

# HEALTHY EATING IN DIABETES

Diet in Diabetes is no different from a normal diet. A diabetic need not follow a special diet or eat differently from others. The reality is that the same principles of healthy eating which apply to a non diabetic are to be maintained, barring a few features i.e. meal timings and taking a bed time snack. There really is no difference. This means that a diabetic can have sweets, provided he learns portion control through food exchange system, and certain other principles of healthy eating.

## HEALTHY DIABETIC DIET

Some of the key principles of eating in diabetes are:

1. Eat a **variety of foods** e.g. whole grains, pulses, fruits, vegetables, dairy, nuts, seeds, flesh foods (if taken) and cold pressed oils.
2. Eat in **moderation**. No food is good or bad. Control portion Sizes. Especially with foods which may not be so healthy for you. These foods are called “discretionary” foods, e.g. your favorite dessert, or the cheesy pizza. These need not be eliminated from your diet, rather eaten once in a while in smaller amounts. An approximate estimate of Daily calorie requirement is Wt. In lbs. X 13 (15 if very active). To lose weight, deduct say 250 cal. /day. If you lose 3500 calories, this equals ½ kg. Loss (To convert Kgs into lbs, multiply by 2.2).
3. **Balance** “in-take” with physical activity or by eating light in the subsequent meals to achieve or **maintain ideal body weight**. Ideal body weight is Body Mass Index (BMI) which is Wt. In Kgs. Divided by height in M<sup>2</sup> and should be <= 23 for Asians. Thus, adhere to the recommended calorie intake for maintaining ideal body weight.
4. **Restrict total fat intake** to 30% of the total calories, which 10% is saturated fats. This would mean using upto 5-6 teaspoons of fat in cooking and 1 tsp of butter and ghee. Harmful Sources of fat include fatty meats, hydrogenated fats, vanaspati and margarine. Say “no” to hydrogenated fats found in commercial bakery, commercial fried foods and vanaspati. Choose organic cold pressed oils over refined ones. Include fatty fish 2-3/ week.
5. **Cooking Medium**: Cold pressed oils are superior to refined ones as they retain their essential fatty acid composition, which are lost during refining. Also they do not contain harmful chemicals and trans fatty acids found in refined oils. Examples include olive oil, mustard oil and sesame oil. Choose a variety of vegetable oils

instead of a single source. Use low fat cooking methods like grilling, steaming, poaching. Prefer unscratched non-stick pans and oil sprays to reduce fat consumption.

6. **Reduce cholesterol** intake by choosing low fat dairy, lean meats, egg yolk 3-4/wk. And avoiding liver, kidney or brain on regular basis.
7. **Restrict total Carbohydrates** “intake” and **avoid simple sugars and refined carbohydrates** refined carbohydrates like white flour or polished rice and simple sugars like table sugar, honey, glucose, fruit juices etc.. They are useful in keeping weight, diabetes and blood fat (triglycerides) levels under control. Other sources of refined carbohydrates and simple sugars include sweets, sweetened drinks including colas, bakery products, bread, rice, naan, pasta, noodles, fruit juices and desserts.
8. **Understand the concept of glycemic index: Glycemic Index** refers to the extent of rise in blood sugar in response to a food in comparison with the response to an equivalent amount of glucose. Foods with a high glycemic index (70 or more) trigger a sharp rise in blood glucose, followed by a dramatic fall, often to the levels that are transiently below normal. The body more easily copes with low glycemic index (less than 55) foods, which trigger slower and more modest changes in the blood glucose levels.

**The Glycemic Index of Common Foods**

<b>Food Groups</b>	<b>Glycemic Index</b>
<b>Cereal products</b>	
<b>White Rice</b>	<b>72</b>
<b>Whole Wheat Bread</b>	<b>72</b>
<b>Bread</b>	<b>70</b>
<b>Wheat Parantha</b>	<b>70</b>
<b>White Bread</b>	<b>69</b>
<b>Brown Rice</b>	<b>66</b>
<b>Oat Bran</b>	<b>62</b>
<b>Breakfast Snacks</b>	
<b>Cornflakes</b>	<b>80</b>
<b>Idli</b>	<b>80</b>
<b>Upma</b>	<b>75</b>
<b>Chole</b>	<b>65</b>
<b>Sprouted Green Gram</b>	<b>60</b>
<b>Oats Porridge</b>	<b>49</b>
<b>Macaroni</b>	<b>47</b>
<b>Dried Legumes</b>	
<b>Green Gram</b>	<b>48</b>
<b>Green/Black Gram</b>	<b>48</b>
<b>Rajmah/ Kidney</b>	<b>27</b>

<b>Beans</b>	
<b>Lentils</b>	<b>29</b>
<b>Soyabeans</b>	<b>15</b>
<b>Vegetables</b>	
<b>Carrots</b>	<b>92</b>
<b>Potato/ mashed Potato</b>	<b>70</b>
<b>Beetroot</b>	<b>64</b>
<b>Yam</b>	<b>51</b>
<b>Sweet Potato</b>	<b>54</b>
<b>ChickPeas</b>	<b>33</b>
<b>Fruits</b>	
<b>Water Melon</b>	<b>72</b>
<b>Ripe Banana</b>	<b>50</b>
<b>Orange</b>	<b>40</b>
<b>Apple</b>	<b>39</b>
<b>Pear</b>	<b>36</b>
<b>Peach</b>	<b>28</b>
<b>Plums</b>	<b>23</b>
<b>Cherries</b>	<b>22</b>
<b>Dairy Products</b>	
<b>Yoghurt (Plain)</b>	<b>39</b>
<b>Ice- Creams</b>	<b>35</b>
<b>Whole Milk</b>	<b>34</b>
<b>Skim Milk</b>	<b>32</b>
<b>Sugars</b>	
<b>Glucose</b>	<b>100</b>
<b>Honey</b>	<b>87</b>
<b>Sucrose/Table sugar</b>	<b>59</b>
<b>Miscellaneous</b>	
<b>Raisins</b>	<b>64</b>
<b>Orange Juice</b>	<b>57</b>
<b>Popcorn</b>	<b>55</b>
<b>Potato Chips</b>	<b>51</b>
<b>Apple Juice</b>	<b>41</b>
<b>Tomato Soup</b>	<b>38</b>
<b>Groundnuts</b>	<b>13</b>

9. Ensure *plenty of fresh and dried fruits, vegetables, nuts and seeds* like flaxseeds for boosting anti-oxidant status. Limit salt “intake”, caffeine and alcohol “intake”.
10. *Excess salt* can be harmful for high blood pressure, heart failure, and kidney failure. It may be found in papads, pickles, chutneys, ajinomoto etc. Fresh homemade pickles in vinegar or lemon Juice or chutneys of coriander, mint, tomatoes or garlic may be used instead.

11. **Alcohol:** In moderation alcohol has been shown to increase “good cholesterol” and has “anti-clotting” benefits. However, alcohol intake can increase blood pressure, causing irregular heartbeats and hypoglycemia in diabetics. Alcohol may also raise blood triglyceride levels and body weight. Therefore teetotalers are not advised to drink and for those who drink; stick to no more than two small drinks on alternate days.
12. **Fiber:** Taking adequate amount of fiber in diet is good. Among the two types of fibers (soluble and insoluble), it is the soluble fibers that help in the reduction of cholesterol and maintaining blood glucose levels. These are found in whole grains- wheat, jowar, bajra, ragi; pulses- soybean, gram; vegetables, fresh and dried fruits, nuts, seeds or fiber supplements like oat bran, psyllum. Ensure **adequate fiber intake**. Include soy and soy products wherever possible. Use dietary supplements only under supervision.
13. **Special smart foods:** These include Oats, barley, coarse grains, millets, bengal gram, soybeans, brightly colored vegetables, fruits, red grapes, ginger, onion, green tea, flax seeds, fenugreek seeds, pumpkin seeds, watermelon seeds, cucumber seeds, amla, nuts, and sunflower seeds, wheat germ, fatty fish (salmon, mackerel, hilsa, purva), olives and olive oil, mustard oil, alfa-alfa etc. Include these in your diet too.
14. **Eat small, frequent meals** to maintain even glycemic status. Divide calories carefully among all the meals.
15. A **bedtime snack** is very important to avoid hypoglycemia in sleep.
16. **Avoid feasting and fasting.**
17. **Read labels carefully** especially for foods sold as diabetic foods. They may be more desirable but certainly have calories, so do count them and look out for compounds like Trans fats and fructose, which can have adverse effects.
18. **Exercise** must be incorporated in the daily routine.

## Smart Snacking:

More than meal choices, which usually are not too difficult to manage the snack choices, are a problem for most. Instead of going for biscuits, oily namkeens, breads and samosas, try the following healthy snacks and ensure they are available easily.

- Roasted nuts, seeds
- Fig, prunes, apricots, raisins etc.
- Popcorn, puffed rice, bhelpuri.
- Roasted grams (bhuna chana).
- Sprouts and salads.
- Yogurt (with fruits, vegetables and roasted whole grains).
- Soups.
- Roasted khakra or papads
- Salads
- Carrot, radish and cucumber sticks (with or without dips).
- Roasted whole grain namkeens.
- Fresh fruits fruit salads and fruit chaats.
- Whole meal bread with low fat cheese veggies.
- Moong Idli, Besan Cheela
- Dhokla
- Whole Wheat sandwiches/Pizzas.
- Soya based Foods

Finally, even small changes in diet can make a large difference to your health. Begin slowly and make it a part of life. Diabetes is not about denial, it's about regulation and understanding the principles of diet management.