

Smoke hurts kids' cholesterol status

Children at high risk of heart disease who live in houses with smokers have significantly lower concentrations of HDL cholesterol, the good cholesterol, than their counterparts living in smokefree houses, a study in the Sept. 2 *CIRCULATION* finds.

Researchers recruited 103 children whose HDL concentrations placed them in the bottom fifth percentile for their age group; 28 of the children lived with at least one smoker. They had similar fat intake, degree of obesity, and amounts of exercise as the 75 children who lived in smokefree homes. Most of the children had a family history of heart disease.

Both groups had very high concentrations of LDL cholesterol, the bad cholesterol, in their blood. HDL concentrations in children exposed to secondhand smoke, however, were only about 90 percent of those in their smokefree counterparts, says Ellis J. Neufeld, a pediatrician and hematologist at Harvard Medical School in Boston.

The findings indicate the need for a larger study on the effects of passive smoke on children at risk of heart problems, he says. A 10 percent change in HDL would be difficult to achieve through diet or exercise. "The next step is to convince parents to get the smoke out of the house," Neufeld says. —N.S.

Anti-inflammatory drugs overprescribed

Ten years after a physician committee warned in medical journals against overprescribing anti-inflammatory drugs, a Canadian study finds the drugs still widely ordered and, in nearly 42 percent of the cases studied, unnecessary. Moreover, overprescribing was linked to shorter visits to the doctor's office, researchers at McGill University in Montreal report in the Sept. 15 *ANNALS OF INTERNAL MEDICINE*.

Nonsteroidal anti-inflammatory drugs such as naproxen and diclofenac boost the risk of gastrointestinal bleeding and perforation of the stomach lining. They cause roughly 80,000 hospitalizations and nearly 8,000 deaths in the United States and Canada annually. Elderly people account for most of the deaths linked to these drugs. Still, 100 million prescriptions for these drugs are ordered yearly in Canada, the United States, and Great Britain combined.

To assess how widely the drugs are prescribed to elderly patients, a panel of doctors reviewed the diagnoses of 112 Canadian physicians. These practitioners were recruited for the survey, but they didn't know what aspect of their practice would be monitored. In fact, eight people age 67 were trained to be patients. During office visits, they related a specified set of symptoms, gave some medical history, and answered questions. Later, they recorded the length of the visit and the doctor's action. They completed 276 visits undetected.

In 139 of these visits—ostensibly for a flare-up of chronic hip pain—the correct treatment would have been acetaminophen but no anti-inflammatory drugs. However, nonsteroidal anti-inflammatories were prescribed 52 times, and anti-inflammatory steroids were ordered in a few cases. Unneeded drugs were more common when doctors failed to elicit personal histories, which included high blood pressure or ulcers, conditions that make people poor candidates for anti-inflammatories. Such questions lengthened visits by 9 minutes, on average.

The pseudopatients also made 137 visits for gastric distress caused by anti-inflammatories. Most doctors correctly ordered the drugs stopped or scaled back and prescribed anti-ulcer drugs. Again, many failed to take full histories.

In an accompanying commentary, Frank Davidoff, a physician and editor of the journal, calls the connection between shorter office visits and inappropriate prescribing "particularly disturbing." In a 1995 survey, 41 percent of U.S. doctors reported that the time they spent with patients had decreased, on average, over the past 3 years, he notes. —N.S.

When mountains deceive

For geologists, the lush Hawaiian island of Kauai has always stood as a classic example of how a single volcano can build a towering monolith from the seafloor. A team of researchers now seeks to tear down that simple image. The lava flows of Kauai hide the remains of at least two and possibly more ancient volcanoes that combined to form a mountainous mélange, report the scientists in the September *GEOLOGY*.

Robin T. Holcomb of the U.S. Geological Survey in Seattle and his colleagues argue that previous scientists were duped by the island's roughly circular shape, with many lava flows emanating from a central plateau. Lava had apparently erupted from the island's center and spread equally around the flanks of the volcano in the last 6 million years, making a cone-shaped island subsequently sculpted by erosion.

To test that hypothesis, the Washington team analyzed the chemistry of contemporaneous lava flows on different sides of Kauai. If all of these rocks had erupted from a single volcano at roughly the same time, they would bear a close chemical resemblance to each other. The recent tests reveal a problem, however.

Rocks from the east and west flanks of the island have significantly different ratios of several isotopes, Holcomb's group found. The scientists suggest that one volcano, which they named Waimea, built up the western portion of the island, then collapsed along its eastern edge in a giant landslide. Later, a separate volcano, Lihue, constructed eastern Kauai. After the younger volcano had stopped growing, its eastern flank also collapsed. Remnants of these massive avalanches litter the seafloor around Kauai.

The researchers say it is important to work out the history of the island's volcanoes in order to evaluate the threat of giant landslides in the future. —R.M.

Faster track for ozone layer protection

Representatives from more than 100 governments met in Montreal last month and agreed to tighten restrictions on several chemicals harmful to the ozone layer. The meeting, which ran from Sept. 15 to 17, also marked the 10th anniversary of the original international treaty to phase out ozone-destroying chlorofluorocarbons (CFCs).

The new agreement accelerates the elimination of methyl bromide, a soil and crop fumigant. Developing countries had previously agreed only to freeze their use of this chemical in 2002, but they have now accepted a complete phaseout by 2015, with some exceptions for critical uses after that time.

Meanwhile, industrial nations have agreed to move the deadline for eliminating methyl bromide from 2010 to 2005, with similar exceptions thereafter.

Delegates in Montreal also set up a licensing system, which will take effect on Jan. 1, 2000, to help governments track international trade in CFCs and discourage illegal sales. A brisk black market has emerged in industrial nations (*SN*: 5/25/96, p. 331). In 1996, the U.S. Customs Service seized more than 87,500 kilograms of CFCs, with an estimated value in excess of \$3.8 million.

Attendees failed to reach consensus on proposals by the European Community and Switzerland to accelerate the phaseout of hydrochlorofluorocarbons, a class of chemicals that can replace CFCs in some applications but that still harm the ozone layer (*SN*: 4/7/90, p. 215).

Despite the new agreement, not everyone was happy with the extent of progress made by the delegates. "There was a big opportunity to do a lot more at this meeting, but the steps taken at Montreal were timid ones, compared to the danger yet to come," says Brent Blackwelder, president of Friends of the Earth U.S. in Washington, D.C. —S.P.