

Type 2 Diabetes Reversal: Daily Diet & Lifestyle Guideline

About 80% of Patients with Type2 diabetes are overweight or obese, so their diet plan must include a plan for weight loss also. About 20% of Type2 diabetes patients are lean or average weight, but these patients typically have abdominal fat (prominent belly), liver, and muscle fat. The abnormal deposition of the fat in the liver, abdomen, and the muscles are responsible for causing Type2 diabetes. Reversing Type 2 diabetes requires a change in the Food and Lifestyle in such a way that the abnormal fat gets eliminated from the body and the blood sugar control gets achieved naturally.

Food and Lifestyle balance to reverse Type2 diabetes requires one to:

1. **Reduce high levels of blood glucose and insulin hormone in the body by adopting a holistic plant-based low glycemic natural foods**-- Insulin is a fat-storage hormone, and low levels of insulin mean no fat storage. What matters the most is the quality of the food and not its quantity. The holistic plant-based diet is low in calories and rich in micronutrients—vitamins, minerals, and the cleansing antioxidants. The only source of disease-fighting antioxidants in the diet is colored fresh fruits and vegetables. Animal-based products such as meat and milk are zero in disease-fighting antioxidants and rich in disease-producing saturated fats. The western countries have taken note, and there are currently 600 million vegans (vegetarians who consume no meat or milk products). Unfortunately, while the West is turning vegan, the city dwellers in India are turning non-vegetarians and are big consumers of milk and its products, such as paneer and milk-based sweets.
2. **Eliminate and minimize the following items from the diet:**
 - ***High glycemic carbohydrates in all forms*** -- White sugar products such as sweets and sugary drinks of all kinds, refined wheat flour products including baked goods such as bread, all sorts of biscuits, pre-prepared foods in packages, all boxed breakfast cereals including those which claim health benefits, junk foods, and fast foods.
 - ***Eliminate refined oils in all forms*** -- Only consume natural cold compressed seed oils such as Mustard, Sesame, and coconut oil. Be aware

that baked goods such as cakes, muffins, bread, and biscuits get made with refined palm oil, which prolongs the shelf life of all these products to many days. It is healthy to consume 1-2 teaspoonful of ghee daily in the diet for its healing effect on the digestive tract and its immune-boosting property. Note that most olive oil sold in India is refined vegetable oil mixed with a tiny fraction of olive oil. The pure sesame oil matches in its qualities to olive oil and is a far healthier option than the most olive oil sold in the Indian markets.

- ***Eliminate all sugary beverages, including fruit juices*** -- Removing fiber from the fruit for making the juice makes it a concentrated preparation of fructose sugar. That gets absorbed rapidly from the digestive tract. Drinking fruit juices increases the risk of fatty liver, which is a significant risk factor in causing Insulin resistance and Type2 diabetes.
- ***Eliminate milk and milk products such as paneer and all milk-based sweets*** -- The only milk product to be consumed is a small portion of curds (dahi) and thin lassi.
- ***Minimize refined milled grain flour from chapatis*** -- Eat only home ground coarse grain flours which retain fiber and endosperm of the grain. Several grain grinders for home use are available in the market at a cost as low as INR 15,000.
- ***Minimize total grain consumption as much as possible.***
- ***Do not overcook vegetables, especially in a pressure cooker*** -- Overcooking vegetables destroys their nutritional value. The healthiest way to eat vegetables is half the amount eaten raw as salads and smoothies and half as cooked (no pressure cooker).
- ***Eliminate or minimize acidic foods from the diet*** -- The body is naturally alkaline. Acidic foods cause swelling, bloating, and inflammation in the body. All vegetables and fruits are alkaline. The meats, milk products, fruit juices, sugar, chocolates, sweets, and refined grain products, tea, coffee, and alcohol are acidic. The acidic and alkaline foods should be consumed in a ratio of 1:4. That is alkaline food four times the amount of acidic food in meal preparation. For example, when making an omelet, use a whole egg with its entire yolk. Prepare the whole egg scrambled with four times its weight in vegetables. Use the same method of cooking when preparing

paneer curry- No paneer tikka but palak paneer or paneer with green peas or paneer with mixed vegetables.

3. Adopt a balanced lifestyle

A balanced lifestyle is about keeping a disciplined approach to the essential lifestyle behaviors such as Fasting/ Feeding, Wake/ Sleep, Activity & Exercise.

Reversing Type2 diabetes and achieving lean disease-free body requires paying attention to the following:

- ***What time to eat*** — Digestion and metabolism of the food are at best during daylight hours. The night time is for rest, repair, and rejuvenate of the body organs, including the digestive system. The body is active during the day, so it is more sensitive to insulin. During the day, insulin uses up glucose absorbed from the digestive tract for making energy. At night the body is inactive and insulin resistant. Therefore, the glucose absorbed from the digestive system gets converted to fat by insulin. The food consumed after 8 PM (even very healthy food) ends up getting converted to fat because the body does not require glucose energy at night hours.
- ***How often to eat*** — The food absorbed from the digestive tract provides glucose supply for making energy for 2-3 hours. After this time, the body falls back on its stored reserve source of energy, which is glycogen and fat. Eating multiple meals a day provides a constant flow of glucose from the digestive tract and prevents the body from using up the stored fat. The best way to use up stored body fat is to exercise in the morning on an empty stomach after overnight fasting of several hours.

Fifty years ago, before 1970, most populations in the world ate 2-3 meals/day. These meals typically got consumed during 8-12 hours of the daylight hours. Obesity and its related diseases like Type2 diabetes, high blood pressure, and heart disease were rare. The current trend amongst city dwellers is multiple meals consumed during a period of 14-16 hours extending late into the night hours. As a result, Obesity, Type2 diabetes, and related diseases have become an epidemic amongst the city dwellers.

- ***What time to wake up*** - Morning wake up time regulates sleep hours, eating, and activity behaviors. In the late risers, all these behaviors get disrupted, resulting in obesity, Type2 diabetes, and related diseases.
- ***Activity and Exercise*** -- Muscles use up about 80% of glucose consumed in the food. Less muscle activity and no exercise means extra glucose leftover in the blood for making unwanted fat.

4. **Adopt Time Restricted Eating (TRE) or Intermittent Fasting (IF) program**

The most effective plan to get rid of abnormal fat and control blood sugars in overweight and obese Type2 diabetics is the TRE plan. A fasting duration of 16-18 hours between the previous night meal and next morning or next day meal is ideal for using up the unwanted, stored fat. The practical way to build up an overnight fasting duration of 16 hours is to start at 12 hours fasting and build it up progressively over 4-5 weeks to 16 hours. The TRE plan of the overnight fasting duration of 16 hours calls for two meals per day- Brunch (combining breakfast and lunch as one single meal between 11 Am to 12 noon)) and early dinner before 8 PM the previous day.

A good plan for a lean diabetic, on the other hand, is 12-14 hours of overnight fasting (dinner by 8 PM and next morning meal between 8 -10 AM) with three meals per day comprising of Breakfast, lunch, and dinner.

(Note: For details check the section of Time-restricted eating for the lean and disease-free body on the website: www.foodlifestylebalance.com).

Holistic Meal Plan for Type2 Diabetes Reversal

(Note: For cooking meals, use only cold compressed Mustard, Sesame and coconut oil 3-6 teaspoonfuls with 1-2 spoons of Ghee. The obese Type 2 diabetics should use lower amounts of oil and ghee)

Meal Plans:

- A. ***Lean or average weight Type2 diabetic patients*** -- The ideal meal plan for these patients is three meals/ day- Breakfast, lunch, and dinner with an overnight fasting duration of 12-14 hours. The dinner the previous night should be between 7-8 PM and the Breakfast next morning between 9-10 AM. It is preferable to eat a grain-free breakfast.
- B. ***Obese Type2 diabetic patients*** – The ideal meal plan for these patients is two meals/ day with a small low glycemic (nonsugary) snack in between two meals only if hungry). The two meals are Brunch (a combination of breakfast and lunch) and dinner. The fasting duration between dinner the previous evening and next morning meal is progressively increased by one hour each week until the fasting duration of 16-18 hours gets achieved. When the overnight fasting duration of 16 hours gets reached, the dinner is between 7-8 PM, and brunch the following morning is between 11 AM and 12 noon.

Rules of Eating Holistic meals :

- Cook the meals only with the natural oils (cold compressed sesame, Mustard, and coconut oil) 3-6 spoons with 1-2 spoons of ghee. The lower amounts of the oil and ghee for the overweight and obese Type2 diabetics.
- Eat half the vegetables raw as salads and smoothies
- Eat primarily plant-based low glycemic foods.
- Eliminate sweets, especially milk-based sweets.
- Eliminate animal meats.
- Minimize milk consumption-- Eliminate milk-based drinks, panner, and milk-based sweets.
- Eliminate sugary beverages including all fruit juices or vegetable juices which have no fiber — instead, consume smoothies that use the vegetables and fruits as a whole, retaining all the fiber. The presence of fiber in the food minimizes the absorption of sugar and fat from the digestive tract.

- Eliminate refined milled grain flours of all kinds--Eat home ground coarse grain flours. Review the recipe for wholesome chapatis in the recipe section to make nutritious low gluten and low glycemic chapatis.
- Minimize consumption of acidic foods-- The acidic foods list is milk products including paneer and sweets, chocolates and white sugar sweets, animal meats, tea, coffee, and alcohol. Natural plant foods such as fruits and vegetables are alkaline. A diabetic patient has to minimize fruit consumption to one cup a day because the fruit is rich in fructose sugar.

A. Meal Plan For Lean or Average Weight Type 2 Diabetic

Breakfast Meal options

- Start the day with calorie-free drinks including Indian spice tea(see several recipes for calorie-free beverages in the recipe section at the end)
- Start the breakfast between 8-9 Am with the super green smoothie. Add one teaspoon of super herbal powder (the recipe for both included in the recipe section). The smoothie is very filling and minimizes the need for other breakfast items.

Select breakfast options from any of the following options to keep the grain content low. Can use your traditional options provided the grain content is minimal.

- Lentil or besan- chilla or green moong- dosa with sesame/ flaxseed or coconut chutney (see the recipe section for chutney recipes) or homemade pickles made with cold compressed mustard or sesame oil.
- Raghi Uttapam – add lots of vegetables, curry leaves, and fresh coriander to minimize grain content.
- Sambhar or rasam—Make with lots of seasonal vegetables as an accompaniment to dosa, uttapam, and chilla.

- Quinoa, oatmeal or millet Khichari with lots of seasonal vegetables (see recipe section)

Eat Khichari with fresh pickles made with mustard, methi seeds, and mustard oil.

- Quinoa or cracked wheat Upma with lots of vegetables (see recipe section).

B. Overweight and obese Type2 diabetic

Brunch (breakfast plus lunch meal) options

- Start the day with calorie-free drink options including Indian spiced tea (See the recipe section)
- Supergreen smoothie with one teaspoon of super herbal powder at 11 AM to 12 Noon.
- Follow with the Salad made of fresh vegetables- Check the salad options in the recipe section. Use apple cider vinegar or lemon with 1-2 teaspoons of sesame oil with condiments of your choice for salad dressing. The healthy sesame oil will keep the stomach full for a longer time.
- Follow with any of the breakfast options outlined above with freshly prepared chutneys and pickles. Eat traditional breakfast options very low in grain content and high in vegetable content.

OR

Eat the usual lunch meal with options of dal and fresh vegetables. Eat more vegetables and dal compared to the chapters made from the grain or the rice.

- Eat different varieties of dals and legumes over a week. Preferably eat two vegetables, one of which must be a green vegetable.
- Eat one to two small wholesome chapatis made from the home ground multigrain wheat flour (see the recipe section for healthy chapatti option). Never eat chapatti and rice without ghee or sesame oil. The oil and ghee slow down the absorption of grain carbohydrates. The ghee also

minimizes food cravings and hunger by keeping the stomach full for a longer time.

- A small glass of thin lassi made alkaline with curry leaves, coriander leaves, ginger, and cumin seed powder or a small amount of curd as raita with different vegetables, vada (lentil dumplings)

Lunch and dinner meal options

(Note: The lunch and dinner meal options are similar for lean and obese Type2 diabetes with the difference of less oil and ghee for overweight and obese diabetics.

- Always start the meal with Mixed salad (see the recipe section for some salads choices).

The most healthy holistic salad comprises of a mixture of 3 seasonal vegetables(radishes, cucumber, tomatoes, turnips, green peas or green chana), half cup of a choice of three seasonal fruits, choice of three sprouts- methi, moong, matki, brown or yellow chana, whole masoor dal, three nuts of any kind and three seeds of any kind. Use super herbal powder one teaspoon with one teaspoon of sesame oil and lemon juice or apple cider vinegar as dressing (see the recipe for this Trimurti salad in the recipe section)

- Two cooked vegetables (one must be green).
- Preparation of the lentil or legumes of different varieties each day. At night stay with alkaline moong dal of various types.
- Wholesome chapatti (see recipe section) – Eat one to two small sizes with sesame oil or ghee.
- Curd or thin lassi with curry leaves, coriander leaves, mint, ginger, and cumin seeds— The ideal time is after the lunch or brunch.
- If you have a craving for the sweet, eat it during lunchtime along with the meal. Avoid white sugar and use sweets made from jaggery as a sweetener. Good options are sesame –jaggery Laddos (rich in calcium and phosphate), coconut/ jaggery laddoo or vegetable halva. Use restraint, do

not overindulge and restrict to one serving 3-4 times per week. Stay active to use up the extra consumed calories from the sweet.

- Rice is a healing grain for the digestive tract, especially when consumed with a small amount of ghee along with lentils and legumes. The healthiest way to eat rice is to put 3-4 teaspoons of rice in a bowl of lentil or legumes soup dish. Consuming a small amount of rice with lentils/legumes and a spoon of ghee or sesame oil will not raise blood sugar significantly.

Diabetic Patients with nephropathy (kidney disease)

Uncontrolled diabetic patients with high fasting blood sugar levels higher than 140mg/dl end up developing Nephropathy and Retinopathy (kidney and eye damage). Patients who require multiple drugs and insulin to control diabetes also are more likely to get serious complications. These patients need a tightly controlled food and lifestyle regimen to control blood sugar and minimize the number of medications, especially insulin. Insulin is a fat-storage hormone which, in higher doses, ends up increasing the complications of diabetes.

Patients with nephropathy require adjustment in diet regimen because damaged kidneys cannot excrete breakdown products of proteins and excessive water and some electrolytes such as potassium. To minimize protein consumption, the dietary guidelines in the presence of kidney damage are:

- Minimize meat and milk consumption
- Minimize Lentil and Legume consumption to half.
- Minimize grain consumption.
- No coconut water and coconut milk, and minimize coconut products.
- Minimize consumption of fruits rich in potassium such as banana and oranges.

High Blood Uric Acid and Type2 diabetes

Fatty liver is a common occurrence in a diabetic patient. High uric acid in a diabetic patient is due to the fatty liver. A perfect approach to get rid of fatty liver and high uric acid is to reduce body weight via food and lifestyle change. Unfortunately, however, the methodology used by most doctors to treat high uric acid is to prescribe a low protein diet (no lentils and legumes) and minimize the consumption of green vegetables. This strategy is counterproductive because patients replace the protein with more grain and carbohydrates, making fatty liver worse. The protein to be prohibited with high uric acid is animal protein and not the vegetarian protein.

Type 2 diabetic who follows the above outlined dietary and lifestyle regimen for reversing Type2 diabetes, will naturally get rid of fatty liver and high uric acid within a matter of 3-6 months.