

- olive or canola oil, as much as possible.
3. Look for processed foods made with unhydrogenated oil rather than hydrogenated oil or saturated fats.
 - 4.. You may use margarine as a substitute for butter BUT choose soft, liquid or tub, over the harder ones that usually come in stick or block form. If available and affordable, use trans-fat-free margarine.
 5. Choose margarines with no more than 2 grams of saturated fat per tablespoon with liquid vegetable oil as the first ingredient.
 6. Minimize trans fat intake by limiting your daily intake of fats and oils to 5 to 8 teaspoons. This practice will automatically mean less total fat, less saturated fats and less trans fatty acids.
 7. Include other heart-healthy fats such as nuts, avocado and peanut butter but in small amounts.
 8. Get advice from a nutrition or dietetics professional about food choices that can help you limit intake of saturated fats to less than 10% of total calories and trans fat to less than 1% of energy, that is 2 grams per day of a 2000 kcal diet. This applies to all persons over the age of 2 years.
- All fats are not created equal and not all fats are bad. The total amount of fat and the type of fat consumed are important for health. It is wise that everyone, especially persons with elevated LDL-C reduce their intake of both trans fats and saturated fats. Nutritional lifestyle choices may have an impact on your health. At this time, it is probably not possible to eliminate trans fatty acids from the diet. Instead, the goal is to have as little as possible. A heart healthy diet is one that is balanced and rich in fruits, vegetables, whole grains and other plant-based foods but low in saturated fats, trans fat and salt. Such a diet will contribute to wellness and reduce the risk of chronic diseases such as high blood pressure, atherosclerosis and obesity.

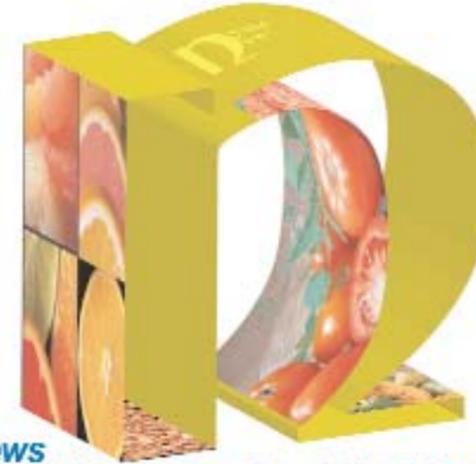


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BEWARE OF TRANS FATS!!

Over the years fats have been implicated as a contributor in the development of a number of conditions and diseases especially heart disease. Animal fats, the main contributor of saturated fatty acids, were once used in the food industry for baking and frying. When these were found to increase the risk of heart disease, food companies sought alternatives to these fats and oils sources. This was industry's way of responding to recommendations from the scientific community as well as teachings from dietetics professionals. Butter is a popular animal fat loaded with saturated fatty acids. An alternative was sought. Liquid vegetable oils are not stable to heat and go rancid easily. Therefore vegetable oils were partially hydrogenated to provide comparable functional properties such as taste, texture, stability, were lower in saturated fat, and offered a better shelf life for the

food products. *Hydrogenate means to add hydrogen and harden.* This process increased the shelf life of the fat without it going rancid like butter. Thus margarine, a man-made fat was developed for home and widespread industry use. Many taste buds were adjusted to accommodate this new flavour and competition ripened among various companies as each one sought to have the edge using a variety of marketing strategies to attract and keep customers. Margarine seemed to have had the edge over butter as there was increased usage of these partially hydrogenated oils. In nature, most unsaturated fatty acids have a *cis* formation. This means that the hydrogen atoms are on the same side of the double carbon bond. The process of hydrogenation results in the creation of **trans** formation, that is, in the fatty acid the two hydrogen atoms are on opposite sides of the double bond. Little was known of the negative

health risks associated with the consumption of trans fat while peoples' intakes of trans fatty acids from food products rose as manufacturers increased their use of partially hydrogenated vegetable oils. As research continued, more information became available about the effect that processing of the oil would be more dangerous than the saturated fats it was intended to replace.

About Trans Fats

Prior to 1980 there was generally little concern about the trend toward increased consumption of hydrogenated fat especially when it displaced fats that are relatively high in saturated fatty acids. Since 1990s there was emerging evidence of the adverse effects of trans fats and this topic began receiving more and more attention. Clinical studies found that consuming either trans fatty

acids or saturated fat has an effect on cholesterol levels and the effect of trans fat is considered to be worse than saturated fats. Trans fat increases the blood level of LDL-C (the bad cholesterol) and decreases the level of HDL-C (the good cholesterol). This results in more of the harmful type of cholesterol in circulation and less of the beneficial type of cholesterol to help rid the body of the bad cholesterol. This combined effect increases the risk for cardiovascular disease. Trans fats are also suspected of increasing blood levels of and triglycerides (blood fats). Both these compounds are artery-clogging. There is now concern that dietary trans fatty acids are more deleterious with respect to coronary heart disease than saturated fatty acids. Trans fats may also raise one's risk for diabetes mellitus.

unhydrogenated oils or other fats. It is true that margarine can lower LDL-C when compared with butter but the trans fatty acids in margarine can raise LDL-C and lower HDL-C.

Where Will I Find Trans Fat?

Trans fatty acids are found in numerous foods. Generally about 40% can be obtained from com-



Is Butter Better Than Margarine?

This is an age-old controversy. **Butter, an animal by-product, is rich in both saturated fat and cholesterol**, so it has the potential to contribute to atherosclerosis. **Margarine is made from vegetable oil, a plant derivative, and therefore provides no dietary cholesterol.** Hydrogenation "solidifies" the liquid vegetable oil into a spread so it is easier to use. Therefore the softer the margarine (tub or liquid), the less hydrogenated it is and the less trans fatty acid it contains. Stick or block margarine will generally contribute more trans fatty acids than

mercially packaged goods. These are products such as breakfast cereals, crackers, candies/sweets, "snack" foods, granola bars, energy bars, chips, salad dressings, cake mixes, commercially baked goods such as cakes and cookies; microwaved popcorn, frozen food such as waffles, pizzas, breaded fish sticks; ramen noodles and soup cups. About 17% can be obtained from partially hydrogenated margarines, oils and vegetable shortening. Fast foods such as fries, chicken and other foods that are deep-fried in these fats are included in this group. Even if liquid oil is used on site, fries are sometimes partially fried in trans fat before they are shipped. Small amounts of trans

fats are obtained naturally in foods such as butter, milk, cheese, beef, lamb, pork, mutton and poultry. During food manufacturing, small amounts may be generated during heating of and frying with oils at high temperatures during *deodorization*, the final processing step of refinement. Normal conditions of cooking or frying with liquid oils do not generate trans fat. Cooking is not the same as hydrogenation.

How Can I Tell If A Food Contains Trans Fat?

In the Caribbean, there are no food labelling regulations that mandate food manufacturers to indicate the amount of trans fat contained in a product. However, effective January 1, 2006 the Food and Drug Administration of the United States of America requires food processors to include the amount of trans fatty acids per serving of the food as stated on nutrition facts panel of the label as long as the product contains more than 0.5 grams per serving of the product just as is required for total fat, saturated fat or sugars. Otherwise it will be expressed as "0 grams" because it is considered nutritionally insignificant. This information will appear under the Total Fat section of the label. Given the high amount of importation of food in the region from the USA, consumers can benefit from this regulation by increasing their awareness of the trans fatty acid content of food. Already some manufacturers have begun to include this information on the nutrition facts label of their

Keep an Eye on Saturated Fat, Trans Fat and Cholesterol		
Frozen Potatoes (e.g., French Fries)	Potato Chips	Mini-Sandwich Crackers
Nutrition Facts Serving Size 3oz (84g/ about 12 pieces) Servings Per Container 11 <hr/> Amount Per Serving Calories 160 Calories from Fat 50 <hr/> % Daily Value* Total Fat 6g 9% Saturated Fat 1g ← 5% Trans Fat 1.5g ← Cholesterol 0mg → 0%	Nutrition Facts Serving Size 1oz (28g/ about 20 chips) Servings Per Container 12 <hr/> Amount Per Serving Calories 150 Calories from Fat 90 <hr/> % Daily Value* Total Fat 10g 15% Saturated Fat 2g ← 10% Trans Fat 0g ← Cholesterol 0mg → 0%	Nutrition Facts Serving Size 14 pieces (31g) Servings Per Container 10 <hr/> Amount Per Serving Calories 160 Calories from Fat 70 <hr/> % Daily Value* Total Fat 8g 12% Saturated Fat 2g ← 10% Trans Fat 2g ← Cholesterol < 5mg → 1%
Saturated Fat : 1g + Trans Fat : 1.5g Combined Amt.: 2.5g	Saturated Fat : 2g + Trans Fat : 0g Combined Amt.: 2g	Saturated Fat : 2g + Trans Fat : 2g Combined Amt.: 4g
Cholesterol: 0 % DV	Cholesterol: 0 % DV	Cholesterol: 1 % DV
*Nutrient values rounded based on FDA's nutrition labeling regulations.		

products. Some have even been able to offer a product without trans fat. However at this time, this regulation is not applicable to the restaurant industry but it can propel proprietors to lower the levels of trans fat in their food and provide the information to customers. Indeed this can become a marketing strategy and may be a safeguard against lawsuits as arose with the obesity situation.

In Canada, Health Canada and the Heart and Stroke Foundation of Canada are currently working to find ways to effectively reduce industrial trans fatty acids in the food supply to the lowest levels possible.

Nutrient composition data for trans fatty acids are not readily available from most computer databases and publications. However, the United States Department of Agriculture (USDA) has published a set of supplemental data for trans fatty acid composition in food. Some extracts from this data are as follows:

You can also find out if a food contains trans fat by checking the

Product	Trans Fat (grams per tablespoon)	Saturated Fat (grams per tablespoon)
Stick margarine	2.8	2.1
Tub margarine	0.6	1.2
Shortening	4.2	3.4
Butter	0.3	7.2

ingredient list on the food label. Generally if the list includes the words "partially hydrogenated" or "hydrogenated" especially if they are within the first three to five ingredients, you can infer that the food contains trans fat. However this is only partially correct because fully hydrogenated oils become predominantly saturated fats and do not contain trans fat. Here is another simple guide you can use to figure out the amount of trans fat present:

• add up the values for saturated, polyunsaturated

and monounsaturated fats
 • if the number is less than the Total Fats shown on the label, the difference is trans fat.

What Can I Do?

Based on current data, the following suggestions are provided:

1. If you have not already started, begin reading labels. Stay informed.
2. Use naturally occurring, unhydrogenated oils, such as