

The Diabetes Improvement Programme Nutrition Plan

Introduction

The Diabetes Improvement Programme (DIP) Nutrition Plan is a dietary plan that is low in sugary and starchy foods. Because starches are easily digested to sugar, starchy foods, like sugar, also increase the level of sugar in your blood stream and both must be reduced to improve your diabetic control. This way of eating focuses on eating "real" food and includes meat, fish, cheese, eggs, salads, and vegetables. This eating plan will provide your body with the nutrition that it needs and will change the fuel that your body uses from mainly sugars and starches to mainly fat.

Sugars and starches are also known as carbohydrates, or "carbs," and can be measured in grams. To help improve fat burning, your carbohydrate intake will be around 100 grams per day. This means that you will need to avoid sugar, bread, fruit, flour, pasta, or any other sugary/starchy food that has a lot of carbohydrates for all but one meal a day. When you limit the carbohydrate intake, your hunger will be reduced, your diabetes control will improve, and if you have extra weight on your body, you will eat less and lose weight. A list of the foods initially allowed is provided to assist you in changing your eating patterns.

Medical supervision is recommended for any diabetic nutrition plan, especially if you are currently taking any medications. As your weight decreases and your medical conditions improve, medications may have to be adjusted. Blood tests will be performed periodically to make sure that your values are within the normal range.

Possible Side Effects

The Diabetes Improvement Programme Nutrition Plan may have some possible side effects, as any effective diabetes intervention program may. Although they will not seriously impact your health and will disappear quickly, they can be bothersome. These side effects may include sugar cravings, tiredness, constipation and muscle cramps. The following recommendations can help you avoid or minimise these side effects.

Drink Plenty of Liquids: it is important to drink an **adequate** amount of fluid per day - preferably water or another non-caffeinated beverage.

Constipation: if you experience constipation (hard stools or hard-to-pass stools), there are a number of ways that you may address the issue:

- have an extra half teaspoon of table salt per day
- use 1 teaspoon of milk of magnesia at bedtime daily
- add 1/2 cup of fibre-rich vegetables to your diet per day
- use a sugar-free fibre supplement twice a day

Odd taste in the mouth: some people experience an odd taste in the mouth during the initial stages of the Diabetes Improvement Programme. Drinking plenty of water and performing good oral hygiene can usually avoid this. This includes seeing a dentist, brushing your teeth twice a day (including your tongue), and flossing your teeth daily. If the problem persists, try sugar-free gum or mints.

Sugar cravings: as your body adjusts to your new way of eating, you may initially experience cravings for the sugary/starchy foods that are reduced on this diet. These cravings will pass. Like stopping anything that you are accustomed to, or addicted to, the fewer carbohydrates you have in your diet, the sooner the cravings will subside. Sugar cravings can be temporarily treated with a sugar-free beverage, such as diet soft drink or a sugar-free flavouring, or sugar-free jelly with whipped cream.

Extra salt: occasionally, people can experience fatigue, headaches, body aches, difficulty concentrating, or other flu-like symptoms when they reduce the number of carbohydrates they are eating. These symptoms are usually fairly mild and pass quickly. They are a sign that your body is going through a transition period from burning mainly carbohydrates to burning mainly fat for fuel. To help prevent these symptoms, we recommend drinking beef/chicken/vegetable broth/stock one to three times a day. Do not use stock cubes/broth if you have heart failure. To make the broth, drop a cube of a stock cube into a cup of hot water and drink it. Although your energy levels will soon return to normal, many patients have reported they enjoy the broth and continue drinking it beyond the first week.

What Happens If I "Slip"?

Once you begin this way of eating, you must try to follow it strictly. If you eat large amounts of carbohydrates (and remember that historic medical guidance suggests eating 50% to 60% of one's calories as carbs), you may reduce the fat-burning process that underpins this nutrition plan. You may even gain back several pounds of water weight. The most important thing to do if you do eat more carbohydrates than recommended on the plan is to get right back on track with the next meal. You may be surprised that it is not difficult to be so strict with what you eat because your hunger pangs will be decreased. Please remember that if you regularly 'slip' your sugar/starch cravings will increase and it will become more difficult to stick to the plan.

Vitamins and Supplements

Although the Diabetes Improvement Programme Nutrition Plan is very nutritious, we recommend that you take a multivitamin to be sure that you are getting all of the vitamins and minerals that you need.

Cholesterol

People sometimes ask how the The Diabetes Improvement Programme Nutrition Plan will affect cholesterol levels since it isn't a low-fat diet. The predictions about how this dietary approach would adversely affect the blood cholesterol did not come true when the studies were finally done. A low carb diet reduces the cardiac risk factors by lowering blood triglycerides and increasing the good cholesterol (HDL). As part of your routine diabetes review we will check your cholesterol to ensure this happens.

Your Diabetes Is Not the Only Thing That Will Improve

If you adhere to your new way of eating, you can expect to lose pounds and inches. You may experience improved energy levels, better blood pressure, better appetite control, and, in general, a reduction in the frequency and severity of the symptoms of a number of health problems you may have experienced before. You can certainly expect better blood sugar control and you may be able to reduce some of your medications.

Increasing Activity and Reducing Stress

In addition to changing your eating habits, you may wish to change some other aspects of your lifestyle in order to improve your overall health. Stress and inactivity can negatively impact on your health and make it more difficult for you to control your diabetes. Physical and psychological stress leads to increased cortisol levels, which leads to raised glucose levels – the exact opposite of what we are trying to achieve. Stress management techniques may improve your ability to handle dietary temptations, sugar cravings, and emotional eating patterns. Increasing your activity level may help reduce stress, decrease appetite, build muscle, and improve bone density. More guidance on this aspect is in the session summary and from the GOQii coaches (see below).

Getting Started

This nutrition plan is focused on providing your body with the nutrients it needs, while eliminating foods that your body does not require - namely nutritionally empty carbohydrates. We suggest that you keep the total number of carbohydrate grams to **fewer than 120 grams per day**. Your diet should be made up of foods and beverages from this handout – plus one 'normal' meal per day, ie one that contains starchy carbs such as potatoes, rice pasta, noodles etc etc. All food may be cooked in a microwave oven, baked, boiled, stir-fried, sautéed, roasted, fried (with no flour, breading, or cornmeal), or grilled.

Low Carb Menu Planning

What does a low carbohydrate menu look like? You can plan your daily menu by using the following as a guide:

Breakfast

- Meat or other protein source (usually eggs)
- Fat source — this may already be in your protein; for example, bacon and eggs have fat in them. But if your protein source is "lean," add some fat in the form of butter, cream (in coffee) or cheese.
- Low carbohydrate vegetable (if desired)—this can be in an omelette or a breakfast quiche.

Lunch

- Meat or other protein source
- Fat source - if your protein is "lean," add some fat in the form of butter, salad dressing, cheese, cream, or avocado.
- 1 to 1 ½ cups of salad greens or cooked greens
- ½ to 1 cup of vegetables
- 1 cup normal starchy carb eg potatoes, pasta, rice, noodles, bread etc

Snack

- Low carbohydrate snack that has protein and/or fat – and only if necessary

Dinner

- Meat or other protein source
- Fat source - if your protein is "lean," add some fat in the butter, salad dressing, cheese, cream, or avocado. 1 to 1½ cups of salad greens or cooked greens
½ to 1 cup of vegetables

A sample day may look like this:

Breakfast Bacon or sausage and eggs

Lunch Grilled chicken, salad greens and/or other non-starchy vegetables, rice and salad dressing

Snack Pepperoni slices and/or a piece of cheese

Dinner Burger patty or steak
Green salad, non-starchy vegetables and salad dressing

When You Are Hungry Eat Your Choice of the Following Foods

Meat: beef (including hamburger and steak), pork, ham, bacon, lamb, veal, or other meats. For processed meats (sausage, pepperoni, hot dogs), check the label. The carbohydrate count should be about 1 gram per serving (and be organic if possible and nitrate free)

Poultry: chicken, turkey, duck, or other poultry

Fish and shellfish: any fish, including white fish, tuna, salmon, sea bass, trout, prawns, scallops, crab and lobster

Eggs: whole eggs are permitted without restrictions

You do not have to avoid the fat that comes with the above foods. You do not have to limit quantities deliberately, but you should stop eating when you feel full.

Foods That Must Be Eaten Every Day

Salad Greens: 2 cups a day. Includes rocket, bok choy, cabbage (all varieties), chard, chives, endive, salad greens, kale, lettuce (all varieties), parsley, spinach, radicchio, radishes, spring onions, and watercress. In summary, if it is a leaf, you may eat it.

Starchy Carbohydrate: 1 cup. Rice, cereals, flour, cornstarch, breads, pastas, muffins, bagels, crackers, and "starchy" vegetables such as slow cooked beans (pinto, butter, black beans), carrots, parsnips, corn, peas, potatoes, French fries, potato crisps/chips.

Non-Starchy Vegetables: 1 cup (measured uncooked) a day. Includes artichokes, asparagus, broccoli, Brussels sprouts, cauliflower, celery, cucumber, aubergine, green beans, leeks, mushrooms, okra, onions, peppers, pumpkin, shallots, mange tout, sprouts (bean and alfalfa) sugar snap peas, summer squash, tomatoes, rhubarb, courgettes

Salt: 1-2 teaspoons daily, as needed for sodium replenishment. Clear broth (consommé) is strongly recommended, unless you are on a sodium-restricted diet for heart failure

A 'cup' is approximately the size of your fist.

Foods Allowed In Limited Quantities

Cheese: up to 100g a day. Includes hard cheese such as Cheddar, Stilton etc, as well as soft cheese such as Brie, Camembert, mozzarella, Gruyere, cream cheese, goat cheeses. Avoid processed cheese. Check the label: carbohydrate count should be less than 1 gram per serving.

Cream: up to 4 tablespoons a day. Includes single, double or sour cream

Mayonnaise: up to 4 tablespoons a day. Check the labels to ensure your brand is low carb

Olives (Black or Green): up to 6 a day

Avocado: up to 1/2 of a fruit a day

Lemon/lime juice: up to 4 teaspoons a day

Soy sauces: up to 4 tablespoons a day. Kikkoman is a low carb brand. Check the labels of other brands.

Pickles: up to 2 servings a day. Check the labels for carbohydrates and serving size.

Snacks: Pork rinds/skins; pepperoni slices; ham, beef, turkey, and other meat roll-ups; devilled eggs.

The Primary Restriction: Carbohydrates

On this diet, far fewer sugars (simple carbohydrates) and starches (complex carbohydrates) are eaten. Starchy carbs are only allowed once a day – the rest of the time, the only carbohydrates encouraged are the nutritionally dense, fibre-rich vegetables listed above.

Sugars are simple carbohydrates. **Avoid these kinds of foods completely:** white sugar, brown sugar, honey, maple syrup, molasses, corn syrup, beer (contains barley malt), skimmed milk (contains lactose), flavoured yoghurts, fruit juice, and fruit.

Starches are complex carbohydrates and the following are allowed once a day only. **Only eat these foods once a day:** grains (even "whole" grains), rice, cereals, flour, cornstarch, breads, pastas, muffins, bagels, crackers, and "starchy" vegetables such as slow cooked beans (pinto, butter, black beans), carrots, parsnips, corn, peas, potatoes, French fries, potato crisps/chips.

Fats and Oils

All natural fats and oils, even butter, are allowed. Olive oil and coconut oil are especially healthy oils and are encouraged in cooking. Avoid margarine and other hydrogenated oils that contain trans fats. You should also avoid seed oils such as sunflower/rape seed oil which are 'pro-inflammatory.'

For salad dressings, the ideal dressing is homemade oil and vinegar dressing, with lemon juice and spices as needed. Blue cheese, ranch, Caesar, and Italian dressings are also acceptable if the label says 1 to 2 grams of carbohydrate per serving or less. Avoid "lite" dressings, because these commonly have more carbohydrate. Chopped eggs, bacon, and/or grated cheese may also be included in salads.

Fats, in general, are important to include because they taste good and make you feel full. You are therefore permitted the fat or skin that is served with the meat or poultry that you eat, as long as there is no breading on the skin.

Do not attempt to follow a low fat diet!

Sweeteners and Desserts

If you feel the need to eat or drink something sweet, you should select the most sensible alternative sweetener(s) available. Available alternative sweeteners are: Splenda (sucralose), Nutrasweet (aspartame), Truvia (stevia/erythritol blend), and Sweet 'N Low (saccharin). Avoid food with sugar alcohols (such as sorbitol and maltitol) for now because they occasionally cause stomach upset, although they may be permitted in limited quantities in the future.

Beverages

Drink as much as you like of the allowed beverages. Do not force fluids beyond your capacity.

The best beverage is water. Essence-flavoured seltzers (zero carbs) and bottled spring and mineral waters are also good choices.

Caffeinated beverages: some patients find that their caffeine intake interferes with their weight loss and blood sugar control. With this in mind, you may have up to 3 cups of coffee (black, or with artificial sweetener and/or cream), tea (unsweetened or artificially sweetened), or caffeinated diet soft-drink per day.

Alcohol: at first, avoid alcohol consumption on this diet. At a later point in time, as dietary patterns become well established, alcohol in moderate quantities and if low in carbohydrates, may be added back into the diet. Wine and spirits have lower carb counts than beer which is high in carbs and should be avoided.

Quantities

Eat when you are hungry and stop when you are almost full. The diet works best on a “demand feeding” basis - that is, eat only when you are hungry.

Try not to eat more than what will satisfy you. Learn to listen to your body. A low carbohydrate diet has a natural appetite reducing effect to ease you into the consumption of smaller and smaller quantities comfortably. Therefore, do not eat everything on your plate just because it's there.

On the other hand, don't go hungry! You are not counting calories. Enjoy better health, better diabetes control and losing weight comfortably - without hunger or cravings.

It is recommended that you start your day with a nutritious low carbohydrate meal. Note that many medications and nutritional supplements need to be taken with food at each meal, or three times per day. If possible have your meal containing starch at lunchtime so that you have longer to ‘burn’ off the starch before bedtime.

Important Tips and Reminders

The following items are NOT on the diet: sugar, fruit juices, honey, skimmed milk, sweetened or fruit yoghurt, canned soups, dairy substitutes such as oatmilk, ketchup, sweet condiments and relishes. You are allowed whole milk and high fat Greek yoghurt.

Avoid these common mistakes: Beware of "fat-free" or "lite" diet products, and foods containing "hidden" sugars and starches (such as coleslaw or sugar-free biscuits and cakes). Check the labels of liquid medications, cough syrups, cough drops, and other over-the-counter medications that may contain sugar. Avoid products that are labelled "Great for Low Carb Diets"

Reading a Low Carb Label

Start by checking the nutrition facts.

- Look at serving size, carbohydrate and fibre.
- In the UK our food labels separate carbs from fibre. This means that you will have to add the grams of fibre to carbohydrate to get the total carb count. For example if there are 7 grams of carbohydrate and 3 grams of fibre, the total is 10 grams of carbohydrates. US food labelling is different in this respect. By looking at food labels you will start to understand how easily your daily intake of carbs can increase to more than 100-120 grams per day which is what we are aiming for on this nutritional plan.
- No need to worry (at this point) about calories or fat.
- Check the ingredient list. Avoid foods that have any form of sugar listed in the first 5 ingredients.

And Finally

Sugar by any other name is still sugar!

All of these are forms of sugar: sucrose, dextrose, fructose, maltose, lactose, glucose, honey, agave syrup, high fructose corn syrup, maple syrup, brown rice syrup, molasses, evaporated cane juice, cane juice, fruit juice, fruit juice concentrate and corn sweetener.

Support for lifestyle change

We understand that making lifestyle changes can be challenging. To assist you, you will be given access to the GOQii app which, in addition to having comprehensive resources, enables you to receive nutritional and motivational advice from our GOQii health coaches.

The feedback from the many hundreds of our patients who have followed this programme is that it is life changing. We look forward to working with, and supporting, you on your journey to better health.

Yours sincerely,

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