

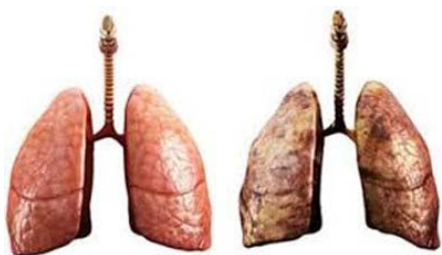
AIR POLLUTION - THE FACTS

From the "Stop Heathrow Polluting Us" Campaign Group

AIR POLLUTION KILLS

Air pollution is a mix of gas and particles such as soot and smoke. Greenhouse gases are causing global warming, but it is the particles that make up those compounds that are affecting our health.

When you breathe polluted air into your lungs, ultra-fine particles – particulate matter smaller than 10 micrometres – can be absorbed into your bloodstream. These particles are then transported throughout the body to all other vital organs. **"They land in the organs directly,"** according to Prof. Dean Schraufnagel, from the University of Illinois at Chicago.



Left: Healthy lungs. Right: Air pollution effect on the lungs of a NON-smoker.

Air pollution damages our bodies because it causes inflammation resulting from our immune system's response to the particles. **"Immune cells think a [pollution particle] is a bacteria, go after it and try to kill it by releasing enzymes and acids. Those inflammatory proteins spread**

into the body, affecting the brain, the kidneys, the pancreas and so forth. In evolutionary terms, the body has evolved to defend itself against infections, not pollution."

(The Guardian newspaper - May 2019: bit.ly/guardian-air-pollution)

AVIATION AIR POLLUTION IMPACT ON HEALTH

A study shows air pollution emissions from Heathrow impact the health of people in Central London, living up to 20 miles away from the airport.

As planes take off and land at busy airports, their exhaust pollutes surrounding areas with contaminants, including ultra-fine particles that may contribute to heart and lung disease.

A study at Los Angeles International Airport, the sixth busiest airport in the world, has shown that pollution from aircraft affects a larger area than previously thought. Researchers from the University of South California found elevated concentrations of ultra-fine particles up to 10 miles east of the airport.

The Los Angeles data aligns with a more recent study published by Kings College London in 2020 which found evidence that ultra-fine particles from Heathrow Airport aircraft blew up to 20 miles downwind from the airport into central West London. The particles from the airport were found all the way to Marylebone.

Both Heathrow Airport and Los Angeles International Airport are located to the west of densely populated cities, with a prevailing western wind enabling dangerous particle matter emissions from the airports to blow into the city centres, affecting the health and well-being of millions of people.

These findings are raising alarm bells about the health implications for those who work and live up to 20 miles downstream from airports and under flight paths.

Particulate Matter (PM) is one of the major pollutants that regulators and environmental scientists monitor to determine air quality in urban areas. For example, the World Health Organisation (WHO) sets standards for concentrations of fine particulate matter particles less than 2.5 µm and particles less than 10 µm in diameter. Particles less than 2.5 µm are strongly linked with increased risk of heart and lung disease.

Scientists are becoming increasingly concerned about ultra-fine particles, less than 0.1 µm in diameter, which are neither regulated nor routinely measured. They can deposit deep in the lungs, where the particles can move into the bloodstream and be distributed to all organs.

Find out more by visiting the campaign website at: stopheathrowpollutingus.org

THE IMPACT OF AIR POLLUTION ON THE HUMAN BODY



Brain: Stroke, Dementia, Parkinson's Disease

Eye: Conjunctivitis, Dry Eye Disease, Blepharitis, Cataracts



Heart: Ischemic Heart Disease, Hypertension, Congestive Heart Failure, Arrhythmias

Lung: Chronic Obstructive Pulmonary Disease, Asthma, Lung Cancer, Chronic Laryngitis, Acute and Chronic Bronchitis



Liver: Hepatic Steatosis, Hepatocellular Carcinoma

Fat: Metabolic Syndrome, Obesity



Pancreas: Type I and Type II Diabetes



Gastrointestinal: Gastric Cancer, Colorectal Cancer, Inflammatory Bowel Disease, Crohn's Disease, Appendicitis



Urogenital: Bladder Cancer, Kidney Cancer, Prostate Hyperplasia

Joints: Rheumatic Diseases



Bone: Osteoporosis, Fractures

Nose: Allergic Rhinitis



Skin: Atopic Skin Disease, Skin Aging, Urticaria, Dermographism, Seborrhea, Acne