



NHG World Diabetes Day 2022 FAQs

Endocrinology

I have been diagnosed with pre-diabetes. Is this reversible? How long does it take for a patient with pre-diabetes to progress to diabetes?

On the spectrum of normal to high blood sugar, pre-diabetes occurs when your blood sugar is higher than normal, but not in the range to be considered as having diabetes. Not everyone with pre-diabetes will develop diabetes.

However, in Singapore, without lifestyle changes, around 35% of people with pre-diabetes eventually do progress to diabetes over 8 years. Therefore, it is important for prediabetes to be monitored by your healthcare provider.

Pre-diabetes can be reversed. A healthier diet, keeping an active lifestyle, quitting smoking and maintaining a normal weight, (i.e. BMI <23 kg/m²), or weight loss of 5-10% if overweight or obese, have been shown to help prevent progression to diabetes.

You may refer to the link for more information:

[*Reverse Pre-diabetes with These 4 Simple Steps*](#)
(Health Hub)

Can diabetes be reversed?

Diabetes remission means that you were previously diagnosed with type 2 diabetes mellitus (T2DM), perhaps on medications, however, the condition has improved such that your blood sugars remain in the normal range without medications for at least >3 months or more.

Much research has been done on T2DM remission. We know this is more likely to occur in persons who are obese (BMI>27.5kg/m²) but manage to lose a significant amount of weight soon after early detection of diabetes.

Proven methods of weight loss for T2DM remission for persons with obesity include very low calorie diet (VLCD) with exercise, using medications for weight loss, and metabolic or bariatric surgery.

The different methods for weight loss have different efficacy with metabolic surgery on average resulting in the most weight loss over a more sustained period of time.

Which method is suitable for a particular individual also needs to be tailored by a healthcare provider versed in obesity management (e.g. criteria of BMI >32.5 kg/m² for metabolic surgery, BMI >27.5 kg/m² for weight loss medications). In addition, individuals have varying preferences as well.

If you are already on medications for treatment of diabetes, you should discuss with your healthcare provider about lifestyle changes you plan to make and about the possibility of medication adjustments if necessary.

It needs to be mentioned that T2DM remission may not be permanent and requires continued maintenance of healthy body weight, healthy diet and regular exercise. Continued monitoring of glucose levels is also required to detect diabetes relapse.

Nevertheless, losing 5-10% of body weight in someone with type 2 diabetes who is overweight or obese, will see improvement in diabetes control. Current evidence shows that it is important to make changes to your diet, adopt an active lifestyle and manage your weight to improve diabetes control, as well as increase your chances of diabetes remission.

Can diabetes lead to more serious health complications? What are the complications that can occur with diabetes, in particular the kidneys?

The high blood glucose in poorly controlled diabetes can damage both nerves and blood vessels. Organs that are affected include the eyes (leading to visual impairment), feet (leading to wounds, gangrene and amputations), kidney (leading to chronic kidney disease, kidney failure and dialysis), heart (leading to heart attacks) and brain (leading to strokes). Those with poorly controlled diabetes also have a weakened immune system, and are at a higher risk of infections from open wounds.

When you have diabetes, you might not feel any symptoms at the early stages of these complications. Therefore, it is important to go for regular screening.

For persons with diabetes, it is important to go for diabetic eye screening and feet screening, blood and urine tests at your regular family doctor to detect and treat complications at an early stage.

With regard to the kidneys, our kidneys contain millions of small blood vessels that act as filters to remove waste from our body. Diabetes can affect the kidneys by damaging these small blood vessels. High levels of sugar also results in excessive filtering of blood, putting extra stress on the filters. Injury to small blood vessels and overwork result in leakage of protein in the urine which further damages the kidney in the long run.

We can slow down the damage of kidneys caused by diabetes with 3 steps:

- First, keep blood sugar level within targets by making lifestyle changes and follow your doctor's advice on medical treatment.
- Second, screen for signs of early kidney damage like protein leakage in the urine and receive relevant treatment early.
- Third, stay away from cigarettes and do not indulge in excessive alcohol.

Do also note that high blood pressure and obesity can affect the functions of the kidneys.

Pharmacy

What are the advantages or disadvantages of taking medications or injections, or taking both? How do I know what is suitable for me?

Taking medicines, whether oral tablets or injections, can benefit the heart and kidneys on top of helping to control blood sugar levels. The effects of oral tablets and injections complement one another.

Oral medications may be more convenient, and do not require special storage conditions such as refrigeration. They are also easier to administer compared to injections, which require learning specific injection techniques. However, insulin injections provide greater flexibility in adjusting doses by small amounts. Insulin injections can also be personalised for individuals with erratic meal schedules. Some patients, such as type 1 diabetes patients, will need to be on insulin at all times. In addition, unlike some oral agents, insulins are safe for use during pregnancy and in adolescence.

All in all, your healthcare partner will be able to work with you to select the best regime for your condition and lifestyle. Diabetes is a very complex condition that can vary widely from patient to patient, so what works for one person might not work for another. Speak with your diabetes healthcare team to come up with a regimen that works best for you.

Nursing

I noticed that I have a lump on my tummy at my insulin injection site. What should I do?

The most common reason for developing such lumps are repeated injections at the same injection sites. Do not inject into these lumps until they are completely healed as they may result in erratic or uneven insulin absorption. Always rotate your insulin injection sites in such a way that they are spaced about 1 cm apart to avoid repeat tissue trauma and the development of lipodystrophy, which is the abnormal thinning or thickening of the healthy fat layer in the skin. Pen needles and insulin syringes are all made for single use. Re-using needles or syringes not only increase the risk of developing lumps, it causes more painful injections, risk of skin infections and needle breaking.

As a general guideline:

1. Inject in different areas of the abdomen every time.
2. Do feel your abdomen for lumps before injecting.
3. Seek advice from your healthcare team on these 2 areas if unsure.

The borders are open and I am preparing to travel again. However, I have diabetes and am taking medications. How can I prepare for my travels? How can I manage my diabetes while travelling?

It's a good idea to consult your healthcare team 1 month before travelling, especially if you are taking long flights and crossing time zones, and on insulin. Your healthcare team would then be able to advise you if the timings of your medications and insulin would need to be adjusted.

Before travelling:

1. Obtain a travel memo from your doctor, which indicates your medical condition and medications that you are taking. Keep a soft copy as a backup. You may need this memo in case you lose your medication or need to seek medical consult while travelling.
2. Do your necessary vaccinations at least 2-weeks prior to travel.
3. Obtain travel insurance.
4. Find out where are the nearest local healthcare facilities located along your travel itinerary.
5. When possible, request for a special in-flight meal suitable for persons with diabetes.

In addition, do pack a travel kit, which should contain:

1. Travel memo.
2. Medications and insulin, with at least 1 week extra supply. Take note to not leave them under direct sunlight or in a hot vehicle.
3. Other standby medications e.g. for diarrhoea, fever, antiseptic cream.
4. Glucometer set – you may be doing more activities or eating more than usual. It's good to keep an eye on your blood glucose levels.
5. Hypoglycaemia rescue food e.g. regular sweets, glucose tablets.
6. Snacks, if meals are delayed or taking part in more vigorous outdoor activities It is recommended that this travel kit and other important documents are packed in your hand luggage, in case your check-in luggage goes missing.

During your travels:

1. Wear comfortable seasoned shoes, avoiding wearing new shoes as they may cause blisters/wounds. See a doctor if wounds are not healing.
2. Stay well hydrated.
3. Enjoy your meals and keep a healthy diet! Last thing we want is for your blood glucose levels to be fluctuating and spoiling your trip.

Nutrition and Dietetics

What should we substitute rice/noodles with? Any advice for patients, such as the elderly, who are not used to, or dislike whole grains?

One should opt for whole grains such as brown rice/whole wheat pasta/whole grain bread as they are higher in fibre. Whole grains will not cause sugar levels to spike as much and will leave you feeling fuller longer.

For the elderly who are not used to/dislike whole grains, they can try to start mixing some brown rice with their white rice first instead of changing to full brown rice immediately. They can also opt for low GI rice such as basmati rice or high fibre white bread if they cannot accept brown rice/wholemeal bread.

Patients with newly diagnosed diabetes who would like to learn more about dietary and lifestyle choices through workshops can sign up with the NHG Group Education and Empowerment (GEM) Programme.

Exercise and Physiotherapy

I would like to start exercising regularly. However, I have been sedentary for some time. How should I begin with exercise?

The easiest way would be to increase your daily step count with the various initiatives in Singapore that encourage a more active lifestyle.

So, the average Singaporean takes about 6,000 to 7,000 steps per day. Gradually walk a few minutes more until you achieve 10,000 steps per day. This may take you about 1-2 weeks to achieve. Another way would be to climb the stairs as much as you can!

You can also participate in the National Steps Challenge organised by Health Promotion Board which rewards participants who achieve certain step counts or certain minutes of moderate-vigorous intensity exercise. This is a free initiative and one can simply download the Healthy 365 app to join.

The last thing would be finding like-minded people or a community to work towards a common goal. Such groups would often motivate and encourage each other, especially when the going gets tough. There are mobile apps that allow you "work out together with others", by seeing how another is progressing, e.g. number of active minutes for the day.

Podiatry

What kind of footwear should diabetes patients wear in general?

People who are living with diabetes should wear shoes that are *protective* for their feet. This means that they should avoid the use of slippers and sandals as much as possible.

When selecting shoes, always ensure that the length, width and depth of the toe box (i.e. the part of the shoe that houses the forefoot and toes) is the same as the wearer's feet (i.e. footwear must be able to accommodate any deformity person has). Do NOT get shoes that are too roomy or too narrow.

Good shoes should have a slip-resistant outsole, good supportive midsoles, cushioning insoles, supportive heel counter, constructed with breathable material (such as leather or mesh) and have a restraining property at the front of the ankle (such as Velcro straps, buckles or laces). The most commonly seen shoe that contains many of the above features are sports shoes.

Click on the link below for more in-depth information:

[*A Guide to Appropriate Footwear*](#)
(Tan Tock Seng Hospital Health Library)

Psychosocial

Many of us have different roles and responsibilities – as an employee, a child, a parent, a friend etc. It is already difficult enough to balance all these roles. How can we manage to care for our diabetes?

It is really not easy to juggle diabetes and cope with life's demands. We would suggest:

1. Creating routines - plan ahead and schedule your time as much as possible. Fit in small pockets of time for exercise (e.g. 15 mins walk round the neighbourhood/playground/during lunch time).
2. Meal preparation on non-work days (cook in batches and freeze meals for family/yourself).
3. Involve your family – exercise or go for walks together, cook healthy meals together – you can make this part of your routine as well.
4. Start small and celebrate small successes – Self-care is very important as it helps to improve your mental wellbeing. Treat yourself to something nice, do something that you like or helps you to relax, shopping, massage, etc.
5. Practice gratitude - set aside 5 minutes every night to think about the good things that happened in the day. Journal it or write it down. This practice will help foster positivity.

Additionally, in the World Diabetes Day 2022 Video (Episode 3: Coping Well with Diabetes) we also mentioned that living a balanced life with diabetes involves good self-management. This balance will be constantly shifting and there are bound to be challenges. It will be hard to achieve adherence every time, and when we fall off the target, we need to be kind to ourselves.

At tough times like this, we need to forgive ourselves and take some time to rest and reflect. We should not give up but instead, make baby steps towards the goal from where we are.

We should also remember that we are not alone in our journey, and that support from our loved ones can help us along the way. This not only applies to people living with diabetes, but to everyone wanting to live a healthy and balanced life. A healthy and a balanced life is achievable through baby steps!



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