

## The Dukan Diet - Scientific Rationale, Proven Health Benefits, Advantages and Disadvantages

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**Abstract.** The Dukan Diet is a popular no-carbohydrate, fat-restricted diet. The emphasis of this diet is on lean protein foods, as well as a daily intake of fiber in the form of oat bran. Simple carbohydrates and sugars are excluded. Despite extensive restrictions, Dr. Dukan's nutrition program does not require scrupulous control of nutrient intake, careful calorie counting, or severe fasting. Weight will decrease if the principles of each stage of the diet are followed. It is enough to make up your diet from the products that Dukan offers in his weight loss program. Consider this method of weight loss from a scientific point of view and analyze its effectiveness.

Tags: Ducan's diet, Ducan's diet

## celebrity diet

The Dukan diet has gained extreme popularity in recent years, especially among representatives of the modeling business and celebrities. Many of them owe their harmony and attractive forms to her.

The diet has become popular due to the fact that it changes metabolism and allows for sustainable weight loss. Rapid and sustainable weight loss with minimal hunger also speaks in its favor. But health experts criticize the Dukan meal plan. They call the diet overly restrictive, uncomfortable, and detrimental to health due to imbalance.

# The history of the popularity of Pierre Ducane

The Dukan diet was named after the French physician Pierre Dukan, its creator. It was an effective method of getting rid of obesity, without the effect of returning to previous numbers after the end of dietary restrictions. This is a common problem that people experience following low-calorie diets or healthy eating practices.

Pierre Dukan was born in 1941 in Algeria. He was a general practitioner, planned to become a neurologist. From one patient who needed to lose weight, Dr. Dukan heard this: "You can give me any diet. I can refuse any food except meat. I can't refuse meat." Thus was born the idea of a new diet for

obesity. The patient was instructed to eat as much meat as he wanted, provided that it was meat with a minimum fat content, and to drink plenty of water. And in 5 days the patient lost 5 kg. And Dr. Dukan embarked on the path of world fame and wealth, having found his vocation in medicine.

The Dukan diet has been known for more than a third of a century, but it gained its main fame after the publication of the book "I Can't Lose Weight" in 2000. Over 10 million copies of the book, translated into 14 languages, have been sold worldwide in 32 countries.

Over the past 20 years, about two million French people are believed to have tried this diet. About 30 thousand paid subscriptions are active on Dukan's official website. On the shelves of shops and pharmacies in France, about 50 products are sold under the brand name "Dukan Diet". And the turnover of the business of the author of the diet is estimated at 100 million euros per year.

#### Where to start a diet?

Given that the diet is built on strict restrictions, the founders recommend thorough preparation before starting to stick to it.

- 1. Calculate your true weight. This will determine the target weight. You can create an individual program, determine the duration and target points of the first three stages of the weight loss diet.
- 2. **Identify your motivational reasons** why you need to lose weight. Write down the sources of motivation. In the future, this will help you achieve your goal, not break before the restrictions on which the diet is based.
- 3. **Consult your healthcare professional** or licensed dietitian. It is recommended that you undergo a complete check-up blood pressure, blood test, stress test and other tests recommended by your doctor.
- 4. **Enlist the support of family and friends**. It is important to have allies in the fight against excess weight. It is also possible to communicate on the official website with like-minded people participants in the Dukan weight loss program.
- 5. **Determine the starting point for starting the diet.** Let this day be the start of your journey to weight loss and other changes.
- 6. **Filter the products in your kitchen** . If there are only allowed products in your house, and you make purchases strictly according to the list, you will not be tempted to eat something "forbidden".
- 7. **Decide in what mode you will follow the diet.** Independently, according to the book of Pierre Dukan, with a friend or like-minded relative, in the online community of the Dukan group, an online support program on the official website of the Dukan diet. The higher the motivation and support, the easier it will be to achieve the desired goal.

If all the preparatory stages have been completed, you can go directly to the diet, starting the attack phase. [one]

# What is true weight?

One of the first steps in the Dukan Diet is determining your true weight. It is true, not ideal or desired. It's not just a number you want to see on the scale. True weight is really possible to achieve without harm to your body, without affecting your mood. It can be maintained for a long time without hunger and food restrictions.

The "true weight" category is unique to the Dukan diet. The official website of the diet offers an automated calculation of true weight. It is enough to answer a few simple questionnaire questions. The

history of your weight, its minimum, maximum value and the desired weight from your point of view, previous stays on other diets and the Dukan diet are taken into account. Age, gender, number of pregnancies in women, heredity, bone structure and some other parameters are also important.

True weight will be the target point for the diet. The difference between your current weight and your "true weight" determines your individual diet plan, the length of each of the first three phases of the Dukan Diet, and how much weight you can lose in the attack, cruise, and consolidation phases. [2]

### **Basic Structure of the Dukan Diet**

After determining the "true weight", you can proceed directly to the diet, which is divided into 4 stages. Each of them is characterized by its own rules.

- 1. Attack phase (1 7 days). This is a short-term phase during which you can consume lean protein foods and 1.5 tablespoons of oat bran daily without restrictions. The duration of this phase is determined by the amount of weight you have planned to lose. The first phase may be limited to 1-2 days with a target loss of up to 4 kg. If the planned weight loss is more than 18 kg, then the attack phase can last up to 7 days. At this time, excess fluid is excreted from the body. It is especially important during this period to drink enough clean water.
- 2. **Cruise phase (1 12 months)**. This phase consists in alternating diets every other day. One day with only lean protein foods without restrictions. Second day with lean protein foods and non-starchy vegetables. Every day you need to use the same two tablespoons of oat bran. In this phase, weight loss continues to the desired figure.
- 3. Consolidation phase (10 days for every kilogram lost). At this stage, "true weight" has been reached" and you can move on to eating with less restrictions. The diet will consist of the same lean protein dishes and almost any vegetables. Some starchy foods, grains, hard cheese and various fruits are allowed. There is a "free" lunch once a week, when absolutely everything can be consumed without exception. But also once a week, a "limiting" day with exclusively lean protein products is recommended. As before, you need to add two tablespoons of bran to the diet daily.
- 4. **Stabilization phase (duration without limits)** . One day a week will still be dietary with exclusively lean protein foods. The rest of the time you can eat any food with a daily addition of three tablespoons of bran.

## **Dukan Diet Modification: 7 Steps**

There is a modification of the Dukan diet - a meal plan for a week, which also helps to achieve the "true" weight, although not as quickly as the original method. It is easier to follow such a diet, since the set of acceptable foods changes every day for a week.

- Day 1: Protein products;
- Day 2: Protein foods and vegetables;
- Day 3: Protein foods, vegetables and fruits;
- Day 4: Protein foods, vegetables, fruits and bread;
- Day 5: Protein foods, vegetables, fruits, bread and cheese;
- Day 6: Protein foods, vegetables, fruits, bread, cheese and complex carbohydrates;
- Day 7: Day without restrictions. Chocolate and wine are allowed for the festive dinner.

## **Benefits of the Dukan Diet**

• Lack of feeling of hunger. You can eat without limiting the size of portions and at any time of the day. The main thing is to choose allowed products.

- Foods allowed in the diet are familiar and affordable. There is no need to give up eating out or on holidays, because you can always choose clean meat dishes, seafood or fish without a side dish or with vegetables.
- Various studies have been conducted on the Dukan diet, mainly to study the effectiveness of this diet. In Nysa (Poland), the University of Applied Sciences observed the effectiveness of the diet on a group of women for 8-10 weeks. As a result, the average weight loss was 13 kg.

Repeated studies of high-protein and low-carbohydrate diets have shown:

- speeding up metabolism, increasing fat burning and increasing the feeling of satiety, which in total contributed to weight loss.
- There is a connection with the hormone ghrelin, which stimulates the feeling of hunger. Increased consumption of protein foods helps to reduce the level of this hormone.
- The diet defines clear rules for the selection of products that are included in the diet or are strictly prohibited. This makes dieting easier to plan and less likely to make mistakes. You simply choose the appropriate product from the proposed options at this stage of the diet.

This can be attributed to the benefits of this diet plan. However, there are also serious drawbacks for which the Dukan diet is often condemned.

# **Disadvantages of the Dukan Diet**

- Refusal of fats. Pierre Dukan deliberately ignores the need of a healthy person for fats of at least 40-50 grams daily. Lack of fat intake leads to an imbalance of minerals, absorption of calcium and vitamin D. In the study mentioned at the beginning of this section, an increased intake of proteins, potassium, iron, vitamins A, B2 and D was found. There was a lack of vitamin C and folate.
- The diet does not form sustainable eating habits that would allow long-term maintenance of the achieved weight. Four out of five people who lose weight using the Dukan diet return to their original weight in 2-3 years. Weight loss itself is due to ketogenic processes that are activated in the first phases of the diet. But upon completion of the weight loss program, the subjects were happy to return to a varied diet and the effect was lost.
- If you need to lose significant weight, you need to stick to a diet for a long time. And in the long term, such a limited diet can seriously harm health and disrupt normal metabolism.
- Also, diets that are characterized by a strict restriction of foods allowed in the diet lead to increased cravings for "forbidden" foods and the risk of breakdowns and overeating.
- The predominance of protein foods in the diet, as well as the promotion of days with exclusively pure protein meals, can have negative health consequences. The symptoms of arthritis, gout may intensify or worsen. It also increases the risk of kidney stones. The diet is absolutely not acceptable for patients with renal insufficiency.

### From the reviews of adherents of the diet, one can also distinguish:

- It is difficult to completely abandon fruits in the first two phases of the diet, and then fruits are allowed rather conditionally, in small quantities. Even the unlimited use of protein dishes quickly "gets boring", I want variety.
- Throughout the diet on protein days, the smell of acetone is felt from the mouth. It appears due to the restructuring of metabolic processes towards ketosis.
- Constant thirst. This is due both to the difficult mechanism of digestion of protein foods, and to ketosis processes that enhance the removal of fluids from the body.

• Due to the limited amount of various fiber in the diet and the abundance of heavy protein foods, in the early stages there are difficulties with digestion. Oat bran is supposed to help with this problem, but the effect is not sufficient.

Despite the fact that the Dukan diet contributes to a quick result in weight loss, however, do not ignore alternative diets that, in addition to losing weight, also improve health. You can enjoy a healthy and varied diet rich in healthy fats, fruits and vegetables, and whole grains. Then, along with losing weight, your body will receive the necessary nutrients.

## Comparison of the Dukan Diet, the Ketogenic Diet, and the Atkins Diet

There are three popular carbohydrate-reducing diet plans for weight loss - the Dr. Dukan Diet, the Ketogenic Diet, and the Atkins Diet. With a general similarity in direction, there are fundamental differences in these diets.

The Dukan and Atkins diets advocate reducing the proportion of carbohydrates in the diet and increasing the intake of proteins.

At the same time, the Dukan diet reduces, in addition to carbohydrates, fats as well - in favor of proteins. And the Atkins diet allows unlimited consumption of fats and proteins. The ketogenic diet requires a predominance of fats in order to achieve the necessary metabolic state - ketosis. With it, the cells of the body begin to eat fats instead of carbohydrates. At the same time, it is permissible to use proteins very moderately.

#### Is the Dukan Diet Safe?

At present, the safety and effectiveness of the Dukan diet has not been sufficiently studied, so it is not yet possible to assume with certainty the long-term consequences of this diet.

However, doctors are already wary of such restrictive methods of losing weight. The complete exclusion of many foods leads to a lack of important minerals, vitamins and nutrients. This will especially affect the course of such conditions as arthritis, gout, kidney and liver diseases. If you have any health concerns, you should consult your healthcare professional or licensed dietitian before following the Dukan Diet. [3]

## What food preferences go with the Dukan Diet?

- Vegetarian and vegan diet: The Dukan diet is based on a large amount of animal proteins meat, poultry and eggs, fish, shellfish, low-fat dairy products. Of the vegetarian proteins, only seitan, tofu, and tempeh are allowed. It will be difficult enough to withstand the attack phase (without vegetables and fruits) only on vegetarian proteins without eating animal products. Other vegetarian proteins legumes, lentils and nuts cannot be included in the Dukan diet.
- Low-Fat Diet: If you are on a low-fat diet for health reasons, such as heart disease, then the Dukan diet may well be suitable. All foods that are allowed in different phases of the diet proteins, dairy products, vegetables, fruits are extremely low-fat or completely lean.
- Gluten Free: The initial phases of the Dukan Diet follow a gluten free meal plan. However, closer to the consolidation and stabilization phase, the rules are loosened and gluten-free versions of allowed products must be carefully selected.
  Particular attention should be paid to the choice of oat bran, which is an indispensable component of all phases of the Dukan diet without exception. Oats grown in an ideal environment without impurities of other cereals are considered gluten-free. Instead of gluten, it

contains the protein avenin, which is not dangerous for celiac patients. But in most grain processing industries, gluten-free and gluten-containing crops are intercrossed, so traces of gluten can be found in all products "at the exit". In gluten-free general health diets, this is not critical. But for celiac patients, oat bran for the Dukan diet must be chosen marked "gluten-free".

- **Diet for Diabetes:** This is consistent with Dr. Dukan's diet plan. Since the Dukan diet is a low-carbohydrate diet, if you are taking glucose-lowering drugs and / or insulin, you will most likely have to reduce the dose of medication. This is especially true for the attack phase and the cruise phase, when there are very few carbohydrates in the diet. Be careful, beware of episodes of hypoglycemia a sharp sudden drop in blood glucose to a critically low level, up to hypoglycemic coma. Get additional advice from your treating endocrinologist before starting the Dukan diet.
- In the presence of chronic diseases of the kidneys, heart, gastrointestinal tract: The Dukan diet is very limited and can be harmful in the presence of chronic diseases. In kidney disease, the intake of proteins, on which the Dukan diet is based, is limited. With gastrointestinal disorders, it is necessary to consume a sufficient amount of plant fibers. In heart disease, the balance of trace elements and vitamins is important. However, the Dukan diet is monotonous, especially in the early stages, so it can go against medical nutrition plans. [four]

## **Diet Complaints**

The Pierre Dukan diet is popular among many celebrities, rich people and royalty. But medical colleagues are not so enthusiastic about the developments of Dr. Dukan.

In France, two complaints were filed against the author of the diet. Pierre Dukan is accused of using medicine as a business, for promoting the system for his own benefit and popularity. At the same time, his recommendations may be harmful, which is contrary to the code of medical ethics.

In fact, Dr. Dukan's diet books became bestsellers in 2000, translated into 14 languages, and sold millions of copies worldwide. An entire industry of products was born that conformed to the principles of the Dukan system. An Internet site has been created and is successfully functioning with advice on weight loss, an individual selection of a dietary program on a paid basis. Dukan's financial benefit is obvious.

In addition, doctors consider one statement by Dr. Ducan to be incorrect. He proposed to include a "obesity test" in the undergraduate examination system. According to his idea, 17-year-old students should be tested according to Dr. Dukan's ideal weight system. Those whose weight is within the "normal" range should receive additional points on the exam. Doctors are against this idea because it could have negative consequences for the eating behavior of young people, especially girls who tend to be anorexic or already overweight. For this proposal, Dukan faced a disciplinary hearing within six months, and then the loss of a license.

They also surveyed 5,000 people who followed the diet, and 80% of them regained the weight they lost three years after the diet.

Experts say that the diet can increase the risk of developing cardiovascular disease, blood pressure and diabetes. There are also serious threats to the liver, kidneys and fertility levels.

However, Dukan himself does not agree with such statements. He told journalists of the newspaper Le Parisien that the diet does not carry risks, but the overweight that patients have before his diet poses a real threat from which people die every day.

French doctor Jean-Michel Cohen speaks negatively about the Dukan diet, believing that only the pharmaceutical industry and doctors who treat "Dukants" after losing weight on a diet, as well as publishers and journalists who write about the popular technique, benefit from it. A protein-rich diet can lead to heart disease and breast cancer. Cohen himself promotes the ideas of counting calories and physical activity as a means to lose weight. Pierre Ducane sued Jean-Michel Cohen for defamation in 2011, but lost. The court was guided by the principles of medical ethics, which were not on the side of Dukan.

Despite its popularity, in 2011 the British Dietetic Association called this diet the "worst celebrity diet".

And already in 2014, the French National Council deprived Ducan of his license and banned him from practicing medicine. <sup>[5,6]</sup>

## What You Can Eat on the Dukan Diet

The essence of Dr. Dukan's diet lies in the use of foods rich in proteins, with a limited content of carbohydrates and healthy fats. Depending on the phase of the diet that you have already reached, the diet will also change. Out bran and lean protein foods are unchanged throughout the diet.

# Attack phase

The basis of the diet will be protein-rich foods, both vegetable and animal origin.

- Lean Meats: Lean veal and pork chop, roast beef, beef and pork tenderloin, low-fat bacon, venison, and other game meats.
- Meat of domestic and wild birds: chicken, turkey, quail, wild ducks, etc.
- **Eggs:** chicken and quail eggs, duck eggs (after heat treatment).
- Fish: herring, mackerel, flounder, catfish, tilapia, trout, salmon, tuna, sardines, etc.
- **Seafood:** shrimp, oysters, octopus, lobster, mussels, crab, crayfish, etc.
- Vegetarian proteins: soy tofu, soy tempeh, gluten-free wheat seitan, veggie burgers, and more.
- dairy products: milk, cottage cheese, Greek yogurt, reduced-fat cream cheese. Limit volume to 1 liter or 1 kilogram per day.
- Oat bran: 1.5 tablespoons daily.
- Water: at least 1.5 liters per day (mandatory).
- A small amount of lemon juice and pickles.

In addition to the listed protein products and oat bran, sugar-free chewing gum, spices, sugar-free coffee and tea, artificial low-calorie sweeteners, diet gelatin are allowed.

## Cruise phase

During this period, non-starchy vegetables are added to the products from the list above in one day. The next day, only protein lean foods from the attack phase. Then the days alternate.

During the day, it is allowed to introduce up to two new products from the list of allowed products. In the first days of the transition to this phase, vegetable dishes should be limited in volume, at one meal - up to 2 tablespoons.

On your table will appear:

Asparagus

- Black Eyed Peas
- Beet
- Broccoli
- Brussels sprouts
- White cabbage
- Cauliflower
- Artichoke
- Carrot
- Celery
- cucumbers
- eggplant
- Tomatoes
- Dill, parsley, celery
- Leafy greens lettuce, spinach, arugula, watercress
- Rhubarb
- Radish
- radish
- Turnip
- Zucchini
- Zucchini
- Onion, leek, shallot
- Mushrooms
- Pepper
- Spaghetti from pumpkin squash or any other pumpkin, zucchini
- Heartwood of a coconut palm or acai palm
- 1 teaspoon (5 ml) salad dressing oil

### **Consolidation phase**

This phase is usually divided into two parts. In the first half of the phase, the products listed above are added to the diet:

- Fruit one serving daily. For example, 1 cup (100 g) berries or pulp of watermelon, melon; one medium apple, orange, pear, peach or nectarine; two kiwis, plums or apricots;
- Whole grain bread two slices daily;
- Hard cheese 40 grams daily;
- Starchy foods one serving per week. This can be 225 g of cooked pasta and other grains, corn, beans or legumes, rice or potatoes.
- "Free" lunch, consisting of an appetizer, dessert and a glass of wine once a week.

In the second half of the consolidation phase, the following products are added:

- Fruits two servings daily;
- Whole grain bread two slices daily;
- Hard cheese 40 grams daily;
- Cooked starchy food two servings per week;
- "Free" lunch, consisting of an appetizer, dessert and a glass of wine twice a week.

Required daily two tablespoons of oat bran. Weekly, one day, only lean protein foods are used, which are allowed in the attack phase.

## Stabilization phase

A phase without clear boundaries that supports the results of weight loss. Any products are not prohibited for use in this phase. Belonging to the Dukan diet is determined by some rules for this period:

- Daily in the diet should be three tablespoons of oat bran.
- Use the recipes from the Consolidation phase as the basis of nutrition.
- Every week, one day "returns" to foods from the attack phase low-fat protein meals.
- To increase physical activity, take the stairs instead of using elevators and escalators.

## Additionally allowed

- Shirataki noodles. You can eat unlimitedly, starting from the first phase of the diet. The homeland of this product is Japan and China, where the root of konjac (cognac) mannan is mined. It is used to make konjac flour, gel or noodles. Regardless of the form of serving, this product contains a minimum amount of carbohydrates and contains absolutely no fat. This allows you to eat shirataki noodles without restrictions and the risk of breaking the diet and gaining weight.
- Goji berries. They are a superfood rich in vitamins and minerals. Will be an excellent supplement throughout the diet. Allowed from attack phase. However, on pure protein days, 1 heaping tablespoon is allowed, and on protein and vegetable days, 2 heaping tablespoons are allowed.
- Olive oil. Allowed from the cruise phase in a limited amount 1 teaspoon. Source of omega-3 fatty acids and antioxidant vitamin E [7].

Alcohol is also allowed during the consolidation and stabilization stages - you can drink a glass of wine a day.

There is no need to use any exotic ingredients in diet meals. But at the beginning of the diet - during the attack and cruise stages - the choice of products will be quite limited and of the same type. This can be quite difficult and tiring.

As physical activity, a daily twenty-minute walk is welcome. This will keep the body in good shape.

### Literature

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An extended HTML version of this article is available on the edaplus.info website.

Dukan Diet - Description of the celebrity diet, history, scientific rationale, proven health benefits, advantages and disadvantages, diet tips

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**Abstract**. The Dukan Diet is one of the most popular diet plans for weight loss. This low-carb diet allows you to quickly lose weight without feeling hungry or having to carefully calculate nutrients. The author of the diet has developed a clear list of allowed products for each stage. The difference from other low-carbohydrate diets is the use of protein products without restrictions, which allows you not to feel hungry. Fats and carbohydrates are excluded.

But the diet does not form healthy eating habits and limits the consumption of many foods necessary to maintain health. With a long-term diet, if a large weight loss is planned, this can adversely affect health.