?

- \* Patient Engagement strategies
- \* Motivational Interviewing
  - \* Readiness for change?
- \* Start with the smallest achievable goal to build trust

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## What does the patient want?

- \* DON'T START BY TELLING THEM THEY HAVE TO:
  - \* Stop smoking
  - \* Get rid of all their animals
  - \* Move out of the basement
- \* Work up to these later in the plan of care

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## *The Team Approach*

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## Medications

**RN: Medications**

- \* **Problem:**
  - \* Patient does not understanding
  - \* Patient is not taking appropriately
  - \* Patient stops taking meds
- \* **Intervention:** med teaching and observation of set up/taking meds
- \* **Goal 1:** Patient will demonstrate 100% accuracy with taking inhaled/ nebulized med with no verbal cues for 3 concurrent visits in 2 weeks in order for pt to obtain full benefit of meds.
- \* **Goal 2:** patient will demonstrate 100% accuracy with setting up and taking oral meds 3 weeks concurrently with no verbal cues in 6 weeks, to show that pt can safely manage own meds in home alone.

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## Problems/Interventions/Goals

**Therapists: Medications**

- \* **Problem:** patient with uncontrolled dyspnea on exertion (DOE)
- \* **Problem:** patient unable to clear secretions from airway
- \* **Intervention:** (among others) education on coordinating meds with activity
- \* **Goal:** patient will be (I) with completing nebulizer/inhaler regimen and airway clearance program prior to strengthening and aerobic exercise to achieve max benefits, within 4 weeks.

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## Medication Review - *Bronchodilators*

- \* Bronchodilator: relaxes smooth muscles in the lungs so that more air can move in and out
- \* **Adrenergic Agonist:** increase airway patency through smooth muscle relaxation
  - \* **Rescue:** Proventil, Ventolin, ProAir, Primatene Mist (albuterol or albuterol sulfate)
  - \* **Long-Acting:** Serevent (salmeterol), Brovana (arformoterol), Performist (formoterol)

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**Medication Review -**  
*Bronchodilators*

- \* Bronchodilator: relaxes smooth muscles in the lungs so that more air can move in and out
- \* **Anticholinergic Agents:** increase airway patency through preventing bronchoconstriction
  - \* Ex: ipratropium (Atrovent) and tiotropium (Spiriva)
  - \* Both Long Acting drugs
  - \* Spiriva pills – DO NOT TAKE CAPSULES ORALLY - use in the handihaler device

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**Medication Review -**  
*Bronchodilators*

- \* Both are inhaled bronchodilators so go directly to lungs with little side effects
- \* Generally prescribed a “rescue” inhaler first, but if have to use >2x/wk, will be prescribed a long acting.
- \* **TIP: if they don't have what they need, you can help them by letting the doctor know the true picture. This really helps you and the patient!!!!**

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**Medication Review -**  
*Anti-inflammatory Agents*

- \* **Glucocorticosteroids/Corticosteroids**
  - \* Prevent inflammatory-induced bronchoconstriction
  - \* Inhibit inflammatory cells
  - \* Decrease histamine response
  - \* Decrease edema
  - \* Improve lung function
  - \* 1-2x/day dosing; not indicated for acute bronchospasm
  - \* Med List:
    - \* Flunisolide (Aerobid), budesonide (Pulmicort), fluticasone (Flovent), ciclesonide (Alvesco), beclomethasone (Qvar), mometasone (Asmanex)

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### Is the Patient Using the Metered Dose Inhaler(MDI) Correctly???

1. Shake the inhaler
2. Exhale completely through closed mouth
3. Position the inhaler either
  - a. 2" in front of mouth
  - b. Except Albuterol can be in mouth with opening behind front teeth
4. Begin to slowly inhale and then active inhaler
5. Continue to slowly inhale as long as possible
6. Hold breath for 5-10 sec
7. Exhale slowly through nose
8. If prescribed 2 puffs, wait 1-2 min and repeat process
9. Rinse mouth/throat with water after



#ADAM

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### Does your patient need a Spacer?



#ADAM

If your patient is having trouble with coordination or timing of inhaler and is not getting full dose.....



#ADAM

Maybe they need a spacer or an air chamber to give them more time to inhale.

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### Is patient accurately using the nebulizer?



Do they have the right pieces?




Does OT need to work on fine motor skills?



#ADAM

Do we all need to work on deep breathing to get an effective treatment?



#ADAM

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## Medication Review - *Combination Drugs-Long acting*

- \* **Advair:** is a combination of two medications -- fluticasone, a corticosteroid, and salmeterol, a long-acting, beta-agonist bronchodilator. Advair is used for maintenance treatment of COPD.
- \* **Symbicort:** contains formoterol, a long-acting, beta-agonist bronchodilator, and budesonide, a corticosteroid.
- \* **Combivent(inhaler) or DuoNeb(nebulizer):** contains two bronchodilators -- albuterol (a beta agonist) and ipratropium, an anticholinergic. Combination bronchodilator inhalers like Combivent, may help increase the bronchodilator effect of the medications, with the same or fewer side effects

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## Medication Review - *Mucoactive Agents*

- \* **Mucolytics:**
  - \* Reduce the viscosity of the mucus
  - \* Ex: acetylcysteine (Mucomyst, Acetadote)
- \* **Expectorants:**
  - \* Increase volume/hydration of secretions
  - \* May also induce coughing
  - \* Ex: most common is guaifenesin, which is found in most OTC cough meds, e.g. Duratuss, Mucinex, Amibid,
  - \* SE may include N/V or diarrhea

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## Medication Review - *Other drugs*

- \* **Antibiotics/Antimicrobials**
- \* **\*\*\*Decongestants/Anti-histamines: for upper airway sinus congestion and seasonal allergies\*\***
- \* **\*\*Anti-tussives: if the cough is non-productive and taxing**
- \* **Drugs for smoking cessation**
- \* **Oxygen – remind pt to call vendor for service**

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## Shortness of Breath

**RN: Shortness of Breath**

- \* Problem: patient has SOB at rest or with minimal activity
- \* Intervention: education on rescue meds vs. long acting meds
- \* Intervention: education on stop light tool
- \* Intervention: education on relaxation, PLB, and Breathlessness positions

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## Shortness of Breath

**RN: Shortness of Breath**

- \* Goal 1: patient/caregiver will demonstrate (I) with knowing when to report signs/symptoms of SOB and who to report to, by correctly walking through scenarios using the stoplight tool, in 1 week, so that patient/caregiver have a plan for crisis situations.
- \* Goal 2: patient will verbalize with 100% accuracy which inhalers to take scheduled and which to take as a rescue, in 1 week, for better management of crisis situations.
- \* Goal 3: patient to be (I) with use of (*fill in scale here*), to correlate with when to use rescue inhaler, breathing techniques or relaxation in 4 weeks.

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## Shortness of Breath

**\* Therapists: Shortness of Breath**

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## Shortness of Breath

**\* Therapists: Shortness of Breath**

- \* Goal 1: patient to be (I) with use of (*fill in scale here*) to be able to self monitor, in 2 weeks
- \* Goal 2: patient will be (I) with PLB/shortness of breath positions as recovery techniques in 2 weeks for management of SOB.
- \* Goal 3: patient will be (I) with PLB as a preventative technique in 4 weeks, to increase aerobic tolerance/functional mobility before DOE.
- \* Goal 4: patient will achieve optimal breathing pattern, (describe the pattern here), to obtain max breathing potential with functional mobility in 8 weeks.

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## Breathing Technique – *Pursed Lip Breathing (PLB)*

- \* In through nose (smell the flower)
- \* Out through **PURSED LIPS** (like blowing a kiss)
- \* Exhale to Inhale ratio is 2:1
- \* You can incorporate diaphragm if it is viable
- \* Why do it? -
  - \* *Keeps air in lungs longer for gas exchange*
  - \* *Provides positive pressure to pop open any closed alveoli*
  - \* *Is proven to bring BP/HR/RR down (i.e., relaxation) if done progressively slower*

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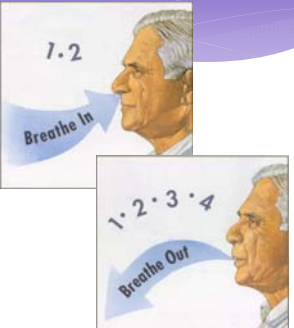
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## Breathing Technique – *Pursed Lip Breathing (PLB)*

- \* Is a learned skill!
- \* Teach in supine->sit ->stand->>walking->functional mobility
- \* Will need repeated training for carry over from all disciplines!!
- \* You can use Sniffing as a technique to cue PLB



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## Breathing Technique – *Pursed Lip Breathing (PLB)*

**Sniffing** as a treatment for controlled deep breathing  
(diaphragmatic if possible, otherwise just PLB)

- \* Position the patient for success and keep your voice quiet
- \* Ask the patient to place a hand on the lowest point of breathing
- \* Quietly ask patient to sniff 3 times
- \* Draw attention to the patient's pattern of breathing and what you would like the pattern to be with verbal or tactile cues
- \* Have them sniff 3 times again, then "let it out slowly".
- \* Now "sniff in twice and a little deeper", note any increase in chest wall excursion
- \* Continue to "one long, slow sniff", then "more quietly", then "more slowly", and "even quieter", etc...
- \* In the end, you are getting quality PLB, with prolonged time for gas exchange and maximizing exhale
- \* Also works as a relaxation technique

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## Breathing Technique – *Pursed Lip Breathing (PLB) - Devices*



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## Breathing Technique – *Pursed Lip Breathing (PLB) - Devices*



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## Breathing Technique – *Breathlessness Positions*

- \* Remember the diaphragm has 2 jobs
  - \* Posture
  - \* Breathing
- \* Purpose of Breathlessness Positions is to eliminate the postural role so that patient can just use diaphragm, or chest wall muscles, to breathe
- \* Use in conjunction with PLB

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## Breathing Technique – *Breathlessness Positions*

Any position that allows the diaphragm to only work on breathing, doesn't have to do posture also.

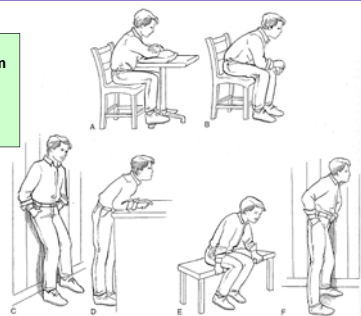


Figure 7-24: Positions frequently used to relieve dyspnea.

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## Breathing Techniques – *training the diaphragm*

- \* **Facilitation of the diaphragm**
  - \* Cueing
  - \* Moment before inhale

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**Breathing Techniques –**  
*training the upper/middle chest*

- \* **Facilitate upper/middle chest**
  - \* Cueing
  - \* Moment before inhale

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**Breathing Techniques –**  
*Other techniques*

- \* Segmental breathing
- \* Visualization

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**Secretion Management**

**RN: Secretion Management**

- \* Problem: patient with ineffective cough, increase secretion, risk rehospitalization
- \* Problem: patient knowledge deficit of how to manage secretions
- \* Intervention: med education on mucoactive drugs
- \* Intervention: assess/intervene on coughing

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## Secretion Management

**RN: Secretion Management**

- \* Goal 1: to be (I) with set-up and taking meds as long as this includes mucoactive drugs.
- \* Goal 2: Patient to demonstrate good secretion management by knowing when to cough (work on airway clearance within 15 minutes of meds) and when to suppress cough (when cough is not timed with meds, is non-productive and taxing), within 4 weeks.
- \* Goal 3: Patient t to demonstrate (I) with s/s of exacerbation/ infection with sputum color change/increased sputum production and who to report changes to, within 2 weeks.

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## Secretion Management

**Therapists: Secretion Management**

- \* Problem: patient with ineffective cough, increase secretion, risk rehospitalization,
- \* Problem: poor aerobic tolerance due to poor air exchange
- \* Intervention: assess cough, cough techniques, airway clearance

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## Secretion Management

**Therapists: Secretion Management**

- \* Goal 1: Patient to exhibit effective cough for efficient airway clearance to increase aerobic tolerance for functional mobility/ADLs in 4 weeks.
- \* Goal 2: Patient to demonstrate proper secretion management as evidenced by knowing when to work on cough (when timed with meds) and when to suppress cough (when not timed with meds) to conserve aerobic energy, in 6 weeks.
- \* Goal 3: Patient to be (I) with use of devices for better breathing techniques and secretion management as evidenced by return demonstration, for improved disease management to avoid rehospitalization, in 60 days.

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## Coughing Techniques – *A Few Hints*

- \* Always work on coughing within 15 minutes of patient doing inhaler/nebulizer
  - \* Airways are the widest and most likely to get mucus out
- \* Make sure patient is well hydrated
  - \* Decreases viscosity of mucus, makes it easier to cough out
- \* Make sure that patient is seated and well supported to work on coughing
- \* Use the devices as necessary to help move air and sputum
- \* Make sure patient knows how and when to suppress the cough to save energy

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## Coughing Techniques – *Facilitating Inhale*

- \* Think about opening the chest up to allow inhale:
  - \* Trunk extension
  - \* Arms up above head as much as possible
  - \* Head into extension
  - \* Eyes gaze upward



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## Coughing Techniques – *Facilitating Exhale*

- \* Just the opposite; help to SQUEEZE the cough out
  - \* Trunk flexion
  - \* Arms come down to side; can even be used to push into the costal angle to assist with forced exhalation
  - \* Head into flexion
  - \* Eyes gaze downward



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## Coughing Techniques – *Controlled Cough*

- \* The patient takes 3 breaths
- \* Exhales normally after the first 2 breaths
- \* Coughs forcefully after the 3<sup>rd</sup>
- \* Idea is that the first 2 breaths opens any closed spaces and gets air behind the secretions to help cough them up.




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## Coughing Techniques – *Other Techniques*

- \* Postural Drainage:
  - \* Try to position the patient so that the lobe is draining toward the bronchial tree
  - \* Patient just lies in position for 5-10 or can supplement with techniques below
- \* Percussion/Vibration/Shaking:
  - \* All techniques that progressively increase in oscillation/frequency; all for 3-5 minutes
  - \* Knock the secretions off the chest wall so easier to cough up
  - \* Percussion – Inhale and exhale
  - \* Vibration/Shaking – Exhale only

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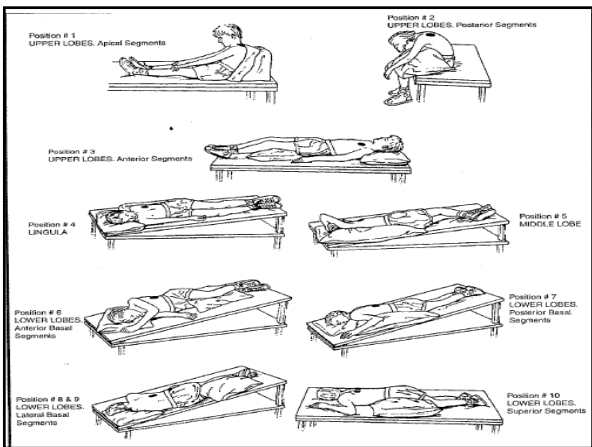
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### Coughing Techniques – Coughing/Breathing Devices

**Flutter Valve**

- \* The ball in the end of the valve vibrates the air
- \* The vibration shakes the secretions loose from the chest wall making it easier for the patient to cough up
- \* It is important for patient to exhale completely with device
- \* **No muscle training, just secretion management**



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### Coughing Techniques – Coughing/Breathing Devices

**Acapella valve**

- \* Similar to Flutter valve, the ball in the end vibrates the air for secretion management
- \* But also provides **resistance training for all expiratory muscles**; resistance is changes with dial on the end



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### Coughing Techniques – Coughing/Breathing Devices

**Incentive Spirometer**

- \* This can be used if patient is having trouble with inhale, as well as exhale
- \* Helpful to have a visual cue to breathe deep and get air behind the secretions for better clearance
- \* Just make sure to supplement with work on exhale to avoid air trapping



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## Decreased Activity Tolerance

### Therapists: decreased activity tolerance

- \* Problem: decreased ability to do ADLs/IADLs
- \* Problem: decreased gait tolerance/functional safety due to poor aerobic tolerance
- \* Intervention: education on pacing/energy conservation, aerobic training, strengthening, gait/balance training, ADL/IADL training, etc...
- \* Goal 1: Patient able to demo improved functional aerobic tolerance as evidenced by ability to shower with ACSM dyspnea scale score of \_\_\_/4 and VSS in 6 weeks.
- \* Goal 2: Patient to tolerate 10 minutes of dynamic standing activity with ACSM dyspnea scale score of \_\_\_/4 and vital signs stable to simulate improved aerobic tolerance for walking to mailbox, in 4 weeks.

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## Therapeutic Interventions— *A few tips*

- \* SHORT intervals, MULTIPLE times per day!!!
- \* Use the diary for accountability
- \* Praise small progress; it will be a slow process
- \* We cannot fix the lungs but can make the whole pump more efficient!
- \* Make sure to do **strength and aerobic both**, not one or the other
- \* Be ok with just educating if they are having a “bad” day

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## Therapeutic Interventions— *Let's Brainstorm*

- \* The BREATHING is the most important thing at first
- \* Teach them how to breathe at rest, then with activity and then you can do the activity
- \* PLB with dynamic sit/stand activities – it doesn't automatically carry-over
- \* Recovery techniques: PLB, relaxation, visualization
- \* Coughing: percussion, devices, timing with meds, education on when not to cough.
- \* Teach them:
  - \* Stretching, low level exercise for strength, high level exercise for strength
  - \* Restorator vs. walking for aerobic workout
  - \* Use an Activity Log to advance the things the patient is doing on their own

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## Disease Management

- \* **RN/Therapists:**
- \* **Problem:**
  - \* lack of understanding of
    - \* disease management
    - \* s/s of exacerbation
    - \* interventions
    - \* risk of rehospitalization
- \* **Intervention:**
  - \* assess - CV/CP status; lifestyle and current way of managing disease; assess/intervene on meds; assess signs/symptoms of exacerbation; assess safety in home
  - \* educate on: disease process, breathing, exercise, airway clearance, energy conservation, self-monitoring, triggers; identify patient's personal goals

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## Disease Management

- \* **Goal:** Patient to improve respiratory symptoms, as evidenced by decreased scores on dyspnea scales and decreased secretions, and the ability to remain in the home with the appropriate use of resources in 60 days.
- \* **Goal:** Patient demonstrates improved ability to manage disease in home as evidenced by use of COPD Action Plan, resulting in decreased rehospitalization, in 60 days.

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## COPD Action Plan

MY COPD ACTION PLAN

<p><b>GREEN ZONE: "I am doing well today"</b></p> <p>How Weight: _____, O2 % Saturation: _____</p> <ul style="list-style-type: none"> <li>• Usual amount of coughing, wheezing, and shortness of breath</li> <li>• Usual activity and exercise level</li> <li>• Improved</li> <li>• Appetite is good</li> </ul>	<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>• My symptoms are under control</li> <li>• Take daily medications</li> <li>• Continue regular exercise/routine</li> <li>• Avoid smoke and other triggers</li> </ul>
<p><b>YELLOW ZONE: "I am having a bad day OR a COPD flare"</b></p> <ul style="list-style-type: none"> <li>• More breathless than usual</li> <li>• More coughing/wheezing than usual; more sputum (color, amount, or appearance); change in color, amount, or appearance</li> <li>• Using rescue inhaler more often</li> <li>• "I have to take a short rest"</li> <li>• Fever of 100.0 F and/or 38.0 C under your arm</li> <li>• Poor sleep, my symptoms wake me, make me nervous to sleep</li> <li>• I have less energy for my usual daily activities, walking or climbing</li> <li>• I have a poor appetite or have lost weight 5 lbs or more</li> <li>• I have swelling in my ankles and feet more than usual</li> </ul> <p>CALL ME FIRST: _____</p> <p>PHONE NUMBER: _____</p>	<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>• Take your daily medications</li> <li>• Use oxygen as prescribed</li> <li>• Get plenty of rest</li> <li>• Use your breathing techniques to slow your breathing and for relaxation</li> <li>• Avoid triggers</li> <li>• Your symptoms may indicate that you need an adjustment in your medications</li> <li>• Add Rescue Medications: _____</li> </ul>
<p><b>RED ZONE - MEDICAL ALERT: "I need urgent medical care"</b></p> <ul style="list-style-type: none"> <li>• Severe shortness of breath, even at rest</li> <li>• Not able to sleep or do any activity due to shortness of breath</li> <li>• Fever or shaking chills, confusion or dizziness</li> <li>• Chest pain, ankle, leg/arms, joint (swelling), coughing up blood</li> <li>• Respiratory effort and rate are increased</li> </ul>	<p><b>Actions:</b></p> <ul style="list-style-type: none"> <li>• <b>CALL 911</b> OR have someone take you to an <b>EMERGENCY ROOM</b></li> <li>• Increase oxygen to _____</li> <li>• Increase medications to: _____</li> </ul>

From the American Lung Association

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## Consider Speech referral

- \* If there are cognitive/memory issues that can be addressed to increase compliance issues with meds and exercise program
- \* If there is an issue with swallowing and SOB that needs to be assessed

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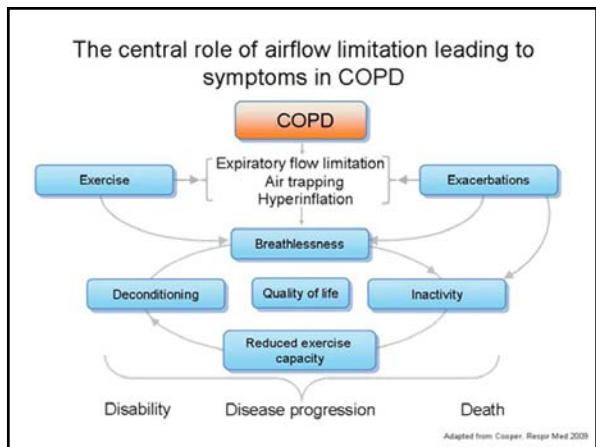
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## Consider Hospice Referral

- \* Consider that your documentation of decline can assist in qualifying a patient for Hospice
- \* This is a progressive disease, we want to help patient/family meet their goals through all stages of the diseases
- \* Comfort and symptom management become the number one goal towards the end stages and we can provide that in the home through Hospice!

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## Consider Hospice Referral

- \* It is not an exact science but some common indicators that patient will qualify for Hospice include
  - \* Dyspnea at rest
  - \* Frequent/recurrent pulmonary infections
  - \* Sats <88% on O2
  - \* Resting tachycardia >100bpm
  - \* Weight loss, >10% in past 6 months
  - \* PaO2 55mmHG determined by ABGs
  - \* FEV1 <30% after bronchodilators
  - \* Cor pulmonale/right heart failure

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## Questions



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## Speaker information

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