

Culinary Nutrition News: Diabetic Menu Makeover

Presented by ACF Chef & Child Foundation and Clemson University

Every 24 hours, more than 4,000 adults are diagnosed with diabetes and 200 die from the disease. Of the nearly 23.6 million Americans who have diabetes, 5.7 million of them are unaware that they do. In other words, diabetes awareness and prevention is crucial, especially considering the environment that we live in plays a part. While diabetes onset can be linked to a number of risk factors, genetics and environment are two that play major roles. Experts convey that environment, specifically one where poor eating habits are encouraged, make it much easier to become overweight and, thus, develop diabetes. Here is where you, as chefs, come into the picture. In our environment, eating out and convenience foods are mainstays in meal practices. You are in the rare position to begin reshaping our health and transforming growing diabetes' statistics into a precedent of the past. Let the menu makeover begin.

Typecasts

Diabetes is a disease in which the body does not produce sufficient amounts of, or properly use, insulin. Insulin is a hormone used to convert sugar, starches and other food into energy needed for daily functions. There are several types of diabetes, and these types may affect what your customers will be able to eat.

Type 1

Five to ten percent of Americans with diabetes fall into this category, which used to be called "juvenile diabetes"

because it is most often diagnosed before the age of 30. However, type 1 diabetes can develop at any age, even in the elderly. People with type 1 diabetes are unable to produce their own insulin, so they must take insulin daily, through either injections or an insulin pump. Insulin doses are timed to correspond with food intake, so eating the right food in the right amounts is essential to treatment.

Type 2

Accounting for nine out of ten diabetics, this type is by far the most common. Once considered an adult disease, type 2 diabetes has drastically increased in both adults and children across the nation over the last 30 years. This type can slowly develop over time and is influenced by poor eating behaviors. It results from insulin resistance, a condition in which the body fails to properly use insulin, which may eventually lead to insulin deficiency. Unfortunately, the longer a person has diabetes, the more likely it is that insufficient insulin is the cause of high blood-glucose levels, which is referred to as hyperglycemia.

Gestational Diabetes

This form of diabetes affects about four percent of all pregnant women in the U.S. It usually develops during the last stage of a pregnancy when hormonal changes can increase the body's demand for insulin. It is generally treated with an eating plan and careful blood-glucose monitoring to make sure both mother

and infant are getting the nutrients they need. Most cases resolve once the baby is born; however, many women who have had gestational diabetes develop type 2 diabetes.

Pre-diabetes

Fifty-four million Americans have pre-diabetes, a condition that occurs when a person's blood-glucose levels are higher than normal but not high enough to be diagnosed with type 2 diabetes. Without drastic changes in diet and exercise, these people will eventually develop diabetes.

Meal planning

Regardless of the type, or even if you do not suffer from diabetes, eating a consistently healthy diet helps keep glucose levels in check. The general recommendations for people with diabetes are surprisingly similar to the dietary advice for any adult:

- Watch your carbohydrate intake.
- Eat more vegetables, fruits, fiber, low-fat dairy foods, whole grains, fish, poultry and nuts.
- Eat less saturated and trans fats.

Not everyone with diabetes has the same meal plan or the same nutrition goals. For some, reducing caloric intake is most important. Others may need to limit fat and salt and eat more foods high in fiber. Therefore, meal planning is essential for any type of diabetic, which makes menu planning as a chef imperative for adhering to diabetics' needs. Here are a few ways that diabetics plan their meals.

Carb counting

Carbohydrate is the general term for starches and sugar found in foods. Carbohydrates (carbs) are the body's main source of energy. Since the body digests carbohydrates into sugar (glucose) that enters the bloodstream, carbs have a direct affect on blood-glucose levels. Many diabetics manage their blood-glucose levels through a meal planning technique known as "carb counting." While carb counting depends on the activity level and medications taken by individuals, the general range of carbs for diabetics is around 45 to 60 grams per meal. Carbs are found in a variety of foods and not just sugary foods. They are also found in grains, dairy products, beans, starchy vegetables and fruits, and juices.

Glycemic index (GI)

Another way diabetics manage their blood-glucose level through meal planning is by using the glycemic index (GI). This system groups foods that contain equal amounts of carbohydrates by their ability to raise blood glucose. Foods are grouped as being high GI (≥ 70), medium GI (55-70) or low GI (≤ 55). The lower the GI number given to a food, the less likely the food will elevate blood sugar, and the more diabetic-friendly it is. While all of this may seem confusing—and it has caused some controversy—menu planning does highlight healthier foods. For example, vegetables, whole grains and beans tend to fall lower on the glycemic scale, while processed and refined foods are higher up. However, considerations such as whether a food is eaten alone or with a combination of foods, how a food is prepared, ripeness of fruits and vegetables, and individual metabolism are a few factors that may affect the GI. Since GI meal planning is still a controversial topic among health researchers, it is prudent to stay up-to-date on the latest findings involving this system.



Apples are considered low on the glycemic index, with 38 points for one. One tablespoon of honey is 55 points and is considered medium.

Exchange system

In the past, most diabetics used the exchange system for meal planning, while nowadays many rely on carb counting. However, there are many who still follow the exchange system. The exchange system groups foods into six categories: starch/bread, meat, vegetables, fruits, milk and fat. Foods can be substituted or exchanged for each other within a category if they contain similar nutrient makeup, such as calorie, carbohydrate, protein and fat content. However, no exchanges can be made between categories, even if they have the same number of calories. For example, since a slice of bread, half an English muffin and a half cup of oats all count for one starch

exchange, you could substitute one for the other.

No matter what meal planning strategy is used, the goal is to strike a proper balance of carbohydrates, proteins and fats throughout the day. To put this in perspective, calories should be distributed as follows:

- Carbohydrates: 55-58 percent of total calories
- Protein: 20-23 percent of total calories
- Total fat: 24-26 percent of total calories (less than 10 percent is saturated fat)

Diabetes superfoods

This may seem like an information overload on diabetes, however, it is

FOOD	SERVING SIZE	GLYCEMIC INDEX	CARBS (G)
PEANUT	4 OUNCES	14	15
BEAN SPROUTS	1 CUP	25	4
GRAPEFRUIT	½ LARGE	25	11
SKIM MILK	1 CUP	32	13
LOW-FAT YOGURT	1 CUP	33	47
APPLES	1 MEDIUM	38	16
CARROTS	1 LARGE	47	5
ORANGES	1 MEDIUM	48	12
WHOLE GRAIN BREAD	1 SLICE	51	12
BANANAS	1 LARGE	52	27
CORN TORTILLA	2 MEDIUM	52	21
BROWN RICE	1 CUP	55	42
HONEY	1 TABLESPOON	55	17
OATMEAL	1 CUP	58	21

important to know exactly what your customers may be dealing with and how they are coping in terms of food choices. Then, you can ask yourself how you, as a chef, can make changes to your menu to help alleviate the anxiety diabetics may face when dining out. As always, let us first start with individual ingredients. The American Diabetes Association (ADA) has compiled a top ten list of superfoods for diabetes, which merely lists foods that have a low glycemic index and provide key nutrients that are lacking in the typical diet, such as calcium, potassium, fiber, magnesium, and vitamins A, C and E. By making an effort to incorporate some of these foods into your menu for diabetic-friendly offerings, you will not only be helping those with diabetes, but everyone. The fact is that these foods are a good addition to any dish or diet.



SUGAR IN THE RAW

Regardless of whether or not you or your customers have diabetes, watching the amount of sugar in your dishes is crucial. According to the United States Department of Agriculture (USDA), people following a 2,000-calorie diet should get no more than 40 grams of added sugars daily, which is the equivalent of eight to 10 teaspoons of sugar. Eight teaspoons of sugar may seem like a lot, but one 12-ounce soda contains that much sugar. Unfortunately, most people consume an average of three to four times more than the suggested amount.

During digestion, complex sugars—fructose (the sugar found in fruit and honey), lactose (the sugar in milk), and sucrose (table sugar, which also occurs naturally in fruits and vegetables)—break down into simple sugar or glucose, which provides energy to the body's cells. Added sugars, on the other hand, may take the form of any number of sweeteners, the most common being high-fructose corn syrup. Your body makes no distinction between natural and refined sugars. Consequently, they are all broken down into glucose. That means natural sugars are not necessarily better for you than table sugar. In other words, the focus should not be on the type of sugar, but on whether it is replacing other nutrients in your diet.

1. Beans (kidney, pinto, navy and black beans)
2. Dark green leafy vegetables (spinach, collards and kale)
3. Citrus fruits (grapefruit, oranges, lemons and limes)
4. Sweet potatoes
5. Berries (blueberries, strawberries, raspberries and blackberries)
6. Tomatoes
7. Salmon and other fish high in omega-3 fatty acids
8. Whole grains (pearled barley and oatmeal)
9. Nuts and seeds (walnuts and flax seeds)
10. Fat-free milk and yogurt

Guide to dining out

The ADA also offers a guide to dining out for those with diabetes. Diabetics are looking for foods that have been prepared with vegetable oil or low-fat margarine, little salt, no extra sauce or butter, and broiled instead of fried. This may seem a little uninspiring for you as a chef, however, what appears boring in text can actually be made into an exceptional dish that not only diabetics will enjoy. If you have been keeping up with these articles, you have the basic tools and fundamental concepts needed to create delicious and nutritious meals for your customers. Start putting these ideas into practice so that diabetics and those looking to indulge in healthy dishes don't have to order bland alternatives of your creations. Here are some ways to adhere to a diabetic's needs, but remember, these are only concepts. To conceptualize a dish that is a tasty and satisfying meal fit for anyone is the real challenge. So fire up the oven and get cooking.

- Make sure you and your wait staff know exactly what is in every dish and the serving size.

- Offer vegetables that have been prepared stewed, steamed or boiled.
- Offer fish or meat that has been broiled using flavoring ingredients, such as spices and herbs, rather than extra butter.
- Offer fresh fruit for desserts and appetizers.
- Offer whole-grain rolls, crackers, biscuits, tortillas or breads.
- Offer salads without added cheeses and croutons, served with low-calorie dressing.
- Serve sauces and gravies on the side.

Cooking for kids

There is no hiding the fact that the number of children with diabetes has drastically increased over the years. When it comes to childhood diabetes, there are two types of kids that you may be catering for:

- **Type 2 diabetes:** According to health professionals, approximately 80 percent of these kids are overweight, so their diets are more geared to weight loss and low-fat/reduced-calorie meals. Offering alternatives that are substantially lower in fat and calories than the average kid's meal at your restaurant would benefit any child.
- **Type 1 diabetes:** Many of these children use insulin pumps and often use carbohydrate counting as a means of regulating blood-glucose levels. Portions, or serving sizes, are key for these kids because a small baked potato can have considerably different carbohydrate content than a large one. Having the carbohydrate content available and making sure serving sizes are accurate would be an exceptional practice to exercise in your restaurant.

When kids are offered chicken fingers, pizza and french fries, of course they are going to eat it. In fact, they have grown accustomed to such staples of away-from-home foods and, thus, associate it

with the dining-out experience. Yet, this should not be the case. We need to begin molding childrens' concepts of dining out to encourage healthy eating behaviors. Downsizing adult entrées to kid-friendly portions of lean meats or fish will not only expose their young, influential palates to healthier cuisine, but also get them on the right track to a healthy lifestyle. Think of it this way—by offering kids healthy portions of foods, such as salmon, steamed vegetables and couscous today, you will be increasing your customer clientele for tomorrow.

KID'S MENU MAKEOVER

BEFORE

- 4 fried chicken strips
- 1 cup french fries

50 carbs

AFTER

- 3-ounce salmon
- ½ cup mixed vegetables
- ½ cup couscous

30 carbs

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About the American Culinary Federation and the Chef & Child Foundation



The American Culinary Federation, Inc., established in 1929, is the

premier professional organization for culinarians in North America. With more than 22,000 members spanning 230 chapters nationwide, ACF is the culinary leader in offering educational resources, training, apprenticeship and accreditation. In addition, ACF operates the most comprehensive certification program for chefs in the United States. ACF is home to ACF Culinary Team USA, the official representative for the United States in major international culinary competitions, and to the Chef & Child Foundation, founded in 1989 to promote proper nutrition in children and to combat childhood obesity. For more information, visit www.acfchefs.org.

About Clemson University



CU CHEFS® (Clemson University's Cooking and Healthy Eating Food Specialists) instructional program, led by Dr. Marge Condrasky, Associate Professor in Food Science and Human Nutrition, is a registered trademark of Clemson University designed to promote changes in menu planning, food purchasing, food preparation and food consumption behaviors with a goal of fostering good health through healthy nutrition. 'Culinary nutrition' is the application of nutrition principles combined with food science knowledge displayed through a mastery of culinary skills. The results are healthy eating behaviors grounded in culinary confidence and nutrition alertness. CU CHEFS® promotes an awareness of the latest trends in foods and nutrition through the demonstration of proficient culinary skills to produce flavorful, health-inspired menus for



Walnuts are one of the American Diabetes Association's top ten superfoods for diabetes.

schools, churches, restaurants. Clemson University, located in Clemson, S.C., is ranked 22 among the nation's top public institutions. Since 2001, Clemson has doubled external research funding, raised the academic profile of the student body, increased retention and graduation rates, launched high-profile economic development and has earned national accolades, including being named *TIME* magazine's Public College of the Year.



FOR MORE INFORMATION

The **American Diabetes Association's** Web site provides all sorts of tools and resources to prevent and cure diabetes while improving the lives of all people affected with the disease. **Visit:** www.diabetes.org