

NEWS RELEASE

Manage your diabetes risk with SEMLI's guide to at-home exercises



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Diabetes mellitus has become a prevalent health concern worldwide and is one of the top 10 causes of death globally. It is estimated that 9.3% of the world's population has diabetes. These numbers are rapidly increasing, and our sedentary lifestyles and the global obesity epidemic are exacerbating the problem.

In the lead-up to the 2023 Diabetes Summit, scheduled to take place on 15 November at the University of Pretoria's (UP) Future Africa Institute, experts at UP's Sport, Exercise Medicine and Lifestyle Institute (SEMLI) are encouraging staff and students to lower their risk of developing diabetes by maintaining a healthy weight and engaging in regular physical activity with simple exercises that can be done in the comfort – and safety – of your home.

Diabetes is a chronic metabolic disease characterised by elevated blood glucose levels, and is caused by either insufficient insulin production – due to the autoimmune destruction of beta cells in the pancreas (type 1 diabetes) – or the ineffective utilisation of insulin produced by the pancreas (type 2 diabetes). Type 1 diabetes is usually diagnosed in children and young adults, while the more common type 2 diabetes, which accounts for about 90% of diabetics, is usually diagnosed in middle-aged people. Symptoms of diabetes include feeling

very thirsty, urinating more than usual, blurred vision and reduced energy levels. Common risk factors for developing type 2 diabetes include family history, age, ethnicity, being overweight, being physically inactive and leading a sedentary lifestyle.

Why exercise matters

While some risk factors like family history, age and ethnicity cannot be avoided, others such as leading a healthy lifestyle, maintaining a healthy weight and taking part in regular physical activity may reduce the risk. Medication and dietary management play pivotal roles in controlling this chronic disease. However, the importance of exercise and its role cannot be stressed enough. Taking part in regular physical activity not only assists in the management of diabetes, but also contributes to overall health.

Exercise is frequently recommended in the management of type 1 and 2 diabetes. The benefits of physical activity for diabetics include improved blood glucose control, as regular exercise can assist in reducing insulin resistance by allowing glucose to enter cells and improving insulin sensitivity by making it easier for the body to use glucose as an energy source. Weight maintenance is also a benefit of regular physical activity which is essential for patients living with diabetes.

Excess weight can contribute to insulin resistance, so maintaining a healthy body weight is especially important for diabetics. Diabetes also raises the risk of cardiovascular disease so the cardiovascular health benefits of regular exercise will help to strengthen the heart, lower blood pressure and improve cholesterol levels which will aid in reducing the risk of heart disease. Another benefit of regular exercise is reduced stress levels. Blood glucose levels may rise due to hormones being released in response to stress; therefore, reducing stress levels in diabetics is crucial in managing blood glucose levels.

The typical patient with type 2 diabetes is sedentary, overweight and middle-aged or older. Exercise will be beneficial among people in this group, but exercise prescription needs to be carefully implemented. Joint guidelines from the American Diabetes Association and the American College of Sports Medicine suggest a gentle warm-up of five to 10 minutes followed by a period of stretching and then an active cool-down lasting five to 10 minutes to allow a gradual adjustment of heart rate and blood pressure.

An adult should aim to achieve 30 minutes of continuous moderate activity, the equivalent of brisk walking on five or six days a week, with the flexibility of shorter bouts of higher intense activity increasingly being considered important. Vigorous activity can be safely undertaken by diabetics provided that cardiovascular and hypertensive problems are taken into consideration.

Home exercise programmes

At-home exercise is a great tool for diabetes management. Though, the exercise prescription should consider a person's readiness to exercise, attitude towards exercise and accessibility to exercise. Home exercise programmes have a high adherence rate as the work-outs can be done when people have time; they can be performed without any equipment; and they don't require a visit to the gym.

Exercises that can be performed at home with just the use of a mat:

- Glute bridges
- Plank
- Hip abduction and adduction while lying on your side
- Bird-dogs

- Shoulder taps
- Bear crawl hold
- Dead bugs
- Toe taps
- Flutter kicks
- Sit-ups
- Side plank
- Push-ups

Exercises that can be performed with just the use of a chair:

- Marching
- Punching
- Arm cycling
- Arm circles
- Leg circles
- Flutter kicks
- Ankle taps
- Sit-to-stands

Exercises that can be performed with just the use of your own body weight:

- Lunges
- Squats
- Push-ups
- Sit-ups
- Jumping jacks
- Wall push-ups

[Follow this YouTube Channel for demonstrations on some of these exercises](#)

It is also recommended to include daily movement such as walking, jogging, cycling and dancing. Any movement is better than no movement.

Exercise plays an important role in reducing the significant worldwide burden of diabetes. Incorporating exercise into your daily routine is an essential component of managing diabetes effectively. The benefits of exercise go beyond blood glucose control and include weight management, cardiovascular health, physical fitness and mental well-being. By including regular physical activity in managing diabetes, you are taking a step towards leading a healthier lifestyle.

The 2023 Diabetes Summit as a catalyst for change

Amid these challenges and opportunities, the [2023 Diabetes Summit](#), which is taking place at the University of Pretoria (UP) on Wednesday, 15 November, aims to propel all stakeholders involved in diabetes prevention and management – from intention to action and policy to practice – to confront diabetes head-on. The summit is being jointly hosted by the South African Diabetes Alliance and UP’s Diabetes Research Centre at the University’s at the Future Africa Institute.

In line with the summit's theme, 'Diabetes Targets, Translating Policy into Reality', the event will focus on how the National Strategic Plan's 90-60-50 cascade, which underscores the importance of early detection and treatment of diabetes and hypertension, can be supported. This cascade aims to ensure that 90% of all people over 18 will know whether or not they have raised blood pressure and/or raised blood glucose; 60% of people with raised blood pressure or blood glucose will receive intervention; and 50% of people receiving interventions are controlled.

Addressing the diabetes crisis through a focus on health and vitality also opens up an opportunity for transformation. The summit aims to emphasise the importance of a whole-of-society approach in promoting healthy lifestyles, making them attainable for all and expanding healthcare services to work towards preventing diabetes.

Each stride towards better health and every conscious decision and intervention is a step away from type 2 diabetes and a step closer to improved diabetes management.

To register for the Diabetes Summit, visit <https://lcp.live/registration-2023-diabetes-summit/>; for information about the summit, contact Dr Patrick Ngassa Piotie at patrick.ngassapiotie@up.ac.za

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on its Hatfield Campus in Pretoria. This 115-year-old institution is also one of the largest producers of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country with a Faculty of Veterinary Science, which is ranked the best in Africa. UP has 120 academic departments and 92 centres and institutes, accommodating more than 56 000 students and offering about 1 100 study programmes. It has the most academic staff with PhDs (70%), NRF-rated researchers (613).

The 2023 QS World University Rankings by Subject ranked UP first in South Africa in Accounting and Finance, Law, Economics and Econometrics, Mechanical Engineering, Electrical and Electronic Engineering, Chemical Engineering, Mathematics, and Veterinary Science.

For more information, please go to www.up.ac.za