

## BIOMEDICINE

### New *trans* fat studies muddy the waters

Manufacturers can transform oils into fats that remain solid or semisolid at room temperature — usually through a process known as hydrogenation. In recent years, many studies have linked heart disease risk to diets high in margarine, shortening, and other sources of these artificially hardened, *trans* fatty acids (SN: 5/21/94, p.325). But a pair of reports in the Feb. 4 Lancet now suggests that those studies may have given at least one *trans* fat a bum rap.

The first study compared the proportion of *trans*-oleic acid in fat from 671 male heart-attack survivors and 717 apparently heart-healthy men. This *trans* fat is made from the monounsaturated fat that predominates in olive and canola oils.

*Trans*-oleic acid varied widely among the men in the study, who hailed from eight European countries and Israel — with values highest (at least 2.25 percent of sampled fat) for men from Norway, the Netherlands, and Scotland and notably lower (just 0.4 percent of fat) for men from Spain. However, within each country, concentrations varied little between heart attack victims and the men to whom they were compared.

Moreover, within groups from Spain and Russia — where *trans* fat consumption proved lowest — men whose bodies contained the most *trans*-oleic acid actually exhibited an 80 percent lower heart-attack risk than men whose bodies stored the least. This trend did not hold, however, for Norway or Finland. There, men consuming the most *trans*-oleic had five times the heart attack risk of those in the group eating least.

Antti Aro of the National Public Health Institute in Helsinki, Finland, and his coworkers lacked the ability to quantify any *trans* fats other than *trans*-oleic. Therefore, they acknowledge, their data can't rule out the chance that some cultures may offset a *trans*-oleic benefit by eating too much fat overall or too much of potentially more deleterious *trans* fats.

Indeed, that's what the second study found. British researchers sampled abdominal fat from 66 men who died suddenly of a heart attack and from 286 healthy volunteers. But unlike the other team, this one measured relative concentrations of both *trans*-oleic and *trans*-linoleic acids. Linoleic acid is a polyunsaturate found in corn oil and nuts.

While they found no *trans*-linoleic link to heart attack risk, high body stores of *trans*-oleic acid appeared to protect against heart attacks.

Together, the studies seem to suggest that if one eats a lot of margarine or shortening, one might do well to look for brands that start with oils rich in monounsaturated fat, like canola.