Air quality and lung health – the risks

HEALTHY LUNGS FOR LIFE
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How serious are the risks from air pollution?

Exposure to air pollution knocks **almost one year off** the average European's life

Source: WHO

Air pollution currently causes almost **500,000** premature deaths across Europe every year

Source: European Environment Agency

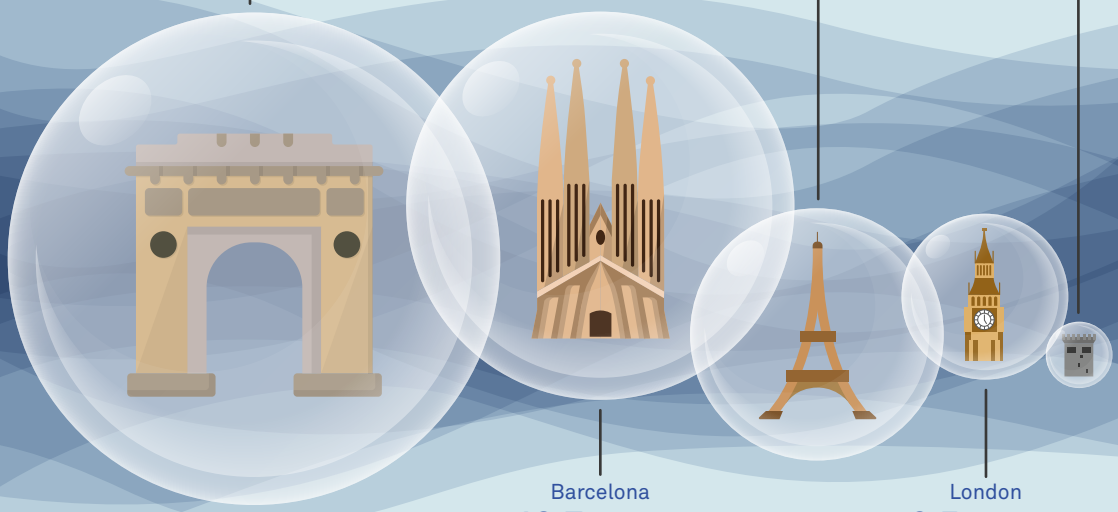
Is breathing clean air important?

Extra life gained per person if air pollution in European cities met health guidelines*

Bucharest
22.1 months

Paris
5.8 months

Dublin
0.4 months



Barcelona
13.7 months

London
2.5 months

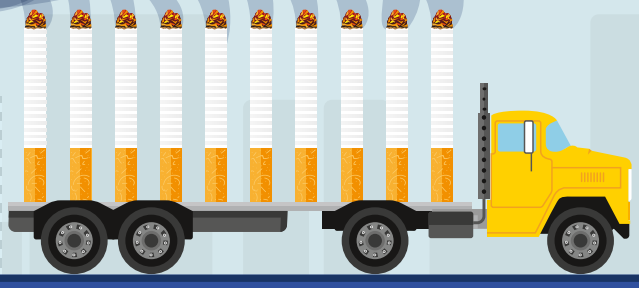
If air pollution in European cities were reduced to World Health Organization air quality guideline* levels, people would live longer – **in some cases by almost 2 years**

*Fine particulate (PM2.5) levels of 10µg/m^3, extra life per person aged 30 and over. Sources: Aphekom 2011, European Environment Agency

Is air pollution as dangerous as smoking?

Air pollution can be as dangerous as passive smoking

Living along a busy road carries about the same risk as passively smoking **10 cigarettes per day**



But active smoking is much more dangerous

Risk factor	Air pollution	Smoking
Life lost	Almost **1 year** per average European	**10 years** per active smoker

Sources: European Lung White Book, Van der Zee et al 2016, WHO

What are the effects of air pollution on children?

Babies

Exposure to air pollution during pregnancy is associated with low birth weight and preterm birth

Children

Children living in polluted areas are more likely to suffer from coughs, wheezes and asthma

Teenagers

Children growing up in polluted areas are more likely to develop low lung function as teenagers

Sources: Gauderman et al 2004, Gehring 2013, Pedersen et al 2013, Shah et al 2011

What is the impact of poor air quality on people with lung conditions?

People with lung conditions, such as asthma or chronic obstructive pulmonary disease (COPD), the elderly and infants are most at risk from air pollution

Short term high air pollution levels can:

- Worsen symptoms such as coughing, wheezing and shortness of breath
- Increase the number of hospital visits for lung conditions*
- Increase the risk of dying from lung conditions

At-risk patients should:

- Check the local air quality online or sign up to a pollution alert service
- Avoid exercising outdoors when pollution levels are high
- Come back and see your doctor if symptoms persist or worsen

*An estimated 1% increase for every 10μg/m^3 increase in particulate (PM10) levels. Sources: Atkinson et al 2001, Peacock et al 2011

Should people continue to exercise outside if they are worried about air quality?

Ways people can reduce their air pollution exposure:

The benefits of exercise outweigh the risks from air pollution

Source: Hartog 2010

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Find out more at: www.healthylungsforlife.org

This document was produced with the aim of helping healthcare professionals explain the risks of poor air quality to their patients. It was produced by the European Respiratory Society (ERS) Environment and Health Committee and the European Lung Foundation (ELF) as part of the Healthy Lungs for Life campaign. This material was compiled with the help of Professor Bert Brunekreef and Professor Jonathan Grigg.