**Diabetic Diet**

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A diabetes diet simply means eating the healthiest foods in moderate amounts and sticking to regular mealtimes.

A diabetes diet is a healthy-eating plan that's naturally rich in nutrients and low in fat and calories. Key elements are fruits, vegetables and whole grains. In fact, a diabetes diet is the best eating plan for almost everyone.The diabetic diet plan helps you control your blood sugar (glucose), manage your weight and control heart disease risk factors, such as high blood pressure and high blood fats. You can help keep your blood glucose level in a safe range by making healthy food choices and tracking your eating habits.

**What is a diabetic diet plan?**

A diabetes diet plan is based on eating three major and three minor meals a day at regular times in appropriate portions. This helps to have a stable blood sugar level without fluctuating blood sugar and insulin values.

**What are the recommended foods in a diabetic diet?**

The recommended food items can be classified in healthy food groups.

**Healthy carbohydrates**

Healthy carbohydrates are complex carbohydrates with low glycemic index which releases glucose slowly following digestion in the intestines.

* Fruits
* Vegetables
* Whole grains - cereals and pulses
* Legumes, such as beans and peas
* Low-fat dairy products, such as milk and cheese

Avoid less healthy carbohydrates, such as processed foods or drinks with added fats, sugars and sodium.

**Fiber rich food**

Dietary fiber includes all parts of plant foods that the body can't digest or absorb but provides bulk to stools and prevents constipation. Fiber in the diet moderates how your body digests and helps control blood sugar levels. Foods high in fiber include:

* Fruits & Vegetables
* Nuts
* Legumes, such as beans and peas
* Whole grains

#### **'Good' fats**

Foods containing monounsaturated and polyunsaturated fats can help lower your cholesterol levels. These include:

* Avocados
* Nuts
* Canola, olive and peanut oils

### **What are the food items which should be avoided?**

Diabetes increases your risk of heart disease and stroke by accelerating the development of clogged and hardened arteries. Foods containing the following can work against your goal of a heart-healthy diet.

* **Saturated fats.** Avoid high-fat dairy products and animal proteins such as butter, beef, hot dogs, sausage and bacon. Also limit coconut and palm kernel oils.
* **Trans fats.** Avoid trans fats found in processed snacks, baked goods and stick margarines.
* **Cholesterol.** Cholesterol sources include high-fat dairy products and high-fat animal proteins, egg yolks, liver, and other organ meats. Aim for no more than 200 milligrams (mg) of cholesterol a day.
* **Sodium.** Aim for less than 2,300 mg of sodium a day. Your doctor may suggest you aim for even less if you have high blood pressure.

#### **How to plan a diabetic diet?**

#### **The plate method**

The American Diabetes Association offers a simple method of meal planning. In essence, it focuses on eating more vegetables. Follow these steps when preparing your plate:

1. Fill half of your plate with non starchy vegetables, such as spinach, carrots and tomatoes.
2. Fill a quarter of your plate with a protein, such as pulses, paneer, tuna, lean pork or chicken.
3. Fill the last quarter with a whole-grain item, such as brown rice, or a starchy vegetable, such as green peas.
4. Include "good" fats such as nuts or avocados in small amounts.
5. Add a serving of fruit or dairy and a drink of water or unsweetened tea or coffee.

**Healthy tips**

* Do not skip meals. Divide your daily calories in to 5 - 6 small meals
* Use whole grain cereals, whole grams and pulses, whole wheat porridge, whole wheat bread, oats etc. to incorporate fibre in your diet
* Supplement wheat with whole channa and do not sieve flour (wheat and channa 4:1 ratio). Mix rice with whole grams or dals in a ratio of 1:1 to incorporate fibre
* Consume at least 4 - 5 servings of fresh green vegetables and fruits/day
* Take fruits as a dessert and avoid sweets and other rich cream-based dishes. Use lemon and vinegar as salad dressing.
* Use olive/canola/rice bran/soy/mustard oil. Change oils in couple of months
* Almonds , walnuts, flax seeds and fish are good sources of antioxidants
* Consume fresh lime (without sugar), coconut water, plain soda instead of sweetened fruit juices and aerated drinks
* Avoid intake of refined carbohydrates like sugar, juice, jams, honey, gur, chocolate, mithais
* Limit intake of root vegetables like potato, colocasia; maida preparations like white bread, biscuits, plain boiled rice, sago, noodles etc.
* Consume less fat, especially saturated fat (found in fatty meats, poultry skin, butter,ghee, whole milk, ice cream, cheese, palm oil, coconut oil, margarine and vanaspati)
* Avoid whole milk and use toned/skimmed milk for tea, coffee, curd and paneer
* Avoid foods that are high in cholesterol (such as egg yolks, red meat and high - fat dairy products .Use white meat, i.e., fish and lean chicken. Avoid pork, mutton and other glandular meats
* Restrict consumption of fried foods like puris, paranthas, pakoras, samosas, kachoris, mathris
* Limit intake of excess salt, processed and preserved foods
* Restrict alcohol and watch for calories

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| **Sample Diet 1800 Calories** | |
| **Bed Tea**  • 1 cup without sugar | **Evening Tea**  • 1 cup without sugar  • Low calorie snack - roasted chana, sprouts/Fruit 100g (1 medium) |
| **Breakfast**  • Milk (low fat) 1 glass (200 ml)  • Whole wheat bread slices 2, or whole wheat porridge or oats 50g (one bowl)  • Egg whites 2 or low-fat paneer 25g or sprouts | **Dinner**  • Salad  • Rice with whole pulse/bengal gram (1 ½ bowl) or Chapati 3 medium sized (60g)  • Whole pulse with husk 25g (1 bowl - cooked)  • Low-fat curd 120g (1 bowl)  • Vegetables 175g (1 ½ bowl) |
| **Lunch**  • Salad  • Chapati (wheat and bengal gram 4:1) 3 medium sized (60g)  • Whole pulse with husk 25g (1 bowl - cooked)  • Low fat paneer (50g) or Grilled chicken/fish (60g)  • Low-fat curd 120g (1 bowl)  • Vegetables 175g (1 ½ bowl)  • Fruit 100g (1 medium) | **Bed Milk:**  • Milk (low fat) 1 glass (200 ml.) |

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| **Food Exchanges** | |
| **Cereal Exchanges:** Each Exchange contains 15g carbohydrates, 70 calories and 2g protein  • Chapati (20g atta):1 in no.  • Cooked Rice (75g): ½ bowl  • Idli: 1 medium size  • Bread (30g): 1 large slice  • Potato (75g): 1 medium size  • Cornflakes (20g): 1 ½ tablespoon  • Noodles cooked (75g): ½ bowl  • Biscuits: 2 in no’s | **Meat Exchange:** Each Exchange contains 7g protein, 75 calories and 5g fat  • Chicken: 25g  • Fish: 30 - 40g  • Egg whole: 1 medium  • Sausage: 20g  • Mutton: 40g  • Ham: 20g |
| **Milk Exchange** (240 ml.): Each Exchange contains 12g carbohydrates, 145 calories, 8g protein and 7g fat  • Milk \*(240 ml.): 1 glass  • Curd \*(240g): 2 bowls  • Cottage Cheese \*(Paneer): 50g  • Skimmed Milk powder (45g): 3 tablespoons  • Khoa (30g): 2 tablespoon  \*Milk/Curd/Paneer: 3% fat milk | **Pulses and Legumes Exchanges:**  Each Exchange contains 15g carbohydrates, 80 calories and 5g protein  • Moong (25g raw): 1 bowl cooked  • Arhar (25g raw): 1 bowl cooked  • Rajmah (25g raw): 1 bowl cooked  • Lobia (25g raw): 1 bowl cooked  • Soya Nuggets: 20g  \*1 Bowl: 125 - 150g |
| **Fruit Exchange:** Each Exchange contains 10g carbohydrates and 40 calories  • Orange (100g): 1 medium  • Apple (90g): 1 small  • Pear (90g): 1 small  • Banana (40g): ½ medium  • Mango (60g): 1 slice  • Water-melon (300g): 1 large slice  • Papaya (120g): 1 - 2” slice  • Guava (100g): 1 medium | **Fat/Oil Exchange:** Each Exchange  contains 5g fat, 45 calories  • Oil (vegetable) 5g: 1 tsp  • Ghee, Vanaspati 5g: 1 tsp  • Butter 5g: 1 tsp  • Cream 10g: 2 tsp  • Nuts: Almonds (5), walnut (2), Peanuts (10) |
| **Vegetable Exchange:** Vegetables are broken into 3 groups as follows:  A Group (100g - 1bowl) - 3g carbohydrates, 16 calories and 1g proteins: Cabbage, Spinach, Mustard greens, cauliflower, Brinjal, Capsicum, Lauki,Tori  B Group (100g - 1 bowl) - 6g carbohydrate, 32 calories and 2g proteins: Peas, Green beans, Carrots, Pumpkin, Bhindi, Onions, Radish  C Group (Roots & Tubers - 25g) ) - 5g carbohydrate, 20 calories: Sweet potato, Colocassia, Beet root, Yam | **Sugar Exchange:** 20 calories  • Sugar 5 g:1 tsp  • Jaggery (Gur) 25g |

Adapted from: Gopalan C.Nutritive Value of Indian Foods, NIN, ICMR 2011