

# Role of Protein Supplements in Diabetes Management

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Protein supplements are commonly used by athletes and fitness enthusiasts to support muscle growth and recovery<sup>1</sup>. However, there is growing interest in the potential role of protein supplements in diabetes management. Diabetes is a chronic condition characterized by elevated blood sugar levels, and the use of protein supplements may offer several benefits for diabetes patients.

Protein is an essential macronutrient that takes longer to digest in comparison to sugar and processed carbohydrates. Protein is important for maintaining muscle mass, regulating blood sugar levels, and promoting satiety. Studies have shown that protein supplementation can improve insulin sensitivity and glucose metabolism in individuals with type 2 diabetes<sup>2</sup>.

One study found that supplementing with whey protein improved glucose control in patients with type 2 diabetes by increasing insulin secretion and decreasing insulin resistance<sup>3</sup>.

Another study found that protein supplementation, when combined with resistance exercise, improved glycemic control and reduced insulin requirements in patients with type 1 diabetes. The findings of the study suggested that protein supplementation can enhance muscle protein synthesis and reduce muscle breakdown, leading to improvements in insulin sensitivity and glucose uptake<sup>4,5</sup>.

## **OTHER ROLES OF PROTEIN IN DIABETES MANAGEMENT<sup>6</sup>**

### **Improve Lipid Profile**

Due to long-standing diabetes, dyslipidemia could be certainly possible. Good biological protein intake helps in maintaining a healthy lipid profile.

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### **Supported Development of Lean Body Mass**

Protein intake along with healthy carbohydrate intake helps in building more lean body mass, thus reducing overall fat percentage.

### **Bolsters Overall Immunity**

Being building blocks of the body, proteins are essential in upgrading overall immune response. In case of diabetes, in most cases the immune response is sacrificed as diabetes is a metabolic disorder, which can cause strain on almost every human organ.

In overweight diabetes patients, a high on protein diet can help in weight loss due to the following effects<sup>7</sup>:

- Appetite control.
- Metabolic boost – Protein burns more kilojoule and prevents the slowing of metabolism that can help in weight loss.
- Reduce food cravings – As a high-protein meal leaves an individual satiated, it can reduce the night-time craving.
- Improved body composition – Protein diet helps in increasing the rate of fat loss.
- Reduced energy intake – Increasing the amount of protein in meals can have a significant impact on energy intake, which can help in weight loss.

However, it is important to note that not all protein supplements are created equal. Some supplements may contain added sugars, artificial flavors, and other ingredients that may negatively impact blood sugar control<sup>8</sup>.

### **AMERICAN DIABETES ASSOCIATION (ADA) GUIDELINES FOR PROTEIN INTAKE<sup>9,10</sup>**

Although, diabetes patients should consume sufficient protein to manage their blood sugar levels, they should also be mindful of their overall protein intake. As high protein intake and hyperglycemia can increase the glomerular filtration rate and the work load of the kidney.

## EXPERT OPINION

It has been seen that one-third of the people with insulin-dependent diabetes and one-fifth of people with noninsulin-dependent diabetes develop nephropathy within 15 years of diagnosis.

- According to the recommendations of ADA, diabetes patients aim for a balanced diet that includes 10% to 20% of calories from protein.
- A dietary intake of between 12% and 20% protein provides flexibility in food selection but exceeds actual needs.
- The adult Recommended Dietary Allowance of 0.8 g/kg body weight should provide guidance for determining desired protein intake for individuals with diabetes.

### IMPORTANT TIPS TO REMEMBER BEFORE INCLUDING PROTEIN SUPPLEMENT IN DIABETES CARE

- Check with physician to determine the need of a special protein powder or some other supplements.
- Have a look at the key ingredients to avoid including any allergy causing component in the diet.
- Ascertain nutrition preferences of the individual to find the best option for special diabetic needs.
- Protein can help in weight loss only when they are used to replace carbohydrates and fats<sup>10</sup>.
- Protein should not replace fresh fruits, vegetables and whole grain foods, as these provide fiber<sup>10</sup>.

### CONCLUSION

In conclusion, protein supplements may offer potential benefits for diabetes management, such as improving insulin sensitivity and glucose control. However, it is important to choose supplements carefully and consult with a health care provider before adding them to the diet.

Additionally, diabetes patients should be mindful of their overall protein intake and aim for a balanced diet to manage their condition effectively. With the right

approach, protein supplements may be a useful tool for diabetes patients to support their overall health and well-being.

### REFERENCES

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