

Gestational Diabetes and Low-Calorie Sweeteners:

Answers to Common Questions

If you have gestational diabetes, you're not alone. An estimated 4 percent of pregnant American women—or about 135,000 cases—are diagnosed with this condition each year, according to the American Diabetes Association.

Gestational diabetes occurs when high blood sugar levels develop during pregnancy. This happens when the mother's body can't make and use all of the insulin it needs to "process" blood sugar normally. Women with gestational diabetes are at risk of developing type 2 diabetes at any time after the baby is born if diet is poor and too much weight is gained.

No doubt, you have many questions about how best to care for yourself and your unborn baby during this time. A top priority is to keep blood sugar levels as normal as possible. You will need to follow a diet plan, do exercise, test blood sugar and possibly take insulin injections.

As part of your eating plan, your health care provider, diabetes educator or registered dietitian may ask you to limit the amount of carbohydrates you eat each day. And low-calorie sweeteners are one easy tool to help you follow your eating plan.

Read on for answers to common questions about using low-calorie sweeteners during pregnancy.

What low-calorie sweeteners are on the market in the United States?

The Food and Drug Administration (FDA) has approved five low-calorie sweeteners for use in foods and beverages: acesulfame potassium (acesulfame K), aspartame, neotame, saccharin and sucralose.

Low-calorie sweeteners undergo extensive and rigorous safety testing, which the FDA carefully reviews before approval. The significant body of scientific data developed over the years of testing and study of low-calorie sweeteners shows that low-calorie sweeteners are safe for the entire family and are not



linked to adverse health reactions.

Low-calorie sweeteners add sweetness without calories to foods and beverages that's similar to table sugar (sucrose). Low-calorie sweeteners eliminate

or significantly reduce the calories in foods and beverages such as light yogurt, sugar-free pudding and diet or reduced-calorie carbonated soft drinks.

The FDA also has approved polyols (sugar alcohols) and tagatose, which are reduced-calorie sweeteners that provide some calories, though fewer than table sugar.

Can pregnant women safely consume low-calorie sweeteners?

Yes. Pregnant women who have diabetes, who need to control calorie intake, or who enjoy the taste of products containing

sweeteners may safely use low-calorie sweeteners. Since most pregnant women have increased calorie needs, restricting calories is usually not recommended. However, excessive weight gain during pregnancy should be avoided.

Below is safety information for low-calorie sweeteners approved by FDA:

Acesulfame potassium (acesulfame K)

is not broken down by the body and is eliminated unchanged by the kidneys. Animal studies show no negative health effects from using acesulfame potassium during pregnancy. Studies have also shown that acesulfame K has no effect on serum glucose, cholesterol, or triglycerides. People with diabetes may safely include products containing acesulfame K into their balanced diet.

Aspartame is composed of two amino acids (the basic building blocks of protein), aspartic acid and a form of phenylalanine. Extensive research shows that aspartame is safe for the pregnant mother and fetus. A task force of the American Academy of Pediatrics Committee on Nutrition also concluded that aspartame is safe for both the mother and developing baby. Studies have also shown that aspartame has no effect on short or long-term serum glucose, cholesterol, or triglyceride concentrations and no effect on serum insulin.

Aspartame has been approved as safe for the general population, however, one exception is people who have the rare hereditary disease, phenylketonuria (PKU), that must restrict their intake of phenylalanine from all sources, including aspartame. Thus, labels of aspartame-containing foods and beverages must include a statement advising phenylketonurics that phenylalanine is present.

Neotame is rapidly broken down and completely eliminated from the body. Neotame is safe for use as a sweetener and flavor enhancer by the general population, including pregnant and lactating women, children, and people with diabetes. Neotame has no effect on blood glucose concentrations in either healthy or diabetic individuals.

Neotame is derived from the joined amino acids aspartic acid and phenylalanine. Based on its metabolism, no special labeling for individuals with phenylketonuria is required.

Saccharin is not broken down by the body and passes through the digestive tract unchanged. Although saccharin can cross the placenta, there is no evidence that it is harmful to the fetus. According to the American Dietetic Association and the American Diabetes Association, women may safely use saccharin in moderation during pregnancy.

Sucralose is not broken down by the body and is eliminated virtually unchanged. Animal studies show no risk from consuming sucralose during pregnancy and that there is no active transport of sucralose across the placental barrier, or from the mammary gland into breast milk. Sucralose is beneficial for individuals with diabetes because research demonstrates that sucralose has no effect on carbohydrate metabolism, short- or long-term blood glucose control, or insulin secretion.

All approved low-calorie sweeteners have been extensively tested and found to be a safe ingredient. They can be used by all populations, including pregnant women, nursing mothers, and children of all ages.

How can low-calorie sweeteners help women with gestational diabetes?

Because low-calorie sweeteners don't raise blood sugar or insulin levels, they allow people who monitor their carbohydrate intake, such as women with gestational diabetes, to include sweet-tasting foods and beverages in their meal plans.

Low-calorie sweeteners also provide flexibility with making food choices. For example, choosing a yogurt or soft drink flavored with a low-calorie sweetener makes it possible to include another carbohydrate source such as bread or fruit in your meal plan.

According to the FDA, consumption of low-calorie sweeteners is safe for the general public including pregnant women. If you need to lose weight after pregnancy, consult your physician to discuss how the use of foods and beverages made with low-calorie sweeteners can help you trim calories.

Always consult your health care provider, diabetes educator or registered dietitian for specific dietary advice.

How do I know whether a product contains a low-calorie sweetener?

Look carefully at the list of ingredients on the food label. If a product contains low-calorie sweeteners they must be included in this list of ingredients. Food companies often provide a toll-free phone number on the label so consumers can obtain more information about the product.



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More Facts about Low-Calorie and Reduced Calorie Sweeteners

Acesulfame potassium (abbreviated as **acesulfame K** on food labels) is calorie-free and about 200 times sweeter than sugar. Acesulfame potassium is highly stable and approved for use in a wide variety of foods, beverages and baked products. Acesulfame potassium is not broken down by the body and is eliminated without providing any calories.

Aspartame is considered a "Nutritive" sweetener by FDA, however, because it is about 200 times sweeter than sugar it provides essentially no calories to food.

The body breaks down aspartame to its components, aspartic acid, phenylalanine and methanol. The body uses these components the same as when they're derived in much larger amounts from common foods such as meat, dairy products, fruits and vegetables.

Neotame is 7,000 to 13,000 times sweeter than table sugar, so only small amounts are needed in products. It can be used alone or blended with other sweeteners. Neotame is heat stable and can be used in both cooking and baking.

Saccharin is calorie-free and about 300 times sweeter than sugar. Because saccharin is heat stable, it can be used in foods and beverages and in cooking and baking. It is not broken down by the body and is eliminated without providing any calories.

Sucralose is calorie-free and approximately 600 times sweeter than sugar. It is made from sugar through a patented, multi-step process. Sucralose is highly stable and can be used in foods and beverages and in cooking and baking. Sucralose is not recognized by the body as sugar or carbohydrate. It is not broken down by the body and is eliminated without providing any calories.

Polyols (or sugar alcohols) are a group of reduced-calorie sweeteners that contain some calories. Polyols, found naturally in berries, apples, plums, and other foods, are manufactured from carbohydrates for use in sugar-free candies, cookies, chewing gums, and other reduced-calorie foods. Familiar names of polyols include sorbitol, mannitol, and isomalt.

Since polyols are not completely broken down by the body, they provide, on average, half the calories of sugar and other carbohydrates. Some polyols, such as sorbitol, may produce gas and discomfort in the stomach and may cause diarrhea in some people when large amounts are consumed. As a result, foods with a significant amount of certain polyols bear the statement, "Excess consumption may have a laxative effect."

Tagatose is a multi-purpose, reduced-calorie sweetener derived from lactose, which occurs naturally in some dairy products. Tagatose has a physical bulk similar to table sugar and is almost as sweet, yet it has only 1.5 calories per gram compared to table sugar at 4 calories per gram. Tagatose provides the bulk of sugar with significantly fewer calories. Tagatose is permitted for use in foods and beverages. It may improve the flavor and mouth feel of foods and beverages when blended with other low-calorie sweeteners such as aspartame and acesulfame potassium. Because the body doesn't completely absorb tagatose, consuming large amounts may have a laxative effect in some people.

For More Information

View the following articles on the International Food Information Council (IFIC) Foundation website at <http://ific.org>:

- *Healthy Eating During Pregnancy*
- *IFIC Review: Low-Calorie Sweeteners and Health*
- *Low-Calorie Sweeteners and Health: Their Role in Healthful Eating*