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CONSULTANT'S CORNER

Focusing only on trans fats could lead to unintended consequences

by **Marc S. Jacobson M.D., FAAP**

***Editor's note:** The current edition of Adolescent Health Update, written by Marc S. Jacobson, M.D., FAAP, addresses atherosclerosis prevention and cholesterol management. For this edition of Consultant's Corner, the editors asked Dr. Jacobson to address patient and parent education on trans fat consumption as a risk factor for cardiovascular disease. Dr. Jacobson is a professor of pediatrics and epidemiology at the Albert Einstein College of Medicine and director of the Center for Atherosclerosis Prevention, Division of Adolescent Medicine, Schneider Children's Hospital, North Shore LIJ Health System, New Hyde Park, N.Y.*



Dr. Jacobson

Trans fats are an unwanted byproduct of food processing methods used to convert unsaturated oils to saturated oils to improve the taste of processed foods and lengthen their shelf life. *Trans* fats increasingly are discussed in the news, and pediatricians will be asked more and more about them.

Although *trans* fats are present in insignificant amounts in certain foods, such as milk and meats, naturally occurring polyunsaturated fats in foods generally are in the *cis* configuration. Once foods containing *trans* fats are ingested, their fatty acids become incorporated into cell membranes. The *trans* configuration of a carbon-carbon bond in a long-chain fatty acid allows closer packing of phospholipids in cell membranes than when only *cis* bonds are present. This process results in altered structure and function of the transmembrane proteins, which regulate many cellular processes, an impairment of particular importance in the intima-media of arteries, where it accelerates atherosclerotic plaque formation.

Although food processing methods resulting in *trans* rather than *cis* bond formation are not allowed in Europe, they are permitted in the United States. Here, *trans* fats are common in snack foods and deep-fried foods from restaurants and fast-food outlets. These *trans* fats have atherogenic and cholesterol-raising effects at least as harmful as those of saturated fat.

Many food manufacturers and restaurants are removing *trans* fats from their products. Several jurisdictions have passed legislation to limit or eliminate *trans* fats in foods; New York City recently



Help patients understand the positive message of a diet of more whole grains, fruits and vegetables, and fewer processed foods. This helps avoid an undue concern over one ingredient and the tendency to replace one unhealthy fat (*trans* fat) for another.

banned their use in preparation of restaurant meals. In addition, new Food and Drug Administration regulations require *trans* fat content to be included in nutrition facts labeling.

Trans fats should be reduced or avoided in everyone's diet, particularly in the diets of children and adolescents with a family history of early cardiovascular disease, hyperlipidemia, obesity or other atherosclerosis risk factors. To accomplish this, pediatricians should encourage parents and patients to avoid fried foods in restaurants and to check nutrition labels on packaged foods to ensure that *trans* fat content is 0 mg per serving.

We must be careful, though, not to oversimplify. Well-meaning

legislative initiatives to remove trans fat from restaurant foods may focus attention on this single concern and distract from other, equally harmful lipid-related considerations in food preparation. For example, lard, beef tallow or other highly saturated animal or plant derived fats may be substituted for trans fat, and the foods

so produced and labeled “trans fat free” may attain a false aura of healthfulness. Reducing trans fat intake by substituting one unhealthy fat for another obviously is counterproductive.

An analogous situation occurred when the public health community campaigned vigorously against fat in the diet, leading food manufacturers to produce foods they could label low fat but which were unhealthfully loaded with simple carbohydrates in the form of excess sugars and high-fructose corn syrup. In a classic example of what is known as the law of unintended consequences, products labeled “low fat” or “fat free” — which seemed like healthy choices to consumers — actually contained excess caloric content and high glycemic index foods that may have contributed to the obesity epidemic.

As pediatricians, we have opportunities to educate patients and parents about these matters in a health-affirming way. Focusing on foods rather than nutrients avoids some of the risk of unintended consequences. When patients and parents bring up trans fat, help them understand the importance of consuming more whole grains, more fresh fruits and vegetables, and fewer packaged processed foods.

When a processed snack is unavoidable, a check of the nutrition facts label will tell whether a packaged food item meets the 0-2-10 rule (0 grams of trans fat, 2 grams or less of saturated fat and 10 grams or less of sugar).

When a processed snack is unavoidable, a check of the nutrition facts label will tell whether a packaged food item meets the 0-2-10 rule. This rule states that a healthy food choice should contain 0 grams of trans fat, 2 grams or less of saturated fat and 10 grams or less of sugar. The 0-2-10 rule allows a person to reduce his or her expo-

sure to trans fats, saturated fats and simple carbohydrates without unduly focusing attention on any one nutrient.

Pediatricians should focus on the positive message — that a diet emphasizing whole grains, fresh fruits and vegetables, and fewer processed foods will minimize exposure to any unhealthy food components and maximize intake of healthy ones. This eating pattern combined with proper exercise (at least one hour per day) and limits on TV or computer “screen time” (no more than two hours per day) will help to limit the risk of developing atherosclerosis, obesity and diabetes.

This column supplements the current issue of Adolescent Health Update and addresses topics relevant to the care of teens. Readers who want to share comments or propose questions on adolescent medicine topics for future issues should write to Adolescent Health Update, American Academy of Pediatrics, 141 Northwest Point Blvd., Elk Grove Village, IL 60007, or e-mail adolhealth@aap.org.

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