

FACTS

Taking the *Trans* Fat Out

Banning *Trans* fats in Schools, Workplaces, and Restaurants

OVERVIEW

Until the previous decade, few Americans had ever heard of *trans* fat – found mostly in foods made with partially hydrogenated vegetable oil, like cookies, cakes, or fried foods. It wasn't until January 2006 before it listed on the Nutrition Facts Label for manufactured foods, and is still not found on fast food menu boards or restaurant menus. There are many consumers who still do not know the increased health risks associated with *trans* fats, including coronary heart disease (CHD) and diabetes.^{1,2}

Researchers have made a definitive link between specific types of dietary fat, including *trans* fat, and cardiovascular disease (CVD).

- One study showed that women with the highest levels of *trans* fats in their blood were associated with a three times higher risk of having CHD than those women with the lowest levels.³
- *Trans* fats tend to raise the levels of low-density lipoproteins (“bad cholesterol”) and lower the levels of “good cholesterol” in the body.⁴
- They also can cause inflammation and atherosclerotic lesions and interfere with the metabolism of other important, healthy fats.⁵
- They may impair muscle insulin sensitivity, a factor associated with diabetes.⁶

Public health experts believe that eliminating *trans* fatty acids from the food supply through public policy approaches is an important strategy for improving cardiovascular health.⁷ Policies include robust nutrition standards in schools, menu labeling in restaurants, *trans* fat bans in restaurants, robust standards for foods marketed and advertised to children, and strong procurement policies for foods purchased in government feeding programs and workplaces.

TRANS FAT BASICS

Trans fat or *trans* fatty acids arise during the chemical process known as partial hydrogenation of oils. It makes liquid cooking oils into stable semi- solids, such as vegetable shortening, and helps increase shelf life. Partially hydrogenated oils give foods like baked goods and french fries a

desired feel and texture. A small amount of *trans* fats, along with saturated fat, occurs naturally in some animal foods, such as milk and beef.

Ironically, partially hydrogenated oils were once touted as healthy, cheap replacements for animal fats and tropical oils high in saturated fats, such as butter, lard, and palm oil. But, research has shown that *trans* fat increases the risk of developing CHD.

Both saturated and *trans* fats are bad for heart health and should be replaced with mono- or polyunsaturated fat in order to reduce CVD risk. Recent studies show that healthy oils may be important for heart disease prevention.⁸ However, it is difficult to avoid “bad fats” altogether. The American Heart Association recommends that saturated fat be fewer than 7% of total calories and *trans* fat fewer than 1% of total calories.³

WHERE WE ARE NOW

Since the Food and Drug Administration mandated *trans* fat labelling on packaged foods in 2006 and consumers began demanding foods without these heart-clogging fats, industry has moved rapidly to find alternative oils and take *trans* fat out of the food supply. Even government feeding programs have fewer *trans* fats. For example, the U.S. Department of Agriculture (USDA) has been working hard to remove all of the *trans* fats from commodity foods offered in school meal programs, eliminate the fats from frozen potato products, and disallow shortening and butter as an ordering option. From their commodity list of 180 food items, only a few items still contain small amounts of *trans* fats and those are naturally-occurring. Use of *trans* fats in fast-food restaurants has essentially been eliminated.⁹ Indications are that more than 50% of *trans* fats have been removed from the food supply. However, we are concerned that oils high in saturated fat, such as palm oil, are replacing partially hydrogenated oils in many manufactured food products to avoid *trans* fats being listed on the label. Data from the USDA show a global palm oil surplus; exports in the 2012-2013 year

are projected to rise to 40.7 million tons from 38.4 million tons in the 2011-2012 year.¹⁰

Many states and localities have passed *trans* fat bans. Tiburon, CA became the first city in the U.S. where all restaurants voluntarily cooked with *trans*-fat free oils. A full statewide ban on their use in California followed, and went into effect on January 1, 2010. Other U.S. cities that have passed bans include New York and Philadelphia, as well as some European countries, such as Denmark and Switzerland.⁶ Oregon passed a law in 2007 that, among other provisions, prohibits the sale of snack items that contain more than 0.5 grams of *trans* fat per serving in schools.¹¹ New York City's ban has been a great success with comprehensive implementation and results show that replacement of industrial *trans* fat has resulted in products with much more healthful fatty acid profiles.¹² The United Kingdom Faculty of Public Health and Royal Society for Public Health have called for the elimination of *trans* fat in that country by 2011 and estimate that this action could prevent 11,000 heart attacks and 7,000 deaths each year.⁶

REAL WORLD CONCERNS

The American Heart Association supports regulatory and legislative efforts at state and local levels to reduce *trans* fat in the food we eat and applauds such a heart-healthy approach to a major CVD problem.

To assure that there is replacement with healthy options and not oils high in saturated fat, we support a phased-in approach with regulatory safeguards that provide policy-makers flexibility in implementation and strong programmatic efforts to assist industry in the *transition*.

SUPPLY AND DEMAND

Trait-enhanced oils, such as low-linolenic soybean oil, and high-oleic canola and sunflower oils, are some of the best available *trans* fat alternatives. Industry is making significant progress in producing the replacement oils.¹³ Current data indicate that about half of the replacement supply is available to replace *trans* fat from partially hydrogenated vegetable oils, and many healthy oils remain in development.⁷ This situation is complicated by another factor: new incentives to plant crops for bio-fuels, such as corn for ethanol. Acreage that could have been used for trait-enhanced oil seeds may now be put to such purposes, particularly if farmers can make a much higher profit by growing commodity soybean and corn for alternative fuels.

The implications are clear. Even as demand rises, supply could decline, resulting in higher prices for healthy oils. Without an adequate and affordable

supply of healthy oils, restaurants and food manufacturers may be forced to go back to using oils rich in saturated fats. Unfortunately, any health benefits gained from removing *trans* fat will be significantly undermined if this trend were to occur. Therefore, we support efforts to remove *trans* fats and to provide an adequate and affordable supply of alternative healthy oils despite the reality that they may cost more than saturated fat alternatives.

THE ASSOCIATION ADVOCATES

The American Heart Association will continue to monitor removal of *trans* fats from the food supply and assure that healthy replacement oils are used. We will:

- Advocate for legislation and regulation that removes industrially-produced *trans* fats from food preparation in restaurants and schools and requires that all foods brought in be zero grams of industrial *trans* fat as labeled.
- Address labeling issues to assure that there is accurate information provided to consumers about the actual amounts of *trans* fats in food products.
- Support robust nutrition standards in schools, for foods marketed and advertised to children, and procurement standards for foods purchased by employers and government feeding programs.

¹ Mozaffarian D, et. al. *Trans* fatty acids and cardiovascular disease. *N Engl J Med* 2006; 354:1601-1613.

² USDA and US Department of Health and Human Services. Dietary Guidelines for Americans 2010. Available online at <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf>

³ Sun Q, et. al. A prospective study of *trans* fatty acids in erythrocytes and risk of coronary heart disease. *Circulation* 2007; 115:1858-1865.

⁴ Lichtenstein AH, Appel LJ, Brands M, et. al. Diet and lifestyle recommendations revision 2006: a scientific statement from the American Heart Association Nutrition Committee. *Circulation* 2006; 114: 82-96.

⁵ Chen CL, et al. A mechanism by which dietary trans fats cause atherosclerosis. *The Journal of nutritional biochemistry*, 2011; 22 (7): 649-55.

⁶ Jeyakumar SM, et al., Chronic consumption of *trans*-fat-rich diet increases hepatic cholesterol levels and impairs muscle insulin sensitivity without leading to hepatic steatosis and hypertriglyceridemia in female Fischer rats. *Ann Nutr Metab*. 2011 Oct;58(4):272-80.

⁷ Mozaffarian D, Stampfer MJ. Removing industrial *trans* fat from foods. *BMJ* 2010;340:c1826.

⁸ Bendinelli B, et al. Fruit, vegetables, and olive oil and risk of coronary heart disease in Italian women: the EPICOR Study. *The American Journal of Clinical Nutrition*, 2011; 93: 275-83.

⁹ Harnack L, Oakes M, French S, et al. Trends in the fatty acid composition of frying oils used at leading fast food restaurants over the past 12 years based on French fries as a proxy indicator. 2010 National Database Conference. July 12-14, 2010. Grand Forks, ND. Presentation 9.

¹⁰ Ash, M. Oil Crops Outlook. Economic Research Service, USDA, November 13, 2012. Available online at <http://www.ers.usda.gov/media/947159/ocs12kf.pdf>

¹¹ National Conference of State Legislatures. *Trans Fat and Menu Labeling Legislation*. Updated January 2013. Available online at <http://www.ncsl.org/issues-research/health/trans-fat-and-menu-labeling-legislation.aspx>

¹² Angell SY, et al. Change in *Trans* Fatty Acid Content of Fast-Food Purchases Associated With New York City's Restaurant Regulation. *Annals of Internal Medicine*, 2012; 157: 81 – 86.

¹³ Eckel RH, Borra S, Lichtenstein AH, Yin-Piazza SY. Understanding the complexity of *trans* fatty acid reduction in the American diet. American Heart Association *Trans* Fat Conference 2006. Report of the *Trans* Fat Planning Group. *Circulation* 2007; 115: 2231-2246.