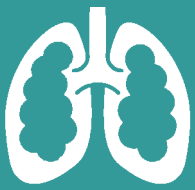
INFORMATION LEAFLET:

PATIENTS WITH LUNG DISEASE

AIR POLLUTION AND LUNG HEALTH



New findings from the EU-wide research project 'European Study of Cohorts for Air Pollution Effects' (ESCAPE) make raising awareness of the effects on health of exposure to air pollution even more urgent. This leaflet developed by the ESCAPE project in collaboration with the Health and Environment Alliance (HEAL) explains the latest news on the links between outdoor air pollution and lung disease: chronic bronchitis, chronic obstructive pulmonary disease (COPD) and adult asthma. It also provides prevention tips for patients to achieve a healthier future.

HEAL
Promoting environmental policy that contributes to good health

ESCAPE

WHAT DOES THE LATEST RESEARCH SHOW?

The EU-wide ESCAPE project found that the ability of human lungs to function well is affected by exposure to air pollution. The number of new cases of reduced lung function and COPD is directly related to how close people live to busy roads and to levels of chemical compounds known as nitrogen oxide (NO_x) and nitrogen dioxide (NO_2) in the air. Although the results were less clear on chronic bronchitis and asthma, this does not imply that poor air quality does not have an impact on these conditions.

The research showed the inhalable particles in the air (PM_{10}) to be of greatest concern. A significant association was established between exposure to higher levels of PM_{10} in the air and the number of people developing COPD.

HOW DOES AIR POLLUTION AFFECT MY CONDITION?

Although smoking is a major cause of COPD and other lung disease, being exposed to dirty air can result in a range of consequences that can exacerbate the problem. The immediate effects range from irritations of the nose, eyes or throat to a need for patients to increase their medication, a visit to their doctor, hospitalisation and premature mortality.

The respiratory effects of air pollution depend on the type and mix of pollutants; the concentration in the air; the amount of time you are exposed to the pollutant; how much of the pollutant you breathe in; and how much of the pollutant penetrates your lungs.

Depending on their size, particles can be deposited in the upper airways (nose and throat), the large conducting airways and/or the small peripheral airways and air sacs or alveoli. At all of these locations, particles may produce irritation and inflammation.

Lung disease is increasingly common. COPD is predicted to become the third leading cause of death by 2030. According to the World Health Organization (WHO), COPD affects approximately 210 million people worldwide. In Europe, it affects between 4 and 10 percent of adults.

WHAT ARE THE LONG-TERM, LOW-LEVEL EFFECTS?

Air quality in European countries is far better than it was 50 years ago but more people are now exposed to air pollution in cities. Research over the past 10 years has shown that long-term exposure to even low to moderate levels of pollution is a risk factor for heart disease, asthma and other lung diseases.

What causes air pollution?

Air pollution comes from transport, coal and other industrial power plants, industry, ships and from agricultural production, but also from natural sources such as wildfires. Pollutants in the air are often invisible, but they can have serious effects on our health. Climate change also has an effect: Warmer summers mean longer pollen seasons and heat waves create peak levels of pollution. In addition, it appears that the allergic potential of pollen increases when linked to air pollutants.

Who is most affected?

It is not easy to predict who will be most affected. However, children, older people and those with pre-existing conditions, including asthma, COPD and heart disease are at greater risk. Genetic factors, infections and nutrition also play a role.

TIPS ON REDUCING YOUR EXPOSURE

Checking the daily air quality forecasts for your city or town (e.g. http://watch.eyeonearth.org/). Use this information to plan your activities.

Avoiding outdoor activities near busy roads especially during rush hour. When walking or jogging or other sport consider alternative routes with lower levels of pollution.

O_3

When pollution levels are high, for example in summer because of ozone, avoid energetic outdoor activities or doing them in the morning or late in the evening and keep windows closed.

KEEP INDOOR AIR HEALTHY

Most children and adults are indoors most of the time. The air quality outdoors is a key determinant of the air we breathe indoors too. **Indoor air can be improved by ensuring that:**

- There is no smoking indoors
- Rooms are regularly aired during times of low pollution and cleaned to remove dust and mould
- Air freshener sprays are avoided and chemical cleaning products are only used where necessary.

JOIN A SUPPORT GROUP

Patient organisations have good practical tips for you.
Find your local patient group

- → http://www.european-lung-foundation.org/16505-patient-organisations.htm
- → http://www.efanet.org/efa-members/

WHAT CAN I DO TO REDUCE POLLUTION LEVELS?

Everyone can contribute to cleaner air and improve their overall health by:

- Reducing car use and walking and cycling more – but try to walk and cycle away from busy roads
- Switching to clean energy: support renewable energy schemes and avoid wood burning in your house, or open fires, as these contribute to bad air.

All these initiatives also help tackle climate change as they help lower carbon emissions.

ESCAPE - European Study of Cohorts for Air Pollution Effects – investigated the long-term effects of air pollution on a broad range of chronic conditions – asthma, allergies in children; adult respiratory and cardiovascular disease; cancer – and life expectancy. Funded by the EU, the project brought together over 20 leading research groups on air pollution and health from 15 countries to analyse over 30 cohort studies including some 900,000 subjects. Cohort studies follow a population over time and ESCAPE focused on how different levels of exposure to air pollution affected people's health.

SEVENTH FRAMEWORK PROGRAMME

This programme is implemented with the support of the European Union.
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ACT!

Ask authorities to act

Everyone has a right to clean air. Yet, most Europeans breathe air that is much dirtier than standards recommended by the WHO. Contact your local, national and European decision-makers and ask them to strengthen EU air quality standards and measures to reduce air pollution at the source.

More information and contact us:

ESCAPE:
www.escapeproject.eu

Health and Environment Alliance (HEAL):
www.env-health.org

European Respiratory Society (ERS): Air quality and health p 49-53, www.ersnet.org/images/stories/pdf/web-AQ2010-ENG.pdf

European Lung Foundation, Health effects of outdoor air pollution, http://www.european-lung-foundation.org/16539-health-effects-of-outdoor-air-pollution.htm#par38083

European Respiratory Society (ERS): 10 principles for clean air http://www.ersnet.org/images/stories/DOC/ERS10CleanAirPrinciples.pdf

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