

## **LIFESTYLE MANAGEMENT OF DIABETES**

Lifestyle therapies are the cornerstone of diabetes treatment. An unhealthy lifestyle featuring a lack of physical activity and excessive eating initiates and propagates the majority of type 2 diabetes

Lifestyle interventions are not only beneficial before the development of diabetes. Several studies have clearly demonstrated the benefits of control over diet, exercise, and weight loss in individuals already diagnosed with diabetes.

### **DIET IN DIABETES**

Diet plays a significant role in controlling the diabetes. The diabetic diet may be used alone or else in combination with insulin doses or with oral hypoglycemic drugs. Main objective of diabetic diet is to maintain ideal body weight, by providing adequate nutrition along with normal blood sugar levels in blood. The diet plan for a diabetic is based on height, weight, age, sex, physical activity and nature of diabetes. While planning diet, the dietician has to consider complications such as high blood pressure, high **cholesterol** levels. There is no common diet that works for everyone. Nor is there any particular diet that works perfectly for any diabetic over a long period.

### **Energy balance, overweight, and obesity**

- In overweight and obese insulin-resistant individuals, modest weight loss has been shown to reduce insulin resistance. Thus, weight loss is recommended for all overweight or obese individuals who have or are at risk for diabetes.
- For weight loss, either low-carbohydrate or low-fat calorie-restricted diets may be effective in the short-term (up to 1 year)
- For patients on low-carbohydrate diets, monitor lipid profiles, renal function, and protein intake (in those with nephropathy) and adjust hypoglycemic therapy as needed
- Physical activity and behavior modification are important components of weight loss programs and are most helpful in maintenance of weight loss

### **Primary prevention of diabetes**

- Among individuals at high risk for developing type 2 diabetes, structured programs that emphasize lifestyle changes and include moderate weight loss (7% body weight) and regular physical activity (150 min/week), with dietary strategies including reduced calories and reduced intake of dietary fat, can reduce the risk for developing diabetes and are therefore recommended
- Individuals at high risk for type 2 diabetes should be encouraged to achieve dietary fiber (14 g fiber/1,000 kcal) and foods containing whole grains (one-half of grain intake).

### **Dietary intake in diabetes management**

#### *Fat*

- Saturated fat intake should be <7% of total calories
- Intake of *trans* fat should be minimized

#### *Carbohydrate*

- Monitoring carbohydrate, whether by carbohydrate counting, exchanges, or experience-based estimation, remains a key strategy in achieving glycemic control

- For individuals with diabetes, the use of the glycemic index and glycemic load may provide a modest additional benefit for glycemic control over that observed when total carbohydrate is considered alone

#### *Other nutrition recommendations*

- Sugar alcohols and nonnutritive sweeteners are safe when consumed within the acceptable daily intake levels
- If adults with diabetes choose to use alcohol, daily intake should be limited to a moderate amount (one drink per day or less for adult women and two drinks per day or less for adult men)
- Routine supplementation with antioxidants, such as vitamins E and C and carotene, is not advised because of lack of evidence of efficacy and concern related to long-term safety
- Benefit from chromium supplementation in people with diabetes or obesity has not been conclusively demonstrated and, therefore, cannot be recommended

#### **Planning a diabetic diet**

While planning diabetes diet we should adhere to certain important factors, they are:

- Fiber should be at least 40 /g day
- Instead of 3 heavy meals, one should go for 4-5 small mid intervals
- Bakery products and fast foods should be replaced by simple whole cooked cereals, and carbohydrates should not be eaten 2 hours before bedtime
- Consume fresh fruit and vegetables at least 5 exchange/ day

#### **General guidelines on diet**

In a typical day's meals and snacks, patient should have 1500-1800 calories with – 60% contribution from the carbohydrate, 20% from fat and 20% from proteins. If patient is on calorie-restricted diet, 50-60% of calories should be taken as complex carbohydrate (whole cereals) to prevent any feeling of weakness

- A variety of food items should be eaten everyday. One should not skip meals, not overeat and should avoid snacks
- One should eat fruits and vegetables, use less oil in cooking , avoid fried foods, milk cream or food items cooked in coconut milk
- One should avoid ready to eat food preparations, sweets and sugary drinks (canned beverages)
- One should keep a regular check on weight and maintain it within the estimated limit
- One should match mealtime to the form of insulin and insulin injection / medicine schedules

#### **EXERCISE (PHYSICAL ACTIVITY)**

Physical exercise is a key component of lifestyle modification that can help individuals prevent or control type 2 diabetes.

#### **Benefits of exercise**

- When one is physically fit, he has the strength, flexibility, and endurance needed for his daily activities
- Being physically active helps one feel better physically and mentally

- Physical activity can lower blood glucose (sugar), blood pressure, and cholesterol. It also reduces the risk for heart disease and stroke, relieves stress, and strengthens the heart, muscles, and bones.
- In addition, regular activity helps improve insulin sensitivity, improves blood circulation, and keeps the joints flexible.
- A combination of physical activity and wise food choices can help one reach the target weight and maintain it.

### **Types of exercise**

A comprehensive physical activity routine includes three kinds of activities:

- Aerobic exercise
- Strength training
- Flexibility exercises

#### *Aerobic exercise*

Aerobic exercise increases the heart rate, works the muscles, and raises respiratory rate. For most people, it's best to aim for a total of about 30 minutes a day, at least 5 days a week. If one hasn't been very active recently, he can start out with 5 or 10 minutes a day and work up to more time each week. Or one can split up his activity for the day -- a brisk 10-minute walk after each meal. If one is trying to lose weight, he may want to exercise more than 30 minutes a day. Examples of aerobic exercise:

- Taking a brisk walk (outside or inside on a treadmill)
- Dancing
- Taking a low-impact aerobics class
- Swimming
- Playing tennis
- Stationary bicycle indoors

#### *Strength training*

Strength training, done several times a week, helps build strong bones and muscles:

- Joining a class to do strength training with weights, elastic bands, or plastic tubes
- Lifting light weights at home

#### *Flexibility exercises*

Flexibility exercises, also called stretching, help keep the joints flexible and reduce the chances of injury during other activities. Gentle stretching for 5 to 10 minutes helps the body warm up and get ready for aerobic activities such as walking or swimming.

### **Being active throughout the day**

In addition to formal exercise, there are many opportunities to be active throughout the day. Being active helps burn calories. The more one moves around, the more energy he has.

Strategies that can help increase activity level:

- Walking instead of driving whenever possible
- Taking the stairs instead of the elevator
- Working in the garden, or do some housecleaning every day
- Parking at the far end of the shopping center lot and walk to the store

