

Cigarette smoke may rob children of needed antioxidants

May 4 2009

Children exposed to cigarette smoke have lower levels of antioxidants, which help the body defend itself against many biological stresses.

A University of Rochester Medical Center study looked at the levels of [antioxidants](#) versus the amount of smoke exposure in more than 2,000 6 and 18 years old in the 2003-2004 National Health and Nutrition Examination Survey (NHANES). The study, which was presented at the Pediatric Academic Society Meeting in Baltimore, shows that secondhand smoke exposure is associated with lower levels of antioxidants in [children](#).

"We don't know enough yet to say that this group of children need supplements to make up for the antioxidants they're losing, but it's always wise to feed children an abundance of fruits and vegetables high in antioxidants and other healthy nutrients," said Karen Wilson, M.D., M.P.H., a senior instructor of Pediatrics at the University of Rochester Medical Center and the study's author.

Antioxidants are believed to play an important role in protecting the body's cells against free radicals, which can damage cells. Free radicals are produced during many body processes including when we use oxygen and respond to infections. It is not completely understood how antioxidants work together to neutralize [free radicals](#), but scientists continue to discover more antioxidant compounds, including those examined in the study - vitamins E and C, folate and beta-carotene.

Children's exposure to tobacco smoke was determined by the level of cotinine in their blood (cotinine is a byproduct of metabolizing [tobacco smoke](#)). The higher the level of cotinine in a child's blood, the lower the antioxidant level, after controlling for diet and supplements. The study also looked at vitamins that were not antioxidants and found that these compounds did not seem to be reduced with [smoke exposure](#).

Source: University of Rochester Medical Center ([news](#) : [web](#))

Citation: Cigarette smoke may rob children of needed antioxidants (2009, May 4) retrieved 28 June 2024 from <https://medicalxpress.com/news/2009-05-cigarette-children-antioxidants.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.