National Lung Health Education Program (NLHEP)

In collaboration with:

Societies
American Academy of Physician Assistants
American Association of Cardiovascular and Pulmonary Rehabilitation
American Association for Respiratory Care
American College of Allergy, Asthma, and Immunology
American College of Chest Physicians
American College of Physicians
American Osteopathic Association
American Thoracic Society
Society of General Internal Medicine

Governmental Liaisons:
National Cancer Institute
National Heart, Lung, and Blood Institute
National Institute of Occupational Safety and Health

Foundations:
National Emphysema Foundation

National Lung Health Education Program

www.nlhep.org

NLHEP's Mission

The prevention of lung disease and the promotion of lung health are the primary goals of the National Lung Health Education Program (NLHEP), in collaboration with government, medical and other health professional organizations.

Chronic Obstructive Pulmonary Disease (COPD) is the 4th leading cause of death and the 2nd leading cause of major disability among the major diseases in the United States. Because of this, the NLHEP was implemented to develop and promote a nationwide education program designed to identify COPD in its early stages. One NLHEP objective is to promote a program of earlier intervention to potentially slow or stop the progression of COPD before the development of clinical symptoms (cough, excess mucus production and shortness of breath) that limit activities. These early at-risk signs of COPD often progress and lead to disabling forms of the chronic disease. The spirometer can be used safely and efficiently in the outpatient setting to identify early-stage COPD, and also to identify people at risk of death from lung cancer, heart attack and stroke. The presence of airflow obstruction also predicts all-cause mortality. Preservation of lung health is a key to good health in general.

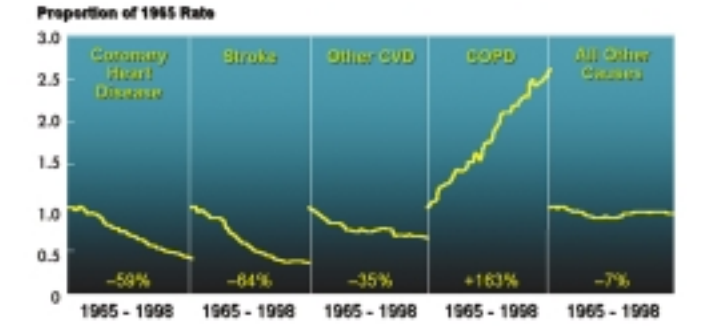
1996-2006
10th Anniversary

www.nlhep.org

The Patients Who Will Benefit

More than 120,000 deaths from COPD occur annually in the United States, making this the only disease in the top five killers in which the death rate is rising (183% increase in death rate from 1965 to 2002). The United States healthcare economy is facing increasing COPD costs: more than 30 billion dollars expended per year in medical costs, hospitalization, physician office visits, and other indirect costs (loss of work days and premature mortality). These costs continue to escalate as the prevalence of COPD continues to rise.

Percent Change in Age-Adjusted Death Rates, U.S., 1965-1998



From: NHLBI Morbidity and Mortality Chartbook (www.nhlbi.nih.gov)

The Target Audience

The NLHEP message is designed to reach physicians, other healthcare clinicians and respiratory professionals, their patients, government officials, healthcare policy makers, healthcare agencies, and the public. Because COPD and many of its associated diseases are closely related to cigarette smoking, (by far the most critical and correctable risk factor for COPD) part of the NLHEP plan is to test the lung function of those most at risk. Most patients who have early COPD visit their primary care physician for a variety of health services years before the symptoms of chronic cough, excess mucus, chest tightness and shortness of breath develop or are acknowledged. Early identification and intervention by family practitioners, general internists, nurse practitioners, physician assistants, respiratory therapists, and others who provide primary patient care (i.e. OB/GYN), can help prevent symptoms from progressing to more disabling stages of COPD – when more hospitalizations and intensive care unit admissions potentially occur. All health care professionals should be able to identity patients with early signs of COPD. Patients and the public must learn the risk factors for this disease and the steps that they can take to preserve lung health.

Test Your Lungs–Know Your Numbers

The NLHEP motto is:
"Test Your Lungs–Know Your Numbers"

Measures of airflow (FEV_1) and lung volume (FEV_6 or FVC) are indicators of lung health, and these non-invasive tests can be done in the physician's office with a spirometer, a meter to measure airflow coming out of your lungs. The spirometer measures two important numbers: the forced expiratory volume in one second (FEV_1) and the forced expiratory volume in six seconds (FEV_6), a measurement that can be substituted for the forced vital capacity (FVC). These numbers are simple expressions of complex processes, just like blood pressure and blood cholesterol levels measure complex processes. The FEV_1 and FEV_6 and their ratio (FEV_1 divided by FEV_6 and expressed as a percentage) can now be easily obtained using an office spirometer and are important for the patient and the physician to use to predict lung health and to monitor the course of COPD and its response to treatment.

What is your FEV_1?

FEV_1

Forced Expiratory Volume
in one second

What is your FEV_6?

FEV_6

Forced Expiratory Volume
in six seconds

What is your Ratio?

(FEV_1/FEV_6)

A Program for Action

Anyone who can answer "yes" to any one of these four questions should have a spirometry test:

- Do you now or have you ever smoked cigarettes, cigars and/or a pipe?
- Do you have a cough, wheezing, chest tightness or shortness of breath?
- If you cough, do you bring up mucus with your cough?
- Have you ever been exposed to fumes that may have affected your lungs?

Physicians and other clinicians must make a concerted effort to help patients with abnormal spirometry measurements which indicate that airflow obstruction is present. With early diagnosis of airflow obstruction, patients are often motivated to quit smoking cigarettes. Smokers found to have normal test results should still stop smoking to reduce the risk of heart attack, stroke, and many cancers, including those of the mouth, larynx, esophagus, pancreas, uterus, cervix and bladder. Cessation of smoking can improve hypertension, decrease the risk of cardiovascular disease and reduce suffering from peptic ulcers. Even the tendency to develop facial wrinkles or impotence can be decreased.

Other Therapies Aimed at Success

The NLHEP serves as a resource of scientific and medical information for patients who are at a risk for or have a diagnosis of COPD. Physicians who treat COPD patients recommend the use of influenza virus vaccine each fall and pneumococcal vaccine every five years to help prevent common and devastating pulmonary infections. Antibiotics are used to treat bacterial infections. Bronchodilators are used to treat bronchospasm to help relieve symptoms, reduce periodic worsenings (exacerbations) of COPD, and to improve activities of daily living. Corticosteroids by the inhaled route may help those with severe COPD with frequent episodes of worsening of symptoms that lead to unscheduled visits to a clinician's office and/or hospitalizations. Systemic corticosteroids may help arrest or modify the severity of exacerbations (periodic worsenings of COPD during their early course). The NLHEP is a good source for new information on COPD for patients and clinicians.

When & How

Doctors and their trained office associates can start now by using a spirometer to identify significant airflow obstruction in those at risk for COPD as a routine part of their office practice and also aggressively help all patients to stop smoking. In addition, physicians can vaccinate for influenza and pneumococcal pneumonia and treat patients who have symptoms of COPD with appropriate drugs such as bronchodilators and corticosteroids, as indicated.

See other side for
Frequently Asked Questions

The Payoff

Doing spirometry on those at risk for COPD will help identify millions of people in the early stages of this disease, as well as those at risk for lung cancer, other cancers, heart attack, stroke and other chronic diseases. The final payoff can potentially be increased life span, improved quality of life and reduced costs for medical care by individuals, insurance companies, managed care organizations and the federal government.

Twenty Questions

1. What is the National Lung Health Education Program (NLHEP)?

The NLHEP is a multi medical and respiratory therapy organization with governmental agency liaisonships that was initiated to promote lung health by educating physicians, medical professionals, patients, healthcare policy makers, healthcare agencies, and the public about chronic obstructive pulmonary disease, how to detect it in the early stages, and how to intervene to potentially prevent or slow its progression to a disabling disease.

2. Why do we need the NLHEP?

Chronic obstructive pulmonary disease (COPD) is now the fourth leading cause of death in the USA, accounting for over 120,000 deaths annually and costing more than 30 billion dollars per year. It is extimated that over 16 million Americans have COPD. Yet because its prevalence is still rising (and it is under-diagnosed), it has been suggested that over 24 million Americans actually have COPD.

3. What is COPD?

COPD is a group of diseases that includes chronic bronchitis and emphysema. The common characteristic of these diseases is obstruction to airflow out of the lungs. Other symptoms are shortness of breath (dyspnea), chronic cough, mucus production with cough, and/or wheeze. COPD, unlike many diseases, is easily preventable. It is a disease over which the individual has control, especially if detected early.

4. Who gets COPD?

In this country, more than 85% of COPD is due to smoking tobacco. The remaining 15% is due to such factors such as previous serious lung infections and/or inhalation of fume-laden air that damage the lung or genetic abnormalities, like alpha-1-antitrypsin deficiency. Smoking-related COPD tends to run in families. COPD has been diagnosed in 16 million Americans. It is estimated that over 24 million people have COPD — meaning almost half of those with COPD do not even know they have it!

5. What are the symptoms of COPD?

The most bothersome symptom of COPD that leads individuals to seek medical attention is shortness of breath (dyspnea) on mild exertion out of proportion to the intensity of the activity performed, or what is often described as the feeling of not being able to get enough air. At first, this symptom may be present only during exertion but later may be present all the time, even while sitting quietly. In the late stages, continuous oxygen and frequent hospitalizations may be necessary. Cough, wheeze, chest tightness and chronic mucus production are other common and often earlier symptoms of COPD.

6. If I don't have these symptoms, does that mean I do not have COPD?

NO. In the early stages, COPD is usually completely silent. You were born with extra lung reserve, so that you can lose a lot of lung capacity before you will notice it. In addition, many people in the middle stages of COPD adjust their exertion level (modify their lifestyle) without realizing it, to only take part in activities that do not cause shortness of breath.

7. How can I know if I have COPD when it is in the silent stage?

The best single test for detecting early COPD is a breathing test called *spirometry.* Ask your doctor to test your lungs so you can know your lung numbers.

8. What is spirometry?

Spirometry measures the amount of air that you can blow out of your lungs (volume) and how fast you can blow it out (flow). It is measured by having you take in the deepest possible breath, then blowing out as hard and fast as you can for six seconds or more. The machine then measures how much you exhaled in the first second, called the forced expiratory volume in one second (FEV_1) and the total amount you exhaled in 6 seconds, called the forced expiratory volume in six seconds (FEV_6). Your ratio is your FEV_1 divided by your FEV_6 expessed as a percentage.

9. How do I get spirometry?

You should ask your doctor to order it for you. The equipment to perform spirometry is very simple and your doctor will likely have it in the office or send you to have the test in another location.

10. If I smoke and my doctor listens to my lungs and orders a chest x-ray, is it still necessary to have spirometry?

YES. The physical exam and chest x-ray cannot detect COPD in the early stages of the disease. Spirometry can.

11. If I do not smoke, do I still need spirometry?

Maybe. Spirometry should be performed in all smokers over 44, former smokers and also in people exposed to environmental tobacco smoke or irritants in the workplace or those with a family history of COPD. It should also be done in anyone of any age with a persistent cough, excess mucus production, wheeze, chest tightness and/or shortness of breath.

12. How will I know if my spirometry test results are normal?

Normal values for the FEV_1 and FEV_6 vary, depending on your age, height, gender and race. Your numbers will be higher in comparison to others if you are younger, taller and a male. Also Caucasians have higher numbers than African Americans or Asians. Therefore, the numbers are presented as a percentage of the average expected in someone of your age, height, gender and race. This is called percent predicted. An FEV_1 greater than 80% of predicted and a ratio of FEV_1 to FEV_6 greater than 70% is considered normal.

13. What should I do if my numbers are abnormal?

You should talk to your doctor. There are many possible reasons for an abnormal test result, and your doctor may want to order more tests to find the reason. If you smoke, stop smoking. Stopping smoking is the single most important intervention you can make to improve lung and overall health.

14. If my numbers show that I already have COPD, why should I stop smoking?

Scientific evidence strongly shows that stopping smoking at *any time* provides clear-cut health benefits. First, you can prevent further damage. When you stop smoking, your rate of lung capacity loss will likely return to that of a nonsmoker. Second, an abnormal spirometry result puts you at risk for early illness and death from all causes, especially lung cancer, heart disease and stroke.

15. If I stop smoking, will my lungs look like that of a never smoker?

No. The damage from smoking may be permanent. Once people reach adulthood, the lungs stop growing and will not regrow. Even exercise and good diet, so important for your general health, will not cause your lungs to regrow. That is why you must start *now* to preserve the lung function you have.

16. If my lung test numbers are normal, does that mean I am safe from the effects of my smoking?

NO. You should be retested in 3-5 years. Your test results may be normal now, but can still become abnormal later. Smoking attracts inflammatory cells that release enzymes that destroy lung tussue. It may be a few years before enough damage has been done to be detected by spirometry. In addition, smoking puts you at risk for many diseases besides COPD, including cancers of the mouth, throat, esophagus, stomach and bladder, as well as heart disease, hypertension, stroke, peripheral vascular disease and leukemia. Smoking can also cause premature facial wrinkles and has been linked to impotence.

17. Will all these diseases caused by smoking be detectable by spirometry?

Amazingly, spirometry results predict illness and death from all causes, even though it is a lung test. Abnormal spirometry results predict increased risk for premature death from heart disease, lung cancer and stroke.

18. If my test numbers are abnormal, is there anything I can do to make them better?

You should talk to your doctor. What you can do to make your lungs better will depend on why your numbers are abnormal. Obviously, if you smoke, stop smoking. It is important to preserve the lung function you have. Certain medication may help to improve your lung function, depending on the cause of the problem. Although there is no current cure for COPD, many drugs can partially improve airflow obstruction and associated symptoms of COPD.

19. If my numbers are abnormal, what else should I do to preserve my health?

Stop smoking. Eat a healthy diet. Exercise regularly, even if only moderately, under the direction of your doctor. Talk to your doctor about whether you should have the influenza vaccine every fall, the pneumococcal vaccine every five years, routine bronchodilators, maintenance inhaled corticosteroids, or antibiotics for acute worsening of symptoms.

20. I have tried to stop smoking and couldn't. What should I do?

You should still continue to try to stop smoking, but you may need some additional help doing it. Many people do. Ask your doctor to help you find the right smoking cessation program and, if necessary, the right nicotine replacement therapy or other medication to help avoid the urge to smoke and the withdrawal symptoms. Better understanding of what causes people to smoke has led to more effective therapy, including support groups, telephone "hot lines," and most important of all, treatment using appropriate medications. Many smokers are truly addicted to the nicotine in cigarettes, and medication therapy can help them handle withdrawal symptoms.

Visit our website (www.nlhep.org)
Mailing Address:
NLHEP
9425 N. MacArthur Blvd., Suite 100
Irving, TX 75063
Phone (972) 910-8555
Fax (972) 484-2720

NLHEP
www.nlhep.org
Test Your Lungs–Know Your Numbers

National Lung Health Education Program

Revised 1/06