

*Scientific Study*

## ***Air Pollution***

# ***Linked to Autoimmune Diseases***

Many people with environmental illnesses have an assortment of autoimmune diseases which scientists are linking to air pollution.

Though genetic factors have been found for autoimmune diseases, this knowledge has not helped to prevent them. In fact, according to researcher Stacy Ritz of the Northern Ontario School of Medicine, autoimmune diseases are rising at a dramatic rate.

“Population-level genetic changes cannot explain this trend; thus, environmental factors are strongly implicated,” says Ritz in a recently published study. “Among the possible environmental contributors to autoimmune disease, air pollution exposure has received very little attention. Although there is only a small amount of published data directly examining a possible causal relationship between air pollution exposure and autoimmunity, data from related fields suggests that it could facilitate autoimmunity as well.”

Antonella Zanobetti, a senior research scientist at the Harvard School of Public Health found that particulate matter in air pollution from industrial combustion and traffic significantly increased hospital admissions for cardiac problems, respiratory disease, and diabetes.

There are over 80 autoimmune diseases. Some of the more common ones include type I diabetes, certain thyroid and adrenal disorders, multiple sclerosis, scleroderma, Rheumatoid arthritis, lupus, and Sjogren’s syndrome.

Autoimmune diseases are characterized by an immune response which leads to the destruction of the body’s own organs and tissues. They are frequently endocrine system related. Essentially the body treats its organs and tissues as though they were a foreign invader and the immune system kicks in to kill off the invader.

Many chemical pollutants are known endocrine disruptors. Though dose specific exposures may be considered safe, little research has been done on the cumulative and synergistic effects of the many multiple and unavoidable exposures humans are subjected to each day.

On a daily basis, humans are exposed to a chemical cocktail of pesticides, herbicides, automobile exhaust, and industrial pollution. Often overlooked sources of exposure may also be found in the home in the form of cleaning solutions, fragranced products, air freshener chemicals, and chemicals used in the manufacture of furniture, carpet, plastics, and other household goods.

MCS America suggests switching to scent free and natural products in the home and using an air filter with both Hepa and charcoal to filters to help reduce volatile organic compounds.

### **References**

Ritz SA. Air pollution as a potential contributor to the 'epidemic' of autoimmune disease. *Med Hypotheses*. 2010 Jan;74(1):110-7. Epub 2009 Aug 8.

Zanobetti A, Franklin M, Koutrakis P, Schwartz J. Fine particulate air pollution and its components in association with cause-specific emergency admissions. *Environ Health*. 2009 Dec 21;8(1):58. [Epub ahead of print]