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Electronic smog linked to respiratory disease, study shows

By Geoffrey Lean, Environment Editor

Electrical fields from computers, televisions and other everyday equipment can give people asthma, influenza and other respiratory diseases, a startling new study suggests.

The research, by scientists at Imperial College London, provides academic backing for one of the more controversial claims of campaigners against the thickening electro-smog from sources such as mobile phones and their masts, Wi-Fi systems and household electrical devices.

The scientists believe that there should now be research into whether electromagnetic radiation from sources such as mobile phone masts and Wi-Fi systems has the same effect.

The study is bound to increase the row over the effects of the electro-smog. It comes in the wake of the publication last week of research which concluded that people who believe that the masts are making them ill are deluding themselves. This research, by psychologists at Essex University, found that people who claimed to be sensitive to radiation from the masts could not tell when they were being subjected to them. It has, however, been criticised for alleged flaws and for measuring only short-term exposure.

MPs are to consider the health effects of the masts and Wi-Fi systems in an adjournment debate called by the Liberal Democrats' local government spokesman, Tom Brake, in October.

Suspicion that electrical fields cause respiratory illness dates back to the 1950s when it was found that placing asthmatics in areas with low electrical fields got rid of their symptoms. As the amount of electro-smog has multiplied many fold since then, campaigners have increasingly insisted that it causes a wide range of ailments, from respiratory diseases to difficulties in concentrating, from sleeplessness to cancer.

The research by Imperial College's Centre for Environmental Policy – which will be published in the August issue of the journal *Atmospheric Environment* – provides powerful evidence of how respiratory diseases may be caused.

The scientists found that the electrical fields given off by a wide variety of household items, including computers, televisions, cookers, lamps and even wiring, charge minuscule particles in the air such as viruses, bacteria, allergens and highly toxic pollutants.

Because they are so tiny – less than 80 times the thickness of a human hair – they are constantly airborne and so are being breathed in all the time. The electrical charge makes them stick to the tissue of the lungs and respiratory tract, causing infection and increasing the impact on the body.

The higher the electrical field the greater the danger, as the most charged particles hit the tissue with more speed. As they crash land, they become deformed, which makes them stick more firmly.

Electrostatic charges, such as those given off by clothing and sheets made of synthetic materials, add to the problem.

The research also shows that the electrical fields greatly reduced concentrations of charged molecular oxygen, which is readily absorbed by the body, enhances biological functions and can also kill harmful microbes.

Keith Jamieson, who led the research, is particularly worried about the effects in hospitals, where already sick people are surrounded by electrical equipment and often have sheets made of synthetic materials.

He adds, however, that, "there are a number of easy actions which can be implemented in the home and workplace to help reduce the toxic load on our bodies and the risk of illness and infection".

He said that people should ensure that electrical equipment – particularly laptop computers – is earthed, avoid synthetic materials, and unplug equipment when it is not in use.