Fat Replacers: The Cutting Edge of Cutting Calories

By ACSH Staff — October 1, 1997

Executive Summary

Substances that can replace some or all of the fat in food products have the potential to help consumers reduce their total fat consumption. Because fat replacers can improve both the taste and texture of lower-fat foods, they can help alleviate the sense of deprivation that can impede sticking with a reduced-fat, reduced-calorie dietary plan.

Humans cannot survive on a diet that contains no fat. Dietary fat plays a number of essential roles in the human body. It is necessary for the absorption of vitamins A, D, E, and K and other fat-soluble substances; it provides the essential fatty acids required for the production of some hormones; and it is the source of the fatty acids that are integral parts of the membranes of all cells. Dietary fat strongly influences the taste and texture of many foods. It is responsible, for example, for the tenderness of meats and baked goods and for the smooth "mouthfeel" of avocados and premium ice creams.

Of the three macronutrients in the diet—fat, protein, and carbohydrate—fat is the most calorically dense. Consequently, when people wish to decrease the caloric content of their diets, it makes sense for them to decrease the fat content. Because fat replacers have fewer than the 9 calories per gram of real dietary fat (one fat replacer olestra provides no calories at all), they can assist in this goal.

The safety of some fat replacers (and of the products that contain them) has been questioned. The American Council on Science and Health emphasizes that all fat replacers currently in use are safe. Those that have been part of the American diet since before 1958 are considered "GRAS" (Generally Recognized as Safe). New ingredients, such as olestra, undergo extensive testing before they are approved for use in foods. The federal Food and Drug Administration currently requires ongoing surveillance of consumers' use of and reaction to olestra-containing products. At present, the FDA has approved only some salty snacks to be made with olestra as a replacement for the usual fat. Any new use of olestra will require prior approval by the FDA.

Fat replacers may be categorized by the type of substances that constitute them. Carbohydrate-based fat replacers include cellulose, carrageenan, dextrins, gums, pectins, and vegetable fibers. Protein-based fat replacers include isolated soy protein, microparticulated protein, and modified whey protein. Fat-based fat replacers include mono- and di-glycerides, caprenin, salatrim, and olestra. But of all these substances, only olestra can be used in place of fat to fry foods.

Fat replacers may be found in a wide variety of food products, including (but not limited to) baked
goods, dairy and meat products, chocolate snacks, salty snacks, sauces and salad dressings, cream soups, gelatins, puddings, and candies. While fat replacers are a boon to Americans who wish to reduce dietary fat, ACSH emphasizes that reduced-fat or fat-free foods are not calorie-free. In order to reduce body weight, a person still must consume fewer calories than he or she burns. Fat replacers cannot replace the balance, variety, and moderation that are necessary to a health-promoting diet.

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