

July 2002 Press Releases

## Breath Test Predicts Post Operative Health for Lung Cancer Patients

(NORTHBROOK, IL, July 9, 2002) - For patients with lung cancer, surgical resection remains the best hope for cure. Desirable long-term goals of surgical resection include not only improvement in survival, but also quality of life. Little is known about how lung cancer surgery affects function and quality of life. A study published in this month's issue of CHEST finds that for those patients for whom surgical resection is an option, a simple test may help predict postoperative function and quality of life.

A measurement for diffusion capacity of the lung for carbon dioxide (DLCO) requires patients to inhale gas containing a known small quantity of carbon monoxide, hold their breath for 10 seconds, and then rapidly exhale. The exhaled gas is tested to determine how much carbon monoxide was absorbed.

"We found that the DLCO, which is a very safe and simple test, helps us to predict how a patient will fare after surgery and administer treatment accordingly," said John R. Handy, Jr., MD, FCCP, of the Division of Cardiothoracic Surgery at the Oregon Clinic in Portland and lead investigator.

One hundred and thirty-nine patients at three medical centers participated in the study. Investigators measured patients' functional health status before lung cancer resection and six months afterward using the Short-Form 36 Health Survey (SF-36), a standardized, validated and widely used instrument. The quality-of-life index (QLI) was used to measure overall quality of life, health and functioning, socioeconomic status, psychological/spiritual status and family status. A visual analog pain scale was used to measure level of pain experienced preoperatively and six months postoperatively. Forced expiratory air volume in one second (FEV1), six-minute walk results and DLCO were measured. FEV1 is the most common test used to determine if the patient with lung cancer can tolerate surgery.

The study revealed that while preoperative FEV1 was not predictive of postoperative quality of life, a low preoperative DLCO was. In addition, study patients scored worse on the SF-36 preoperatively than matched healthy subjects. At six months after resection, patients scored significantly worse than their preoperative SF-36, indicating worsened functional status. The quality of life was not affected by surgery.

"Functional and quality of life information are important to measure after surgery so we can explore improved methods," said Handy. "The worse function of the patient six months after lung cancer resection demonstrated in this study has led my group to explore other surgical approaches such as different incisions or minimally invasive surgery to seek better results."

"It's important that, as physicians, we continue to identify indicators to not only improve survival rates but also improve patients' quality of life," said Sidney Braman, MD, FCCP,

president of the American College of Chest Physicians (ACCP). "Tests like this provide important information for pulmonologists, surgeons and their patients to make better treatment decisions."

An accompanying editorial in this month's issue of CHEST cautions against the use of DLCO as a sole indicator of postoperative health, but recommends that the test results be used in combination with other indicators.

CHEST is a peer-reviewed journal published by the ACCP. It is available online each month at [www.chestjournal.org](http://www.chestjournal.org). ACCP represents more than 15,000 members who provide clinical, respiratory, and cardiothoracic patient care in the U.S. and throughout the world. ACCP's mission is to promote the prevention and treatment of diseases of the chest through leadership, education, research and communication.

August 2002 Press Releases

### Involuntary Smoke Exposure Affects Asthma Severity Among Children, Study Confirms

(NORTHBROOK, IL, August 15, 2002) -- Children with high levels of tobacco smoke exposure are more likely to have moderate or severe asthma, says a study conducted by the Centers for Disease Control and Prevention. While it has long been known that involuntary exposure to environmental tobacco smoke (ETS) is linked to respiratory infections, middle ear disease and asthma, this study confirms that children with asthma who are exposed to ETS are more likely to have increased respiratory symptoms, increased school absences and decreased lung function.

The study, which is reported in the August edition of CHEST, the peer-reviewed journal of the American College of Chest Physicians, looked at 523 children aged four through 16 years who had physician-diagnosed asthma. Using the biomarker cotinine, a nicotine metabolite that accumulates in the blood and urine following tobacco smoke inhalation, children were classified into ETS exposure groups to determine the indicators of asthma severity among children with high and low levels of tobacco smoke exposure.

"Many studies have demonstrated that smoke exposure is harmful for children with asthma, and studies also have used cotinine levels to determine worsened asthma severity in children exposed to tobacco smoke," said lead study author David M. Mannino, MD, FCCP. "What makes this study unique is that it is nationally representative and uses serum cotinine levels to document exposure."

Children with a greater exposure to tobacco smoke were significantly more likely to have more severe asthma, as indicated by increased symptoms of cough and wheeze, an increased number of respiratory illnesses, and lung function that was 8 percent lower than asthmatic children without smoke exposure.

Data for the study was taken from the Third National Health and Nutrition Examination Survey (NHANES III), a United States-wide health study. Of the analytic sample, 78.6

percent of the children had mild asthma, 6.8 percent had moderate asthma, and 14.6 percent of the children had severe asthma. Asthma severity was based on the frequency of symptoms and respiratory illnesses. A greater proportion of asthmatic children aged four through six had high blood cotinine concentrations than older children.

"The results of this study are not surprising," said ACCP President Sidney Braman, MD, FCCP. "What is shocking is that these 523 children represent approximately 4.3 million U.S. children with asthma, making the no-smoking message to parents and caretakers of children with asthma even more compelling."

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#### September 2002 Press Releases

##### Environmental Tobacco Smoke Exposure During Travel Affects Adults With Asthma

NORTHBROOK, IL, September 10, 2002) - Environmental tobacco smoke (ETS) exposure has been linked to many adverse health effects, ranging from asthma exacerbation to eye irritation to lung cancer. According to a new study by the University of California, San Francisco, adults with asthma experience ETS exposure while traveling and, for many of them, this exposure is their principal source of ETS. That exposure to ETS leads to increased asthma-related symptoms and respiratory problems.

The study, which is reported in the September edition of CHEST, the peer-reviewed journal of the American College of Chest Physicians, looked at 374 nonsmoking adults with asthma in California. Because California state law prohibits smoking in the workplace and most public places, travel often is the only time nonsmoking residents who do not live with a smoker are exposed to ETS. The study examined the prevalence and short-term health effects of ETS, including symptoms attributed to ETS, respiratory problems, and extra inhaled medicine use and asthma exacerbations while traveling outside of California over the last 12 months. Almost one-third (30%) reported ETS exposure during travel, with the most common complaint being ETS-related coughing, wheezing or chest tightness

"The health impact of intermittent ETS exposure during travel has not been examined previously," said lead study author Mark D. Eisner MD, MPH, FCCP. "As smoking has become quite restricted in California, ETS exposure during travel has become a more important source of exposure. Our findings tell us that this vulnerable group -- people with asthma -- were frequently exposed to ETS during travel. Those who were exposed had a high prevalence of sensory irritation symptoms and respiratory symptoms."

Study subjects were recruited from a random sample of patients from allergy, pulmonary, and family practices in Northern California. Of the subjects that indicated ETS exposure, more than half (54%) said it caused exacerbation of asthma symptoms and 55% indicated extra inhaled asthma medication use. Also, the subjects who are not regularly exposed to ETS reported greater ETS-related irritations including eye (58%) and nose (58%) irritation compared to those regularly exposed.

"Prohibiting smoking in California has reduced ETS exposure for state residents," said ACCP President-elect Udaya B.S. Prakash, MD, FCCP. "Hopefully, these findings will emphasize the effect smoking in public places has for adults with respiratory problems such as asthma."

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