Diet and Diabetes: Recipes for Success

PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE

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In the past few years, much of what we thought we knew about diabetes has been turned on its head. New understanding of the nutritional causes of diabetes gives us the power to keep it from occurring or to turn it around. Traditional Indian diets are being swamped by meat and processed foods. Dairy product consumption is rising. These unhealthful foods are driving obesity and diabetes rates through the roof. More than 65 million people have diabetes in India. The good news is that we can turn this around with simple diet changes. Healthful, dairy-free versions of traditional favorites make it easy to eliminate milk, ghee, and yogurt from an Indian diet.

Here is what is supposed to happen: Our bodies turn starchy and sweet foods into glucose for our muscle cells to use for fuel. Insulin, a hormone made in the pancreas, ushers glucose into the cells. People with type 2 diabetes, the most common type, generally have enough insulin. However, their cells become resistant to it, leaving too much glucose in the bloodstream, where it can cause problems.

Over the short run, people with uncontrolled diabetes may feel tired, thirsty, urinate frequently, and notice blurred vision. In the long run, they are at risk for heart disease, kidney problems, vision loss, nerve damage, and other difficulties.

Dietary Approaches to Diabetes

Diabetes diets typically call for portion control, carbohydrate limits, and for those who are overweight, calorie restrictions. Fortunately, there is another way. Low-fat, plant-based diets are ideal for diabetes and the conditions associated with it, such as heart disease, weight gain, high cholesterol, and high blood pressure. And they offer the advantage of not requiring any weighing or measuring of portions. Going hungry is not necessary!

A low-fat vegetarian approach recognizes that whole-food carbohydrates are fine; it's the fat in our diets that is the problem. This approach eliminates fatty foods and animal protein, such as meats, dairy products, and oils, and offers unlimited grains, legumes, fruits, and vegetables. New information suggests that fat in animal products and oils interferes with insulin's ability to move glucose into the cells.[1] Eating less fat reduces body fat. Less body fat allows insulin to do its job. However, choosing skinless chicken, skim milk, and baked fish is not enough of a change for most people to beat diabetes.

One study found that 21 of 23 patients on oral medications and 13 of 17 patients on insulin were able to get off of their medications after 26 days on a near-vegetarian diet and exercise program.[2] During two- and three-year follow-ups, most people with diabetes treated with this regimen have retained their gains.[3] The dietary changes are simple, but profound, and they work.

A 2006 study, conducted by the Physicians Committee for Responsible Medicine with the George Washington University and the University of Toronto, looked at the health benefits of a low-fat, unrefined, vegan diet (excluding all animal products) in people with type 2 diabetes.[4] Portions of vegetables, grains, fruits, and legumes were unlimited. The vegan diet group was compared with a group following a portion-controlled, higher-fat diet based on American Diabetes Association (ADA) guidelines. The results of this 22-week study were astounding:

- Forty-three percent of the vegan group and 26 percent of the ADA group reduced their diabetes medications. Among those whose medications remained constant, the vegan group lowered hemoglobin A1C, an index of long-term blood glucose control, by 1.2 points, three times the change in the ADA group.

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- The vegan group lost an average of about 13 pounds, compared with about 9 pounds in the ADA group.
- Among those participants who didn't change their lipid-lowering medications, the vegan group also had more substantial decreases in their total and LDL cholesterol levels compared to the ADA group.

This study illustrates that a plant-based diet can dramatically improve the health of people with diabetes. It also shows that people found this way of eating highly acceptable and easy to follow. The ADA now includes a vegan diet option.

Type 1 Diabetes and Diet

While people with type 2 diabetes can often reduce, and sometimes eliminate, medications when they lose weight and food and exercise are better controlled, those with type 1 diabetes will always need insulin. Even so, a good diet can minimize the amount of insulin required. Type 1 diabetes, formerly called "childhood onset diabetes," occurs when the pancreas stops producing insulin. The cause of type 1 diabetes remains elusive. Several studies have implicated cow's milk consumption as a possible contributor.5,6 When milk consumption patterns were examined across various nations, there was a strong correlation with the incidence of type 1 diabetes. It may be that milk proteins cause an autoimmune reaction in which the body mistakenly attacks its own insulin-producing cells. For this reason, among others, the American Academy of Pediatrics no longer recommends unmodified cow's milk for infants. When breast-feeding women ingest dairy products, the cow's milk proteins end up in their own breast milk. For this reason, breastfeeding mothers may do well to avoid cow's milk until more research is completed.

The Remarkably Simple New Dietary Approach to Diabetes:

Give It a Three-Week Trial. What Have You Got to Lose?

1. Build Your Meals from The Power Plate.

It's not complicated! Fill you plate with whole grains, legumes (beans, lentils, peas), fruits, and vegetables. Drink water. Keep nuts or seeds to a small handful once a day. Visit ThePowerPlate.org for more information.

2. Begin a Vegan Diet: Avoid Animal Products.

A vegan diet has no animal products at all: No red meat, poultry, pork, fish, dairy products, and eggs. Why? Animal products contain saturated fat, which is linked to heart disease, insulin resistance, and certain forms of cancer. They also contain cholesterol and, of course, animal protein. It may surprise you to learn that diets high in animal protein can aggravate kidney problems and calcium losses. All the protein you need is found in whole grains, legumes, and even vegetables: That's where strong horses, bulls, and elephants get their protein.

3. Avoid Added Vegetable Oils and Other High-Fat Foods.

Although vegetable oils are healthier than animal fats, oils are not healthful foods. All fats and oils are high in calories. A gram of any fat or oil contains nine calories, compared with only four calories for a gram of carbohydrate. The amount of fat we really need each day is quite small and comes packed inside the Power Plate vegetables, grains and beans.

Avoid foods and snacks fried in oil, sweets with ghee, oily sauces, and salad dressings. Limit nuts like peanuts, cashews, almonds, etc. Read labels, and choose foods with no more than 2-3 grams of fat per serving.

4. Favor Foods with a Low Glycemic Index.

The glycemic index (GI) identifies foods that increase blood sugar rapidly. This handy tool allows you to favor foods that have much less effect on blood sugar. High-GI foods can also raise triglyceride levels. Fortunately, rajma, chana (chick peas) beans, oats, sweet potatoes, lentils, and, surprisingly, white and wheat pasta, are among foods that are lower-GI champions. So are chapatis, multigrain breads, and rice. Lower-GI cereals are bran cereals, muesli, and rolled or steel-cut oats. Grains such as barley, wheat, corn, and quinoa have a low GI. High-GI foods to limit are sugar and sugary products, white and wheat bread, corn flakes, and puffed rice cereals.

Quick Glycemic Guide

High-GI (avoid)	**Low-GI** (enjoy)
White or wheat bread	Multigrain bread
Most cold cereals	Old-fashioned oatmeal, bran cereals
Watermelon, pineapple	Most fruits
Baking potatoes	Sweet potatoes
Sugar	Pasta
	Basmati rice, barley, couscous, quinoa, rajma, chana, beans, peas, lentils
	Most vegetables

5. Go High-Fiber.

Aim for at least 40 grams of fiber each day. Choose beans, vegetables, fruits, and whole grains (e.g., chapatis, whole-wheat pasta, barley, oats, quinoa, and basmati rice). Aim for at least 3 grams/fiber per serving on labels and 10 to 15 grams per meal. Start slowly. Expect a change in bowel habits (usually for the better). Gassiness from beans can be minimized with small servings and thorough cooking.

A note on vitamin B12: Those following a diet free of animal products should take a B12 supplement of 5 micrograms per day. Any common daily multivitamin will provide this amount. Vitamin B12 protects blood and nerve cells.

Additional Resources

For more information, visit these websites or *PCRM.org/Shop*

- *NutritionMD.org* (Try the Meal Planner Tool)
- *21DayKickstartIndia.org*
- *PCRM.org/Health*
- *Dr. Neal Barnard's Program for Reversing Diabetes: The Scientifically Proven System for Reversing Diabetes Without Drugs* by Neal D. Barnard, M.D.
- *A New Approach to Nutrition for Diabetes* (DVD)
- *Breaking the Food Seduction: The Hidden Reasons Behind Food Cravings—and Seven Steps to End Them Naturally* by Neal D. Barnard, M.D.

- *21-Day Weight Loss Kickstart: Boost Metabolism, Lower Cholesterol, and Dramatically Improve Your Health* by Neal D. Barnard, M.D.
- *Food for Life 90-Day Journal* by Neal Barnard, M.D.; Joanne Evans, M.Ed., R.N., A.P.R.N.; Caroline Trapp, M.S.N., A.P.R.N., B.C.-A.D.M., C.D.E.
- *The McDougall Quick & Easy Cookbook: Over 300 Delicious Low-Fat Recipes You Can Prepare in Fifteen Minutes or Less* by John A. McDougall, M.D., and Mary McDougall
- 21-Day Disease Reversal Program of Dr. Nandita Shah: *Sharan-India.org*

Recipes

Here are some simple recipes for traditional foods, prepared without animal products or added oils:

Chickpeas with Gravy (Chole)

2 cups (200 grams) cooked chickpeas
1/2 cup (150 grams) chopped onions
2 large garlic cloves
1 cup (240 grams) fresh tomato puree
1/2 teaspoon (4 grams) turmeric powder
1 teaspoon (2 grams) red pepper powder
2 teaspoons (5 grams) coriander powder
2 teaspoons (5 grams) cinnamon powder
2 teaspoons (5 grams) garam masala or substitute chole masala)
2.5 cups (625 milliliters) water
Salt to taste

Steam-fry the onions and garlic and put it in a hot pan on medium heat. Add all the spices except garam masala and tomato puree. Stir for 5 minutes. Add precooked chickpeas, garam masala, salt and water. Stir nicely mashing some chickpeas in gravy and cover with lid. Let it cook for 20 minutes on medium-low heat until all flavors blend. Serve with rice or roti.

Per serving (1/4 of recipe): 177 Calories, 3 g fat, 0.3 g saturated fat, 12% calories from fat, 0 mg cholesterol, 9g protein, 32 g carbohydrates, 8 g sugar, 9 g fiber, 179 mg sodium, 85 mg calcium, 4 mg iron, 11 mg vitamin C, 315 mcg beta carotene, 2 mg vitamin E.

Lentil Dal with Spinach (Palak Moong Dal)

Makes 3 servings

1 cup (200 grams) dry red lentils
1 fresh tomato, chopped
1 bunch fresh spinach, washed
1/2 tablespoon (7.5 milliliters) lemon juice
1/4 teaspoon (1 gram) yellow asafoetida powder (Hing)
1/4 -1/2 teaspoon (.5-1 gram) cayenne pepper or paprika
1 teaspoon (2.5 grams) garam masala
1 teaspoon (2 grams) cumin seeds
1 1/4 teaspoon (6 grams) salt
1/2 tablespoon (7.5 grams) finely grated fresh ginger
1/2 tablespoon (4 grams) ground coriander
2 tablespoons (12 grams) curry powder
1 teaspoon (2 grams) turmeric
3 cups (750 milliliters) water
fresh cilantro leaves, for garnish

Place lentils and water in a large pan. Cook for 25 minutes over medium-high heat, and then turn to low. Add spices, lemon juice, spinach, and tomato 10 minutes before serving. Garnish with cilantro leaves.

Per serving (1/3 of recipe): 257 Calories, 2 g fat, 0.3 g saturated fat, 6.4% calories from fat, 0 mg cholesterol, 20 g protein, 44.9 g carbohydrates, 2.8 g sugar, 15 g fiber, 1062 mg sodium, 205 mg calcium, 11.8 mg iron, 23.3 mg vitamin C, 6175 mcg beta carotene, 3.4 mg vitamin E.

Navratan Kurma

Makes 6 1-cup servings

1/4 cup (25 grams) raw cashew nuts, soaked in about 1/2 cup (125 milliliters) of water for about half an hour
3 cups (500-750 grams) chopped mixed vegetables (for example: carrots, potatoes, cauliflower, green beans, peas, brinjal)
1 medium onion, chopped coarsely
2 garlic cloves
1-inch (2.5 centimeters) piece peeled ginger
1 or more green chilies, seeded (optional)
1 teaspoon (2.5 grams) poppy seeds (optional)
1/2 teaspoon (1 gram) turmeric
1 tablespoon (7.5 grams) garam masala
2 cardamom pods
2 medium tomatoes, chopped
1/2 cup (125 grams) plain soy yogurt (if not available, substitute 1/2 cup blended tofu with 1 tablespoon (15 milliliters) of lemon juice)
Salt, to taste (optional)
1/4 cup (38 grams) raisins
3 tablespoons (3 grams) finely chopped fresh coriander, for garnish

Take cashews soaked in water, drain, and set soaking water aside. Place cashews in a blender and grind them into a fairly smooth paste. Add a little water, if needed, to make cashews into a paste. Steam mixed vegetables until tender.

Place onion, garlic, ginger, chilies, and poppy seeds (if using) in a food processor to create a coarse paste or mince them. Add paste to nonstick, heavy steel, or cast iron pan and sauté until the mixture becomes fragrant or until it just begins to brown a bit.

Add turmeric, garam masala, and cardamom and stir. Then add tomatoes and cook, stirring, until tomatoes break down, approximately 3 minutes. Add soy yogurt and stir, letting the paste cook for another 2 to 3 minutes. Add salt, if using.

Add cooked vegetables, raisins, and cashew paste, mixing well. When the gravy comes to a boil, turn down the heat and simmer on a low flame for another 5 minutes for the flavors to incorporate. Garnish with coriander.

Per serving (1/6 of recipe): 113 calories, 3.2 g fat, 0.5 g saturated fat, 24.3% calories from fat, 0 mg cholesterol, 3.5 g protein, 19.5 g carbohydrates, 7.7 g sugar, 2.7 g fiber, 23 mg sodium, 67 mg calcium, 2 mg iron, 22 mg vitamin C, 1415 mcg beta carotene, 0.6 mg vitamin E.

Meal Suggestions

Healthful Dairy- and Oil-Free Meal Suggestions

Breakfast

- Brown rice dhokla with green coriander mint chutney
- Hot cereals: oatmeal with cinnamon, raisins, and/or applesauce
- Chai (tea) with almond milk and poha
- Tofu paneer bhurji (scrambled tofu)
- Methi paratha with sweet potatoes
- Brown rice dosas with pumpkin sambhar

Lunch

- Mint biryani with roasted mushrooms
- Fenugreek methi bhaji with plain roti
- Gourds (turai) with coriander and lime
- Punjabi rajma with roti and brown basmati rice
- Cauliflower masala with plain roti and rice
- Tawa sabzee (vegetable fajitas)
- Makke ki roti and sarso ka saag
- Mixed lentils (dal) with plain roti and rice

Dinner

- Chickpeas with gravy (chole) with roti and rice
- Lentil dal with spinach and roti or rice

- Aaloo gobi or soy with peas and gravy with roti
- Uttapam sambhar
- Mixed greens subji with roti and rice
- Navratan kurma

Snacks

- Fruit
- Bhel with sprouts
- Sprouted moong bean chaat
- Carrots, cucumber, beet and tomatoes
- Mango, guava, jambul or papaya salad

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6. Karjalainen J, Martin JM, Knip M, et al. A bovine albumin peptide as a possible trigger of insulin-dependent diabetes mellitus. *N Engl J Med.* 1992;327:302-307.

This fact sheet is not intended as a comprehensive program for diabetes. Be aware that a change in diet can produce big results. For some, there is a risk that low blood sugar can occur. See your health care provider before making any changes to your diet.

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