Management of Diabetes
Through Yogic Discipline Divine Yoga

Diabetes is a disorder of the chemical reactions (metabolism) that are necessary for proper utilization of protein, carbohydrates and fats from the diet along with lack of insulin production. In simple words, diabetes occurs when body cannot process some foods due to inadequate production of insulin. Insulin is a hormone produced in the pancreas to regulate the sugar level in blood.

Role of Insulin in the Body:

All cells in our body need energy in order to function normally. The energy we get from the food consists of carbohydrates, proteins and fats. After digestion, carbohydrates are converted into glucose, a form of simple sugar. This glucose is the main source of energy for the body cells and excess glucose is stored in the liver or muscles as a compound called glycogen. Glucose can enter the cells through receptors, which are proteins on the surface of cells and all hormones in the body can only act when they attach to receptors. Glucose can enter the cell only if insulin, a type of hormone, attaches itself to the receptors on the cell wall. When the insulin is either inadequate, absent or abnormal, it is difficult for the glucose to enter the cells to provide energy and thus excess glucose remains in the blood for long periods, increasing the sugar level in the blood.

Symptoms of Diabetes:

- Increased urination frequency, including at night.
- Excessive thirst and hunger.
- Feeling tired and weak most of the time.
- Weight loss - Slow healing of cuts and wounds.
- Numbness and tingling in the feet.
- Skin infections, dry or itchy skin.
- Blurred vision

**Types of Diabetes:**

1. **Type I or Insulin Dependent Diabetes**

   This type is also known as juvenile diabetes, usually happens to the people below 40 years old. They are thin in body weight and the condition develops suddenly. Production of insulin is completely absent. They need regular insulin injections to maintain blood sugar level.

2. **Type II or Non Insulin Dependent Diabetes**

   It is also called an adult onset diabetes, commonly occurs in people above 40 years of age. These people are normally overweight and symptoms develops gradually due to inadequate or defective insulin.

**Predisposing Factors of Diabetes:**

- Obesity
- Hereditary
- Age - Risk increases with age especially after 40
- Sex – Both have same risk but after 30 years, women are at higher risk.
- Pregnancy
- Viral infections
- Injury to pancreas
- Stress
- Sedentary lifestyle
- Due to the pancreas diseases
- Due to cancer of the pancreas
- Due to protein deficiency
- Abnormalities of other hormones
- Side effects of medication such as steroids
- Abnormalities of insulin and its receptors.

**Yogic View and Management:**

Yoga recognizes mainly two interrelated causes of diabetes that are crucial for the management of this disease. Yoga manages the cause of the disease and not its symptoms.
1. **Dietary Abuse:** Due to high intake of sugar and over eating resulting in obesity, the digestive system is de-vitalized and becomes sluggish in its function. If sugar rich diet is consumed daily, the pancreas becomes over taxed in secreting large amounts of insulin to process the excess sugar. Soon, the pancreas begins to tire and loose its efficiency, resulting in more sugar level in the blood.

2. **Stress:** The stresses, challenges, expectations and frustrations of modern lifestyles are largely responsible for mental and emotional imbalances which also negatively reflect in the body. Due to stress, adrenal gland is on constant demand, releasing stress hormones, adrenaline, into the blood. Secretion of adrenaline stimulate the body to mobilize sugar to the blood. Constant heavy and regular burden of worries and anxiety imposes more demand of insulin secretion which can ultimately precipitate diabetes with a diet rich in sugar. Although sugar is freely circulating in the blood, it cannot be pushed to the cells for its normal function, which leads to a range of degenerative vascular changes, including heart disease, arteriosclerosis, hypertension, kidney failure, skin infection, gangrene, eyes problem, impotency and loss of sensory nerve functions.

However, there are cases when excess secretion of insulin leads to low sugar level (hypo-glycaemia). This condition can be dangerous, causing brain cells to die of starvation and patients become unconscious (diabetic coma) or even result in death.

*The most important factor in diabetes management is to develop awareness about the body, its reactions and requirements.* Keeping blood sugar level within a healthy range is very important because it changes with our day-to-day activities.

Diabetic people should know about their diet, combination of foods and quantity of food to maintain the appropriate sugar level. A well-balanced and scheduled diet and coordination of food and medication intake with the help of a doctor is crucial.

**Working Principle of Yoga for Diabetes:**

There are six main factors in managing diabetes through yoga, which follow simple yet systematic and scientific yogic physiology. Although diabetic symptoms are similar in most of cases, but causes are may vary. Most of the time, it is difficult to identify the exact cause because every individual is different and have unique body, mind, emotional state and lifestyle. According to yogic understanding of physiology, problems occur in specific organs or body parts due to lack of flow of prana and blood circulation.
In the case of diabetes, related organs and parts are cells, pancreas, blood and other digestive organs. Yoga embraces a holistic approach to managing diabetes through all possible methods conducted simultaneously, making the treatment most powerful and effective.

Following are the main six approaches through which yoga works to manage diabetes:

1. Blood circulation: helps and enhances sugar transfer to cells.

2. Prana movement: Pancreas, liver, kidney, intestines are situated in the area dominated by Samana Vayu (one of five types of prana), which moves laterally from left to right and vice versa. Through twisting and lateral bending practices, we can enhance efficiency of these organs.

3. Solar plexus: Manipur chakra, situated just behind the navel in the spine is responsible for the proper functioning of abdominal organs including adrenal gland.

4. Fire Element: It is responsible for digestion and distribution of food to various organs. By enhancing the fire element, especially through pranayama, quality of digestive organs can be improved.

5. Relaxation: Healing cannot takes place without relaxation.

6. Detox: These practices directly and naturally clean the digestive tract.

Yoga Practices:

1. **Pawanmuktasana Series**: This group of practices developed by Swami Satyananda Saraswatiji has a dramatic positive impact in managing diabetes effectively, especially for people having other complications.
   (a) Pawanmuktasan Part 1: These are simple joints rotation practices to encourage the flow of blood and prana to each and every parts of the body. It also releases accumulated stress and tension from joints, nerves and muscles to induce relaxation, not only in body, but also the mind. With proper blood circulation, all other organs start functioning normally. These accessible practices are suitable even for patients having high blood pressure, heart disease to do easily.
   (b) Pawanmuktasana Part 2: These are abdominal practices to improve strength of digestive system and core muscles by using leg movements according to the need. These practices help to burn extra calories and builds strength and confidence.
   (c) Pawanmuktasana Part 3: These practices improve prana flow in lower body by stretching and twisting pelvic organs. They are easy to do but effective in improving function of reproductive and urinary organs and also tones other abdominal organs.
2. **Backward Bending:** Tones and massages all abdominal organs, opens up heart and lungs to enhance the immune system and makes the spine more flexible and strong for better body mind coordination. For example – cobra, bow, wheel poses etc. (See left pic)

3. **Forward Bending:** Helps to release tensions from the spine, back muscles and legs. Stretches all abdominal organs and improves the functioning of digestive and reproductive systems. For example – Shashankasana, Janu sirasana, pashchimotanasana etc. (Those having back pain should not do this group without guidance.)

4. **Spinal Twist:** Spinal-abdominal twisting practices are the most important group for the diabetic due to the location of pancreas. These practices, such as kati chakrasana, ardha matsyendrasana and other variations according to the capacity of the practitioner, squeeze pancreas, kidneys, liver, intestine and other organs to rejuvenate and revitalize them for optimal and balanced functioning.

5. **Other Group of Practices:** Other groups of practices such as lateral bending (Trikonasana and its variations), balancing pose, inverted pose (vipreet karani, sarvangasana) etc. are also suitable for the diabetics depending on their capacity. However, those having hypertension, heart problems and other severe complications should avoid inverted poses or poses which puts extra pressure on the physical body.

6. **Sun Salutation:** This is a combination of 12 postures to enhance the metabolism by doing continuous movement from one position to another. These movements stretches all muscles, nerves to create space for the free flow of prana and blood. Postures also have direct effects on endocrine glands for better and balanced hormone secretions. Those having hypertension, heart problem or having symptoms of hypo glycaemia should avoid this practice or only under expert guidance.

7. **Pranayama:** Apart from physical activities, pranayama practices are most important for the management of diabetes due to its direct effects on body’s metabolism. One practice from each of the following groups can be done for better results.
(a) Bhastrika/Kapalbhati: Good for overweight people and also those having stress. These activates the fire element and metabolism. Those having symptoms of hypoglycemia, hypertension or heart ailments should avoid this practice.

(b) Svan Pranyama (Dog Panting): This practice has very good massaging and toning effects on abdominal organs. It strengthens the abdominal muscles and burns belly fat. It also improves respiration quality and enhances lungs capacity. Increases the fire element but prohibited for hypertension and heart patients.

(c) Ujjayi: This is the best practice to reduce stress and to balance hypertension, heart problem and the thyroid. It is suitable for anyone and helps to control other complications of diabetes.

(d) Nadi Shodhana (Alternate Nostril Breathing): This practice helps to recharge each and every cell and purifies the nerves’ passages. Also helps to transfer sugar to the cells by enhancing gas exchange from blood to cells and vice versa. There are no contra indications and even people who are ill can do it to feel rejuvenated.

(e) Bhramari (Humming Bee): This is one of the best stress busters and effective for a good night’s sleep.

8. Yoganidra: This easy to follow practice is widely used to reach a state of deep physical and mental relaxation. Those having mental and emotional problems will especially benefit from this practice. Relaxation significantly speeds up the healing process and also strengthens the patients’ mental state to accept their problems and face them with confidence.

9. Detox: Neti, kunjal, and laghoo sankhaprakshalana can be health promoting detox practices in conjunction with asanas and pranayama practices but must be done under expert guidance. Laghoo naturally clean the digestive tract and rejuvenate all digestive organs, throwing out all accumulated toxins from the intestine. Neti is very good for reducing mental stress and Kunjal is good for emotional imbalances.
Yoga gives various health management options for diabetic patients according to their needs and capabilities. Even if patients do not know the cause of their diabetes, yoga helps and gives them maximum benefits. The combination of regular yoga practice, correct diet and with guidance of medical doctor to observe the insulin dosage can do wonders to regain health. Practices are very simple and scientific. There is no need to do difficult and circus like practices.

*By choosing one or two practices from each group of asanas, pranayama and relaxation, along with observing a moderate diet, people can enjoy their daily life to its full potential.*