

Diabetes Reversed

Part of the Food as Medicine series

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A plant-based diet may resolve diabetes markers and result in disease remission.

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Introduction

According to the Centers for Disease Control, one in 10 Americans and 13% of adults has diabetes. From 90% to 95% have Type 2 diabetes or insulin resistance. The resulting high blood sugars damage tissues and can lead to blindness, kidney failure and amputations. Diabetes also increases the risk of heart disease and stroke.

Although there is no cure, Type 2 diabetes is potentially reversed to a nondiabetic state [without](#) medications or insulin in most people who adopt a plant-based diet. Remission of Type 2 diabetes is defined as one of three states:

- Control of normalized blood sugars for at least a year.
- Minimal or discontinued use of medications with optimal health options.
- Control of insulin sensitivity and weight loss leading to restoration of health.

The CDC estimates that more than 80% of today's chronic diseases are related to lifestyle, including diet, tobacco use and a lack of physical activity. Permanent dietary changes to a plant-based pattern may result in lasting resolution of diabetes markers and remission of the disease. A plant-based diet emphasizes whole-plant foods rich in nutrients, low in fat and cholesterol-free. Reverting to previous eating habits often causes a recurrence of the disease.

Lifestyle changes

The process of reversing disease through lifestyle is known as lifestyle medicine. Lifestyle changes that focus on a plant-strong diet and physical activity effectively reverse Type 2 diabetes.

Lifestyle improvements, including a plant-based diet, improve blood sugars and multiple risk factors. Positive side effects can include weight loss, lower cholesterol, lower blood pressure, reduced heart disease and stroke risk, improved mood and quality of life, and lower healthcare costs.

Negative diet factors

Several dietary choices increase the risk of developing Type 2 diabetes. These choices include intake of saturated fats and refined carbohydrates, excess sodium, chemical contaminants and compounds found in animal products.

For over two decades, research has found that insulin resistance is more related to dietary fat than carbohydrates. Excess fats accumulate in muscle and liver tissues, producing toxic compounds and free radicals. These compounds interrupt insulin signaling, blocking sugars from entering the cells and causing them to accumulate in the blood.

[Treatments known to reverse diabetes \(https://care.diabetesjournals.org/content/36/4/1047.short\)](https://care.diabetesjournals.org/content/36/4/1047.short) include bariatric surgery, low-calorie diets (less than 600 calories per day) and plant-based diets. These treatments include the reduction of calories from dietary fat.

Diet protective factors

The [DiReCT trial \(https://www.directclinicaltrial.org.uk/\)](https://www.directclinicaltrial.org.uk/), published in 2019, showed that a low-calorie, plant-based diet could reverse diabetes. Plant-based diets consist of minimally processed fruits, vegetables, legumes, whole grains, nuts, seeds and spices. These diets exclude animal foods and animal products. This diet is naturally low in fat and high in protective factors, including fiber, micronutrients (vitamins and minerals), beneficial phytonutrients and naturally occurring plant compounds like antioxidants.

Components of a daily plant-strong diet

- 10-plus servings per day of nonstarchy fruits and vegetables
- Make half of those servings raw green salads
- Half cup of berries
- Two to three servings of legumes (beans, lentils)
- Two to three servings of whole or intact grains
- One serving of nuts or seeds
- One-quarter to 3 teaspoons of dried or fresh herbs and spices

Fats

- Eliminate all butter, margarine, mayo and added fats
- Avoid oils, including olive and coconut oils and salad dressings prepared with oil
- Avoid fried foods
- Eliminate all animal products

- One serving of fats from food sources: avocado, olives, nuts and seeds
- Sauté in water or broth
- Use oil-free salad dressings
- Use apple sauce or prune puree in place of fats for baking

Grains

- Choose whole grains or minimally processed grains, such as quinoa, steel cut oats, buckwheat groats, teff, millet or whole barley.
- Avoid grains ground into flours, refined (enriched) grain products, cold cereals and puffed and instant cereal products.

Other recommendations

- Reduce or eliminate processed/packaged foods high in salt, sugar and fat.
- Include fermented foods (sauerkraut, pickles, tempeh, soy yogurt).
- Take a sublingual (applied under the tongue) B12 supplement.

Getting started

- Learn about the [benefits of plant-based diets](https://www.pcrm.org/health-topics/diabetes) (<https://www.pcrm.org/health-topics/diabetes>) for disease reversal.
- Commit to changing your lifestyle permanently.
- Develop behaviors that will help you achieve your goals.
- Think through the barriers to adopting these behaviors.
- Make a list of people you need around you to support you.
- Create **SMART** (<https://www.indeed.com/career-advice/career-development/smart-goals>) objectives. SMART stands for specific, measurable, achievable, relevant and timely.
- Once you are clear about your goals, clarify them with your healthcare provider.



Blood sugar and blood pressure reductions can occur in two weeks on a plant-based diet.

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Talking to your doctor

- A plant-based diet can reduce blood sugar and blood pressure in two weeks.
- Ensure your healthcare [provider is aware](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5466941/) (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5466941/>) of your dietary changes to monitor adjustments to your medication.
- **Ask your primary care provider these questions:**
 - How often should I check my blood sugars and blood pressure?
 - Can I get immediate attention if there is a change in blood sugar or blood pressure?
 - Do I need to come in for evaluation or can I make adjustments myself?

- How can you support my efforts?
- Do you have other medical advice concerning monitoring potential changes?

Summary

- Control your health outcomes by changing your lifestyle behaviors.
- Adopt a plant-based diet to reverse Type 2 diabetes and risk factors for other diseases like heart disease and stroke.
- The closer you adhere to the plant-based protocol, the more impressive the results and the greater chance of reversing diabetes to remission.
- Permanent lifestyle changes, including a plant-based dietary pattern, can create lasting disease remission.

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