



# FACTS

## Taking the *Trans* Fat Out

### Banning *Trans* Fats in Schools, Workplaces, and Restaurants

#### OVERVIEW

Concerns have been raised for several decades that *trans* fats contribute to the epidemiology of cardiovascular disease.<sup>1,2</sup> While some meat and dairy products contain small amounts of naturally-occurring *trans* fat, much of the *trans* fats in the food supply are created through an industrial process that solidifies vegetable oils and increases the shelf lives of the foods that contain them. Since January 2006, food manufacturers have been required to report *trans* fat content on labels.<sup>3</sup> However, *trans* fat content is still not required on fast food menu boards or restaurant menus.<sup>4</sup> The Food and Drug Administration (FDA) recently determined that industrially-produced *trans* fats are not generally recognized as safe and have taken steps toward barring food manufacturers from using them.<sup>5</sup> Although Americans' knowledge of the harmful effects of *trans* fats has increased,<sup>6</sup> there are still many consumers who do not know the health risks associated with them,<sup>7</sup> which include coronary heart disease (CHD) and higher LDL-cholesterol levels.<sup>8,9</sup>

Researchers have linked industrially-produced *trans* fats and cardiovascular disease (CVD).

- One study showed that adults who consumed fried foods (which contain *trans* fats) 4-6 times a week were 23% more likely to develop coronary artery disease.<sup>7</sup>
- Palm and partially-hydrogenated soybean oils raised cholesterol levels by nearly 15% in comparison to regular soybean and canola oils in a study of people with moderately elevated LDL-cholesterol.<sup>10</sup>
- *Trans* fats are associated with higher total mortality.<sup>11</sup>
- *Trans* fats can increase atherosclerotic lesions in animal studies.<sup>12</sup>
- A recent study in women found that higher *trans* fats intake was associated with greater risk of stroke.<sup>13</sup>

Eliminating industrially-produced *trans* fats from the food supply through public policy approaches is an

important strategy for improving cardiovascular health.<sup>14</sup> Such policies could reflect the efforts and success of policies to include robust nutrition standards in schools<sup>15</sup> and menu labeling in restaurants.<sup>16</sup>

#### TRANS FAT BASICS

*Trans* fats arise during the chemical process known as hydrogenation which converts liquid cooking oils into stable semi- solids oils; this process 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. Partially hydrogenated oils were once touted as healthy, cheap replacements for animal fats such as butter, lard, and palm oil.<sup>17</sup>

The American Heart Association recommends reducing both saturated and *trans* fats and replacing them with mono- or polyunsaturated fat in order to reduce CVD risk.<sup>18</sup> A review of recent studies concluded that adhering to a Mediterranean diet which includes healthy oils may be important for reducing risk of heart disease.<sup>19</sup> However, it is difficult to avoid "bad fats" altogether. The American Heart Association recommends that saturated fat be fewer than 5-6% of total calories and *trans* fat intake should be as low as possible.<sup>18</sup>

We are also 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. Recent research has shown that consumption of palm oil, compared to soybean and canola oils, raises lipid levels in people with high cholesterol.<sup>5,10</sup>

#### WHERE WE ARE NOW

Since the FDA mandated *trans* fat labelling on packaged foods in 2006 and consumers began demanding foods without *trans* fats, the food industry has moved rapidly to remove them from their

products.<sup>20</sup> Even government feeding programs have fewer *trans* fats. For example, the U.S. Department of Agriculture (USDA) has banned the use of industrially-produced *trans* fats from commodity foods offered in school meal programs.<sup>21</sup> The amount of *trans* fats in fast-food restaurants has significantly decreased.<sup>22</sup> While many partially hydrogenated oils have been removed from the food supply,<sup>20</sup> a recent analysis of packaged foods found that 84% of products containing *trans* fats are labelled as having zero grams.<sup>23</sup> The results are clear: regulatory efforts to reduce the public's intake of *trans* fats work.<sup>24</sup> 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.<sup>25</sup> A full statewide ban on their use in California food service establishments followed and began on January 1, 2010.<sup>26</sup> Other U.S. cities that have passed bans include New York and Philadelphia.<sup>26</sup> Oregon enacted 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.<sup>27</sup> 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 more healthful fatty acid profiles.<sup>28</sup>

## REAL WORLD CONCERNS

The American Heart Association supports regulatory and legislative efforts at all levels of government to reduce *trans* fat in the food we eat.

To assure that there is replacement with healthy options and not oils high in *trans* 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

Industry is making progress in producing oils to replace those with *trans* fats in the food supply.<sup>29</sup> However, replacing *trans* fats with healthier alternatives may prove difficult due to their current supply not meeting the potential void left by a *trans* fat ban.<sup>30</sup>

The implications are clear. As demand rises, the gap between need and supply may widen resulting in higher prices for healthier oils. And in jurisdictions that have yet to ban *trans* fats, without an adequate and affordable supply of healthy oils, restaurants and food manufacturers may be inclined to use more *trans* 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 industrially-produced *trans* fats and to provide an adequate and affordable supply of alternative healthy oils.

## THE ASSOCIATION ADVOCATES

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

- Continue to support the FDA's endeavor to ban industrially-produced *trans* fats
- Support legislation and regulation that removes industrially-produced *trans* fats from food preparation in restaurants and schools and requires that all foods served contain 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.

<sup>1</sup> Booyens J, et al. The role of unnatural dietary *trans* and cis unsaturated fatty acids in the epidemiology of coronary artery disease. 1988. *Med Hypotheses*; 25:175-182.

<sup>2</sup> Lichtenstein, AH. *Trans Fatty Acids, Plasma Lipid Levels, and Risk of Developing Cardiovascular Disease*. A Statement for Healthcare Professionals From the American Heart Association. 1997. *Circulation* 95.11: 2588-2590.

<sup>3</sup> FDA Food Labeling: *Trans*. 68 FR 41434, January 1, 2006.

<sup>4</sup> FDA. Overview of FDA Labeling Requirements for Restaurants, Similar Retail Food Establishments and Vending Machines. 2015. Available at:

<http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm248732.htm>. Accessed on April 7, 2015.

<sup>5</sup> FDA Tentative Determination Regarding Partially Hydrogenated Oils; Request for Comments and for Scientific Data and Information. 78 FR 67169. November 8, 2013.

<sup>6</sup> Eckel, RH, et al. Americans' awareness, knowledge, and behaviors regarding fats: 2006-2007. *Journal of the American Dietetic Association*. 2009. 109.2: 288-296.

<sup>7</sup> Cahill, LE, et al. Fried-food consumption and risk of type 2 diabetes and coronary artery disease: a prospective study in 2 cohorts of US women and men. 2014. *Am J Clin Nutr* 100(2): 667-675.

<sup>8</sup> Mozaffarian D, et al. *Trans* fatty acids and cardiovascular disease. 2006. *N Engl J Med*.;354:1601-1613.

<sup>9</sup> Aronis, KN., et al. Effects of *trans* fatty acids on glucose homeostasis: a meta-analysis of randomized, placebo-controlled clinical trials. 2012. *The American journal of clinical nutrition* 96.5: 1093-1099.

<sup>10</sup> Vega-López, S, et al. Palm and partially hydrogenated soybean oils adversely alter lipoprotein profiles compared with soybean and canola oils in moderately hyperlipidemic subjects. 2006. *The American journal of clinical nutrition* 84.1: 54-62.

<sup>11</sup> Kiege, JN., et al. Intake of *trans* fat and all-cause mortality in the Reasons for Geographical and Racial Differences in Stroke (REGARDS) cohort. 2013. *The American journal of clinical nutrition* 97.5: 1121-1128.

<sup>12</sup> Chen CL., et al. A mechanism by which dietary *trans* fats cause atherosclerosis. 2011. *The Journal of nutritional biochemistry*; 22 (7): 649-55.

<sup>13</sup> Yaemsiri S, et al. *Trans* fat, aspirin, and ischemic stroke in postmenopausal women. 2012. *Ann Neurol*;72:704-15.

<sup>14</sup> Downs, SM, et al. The effectiveness of policies for reducing dietary *trans* fat: a systematic review of the evidence. *Bulletin of the World Health Organization*; 2013; 91(4), 262-269h.

<sup>15</sup> US Federal Registrar. Nutrition Standards in the National School Lunch and School Breakfast Programs: Final Rule. January 26, 2012. Available at <http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf>. Accessed on April 2, 2015.

<sup>16</sup> FDA Food Labeling; Nutrition Labeling of Standard Menu Items in Restaurants and Similar Retail Food Establishments. 79 FR 71155. December 1, 2014.

<sup>17</sup> Mozaffarian D, et al. Removing industrial *trans* fat from foods. 2010. *BMJ*; 340: c1826

<sup>18</sup> Eckel, RH, et al. AHA/ACC guideline on lifestyle management to reduce cardiovascular risk. A report of the ACC/AHA task force on practice guidelines. 2013. *Circulation*: 1524-4539.

<sup>19</sup> Sofi, F, et al. Mediterranean diet and health status: an updated meta-analysis and a proposal for a literature-based adherence score. *Public health nutrition*.2014.17.12: 2769-2782.

<sup>20</sup> United States Department of Agriculture. New Food Choices Free of *Trans* Fats Better Align U.S. Diets With Health Recommendations 2013. Available at: <http://www.ers.usda.gov/media/508088/eib95.pdf> Accessed on February 26, 2015.

<sup>21</sup> US Federal Registrar. Nutrition Standards in the National School Lunch and School Breakfast Programs: Final Rule. January 26, 2012. Available at <http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf>. Accessed on January 20, 2015.

<sup>22</sup> Urban, LE, et al. Peer Reviewed: Temporal Trends in Fast-Food Restaurant Energy, Sodium, Saturated Fat, and *Trans* Fat Content, United States, 1996-2013. Preventing chronic disease.2014.11.

<sup>23</sup> Clapp, J et al. Peer Reviewed: Prevalence of Partially Hydrogenated Oils in US Packaged Foods, 2012. Preventing chronic disease.2014.11.

<sup>24</sup> Hendry, VL, et al. Impact of Regulatory Interventions to Reduce Intake of Artificial *Trans*-Fatty Acids: A Systematic Review. *American journal of public health*.2015: e1.

<sup>25</sup> Staats, J., "Tiburon's *trans*-fat ban started national movement." *Marin Independent Journal*. February 3, 2007. Available at: <http://www.marinij.com/general-news/20070204/tiburons-trans-fat-ban-started-national-movement>. Accessed on April 8, 2015.

<sup>26</sup> Center For Science in the Public Interest. City and State Legislation to Limit *Trans* Fat in Restaurants. 2008, available at [http://cspinet.org/new/pdf/trans\\_fat\\_bans\\_in\\_restaurants\\_and\\_schools\\_-\\_pending\\_legislation\\_-\\_08.pdf](http://cspinet.org/new/pdf/trans_fat_bans_in_restaurants_and_schools_-_pending_legislation_-_08.pdf). Accessed on April 8, 2015.

<sup>27</sup> 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> Accessed April 1, 2015.

<sup>28</sup> 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.

<sup>29</sup> Mozaffarian, D, et al. Food reformulations to reduce *trans* fatty acids. 2010. *New England Journal of Medicine* 362.21: 2037-2039.

<sup>30</sup> Eckel RH, Understanding the complexity of *trans* fatty acid reduction in the American diet: American heart association *trans* fat conference 2006: report of the *trans* fat conference planning group. 2007. *Circulation* 115, 2231-2246.