

COPD Research at the University of Maryland School of Maryland

COPD Clinical Research Center

A member of the National Heart Lung & Blood Institute
National Institutes of Health

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What is COPD?

- COPD stands for Chronic Obstructive Pulmonary Disease
- It causes inflammation in the lung
- COPD can be from chronic bronchitis or from emphysema
- The primary causes of COPD are:
 - Environmental exposure to harmful agent
 - Exposure of time to cigarette smoke



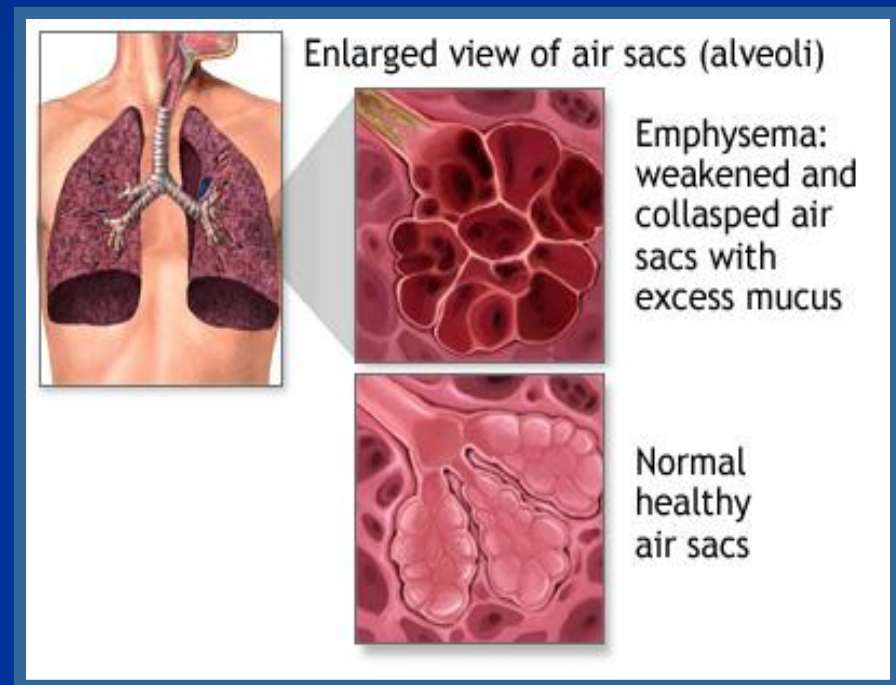
COPD – Chronic Bronchitis

- In chronic bronchitis, the tubes through which air moves in and out of the lungs become swollen and fill with mucus.
- This swelling and mucus obstructs, or slows, the flow of air in and out of the lungs.



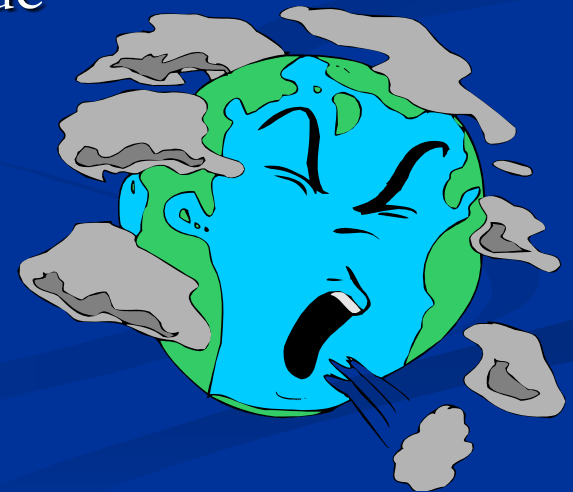
COPD - Emphysema

- In emphysema, the little air sacs (called alveoli) at the end of the airways are damaged.
- When the air sacs are damaged, they lose their ability to push air out of the lungs.



Signs and Symptoms of COPD

- Severe shortness of breath with no or just mild effort
- Cough and sputum production - repeated pulmonary infections
- Over-inflation of the lungs
- Low oxygen levels/high carbon dioxide levels in the blood
- Poor sleep quality
- Depression/anxiety
- Loss of muscle mass, weakness, poor muscle tone
- Heart Failure



Current Treatments for COPD

Today, doctors have three choices for daily treatment of COPD:

- Bronchodilators
- Corticosteroids
- Oxygen Therapy



Current Treatment – Bronchodilators

- Bronchodilators relax the muscles that narrow the airways in the lungs.
- Relaxing these muscles helps to make the airway larger.
- When the airways are larger it is easier for air to move in and out of the lungs.



Current Treatment – Corticosteroids



- Corticosteroids decrease the swelling and inflammation in the airways of the lungs.
- With less swelling, the airways stay open and air moves in and out better.

Current Treatment – Oxygen Therapy



- When lungs are severely damaged by COPD, they are not able to move enough oxygen from the air into the blood.
- When this happens, the amount of oxygen in the blood drops making breathing harder.
- Oxygen therapy increases the amount of oxygen a person breathes in.
- This helps return the amount of oxygen in the blood to normal and make breathing easier.

COPD Research at the University of Maryland School of Medicine

- COPD research is conducted in an effort to identify therapies that will help COPD patients better manage their disease.
- The research at University of Maryland School of Medicine is led by researchers in the COPD Clinical Research Center and the University of Maryland Airways Research Center. Research is funded by federal agencies as well as industry sponsors.

COPD Research at the University of Maryland School of Medicine

- **Long-term Oxygen Treatment Trial (Currently recruiting)** – funded by the National Heart Lung & Blood Institute
- **STATCOPE Study (Currently recruiting)** – funded by the National Heart Lung & Blood Institute
- **Fluticasone Study (Not yet recruiting)** – funded by Glaxo Smith Kline, Inc.
- **Aclidinium Bromide Study (Recruitment Completed)** – funded by Forrest Laboratories, Inc.
- **Previous Studies**

Long-term Oxygen Treatment Trial (LOTT) Study – Currently Recruiting



- Under current Medicare guidelines, patients with COPD who have moderately low levels of oxygen in their blood do not qualify for supplemental oxygen.
- The LOTT Study is funded by the National Heart Lung & Blood Institute. The purpose of this study is to help researchers understand if oxygen therapy is helpful for COPD patients with moderately low levels of oxygen in their blood at rest or very low blood oxygen during exercise.

STATCOPE Study – Currently Recruiting

COPD CRN
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- The STATCOPE study is funded by the National Heart Lung & Blood Institute and is being conducted to determine if an FDA approved statin drug called simvastatin might reduce swelling in the lungs in patients with COPD.
- If it is found that this statin drug reduces lung inflammation, there is a possibility that the statin drug could also limit the number or the severity of flare-ups, called exacerbations, in patients with COPD.

Fluticasone Study – Not Yet Recruiting

- The Fluticasone Study is funded by Glaxo Smith Kline, Inc., and will test the effect of a combination of two experimental drugs, fluticasone furoate (FF) (an inhaled corticosteroid) and GW642444 (a bronchodilator) in people with COPD.
- The combination of these two drugs is called FF/GW642444.
- FF/GW642444 is an investigational drug being studied for use in people with COPD and asthma.
 - This research study will try to answer questions about study drug FF/GW642444:
 - Does it help people with COPD feel better?
 - How safe is it for people to take?
 - Does it make it easier to breathe?
 - What is its effect on the rate of exacerbations (your COPD symptoms get worse) in people with COPD over a one-year dosing period?
 - Are there any reported cases of pneumonia?

Aclidinium Bromide Study – Recruitment Completed

This study is funded by Forest Laboratories, Inc., and will test a new inhaled bronchodilator called Aclidinium Bromide. The purposes of this study are to:

1. See how well the study drug works to open up the airways in patients with moderate to severe COPD.
2. Find out if the study drug helps prevent COPD symptoms from getting worse.
3. Assess if the study drug affects the COPD patient's health status, in general and as related to the lung disease.
4. Look at the safety of two doses of the study drug, 200 micrograms and 400 micrograms, taken twice daily as compared with a placebo (an inactive substance).



Previous Studies

- Pneumonia Vaccine Study – funded by National Heart Lung & Blood Institute
 - This study compared the effectiveness of the FDA approved pediatric pneumonia vaccine (Pneumovax) with the approved adult version of the vaccine (Pneumovax) in patients with COPD.
- Macrolide Study - funded by National Heart Lung & Blood Institute
 - This study involved the long-term use of an FDA approved Macrolide antibiotic called Azithromycin on COPD exacerbations in patients with moderate to severe COPD

Participating in COPD at University of Maryland

If you are interested in participating in COPD research at the University of Maryland or interested in learning more, contact the:

**COPD Clinical Research Center at 410-706-3355,
the University of Maryland Airways Research
Center at 410-706-LUNG (5864)**