

Home Care Patients with Congestive Heart Failure and Chronic Obstructive Pulmonary Disease

**Satellite Conference and Live Webcast
Wednesday, February 7, 2007
2:00 - 4:00 p.m. (Central Time)**

**Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division**

Faculty

**Jack Hataway, MD, MPH
Medical Director,
Chronic Disease Prevention Division
Bureau of Health Promotion and
Chronic Disease
Alabama Department of Public Health**

Program Objectives

- State at least one goal of home care management for the patient/client with congestive heart failure.
- Identify at least one dietary measure that the home care patient/client with congestive heart failure should be following.
- State why it is important for home care patients/clients to take their medications as prescribed.

Program Objectives

- State at least one goal of home care management for the patient/client with chronic obstructive pulmonary disease.
- Identify at least one environmental factor that the home care patient/client with chronic obstructive pulmonary disease should avoid.

Chronic Obstructive Pulmonary Disease

- Preventable and treatable
- Limited and partially reversible airflow
- Usually progressive
- Inflammatory response in lungs to noxious particles or gases
- Over time, lung inflammation causes "remodeling" of airways

Natural History

- Chronic bronchitis
- Lung inflammation with large amounts of mucus
- Starts in small airways
- Increased bacterial infections with colonization
- Emphysema
- Elasticity of lung destroyed

Natural History

- Air sacs (alveoli) weakened or destroyed
- Airways collapse and airflow is obstructed
- Usually identified/detected when it is moderate or severe
- Usually have other major medical problems with it

Natural History

- Great chance of having heart disease, osteoporosis, depression, or diabetes
- People experience exacerbations-flare-ups
- Causes are viruses or bacterial infections
- Shortness of breath, coughing, and sputum production increase

Natural History

- Exacerbations increase over time
- Visits to office, emergency rooms, and hospitals increase
- May lose weight in spite of adequate eating

Burden of COPD

- Level of COPD related to number of smokers
- Related to air pollution or burning of wood as fuel
- Mild cases in as many as 25% of adults over 40

Burden of COPD

- In U.S. in 2000
 - 1.5 million
 - 673,000 hospitalizations
- Forth leading cause of death in 2003
- Will become third leading cause by 2020
- As many as 6.5 million persons with COPD
- 15 million more are undiagnosed

Risk Factors

- Smoking accounts for 80-90%
- Heredity
- Second hand smoke
- Occupational dusts
- Indoor air pollution
 - Heating and cooking biomass fuels with poor ventilation
- Outdoor air pollution

Risk Factors

- 10% no clear risk factor
- Related to total burden of inhaled particles
- Viral and bacterial infections
- Socioeconomic status
- Asthma
- History of childhood respiratory infections

Symptoms

- Chronic cough
- Chest tightness
- Shortness of breath
- Increased effort to breathe
- Mucus production
- Frequent clearing of the throat

Disease Process

- Airways inflamed
 - Fill with mucus, opportunity to develop infections
 - Infections can become chronic
 - Exacerbations related to risk factors
 - Airways remodel, become abnormal size and shape

Disease Process

- Air trapped
 - Loss of recoil in airways and closing of small airways
 - Air is "dead space"
 - Lungs can expand
 - Chest can resemble a barrel

Disease Process

- As progresses, oxygen levels may drop
- Carbon dioxide levels may increase
- Ability to move limited
- Shortness of breath limits ability to move

Treatment

- Purposes
 - Prevent progression
 - Reduce exacerbations
 - Improve quality of life
 - Reduce symptoms
 - Improved effort tolerance
 - Improve health status
 - Reduce mortality

Treatment

- Only known preventive measure
 - No smoking
- No second hand smoke exposure
- Remove exposure to noxious gases and particles

Treatment

- Take medications as directed.
- Cannot improve symptoms or quality of life if patients are not taking medications correctly.
- Try to maintain ability to move around.
- Inactivity leads to more inactivity.

Treatment

- Improves health
- Treat other problems and maintain health
- Reduce exacerbations
- Recognize symptom worsening which may be life threatening
- Chronic inflammation/infection requires active management

Treatment

- Take recommended immunizations
- Influenza vaccine
- Pneumonia vaccine
- Watch for worsening, especially increasing sputum with color
- Call early

Home Health Role

- Assist the patient and family with tasks per orders.
- Observe if following recommendations to stay healthy:
 - Is anyone smoking?
 - Is the patient taking medications as directed?

Home Health Role

- Does the patient look worse - shortness of breath, cough, sputum, color?
- Are there any air pollution alerts?
- Is the patient staying indoors?
- Is there any inside use of solid fuels?

Home Health Role

- Is the patient increasing his/her activity level?
- Is the patient using therapy such as oxygen as ordered?
- Has anyone been notified of a potential exacerbation?

Congestive Heart Failure

- Congestive Heart Failure is a progressive condition where the heart cannot pump enough blood through the body.
- CHF is caused by conditions that damage or weaken the heart.
- CHF causes the heart muscle to weaken over time.

Causes of Heart Failure

- Coronary artery disease (blockage)
- High blood pressure
- Diabetes
- Disease of the heart valves
- Abnormal heart beats (arrhythmias)
- Congenital heart defects (present at birth)

Causes of Heart Failure

- Thyroid disorders
- Cocaine and other illegal drug use
- Alcohol abuse
- Disease of the heart muscle (cardiomyopathy)

Who's At Risk?

- People age 65 and older
- African Americans
- Males more than females
- Affects five million people in the U.S.
- 550,000 persons diagnosed each year

Who's At Risk?

- Results in about 300,000 deaths a year
- Incidence is 10 per 1000 after age 65
- 80% of hospitalized persons are over age 65
- Most common Medicare diagnosis related group

Signs and Symptoms

- Shortness of breath or difficulty breathing
- Feeling tired
- Swelling in the ankles, feet, legs, and sometimes the abdomen

Natural History

- Progressive
- Over time the heart muscle "remodels"
- Heart dilates and may thicken
- Heart becomes very round (spherical)
- Remodeling starts before symptoms
- Continues after symptoms start (months or years)

Natural History

- Contributes to worsening of symptoms even when treatment is given
- Many people have a buildup of excessive fluid
- Kidney function is reduced as the heart failure worsens
- The worsened kidney function results in anemia which worsens the heart failure further

Natural History

- People "waste away" losing fat and muscle mass
- Excess fluid makes it difficult to move or lie down flat
- Frequent admissions to the hospital

Treatment

- Treat underlying causes
- Improve symptoms and quality of life
- Stop heart failure from getting worse
- Prolong the life span
- Lifestyle changes
- Restrict salt intake
- Limit amount of fluids a person drinks
- Weigh every day

Treatment

- Call doctor if there is sudden weight gain
- Exercise as directed
- Lose weight if overweight
- No smoking or second hand smoke exposure
- Limit amount of alcohol consumed
- Take medications as directed

Home Health Role

- Assist the patient and family with tasks per orders.
- Observe if following recommendations to stay healthy:
 - No additional salt in diet, low sodium foods
 - Managing weight
 - No smoking
- Is anyone smoking?

Home Health Role

- Is the patient taking medications as directed?
 - For heart failure
 - For other conditions such as diabetes or high blood pressure
- Does the patient look worse?
 - Shortness of breath, swelling of feet or ankles, sitting up all of the time to breathe

Home Health Role

- Has the patient weighed recently?
- Has the weight been recorded?
- Has anyone called the doctor if the weight gain is excessive?
- Is the patient following fluid restriction orders?

Upcoming Programs

Abnormal Pap Smears
Wednesday, February 14, 2007
2:00 - 4:00 p.m. (Central Time)

Diabetes and Hypertension: How to Prevent and Treat Chronic Kidney Disease
Wednesday, March 7, 2007
2:00 - 4:00 p.m. (Central Time)