

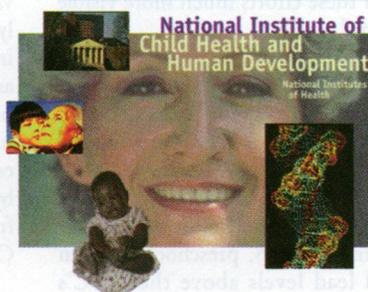
plaque buildup. Fortunately, the findings also suggest that a child's HDL level can be raised by 10% if the smoky environment is cleaned up. This rise is equal to or better than many other risk-reducing strategies such as increased exercise and lowered fat intake.

The study was conducted by Ellis J. Neufeld, director of clinical hematology at Boston Children's Hospital, and colleagues, who examined a group of 103 children aged 2–18. All of the children had come to the hospital for treatment of high cholesterol, and most of them had family members in the early stages of coronary disease. Neufeld says that his group originally sought to determine the extent to which patients followed the clinic's advice on leading a healthier lifestyle and what effect following such advice had on their cholesterol problems. But as the remarkable correlation between tobacco smoke exposure and HDL levels emerged, Neufeld and colleagues began to target that relationship as the basis of the study. Just over one-fourth of the children lived in households where some cigarette smoking was reported. It was unknown exactly how much smoke the children encountered in their homes, but one thing seemed clear: the children from smoking households had HDL levels averaging 38 milligrams per deciliter (mg/dl) of blood, compared to HDL levels averaging 43 mg/dl for children from nonsmoking households.

Because the study subjects all had some form of cholesterol abnormality, it is not possible to extrapolate the findings to all children. Neufeld says the next step will be to replicate the study with the goal of quantitating the amount of actual smoke exposure received by each study subject. One method for doing this might be to monitor each subject's urinary cotinine levels (cotinine, a metabolite of nicotine, is a biomarker of nicotine exposure). If exposure to cigarette smoke does indeed cause lowered blood HDL levels, then it could reasonably be expected that a rise in urine cotinine levels would correspond with a drop in blood HDL levels. Comparison of fluctuations in cotinine levels and blood HDL levels could therefore establish that a correlation exists between the occurrence of the two substances.

Cholesterol disorders are largely hereditary. Children who already have a cholesterol disorder can ill afford any reduction in their bodies' natural heart disease prevention mechanisms. When the child's parents smoke, the child is at even greater risk because smokers' offspring tend to become smokers themselves.

Since 1991, Neufeld says, the clinic has urged its young patients' parents to stop



30% between 1992 and 1995.

Information about what the NICHD is doing to fight SIDS and other threats to children's health is available from the NICHD home page at <http://www.nih.gov/nichd/>. Links on the home page lead to information specifically tailored for scientists, the media, doctors, and parents on what is being done—and what should be done—to ensure that children grow up to be healthy adults.

The Research link on the NICHD home page leads to information for scientists and health professionals who wish to take a larger role in protecting childhood and developmental health. Here, such users can find information on research grants offered by the NICHD and on NICHD-sponsored meetings. The Annual Report link on the Research page provides users with a list of all of the laboratories within the NICHD, a description of the work and recent accomplishments of each, and links to the home pages of certain laboratories. Under the Patients link, users can click on a specific diagnosis to see if the NICHD is currently conducting a clinical trial in that area.

Scientific publications available from the NICHD are listed under the Publications link on the home page. In addition to descriptions of various diseases and syndromes that affect children, reports on NICHD research programs, conference proceedings, state-of-the-science reports, and information packets on NICHD grants and contracts are among the free materials that may be ordered by following instructions on this page. Health professionals wishing to become even more intimately involved in the mission of the NICHD may also want to check the employment opportunities page, which can be found via the About NICHD link on the institute's home page.

Besides providing information for scientists, the NICHD home page is also a resource for parents who want to know more about protecting the health of their children. Links on the home page take parents to information on NICHD campaigns such as "Back to Sleep" and "Milk Matters," which stresses the importance of getting enough calcium. In addition, a discussion of why children should not be given adult medications is available under the Patients link on the home page. Here, the site also describes the Pediatric Pharmacology Research Network Unit, a resource for the study of how drugs work in children.



smoking. Or, he continues, if the parents are unable to stop smoking, they should at least smoke outside, rather than in a designated "smoking area" within the house. Indeed, according to a study published in the *Environmental Journal* in 1986, it takes approximately two weeks for the nicotine to

clear out of the air in a room where people have smoked. Says Neufeld of parents who have cholesterol abnormalities of their own and who also smoke, "These parents are already at high risk in their own right. Getting them to stop smoking is extraordinarily important."

EHPnet

Growing Up Healthy

Statistics such as infant mortality rate have long shown that the United States is not protecting its children's health as successfully as many of the other major industrialized countries. This is cause for concern among many health professionals, particularly those at the National Institute of Child Health and Human Development (NICHD), one of the National Institutes of Health. Since 1962, the institute has aggressively sought to improve the health of the United States' children by sponsoring research focused on children and conducting educational programs for parents. Many of these endeavors have seen significant success.

For example, recent research sponsored by the NICHD has shown that many victims of sudden infant death syndrome (SIDS) possess abnormalities in their brain stems, giving doctors new ammunition to fight this leading cause of death among infants. In addition, the NICHD has recruited Tipper Gore as spokesperson for the SIDS "Back to Sleep" campaign, which teaches parents to avoid SIDS by always putting infants down to sleep on their backs. Such programs have been credited with reducing SIDS deaths in the United States by

SIDS
"Back to Sleep"
Campaign