

Heart disease worries? Watch the decaf

Several studies have suggested a link between heavy coffee drinking and heart disease. Though most did not differentiate between coffee types or brewing methods, scientists suspected that any adverse effect must trace to caffeine. Now, researchers report that decaffeinated coffee — but not regular — may nudge cholesterol levels in the direction of increased heart risk.

The 16-week study, directed by H. Robert Superko of the University of California's Center for Progressive Atherosclerosis Management in Berkeley, involved 181 healthy, nonsmoking men who routinely drank three to six cups of coffee per day. The researchers provided all volunteers with regular, drip-grind coffee and instructed them on how to brew it. Eight weeks later, they randomly assigned each man to one of three regimens: the same coffee, a switch to decaf, or abstinence from coffee. Participants were asked to avoid other caffeine sources throughout the study.

Those who drank regular coffee and those who abstained showed no changes in blood cholesterol levels during the study, the team reports in the September *AMERICAN JOURNAL OF CLINICAL NU-*

TRITION. The decaf group, however, experienced a roughly 6 percent increase in low-density lipoprotein (LDL) cholesterol, the so-called "bad" cholesterol linked to heart attacks.

Using the general rule that a 1 percent rise in total cholesterol boosts the risk of heart disease by 2 percent, the researchers conclude that the LDL changes in their study "may increase coronary artery disease risk by around 10 percent." This could have important implications, says Superko, who notes that decaf represents some 20 percent of the 139 billion cups of coffee downed each year in the United States.

If caffeine isn't responsible for coffee's cholesterol effects, what is? "We think there's one compound in the bean that's causing this effect on a molecular level," Superko told *SCIENCE NEWS*. The culprit compound may occur only in certain types of beans, he suggests.

Other reports have indicated that caffeinated coffees usually come from arabica beans, whereas most decaffeinated blends rely on robusta beans. Superko is now comparing the chemistry of the two brews used in his study, searching for differences that might explain the LDL increase. — *J. Raloff*

Heart benefits found for estrogen users

New findings offer the strongest evidence yet that estrogen supplements help protect postmenopausal women from coronary artery disease. Nonetheless, some physicians remain cautious about recommending estrogen therapy because of concerns that it might increase the risk of cancer.

During the 1960s and early 1970s, physicians routinely prescribed this sex hormone to combat hot flashes, night sweats and other symptoms of menopause. But estrogen's reputation plummeted in the mid-1970s with reports that women taking the drug had higher rates of endometrial and breast cancer.

While the cancer risk remains unclear, a large-scale study of postmenopausal women now indicates that those who take estrogen cut in half their risk of fatal or nonfatal coronary disease compared with those who have never taken estrogen. The researchers, led by Meir J. Stampfer of the Harvard School of Public Health in Boston, reached this conclusion after statistically adjusting for age and other cardiovascular risk factors.

His group's findings, reported in the Sept. 12 *NEW ENGLAND JOURNAL OF MEDICINE*, represent the latest analysis of the ongoing Nurses' Health Study (SN: 11/2/85, p.279). During a 10-year period starting in 1976, Stampfer's team gathered data on estrogen use and heart disease by questioning 48,470 postmenopausal and initially healthy female nurses.

Although other studies have suggested a link between estrogen therapy and stroke risk, no such connection showed up in the new data. "I think the jury is still out on stroke," Stampfer says.

The study did not assess cancer risks. Today, most physicians who prescribe estrogen replacement therapy add another hormone, usually progestin, to lessen any cancer threat. Researchers still need to determine whether the addition might undermine estrogen's heart benefits, Stampfer says.

The new findings do not prove that estrogen therapy protects against heart disease, argues Lee Goldman, a cardiologist at Brigham and Women's Hospital in Boston. The results could be skewed, he says, if heart-healthy women are more likely to opt for estrogen therapy. Only a randomized clinical trial can offer definitive proof of estrogen's heart benefits, Goldman asserts in an editorial accompanying the research report.

The decision on estrogen treatment remains a tough call for women and their physicians. Both Stampfer and Goldman say they think most postmenopausal women would benefit from estrogen therapy, but they shy away from a blanket recommendation. — *K.A. Fackelmann*

Muscle: Clues to the diabetic difference

Although obesity boosts a person's risk of developing Type II diabetes, endocrinologists have few clues to explain why. A study of middle-aged men now indicates that heavy people, compared with normal-weight ones, lay down a less dense form of skeletal muscle as they gain weight.

Because an obesity-related resistance to insulin in skeletal muscle is one hallmark of adult-onset diabetes, understanding what's behind this density difference might ultimately enable scientists to figure out how excess weight fosters this disabling disease.

For their muscle study, researchers at the University of Pittsburgh recruited 10 healthy men and 10 with Type II diabetes. They matched the two groups for age, size and levels of body fat. Volunteers in both groups ranged from lean to heavy.

The team, led by endocrinologist David E. Kelley, performed at least 10 cross-sectional computed-tomography scans of each man's thigh, gauging the density of lean tissue — primarily skeletal muscle — by the degree to which it reduced the transmission of X-rays. Levels of normal-density lean tissue did not correlate with diabetes or obesity, they found. However, obesity was strongly linked to the presence and quantity of unusually low-density lean tissue,

which tended to deposit around a core of normal-density skeletal muscle. Obese diabetics deposited the lightest form of this excess lean tissue.

These findings represent the first indications of a difference in the composition of lean tissue in normal-weight and obese people, Kelley and his co-workers assert in the September *AMERICAN JOURNAL OF CLINICAL NUTRITION*. "One intriguing possibility," they write, "is that [the normal-density tissue] represents the residual thin man within the obese individual."

"It's an excellent study," comments endocrinologist Stephen Lillioja, who says the new findings may lead "to insights on why obese people are getting insulin resistant." Lillioja, who works at the Phoenix office of the National Institute of Diabetes and Digestive and Kidney Diseases, suggests that a microdispersion of fat cells in skeletal muscle or an excess of triglycerides (fat) within individual muscle cells might account for the excess lean tissue's unusually light density. If so, he says, this might help explain the impaired glucose metabolism seen in Type II diabetics.

Indeed, Kelley says his analyses lead him to suspect that the unusual muscle tissue observed in heavier men may represent precisely the type Lillioja describes. — *J. Raloff*