

PFC exposure may spark metabolic changes in overweight children

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Overweight children who were exposed to higher levels of perfluorinated chemicals tended to show early signs of developing the metabolic syndrome, according to a new study published in *The Endocrine Society's Journal of Clinical Endocrinology & Metabolism*.

The term metabolic syndrome describes a cluster of risk factors that increase the chances of developing heart disease, stroke and diabetes. The study is the first to find changing metabolic markers in children were associated with exposure to [perfluorinated chemicals](#) (PFCs), common industrial chemicals used as stain and water repellants in carpets, furniture and textiles.

"Our results suggest that these chemicals, which linger in the environment for years, could represent an important public health hazard that merits further study," said one of the study's authors, Clara Amalie Gade Timmermann, MSC, of the University of Southern Denmark.

"Overweight children who were exposed to higher levels of PFCs tended to have higher concentrations of insulin and triglycerides in their blood, and these metabolic changes could signal the beginnings of the [metabolic syndrome](#)."

The cross-sectional study examined PFC exposure and metabolic changes in 499 third-graders. Researchers measured the participants' body mass index and waist circumference and analyzed blood samples for PFC, insulin, triglyceride and glucose levels. The samples were taken in 1997 as part of the European Youth Heart Study.

The analysis found that [overweight children](#) who had higher levels of certain PFCs in their blood were more likely to have higher levels of insulin and triglycerides as well. There was no relationship between PFC exposure and metabolic markers in normal-weight children.

"Although the two types of PFCs we investigated are being phased out due to health concerns, the use of other types of PFCs is on the rise," Timmermann said. "There is an ongoing need to determine how the entire class of chemicals is affecting children's health."

Provided by The Endocrine Society

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