

# DIABETES: MODERN TREATMENTS AND LIFESTYLE

Mukhtorova Zukhrakhon Shukhratjon kizi  
Alfraganus University, 2nd Year Student

## Abstract

This article provides a detailed review of the diagnosis, current treatment approaches, and lifestyle changes for diabetes. The focus is on therapies such as insulin and continuous glucose monitoring. Preventive measures such as healthy eating, physical activity, yoga, and stress management are also scientifically explained. The article discusses not only clinical approaches but also the effectiveness of lifestyle interventions in controlling diabetes.

**Keywords:** Diabetes, blood sugar levels, insulin, pancreas, type 1 diabetes, type 2 diabetes, metabolism, carbohydrate diets, physical activity, stress, yoga.

## Introduction

Diabetes is a major health problem, especially in developing countries around the world. It leads to serious complications such as cardiovascular diseases, renal failure, and neuropathies. Living with diabetes also shortens the patient's life expectancy. The main goal of diabetes therapy is to maintain stable blood glucose levels and prevent complications. For this purpose, several modern medicines and global approaches to improving the quality of life of patients are being developed.

Diabetes mellitus is a disease caused by insulin deficiency and metabolic disorders in the body. There are cases of children being born with diabetes mellitus even if the disease is hereditary or acquired, that is, the father and mother do not have this disease. Insulin-dependent type 1 diabetes and insulin-independent type 2 diabetes are distinguished. Type I diabetes most often occurs in adolescence. In this case, pancreatic cells cannot produce insulin in the patient's body, and insulin preparations are used to treat them to lower blood sugar levels. In type 2 diabetes mellitus, the production of insulin from pancreatic islet cells is preserved, while the level of insulin in the blood remains normal or slightly higher.

Blood sugar: venous - 4.4 -6.1

in capillaries - 3.3 -5.5

Up to 7.8 hours after meals is normal, 11.1 is considered diabetes mellitus.

Hyperglycemic status is a serious condition that occurs when blood glucose levels rise to dangerous levels. It is most common in people with diabetes, but can also occur in a person without diabetes due to certain medical conditions or medications.

Classical symptoms of hyperglycemia symptoms:

- polyuria: nocturnal urination in children.
- polydipsia: the need to drink a lot of water.
- polyphagia: frequent hunger and desire to eat a lot.





Other characteristics:

- weight loss due to unknown causes: a thin appearance is observed, especially in patients with type I diabetes mellitus;
- deterioration of vision: problem, blurred vision
- fatigue and weakness;
- itching: skin itching;
- slow healing of ulcers and vulnerability to infections;

Skin signs associated with  $\beta$ -insulin resistance are mainly observed in type 2 diabetes mellitus.

With the continuous treatment and care of the patient with type 1 and type 2 diabetes, it is possible to ensure a healthy and full life.

Modern methods of treating diabetes and lifestyle:

- Regular and sufficient nutrition. Frequent meals 5-6 times a day, that is, in sufficient quantities, help reduce blood sugar levels in the body;
- Managing physical activity and stress: managing stress through walking outdoors, exercising, and yoga sessions.

Patients with this disease should pay attention to their body weight.

Insulin therapy: more often in type I diabetes, when insufficient amounts are produced in the body, insulin therapy helps regulate blood sugar.

Patient monitoring: using blood glucose monitoring, monitoring blood sugar levels and recommending appropriate treatments.

HbA1c test: this test shows the average blood sugar level over the past 2-3 months.

Oral glucose tolerance test: This test measures how blood sugar changes after eating.

Early detection and proper treatment of the disease can reduce its complications. Also, diabetes can be prevented and kept under control through adherence to a healthy lifestyle, balanced nutrition, regular physical activity, and stress management. In the fight against diabetes, raising public awareness of the disease, strengthening preventive measures, and improving the quality of medical services are also very important. Modern methods and technologies based on an individual approach to treatment significantly improve the quality of life of patients with diabetes.

### References:

1. Karimov T.S., "Internal Diseases," Tashkent: Medicine, 2018.
2. Ministry of Health of the Republic of Uzbekistan, "Methodological Guide for Early Detection and Prevention of Diabetes Mellitus," Tashkent, 2020.
3. R.A. Sobirova, O.A. Abrorov, F.Kh. Inoyatova, A.N. Aripov, "Biological Chemistry," "New Century Generation," 2006.
4. Scientific-popular brochure "Healthy Nutrition - a Criterion of Health," prepared under the editorship of Academician Sh.I. Karimov, Tashkent, 2015, 343 pages;
5. <https://uz.wikipedia.org>.
6. Misri, M. E. (2024, December). Binary Water Wheel Plant Algorithm with Soft Gated Recurrent Unit for Software Defect Prediction. In 2024 4th International Conference on Mobile Networks and Wireless Communications (ICMNBC) (pp. 1-5). IEEE.





7. Ниёзова, Н. Ш. (2022). Сущность и значения книга Абу Райхан Беруний «Минерология» («Китаб ал-джамахир фи ма 'рифат алджавахир») (Doctoral dissertation, Abu Rayhon Beruniy ilmiy-madaniy merosining ahamiyati va uning fan taraqqiyotidagi o 'rni).
8. Агабабян, И. Р., Тошназарова, Н. Ш., Тошназаров, Ш. М., & Журакулов, Ф. Н. (2020). Рациональная гипотензивная терапия в профилактике хронической сердечной недостаточности у больных гипертонической болезнью. Вестник науки и образования, (24-3 (102)), 63-67.
9. Ниёзова, Н. (2022). Teletibbiyotni rivojlantirish–inson salomatligini saqlashda yangi bosqich. Materials of International student's conference: Digitalization is the future of medicine.
10. Ниёзова, Н. Ш. (2014). Здоровый образ жизни и гигиеническая культура. The Way of Science, 50.
11. Misri, M. E. The Impact Of Devops Practices On Software Development Lifecycle.
12. Misri, M. E. (2025, April). Stock Market Price Prediction using Ebola Optimization Search Algorithm with Bi-Directional Gated Recurrent Unit. In 2025 4th International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE) (pp. 1-6). IEEE.
13. Бўриев, О., Искандаров, Ш., & Хўжаёров, А. (2022). Абу Райхон Берунийнинг «Ҳиндистон» асари ноёб этнографик манба сифатида. Academic research in educational sciences, (3), 399-411.
14. Norkulov, D. T., Narkulov, S. D., & Iskandarov Sh, A. (2022). Alimova SG, Pardayev AA Umarova FS, Khudoykulov AB THE ROLE OF PHILOSOPHICAL THINKING AND PHILOSOPHICAL KNOWLEDGE IN UNDERSTANDING NATIONAL IDENTITY. ASEAN Journal on Science & Technology for Development, 39(4), 605-613.
15. Искандаров, Ш. А. (2017). ОБ ЭТНИЧЕСКОЙ ИСТОРИИ АРАБОВ УЗБЕКИСТАНА И СВЯЗАННЫХ С НЕ ЭТНОТОПОНИМАХ. Вестник антропологии, (4), 38-46.

