

### **For patients with Diabetes**

Other than limiting sugar intake, simple carbohydrates should be avoided. 1-2 fruits daily is ok but avoid fruits with high sugar content (mango, custard apple, banana, chiku etc.). Fruit juice is not recommended. Consume small, frequent meals rather than two or three large meals. Raw vegetables/salad, whole grains should be included in every meal. Patients on Insulin should attempt to learn carb-counting which will help them dose their Insulin better.

### **For patients with high cholesterol**

It is worth noting that the main villain for high cholesterol levels in the blood is not 'oil' but 'simple carbohydrate'. Patients with high triglycerides should avoid consuming alcohol as well.

### **A word about cholesterol test (lipid profile)**

A typical lipid profile constitutes various entities. Here are few basics:  
HDL: It's the good cholesterol. More than 40 mg/dl is considered good. 2 key determinants of HDL level are (1) genetics (2) physical activity  
LDL: It's the bad cholesterol. More than 130 mg/dl in general population can be considered high. In patients with high risk for heart disease, diabetes (or those who already have the disease), a goal of less than 70 (or 55 in few cases) is desirable.  
Triglycerides: Levels higher than 300 mg/dl needs correction. Best way to manage is diet and exercise. Medicines are rarely used for this.

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## **Food basics for patient with Diabetes, Hypertension, or Heart Disease**

### **We are what we eat:**

Food makes up for an important part of our life. Our health and wellness are dictated, to a large extent, by what we eat. Dietetics is a field of science that deals with how food interacts with human body. A brief pamphlet like this can't do justice summarizing the vast scope of dietetics. Rather, the document aims to introduce food basics that are particularly relevant to patients with Diabetes, Hypertension, or Heart Disease.

### **Food groups:**

#### **Simple/refined carbohydrates**

Once consumed, these carbohydrates are processed rather quickly by human body leading to rapid surge in blood sugar levels. These items should be used in moderation.  
Example: White bread/rice, Sugar, Maida, Semolina (suji, rawa), candies, cookies, potato etc.

#### **Complex carbohydrates**

These can be considered 'good' carbohydrate. These carbohydrates are processed slowly leading to less surge in blood sugar levels, giving a sense of fullness for long.  
Example: Whole wheat, Barley (jau), Brown rice, Oatmeal, Shredded wheat etc.

#### **Animal protein (non-vegetarian food)**

Proteins are building blocks of our body structure and are essential for growth and healing. Protein is abundant in animal food products. Moderate consumption of animal protein like egg-white, fish, chicken is reasonable. Red meat (mutton) contains high amount of fat and should be avoided.

#### **Plant protein (vegetarian food)**

Plant based food items typically has less protein proportion compared to a non-vegetarian diet. A vegetarian meal should always include one or more

protein-rich item. Total daily protein consumption should be aimed at 1.2 to 1.4 grams per kg body weight.

Example of protein-rich vegetarian food: Beans (Soya, Kidney), Nuts, Chickpeas, Lentils, Spinach, Tofu, Bengal gram (Chana dal), Black gram (Urad dal), Cow pea (Lobia), green gram whole (moong daal), besan, cashewnut (kaju), groundnut (mungfali), pistachio, walnuts (akhroot), cottage cheese (paneer).

### **Dietary fiber**

Dietary fibers are plant-derived food item that cannot be digested completely by our digestive system. Fiber helps regularizing bowel movements, reduce cholesterol, and promote weight loss.

Soluble fiber: Oat bran, Flaxseeds, Barley (jau), Psyllium husk.

Insoluble fiber: Wheat bran (chokar), rice bran, whole grains, peach/pear, cabbage/spinach etc.

Berries: Cranberry (karaunda/pha-alse), Indian blackberry (jamun), Mulberries (shetoot), Raspberries (rasabharee), Strawberries, Indian gooseberries (amla), and blueberries (needbadri).

### **Food items with high potassium content**

Heart patients are often on medicines that may increase or decrease blood potassium levels. Doctors may occasionally suggest to avoid potassium-rich food if the blood levels are high, and vice versa.

Potassium-rich food: Dry dates (khajoor), Raisins (kishmish), Apricot (khumani), Avocado (makhanphal), Peach (aadu), Red cherries, Amla, Musk Melon, Blueberry (phalsa), Plum, Orange, bengal gram (chana dal), soybean, kidney beans, whole lentils, cowpea, green gram whole, colocasia (arbi), lotus stem (kamal kakdi), almonds, ragi, jackfruit (shakargandi), coconut water, banana.

### **Vegetable oil consumption basics**

- Consumption of saturated fat is associated with heart disease. Any oil that solidifies in cold weather like coconut oil, Palm oil, Vanaspati (dalda) etc. are rich in saturated fat and should be avoided.
- Oil rich in trans-fat should be avoided as well. This information is typically available on packaging.

- Avoid re-using any oil (previously used for frying etc.) as it contains high amount of trans-fat.
- Cold-press oil should be preferred over refined oil.
- Keep changing the type of oil every month (oil-rotation).
- Limit oil consumption to 500 ml per person per month. In a household of 4, monthly oil consumption shouldn't exceed 2 Liters.

### **Basic dietetics that everyone should follow:**

- Reduce consumption of: Sugar, white rice/white bread, refined flour (maida), semolina (suji), salt, potato, fruit juice.
- Intake of these food items should be promoted: Vegetables, fruits, egg white, chicken/fish (non-fried), whole wheat, brown rice/brown bread.
- Complex carbohydrates are better option than simple carbohydrates.
- Consume a mix of animal and plant protein. Red meat like mutton is best avoided.
- Reduce plate size or food portions. The 'kind' of food you eat matters less if you reduce the 'amount' of food consumed.
- Eat when you feel hungry. Learn to differentiate thirst from hunger. This will avoid overeating.

### **For patients with Hypertension**

Salt restriction is a must. Best option is to cook food with low salt and don't add any extra salt on the dining table. Alternatively, cook without any salt and then add a pinch of salt with every cup of vegetables/curry. Magnesium containing salt-substitute may be a reasonable alternative. Lemon juice, low-salt vinegar, salt-free tamarind, home-made amchur powder are reasonable alternatives to salt.

### **For patients with Heart Failure**

Both salt and fluid restriction are important. Fluid restriction doesn't have to be very strict (except in most severe cases). Consume minimum amount of fluid/water required to quench your thirst. No need to stay thirsty or dehydrated. No need to limit yourself to a fixed quantity of liquids daily (except in severe cases).

Certain food items with high water content (like watermelon) should be restricted as well.