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Note: This is Online Appendix 1 of Glandt M, Ailon NY, Berger S, Unwin D. Use of a very low carbohydrate diet for prediabetes and type 2 diabetes: An audit J. metab. health. 2024;7(1), a87. https://doi. org/10.4102/jmh.v7i1.87

## The visual guide to a low-carb and high-fat diet



## Welcome

## to the Glandt Center for Diabetes Care

The center was established by the endocrinologist Dr. Mariela Glandtt with the aim of helping diabetics treat with their disease in an optimal way.

The treatment at the center is based on a unique method that focuses on a low-carb diet and a ketogenic diet that allows for an optimal balance of diabetes, weight loss, and a reduction in insulin and medication doses. In the case of prediabetes, the disease can be completely prevented. In our center you will receive medical treatment, nutrition, and personal support from the best experts in the field. Our method is designed to help you transform from "patients" to people who enjoy a healthier and more balanced life.

Dr. Glandt, an endocrinologist specializing in diabetes who specialized at Harvard and Columbia, has rich experience in the treatment of diabetes. Dr. Mariela Glandt has extensive experience and determination to change the quality of life of diabetics in Israel. This drive emerged naturally from the fact that she grew up with a father that has type 1 diabetes. From a young age it was clear to her and to everyone who knew her that this would be her field of activity, which is reflected in the relationship forged between Dr. Glandt and the patients at the center.



## Why a ketogenic diet?



All over the world there is a sharp and constant increase in the number of patients with obesity, pre-diabetes, diabetes and its complications including cardiovascular diseases and cancer. In order to understand what causes these diseases and more importantly to prevent them and treat them, the activity of the insulin hormone must be understood.

Insulin is secreted by the pancreas, this process usually occurs as a response to eating carbohydrates. Insulin is a storage hormone. In a normal state, the hormone is secreted after eating, and when we don't eat, insulin levels drop, which allows the body to burn the fat in the body's stores as a source of energy. But once the insulin levels are high, we cannot break down the fat stores in the body.

In most cases of obesity and type 2 diabetes, insulin levels are higher than normal. And insulin also remains high between meals. This means that the body does not know how to use body fat as energy, even when we do not eat. In addition, the insulin hormone encourages a feeling of hunger and desire for food, even when the body has reserves for energy.

The main problem is that high levels of insulin are associated with an increased risk of heart disease, stroke, and various types of cancer. On the other hand we know that low levels of insulin are associated with longevity. Therefore, our goal is to help you lower the insulin levels in your body. It may help you lose weight, balance your blood sugar, cholesterol and blood pressure levels and get rid of fatty liver.

How do you reduce insulin levels in the blood? By eating food that does not raise insulin. Carbohydrates raise insulin levels in the most significant way, proteins raise insulin levels slightly, and fats do not raise insulin levels at all.

This is the reason why you should eat food low in carbohydrates and high in fat. Although we have been taught for many years that fat is unhealthy, it is important to understand that eating natural fats does not "clog" the arteries. For millions of years humans have eaten natural fats, and only in the last 50 years have we been warned against fat and recommended low-fat diets. These guidelines were based on inconclusive findings. It is interesting to note that at the same time as the implementation of the recommendations for a low-fat diet, there was a significant increase in the rate of obesity and diabetes.

Nutrition is the most influential factor in the increase in the rates of diabetes and obesity, but along with it there are other factors that affect insulin such as mental and physical stress, lack of sleep, lack of physical activity and frequent eating. But let's focus on nutrition because it is the most influential component.

In the following guide, the number that appears next to each food is the amount of carbohydrates in grams per 100 grams of product (not including dietary fiber)





Eat





Beef - all parts Lamb - all parts Chicken - prefer the fattier parts such as wings and shanks with the skin Internal organs - mainly liver

 $\ensuremath{\textit{Fish}}$  - prefer fatty fish such as salmon, mullet and carp

Eggs - yellow and white

For those who do not keep kosher, you can also eat pork meat and seafood





minimize:

Minimize eating frozen and processed meats such as hot dogs and sausages









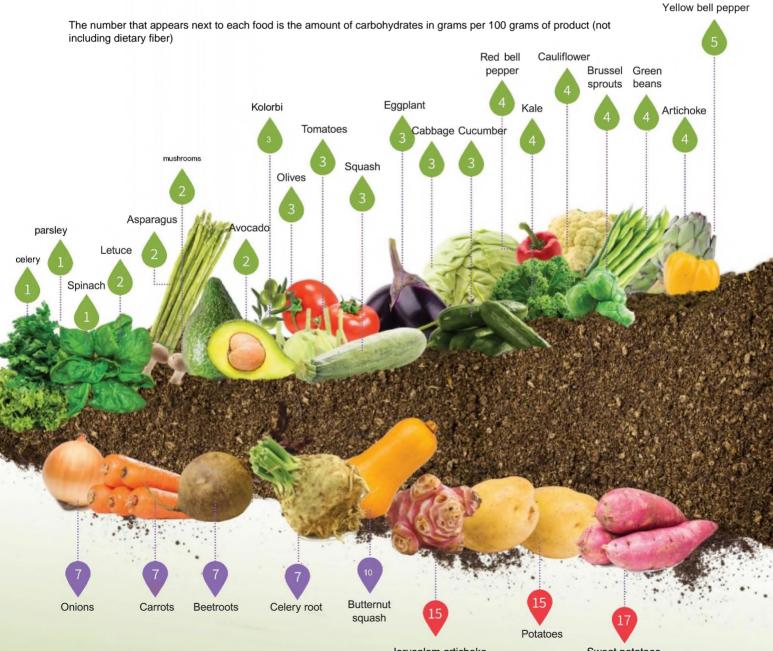


## Vegetables

What about the vegetables? The rule of thumb is that vegetables that grow above the ground are good, and vegetables that grow under the ground are not recommended (e.g. potato, sweet potato, etc.)

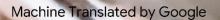
#### less carbs

#### More carbs



Jerusalem artichoke

Sweet potatoes



## Nuts and Seeds

Nuts and almonds are rich in good fats, but there are more recommended nuts like pecans, macadamia and Brazil nuts that contain fewer carbohydrates and are rich in vitamins and minerals, and there are less recommended nuts like cashews and pistachios. It is recommended to eat them unroasted since potato starch is added to many of the roasted products. You can roast them by yourself with some salt.



The number that appears next to each food is the amount of carbohydrates in grams per 100 grams of product (not including dietary fiber)

## **Dairy products**





Milk (all types), low-fat cheeses, low-fat yogurt

Fats



#### Eat real fats:

Animal fat, olive oil, butter, ghee, coconut oil

### Additional sources of natural fats:

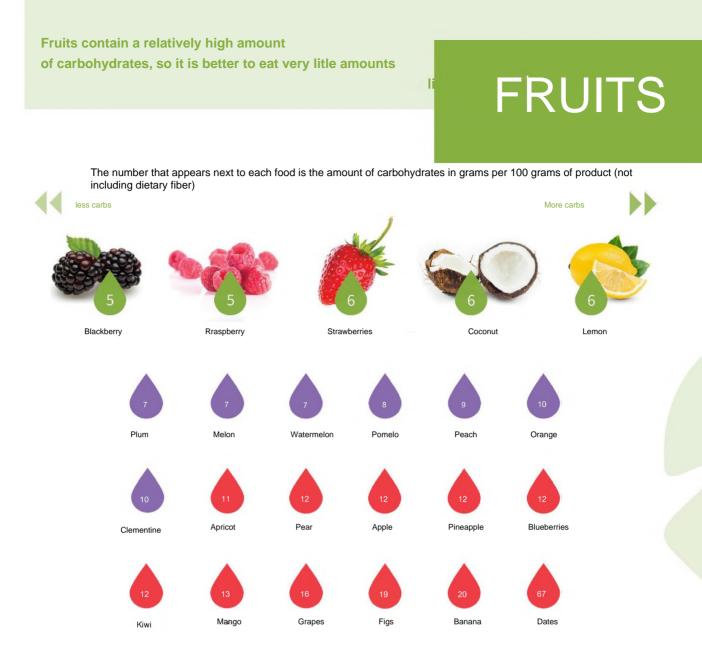
Avocado, nuts, tahini



### Avoid refined oils:

Canola oil, sunflower oil, soybean oil and corn oil Mayonnaise - usually made from refined oil and contains sugar. You can make or purchase mayonnaise based on olive oil, avocado oil or MCT oil





Alcoholic drinks are not particularly recommended on this diet.

The more alcohol you drink, the slow the slower the weight loss.

Prefer dry wine, vodka and whiskey.

There are drinks that are not recommended at all like beer and sweet cocktails.

whiskey



dry wine

**ALCOHOL** 

Cosmopolitan



So what should you eat in your low carb high fat diet?



#### Sugar

Sugary drinks, candies, juices, energy drinks, chocolate, cakes, rolls and pastries, ice cream and cereals. Artificial sweeteners - try to reduce their use.

#### Starches

Bread, crackers, cereals (rice, pasta, noodles, corn, buckwheat, bulgur), breakfast cereals, muesli, energy snacks including "sugar-free", legumes (chickpeas, peas, lentils, white beans), starchy vegetables such as potato, Peas and sweet potatoes.

#### Vegetable oils and margarine.

It is recommended to avoid margarine containing trans fat and refined vegetable oils - all of these areharmful to health.

Beer High in quickly absorbed carbohydrates

> Fruits contain a high amount of sugar, and dried fruits contain even more. Coconut, grapefruit or melon contain slightly less carbohydrates and can be eaten in small amounts infrequently.



#### Nuts and

almonds Enjoy low-carb nuts and almonds, especially pecans, Brazil nuts, and macadamia nuts.

#### Berries

Berries such as raspberries, strawberries and blueberries (which are usually also available frozen), can be combined in moderation. Preferably as a dessert for a fatty meal or in combination with a fatty food such as cream

#### Drinks

Water or soda, you can add a slice of lemon and mint, herbal or regular tea. For coffee, it is better to add coffee cream or whipped cream.

On special occasions you can consume dry wine (red or white), champagne, whiskey, brandy, vodka or sugar-free cocktails.

#### Dark Chocolate

Over 70% cocca solids, can be eaten in small quantities and in consultation with the nutritionist.



#### meat

Beef, chicken, lamb. It is recommended to also eat the fatty parts of the meat and the skin of the chicken.

#### fish and seafood

Eat freely all types of fish and seafood, especially those that contain a high amount of fat such as salmon, mackerel and herring.

#### eggs

In all forms of preparation and without limitation.

#### natural fats

Adding cream and butter to recipes and cooking will make them tastier and more satisfying over time. Other recommended oils are coconut oil, olive oil, olives, avocado oil, avocado and tahini.

#### vegetables

Cauliflower, broccoli, zucchini and zucchini, eggplant, arugula, endive, green beans, spinach, mushrooms, cucumbers, lettuce, peppers, tomatoes and more.

#### Dairy products

Always choose high-fat dairy products such as butter, whipping cream 38% fat, sour cream 27% fat and fatty cheeses. Regular or low-fat milk contains a high amount of milk sugar (lactose), so try to reduce it. Avoid flavored, sweetened or low-fat dairy delicacies and drinks.



## What is ketosis?

Our body only knows how to use sugar or fat as a source of energy - but not both at the same time. Because there is little room to store sugar, if both are consumed the body will always prefer to use sugar first for energy needs. Only when there is no consumption of sugar, the body will use fat and become a "fat- burning machine" In order to use fat as a fast source of energy, the body turns the fat into a molecule called ketones - hence the name ketogenic diet. The ketones, in addition to being energy providers, have anti-inflammatory properties.

## The basics of nutrition

Meat, chicken, eggs and fish make up the main part of the diet. If the menu you received includes cheeses, remember that they are not the center of the meal. Use them sparingly. Avoid consuming refined vegetable oils, such as soybean oil, canola oil and corn oil.

## How much should you eat? When?

Eating fat as part of the meal helps us maintain a feeling of satiety for a long time and avoid eating between meals. Be sure to eat up to 3 regular meals a day. Eat only when you are hungry. Eat until you feel full and not until you feel "explosion". Avoid snacking between meals. If you still feel hungry between meals, it is recommended to drink fresh soup, water, tea or soda. Dinner is recommended to be eaten as early as possible. Ideally we would prefer to eat dinner before it gets dark. Try to observe a night fast of at least 12 hours. \*

## What to drink?

Water (mainly), soda, herbal tea and coffee. Drinking zero drinks is not recommended, because consuming sweeteners preserves the body's addiction to the sweet taste. Coffee is better to drink without milk and without the sweet. If you use milk/cream for whipping, add a small amount of them (and make sure they do not contain sugar in the ingredients). If sweeteners are used, the most suitable sweeteners are: erythritol, stevia, monk fruit sweetener and sweetango (a combination of erythritol and stevia). As for other sweeteners, make sure they do not contain a filler (dextrose/sucrose). Monosaccharides (other than erythritol) are not suitable Use.

## Tips

Bread substitute - if it has been agreed with the dietitian on the consumption of bread as part of the diet, there are several suitable options:

- bread from the eatsane company (the points of sale are listed on the website il.co.eatsane.www).

- Flax bread from the Bikurim company (in health food stores). -

Homemade tahini bread (without the sweetener).

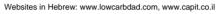
#### Ketogenic cookbooks -

Ketogenic nutrition - Israeli Keto by Ronit Avnon and Ronit Hangabi.

Everything is gold - by Goldie Elisher.

#### Websites with a variety of ketogenic recipes

Websites in English: www.ruled.me, www.dietdoctor.com





## What to expect at the beginning of the process?

In the first days, the body does not yet know how to use fat as a source of energy. It takes about one to two weeks for the body to get used to the new "fuel source". During this adjustment period, you may feel a number of symptoms such as muscle cramps, fatigue, headaches and constipation. The symptoms can resemble a mild flu, so some call the phenomenon the ketogenic flu (flu keto). Another reason for the appearance of symptoms is a lack of fluids and minerals. Insulin causes fluid retention, in a ketogenic diet depending on the fact that the insulin level drops there is more loss of fluids from the body and together with them a loss of minerals.

Some of you will feel a few symptoms, and some of you will not feel them at all. Most of the symptoms pass within a few days, and they can be alleviated or even prevented by following a few guidelines:

Be sure to drink plenty of water. You should drink about 10-14 glasses a day (about 2-3 liters of water). It is also recommended to add salt to them.

Drinking bone broth or chicken broth can often prevent the onset of symptoms. During the first two weeks of the diet, drink 2-3 glasses of clear soup a day. It is possible and even recommended to drink between meals. The soup components should include bone-in chicken parts or beef bones. Cook the soup for a long time (at least two hours) and filter to obtain a soup rich in minerals (you can find a recipe in the booklet).

If drinking the soup is not possible, you can drink a glass of water with a teaspoon of salt.

If you do physical activity, you should reduce the intensity of the training during the adaptation period If you don't, try to wait a week or two before you start.



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## Low-carb and high-fat recipes

The diet consists of delicious and satieting dishes We have put together for you a few recipes of our dieticians.

The recipes are easy and quick to prepare, so you can start the process in style simple and delicious.





## Steamed cabbage

Ingredients

1/2 medium cabbage

1 large tomato

1/2 tablespoon of sweet

paprika 1 cup of water

A tablespoon of olive oil Salt and pepper

#### Preparation

Cut the cabbage into thin strips.

Cut the tomato and soak in boiling water for about ten minutes, in order to peel the skin.

Cut the tomato into cubes.

Heat the oil in a pan and lightly fry the cabbage while stirring. Add the tomatoes,

water and spices. Close the lid of the pot and cook on medium heat

Low for about 25-35 minutes, until the cabbage softens.



## Minced meat with mushrooms



500 grams of ground meat

1/2 basket of champignon mushrooms

1 tablespoon animal fat/olive oil for frying salt and pepper

#### Preparation

Cut the mushrooms into medium cubes.

Heat the oil in a deep pan and fry the

the mushrooms.

Add the minced meat and mix. The meat should be minimally cooked to maintain juiciness.

Once all the meat looks done turn off the heat.

### asparagus

## in lemon butter



the materials

A handful of asparagus 50 grams of butter

50 grams of grated parmesan

Lemon zest and juice from half a lemon

#### Preparation

Sear the asparagus with olive oil in a griddle pan for about 2 minutes

on each side

Set aside

melt the butter,

Add the rest of the ingredients and mix well

Pour over the asparagus

## Grandma's chicken soup

#### the materials

1 kg of chicken wings with the skin 3 zucchini Carrot Half a celery root half an onion Chopped celery stalks

A handful of celery leaves salt and pepper to taste

#### Preparation

Clean the wings well from feathers and boil once in a separate pot. After boiling, pour the water.

Cut all the vegetables, fry for about 5 minutes in olive oil until golden. When the vegetables are burnt, add the wings and continue to fry a little with the vegetables. Cover with water and bring to a boil - season and add the greens, cook for 1.5-2 hours, taste and improve seasoning if necessary.

## Creamy curry chicken



#### the materials

3 units of chicken breast weighing 100 g each, thawed and

cut into strips

A teaspoon of paprika

A teaspoon of turmeric

A spoonful of curry

Garlic powder, salt, pepper

A box of vegetable cream for cooking

1/4 cup olive oil

#### Preparation

Season the chicken breast strips with paprika, turmeric and olive oil. Fry in a

well-heated pan for a few minutes and remove to a plate.

In the same pan, heat olive oil (scrape the remains with a wooden spoon),

a teaspoon of curry, garlic powder, salt and pepper, add the cream,



### Salmon in herbs

## and butter



#### the materials

10-12 pieces of fresh salmon, boneless, a quarter cup of chopped basil leaves, a small handful of chopped thyme leaves, a quarter cup of chopped parsley A quarter cup of chopped dill Two chopped garlic cloves Grated lemon peel from half a lemon 1/2 cup olive oil Salt and pepper to taste

#### Preparation

Heat the oven to 220 degrees. In a bowl, mix all the herbs, the grated lemon and the olive oil. Season the fish with salt and pepper on all sides. Line a pan with baking paper and place the

The fish on the skin, on top spread generously of the herb mixture. Put in the oven for 10-12 minutes.

### Chocolate Mousse



#### the materials

250 ml coconut cream 100 g dark chocolate 85% cocoa solids

#### Preparation

Melt the chocolate and add to the cream, transfer to a small serving dish and put in the fridge for an hour.





# Talk to us

We are here for you in any ways of communication. You are welcome to call, send SMS or WhatsApp for any question.

It is important to know that the medication dosages must be adjusted individually at the beginning of the process.

> Phone: 03-7208533 Number for sending messages: 052-6280416 (answer within 24 hours)

### Welcome to join us on Facebook:

Glandt Center for Diabetes Care Updates about the activities taking place in the center and professional content Ketogenic diet under medical supervision Glandt Center The place to share recipes, consult, ask questions and get tips from the professiona

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