

Q&A

Q : I have type II diabetes, which supplement is best for me? From what I understand, my immediate family is also at a risk of developing diabetes. What can they do?

A : It is true that there is a strong genetic predisposition to the development of diabetes¹ and having a diabetic as a family member is a clear indication that extra attention must be paid to dietary and lifestyle habits. It is a great reason to do what we should all be doing anyways: exercise, eat reasonable portions, watch your weight, eat lots of vegetables, avoid refined grains and sugars and stay away from trans and saturated fats.²⁻⁷

Type II diabetes develops slowly and is characterized by a progressively worsening insulin sensitivity that is compensated by an increased pancreatic production of insulin. Blood glucose levels rise uncontrollably once the pancreas is unable to produce enough insulin to offset the cellular insulin resistance (see figure 1)

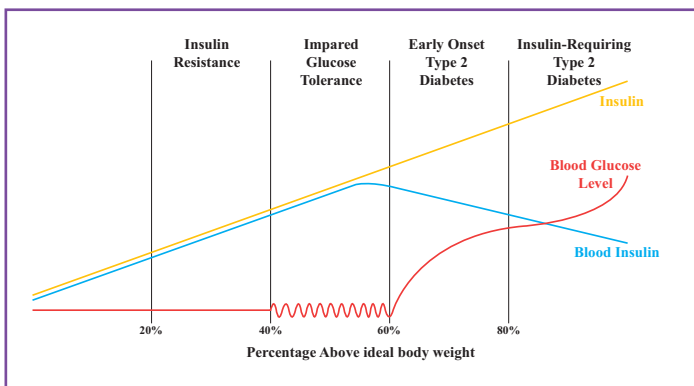


Figure 1: Development and progression of Type 2 Diabetes Mellitus.

(source: Andreoli TE: Cecil essentials of medicine, ed 5, Philadelphia, 2001, WB Saunders.)

There are several nutrients that are beneficial to maintain insulin sensitivity and to prevent diabetes. Supplementation can also effectively reverse elevations in blood glucose levels. There are several different approaches possible: (see table 1)

- ⊙ The prevention of complex carbohydrate digestion which reduces glucose absorption
- ⊙ Increasing insulin production by the pancreas
- ⊙ Improving insulin sensitivity
- ⊙ Preventing postprandial (after meals) hyperglycemia by slowing down the absorption of carbohydrates
- ⊙ Reducing the occurrence of diabetic complications by preventing protein glycation
- ⊙ Promoting satiety and weight control

The end results sought are always the same - the reduction of blood glucose levels. The most effective supplements for this purpose will differ from individual to individual. For some, improving insulin sensitivity through supplementation with R(+) lipoic acid will be sufficient to normalize blood glucose levels. For others, a combination approach will be necessary.

The good news is that blood sugar levels can easily be monitored and the effect of supplementation can be observed closely. Monitoring symptoms such as sugar cravings will also help decipher which supplement works best.

For those whose blood glucose levels are normal but who have a family history of type II diabetes, nutrients that improve insulin sensitivity will be best suited. After all, it is the breakdown in the cellular ability to use insulin that leads to type II diabetes.

For type I diabetics who are unable to produce enough insulin to regulate blood sugar levels, supplementation should focus on increasing insulin production by the pancreas and minimizing the consequences associated with the condition.

Protein glycation is a problem for all of us and contributes to the aging process. Glycation and AGE formation have been linked to degenerative conditions such as arthritis, heart disease and neurological diseases. Supplementation with nutrients that prevent AGE formation is beneficial for everyone.

	AGE Amadori ⁸⁻¹⁰	Benfotiamine ¹¹⁻¹⁴	Beta-Barley Glucans ¹⁵	Carb Control ^{16,17}	Chirantin ^{18,19}	Gymnema-75 ^{20,21}	Ortho•Glucose ²⁰⁻²⁵	R+SR ²⁶	Salacia-O ²⁷
Decreases intestinal glucose absorption			•	•		•			•
Improves insulin sensitivity						•	•	•	
Increases insulin production or release					•	•	•		
Reduces complications	•	•				•	•	•	
Promotes satiety			•						
Prevents postprandial hyperglycemia			•			•	•		•
Prevents glycation	•	•							

Table 1: Different ways of addressing diabetes. Mechanisms are centered on the reduction of blood glucose levels and preventing the development of complications.

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