
PFOA Exposure & Health Studies

C8 Health Project

From 2005 to 2013 a series of epidemiologic (exposure and health) studies were conducted on a very large population in West Virginia. The C8 Health Project was the result of a class action lawsuit. The goal of the project was to assess the links between PFOA (commonly referred to as C8) and a number of diseases. Information was gathered through questionnaires and blood samples from almost 70,000 individuals who had drinking water that was contaminated with PFOA. Previously published studies were also reviewed as part of the project.

Background

Drinking water for communities in the mid-Ohio Valley region of West Virginia was contaminated due to PFOA (C8) emissions that had been ongoing since the 1950s. DuPont's West Virginia Washington Works Plant in southwest Parkersburg, WV released PFOA into the air and Ohio River from the 1950s until the early 2000s. C8 reached drinking water supplies by entering the groundwater and was detected in six water supplies in 2002. Carbon filters are now being used to remove C8 from water systems near the plant. The average PFOA level in residents' blood was 83 micrograms per liter (ug/L) compared to 2 to 5 ug/L in the overall U.S. population.

The C8 Science Panel – three epidemiologists from Emory University (Kyle Steenland, PhD), Brown University (David Savitz, PhD) and the London School of Hygiene and Tropical Medicine (Tony Fletcher, PhD) were chosen to conduct the studies due to their experience in designing and carrying out environmental health studies and ability to objectively generate and evaluate the evidence. Their PFOA studies have been published in the most respected epidemiologic and environmental health journals.

Probable Links

The C8 Science Panel concluded that there was a probable link between PFOA exposure and the following:

- High cholesterol
- Ulcerative colitis
- Thyroid disease
- Testicular cancer
- Kidney cancer
- Pregnancy-induced hypertension

NO Probable Link

The C8 Science Panel concluded that there was no probable link between PFOA exposure and the following:

- Chronic Kidney disease
- Hypertension or coronary artery disease
- Osteoarthritis
- Parkinson's disease
- Rheumatoid arthritis, lupus, type1 diabetes, Crohn's disease, or multiple sclerosis
- Common infections, including influenza
- Neurodevelopmental disorders in children, including attention deficit disorders and learning disabilities
- Asthma or chronic obstructive airways disease (COPD)
- Stroke
- Miscarriage or stillbirth
- Preterm birth or low birth weight
- Cancer, including bladder, brain, breast, cervical, colorectal, esophageal, leukemia, liver, lung, lymphoma, melanoma, oral, ovarian, pancreatic, prostate, soft tissue, stomach, and uterine

For more information on the C8 Health Project: <http://www.c8sciencepanel.org/>

Additional Studies

In 2015, the Agency for Toxic Substances and Disease Registry, part of the CDC, published their draft Toxicological Profile for perfluorochemicals, including PFOA. The profile, written by CDC toxicologists and epidemiologists, reviewed the current science of the health effects of PFOA and related chemicals.

Consistent Findings

Consistent findings were found for association of serum PFOA and:

- Increased serum lipid levels
- Decreased birth weight
- Increased uric acid levels
- Alterations of liver enzymes

For more information on the draft Toxicological Profile for perfluorochemicals:

<http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=1117&tid=237>