

# Lifewise

  
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Healthcare  
Group  
Adding years of healthy life

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## BE SAFE, NOT SORRY

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are spread  
and the ways  
to protect  
yourself

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of personality  
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# Turning The Tables on Diabetes

Chan Guan Xiong  
and Menaka  
Krishnan aren't  
letting this illness  
get in the way of  
a full life



FEASTING SMART • AQUA AEROBICS MADE EASY • HEALTHY HOUSE RULES



# BETTER TREATMENT PLANS AND MORE PATIENT EDUCATION MEAN DIABETICS CAN LEAD NORMAL LIVES. BUT THE NEED FOR THEM TO MANAGE THEIR CONDITION IS STILL PARAMOUNT, SAY DOCTORS.

BY NIRMALA SIVANATHAN

IN CONSULTATION WITH **DR LIEW HUI LING**  
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## IN MANY COUNTRIES

**WORLDWIDE**, the threat of diabetes is growing, and

Singapore is no exception. According to the *Yearbook of Statistics Singapore 2012*, the disease currently affects nearly 11.3 per cent of the population. And this number could rise to 15 per cent — or one million adult diabetics — by 2050. The reason for this? An ageing population and one that is getting increasingly overweight.

Doctors both in Singapore and around the world have also seen an increasing number of young adults and children developing Type 2 diabetes, a form of the disease that is typically diagnosed in older adults. Type 2 diabetes is caused by insulin resistance.

“What this means is that cells in the diabetic patient’s body are unable to utilise the insulin produced by the body efficiently,” explains Dr Abdul Shakoor S K, Consultant with the Department of Endocrinology at Tan Tock Seng Hospital (TTSH). Insulin — a hormone produced by the pancreas — helps to bring down blood sugar levels after a meal by converting excess glucose into glycogen which can then be stored by the body. Insulin also helps the body to use up this excess sugar. Both these processes may be impaired in people with Type 2 diabetes.

People with a family history of diabetes are at a high risk of developing Type 2 diabetes themselves. Other risk factors include obesity, age and a sedentary lifestyle. Your ethnic background can also play a part. According to Dr Shakoor, the prevalence of Type 2 diabetes is higher among the Malay and Indian populations, as compared to the Chinese population. A recent survey showed that 15.8 per cent of Indians, 11.3 per cent of Malays and 8 per cent of Chinese in Singapore have diabetes. “However, the prevalence of diabetes among all ethnic groups including the Chinese population is increasing due to changes in lifestyle and increasing obesity,” says Dr Shakoor.

A family history of diabetes and genetics are also risk factors for Type 1 diabetes, which is diagnosed mostly in children and younger adults, but the contribution of genetic factors resulting in Type 1 diabetes is much less compared to Type 2 diabetes. Type 1 diabetes is caused when the pancreas has completely stopped producing insulin. It is managed through the use of daily insulin injections. Although Types 1 and 2 diabetes both develop due to the lack of insulin, the causes for the two kinds are different. Type 1 diabetes occurs when the pancreas stops producing insulin, while Type 2 diabetes occurs when the pancreas does not produce sufficient amounts of insulin.

Another type of diabetes — referred to as gestational diabetes — can also occur in pregnant women who don’t have a history of the disease. Caused by pregnancy hormones that can block insulin from bringing down blood sugar levels, gestational diabetes is referred to as a “pre-diabetic state”. Women who develop this

**THE PREVALENCE OF DIABETES AMONG ALL ETHNIC GROUPS IS INCREASING DUE TO CHANGES IN LIFESTYLE AND INCREASING OBESITY**

DR ABDUL SHAKOOR S K, CONSULTANT WITH TTSH'S DEPARTMENT OF ENDOCRINOLOGY



## (TAKE CONTROL)

kind of diabetes are more likely to develop Type 2 diabetes at a later stage in life.

### It's Complicated

Diabetes itself is not fatal. However, the complications caused by untreated diabetes — when sugar levels are allowed to build up in the blood over a period of time — often are, says Dr Liew Hui Ling, Registrar of the Department of Endocrinology at TTSH. These complications include chronic kidney disease which is when the kidneys stop working and gradually lose the ability to remove waste and excess water from the body. According to the National Health Survey 2010, diabetes is one of the top causes of kidney failure and accounts for about 60 per cent of new kidney failure cases requiring dialysis in Singapore.

Damage can also be done to the heart, blood vessels, eyes and nerves, leading to heart attacks, strokes, and limb amputations. "What is worrying is that most of the complications do not produce any signs in the early stages in the diabetic patient," says Dr Liew.

The good news is that most of these can be prevented with a comprehensive treatment plan. "All it takes is regular medication, blood sugar monitoring, an active lifestyle, healthier food choices, weight management, regular foot care, regular eye screenings and regular visits to the doctor," says Dr Liew.

### HOW TO MONITOR BLOOD SUGAR LEVELS

Illness and stress, in addition to the food that you eat, can affect blood sugar levels. This, in turn, can affect a diabetes management plan. That is why doctors

stress the importance of monitoring blood sugar levels at home to diabetics.

Fortunately, this is made easy by using a device called a glucometer which measures the glucose level in the blood, and which provides essential information on whether medication and lifestyle

are keeping the blood sugar in a healthy range.

The optimal blood sugar level for a non-pregnant diabetic person ranges from 6.1 to 8mmol/L (110 – 144mg/dL) before meals. Optimal blood sugar levels two hours after a meal range from 7.1 to 10mmol/L (128 – 180mg/dL).

### Dealing with the Diagnosis

At polyclinics, Care Managers help patients to manage their diabetes depending on each patient's needs. According to Ms Ng Soh Mui, a Senior Nurse Clinician at Jurong Polyclinic, this begins when a person is newly diagnosed with the disease.

"The Care Manager will start by assessing their emotional state and readiness to talk about their health," Ms Ng explains.

Care Managers also teach patients to better manage their condition and make informed decisions about their treatment plan. Patients are given information about the disease, the prevention and management of complications, exercise, diet and medication. They are also trained to use devices such as blood glucose meters and insulin pens. Care Managers also monitor the patients' health outcomes and coordinate their care by

ensuring that they undergo yearly screenings for diabetes-related complications.

"But ultimately, patients themselves play a significant role in the lifelong management of their diabetes by taking charge of their lifestyle and monitoring their blood sugar regularly," says Dr Liew. "There is no cure for diabetes. But it can be managed effectively."

Managing the disease can be done through lifestyle changes by eating right, being active and practising weight control.

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In Type 1 diabetes and the later stages of Type 2 diabetes, insulin injections might be needed. Bariatric surgery, such as gastric band or gastric bypass procedures, might also be recommended to help severely obese patients control their weight.

In dealing with the diagnosis mentally and emotionally, Dr Robert Isaacs, a Senior Resident Physician at the General Psychiatry Department at the Institute of Mental Health, says that the way to live well with diabetes is to understand what it is, what it means and what needs to be done to monitor the condition.

"Having diabetes is a significant issue, but it certainly does not need to be a death sentence as some people think," Dr Isaacs says. "People who take control of their situation and who make positive, effective changes will feel empowered."

### The Diabetic Diet

One of the most common myths surrounding diabetes is that eating too much sugar causes diabetes. "This is simply not true," says Dr Shakoor. "If you are healthy and diabetes-free, you will not have a high blood sugar level, even if you have been taking in more sugar. However,



unattended, low blood sugar levels can lead to fainting, seizures and even coma.

According to Dr Shakoor, people with diabetes should include starchy carbohydrates in each meal, but limit the portion size. They are also advised to switch to low glycemic index (GI) carbohydrates such as brown rice, wholegrain bread and porridge. Low GI carbohydrates have less of an impact on blood sugar levels. According to the Health Promotion Board, low GI foods take a slower time to raise blood glucose levels and thus are healthier for diabetic patients to consume.

The intake of foods high in saturated fat and salt — such as butter, red meat, full fat milk and salty processed foods — should be reduced. Better choices include skimmed milk, low-fat yoghurt and oily fish such as salmon or mackerel.

Diabetics are also encouraged to limit their alcohol intake to a maximum of two units a day for women and three units a day for men. One unit of alcohol is 10ml. And if you think so-called diabetic foods can help, think again. “These so-called diabetic foods and sweets are expensive, offer no benefits, and have a similar fat content to ordinary food,” says Dr Shakoor. **uw**

diabetics should not consume an excessive amount of sugar as this will worsen diabetes-related complications.”

Diabetics should avoid skipping meals so as to keep their blood sugar levels stable. Not eating regularly alters the balance between food intake and insulin production and utilisation, causing blood sugar levels to eventually drop. A plummeting blood sugar level can cause anxiety, confusion, dizziness, drowsiness, speech difficulties, sweating and tremors. And if left

## Diet Guidelines

POINTERS ON A DIABETIC DIET FROM  
DR ABDUL SHAKOOR S K, A CONSULTANT  
WITH THE DEPARTMENT OF ENDOCRINOLOGY  
AT TAN TOCK SENG HOSPITAL

### GOOD

- Wholegrain pasta and bread
- Porridge
- Low-fat milk and yoghurt
- Salmon
- Mackerel
- Grilled and/or steamed dishes
- Fruits and vegetables

### BAD

- Butter and other saturated fats
- Meat with the skin on
- Full-fat milk
- Fried food
- Carbonated drinks
- Red meat
- Creamy pasta sauces



## FOOT SORES: WHAT'S THE WORRY?

Poorly-controlled diabetes can lead to a higher risk of infections, inadequate wound healing and nerve damage due to poor blood circulation. In poor blood circulation, less oxygen is supplied to the skin; this means skin breakages and lesions heal poorly.

If left untreated, limb amputation or death caused by systemic sepsis (blood poisoning) can occur.

**TIPS ON FOOT CARE FROM HOUGANG POLYCLINIC'S NURSE CLINICIAN (CARE MANAGEMENT) MS WINNIE POH SIEW HUAY**

▶ **Cultivate good hygiene.** Wash your feet daily and dry them well. Pay attention to the areas between the toes. Use this time to check your feet for cuts, redness, blisters or any watery discharge.

▶ **Use the right shoes.** Never go barefoot, even when you are at home. Wear a pair of cotton socks or stockings with your shoes. Socks and stockings should not be too tight. Avoid open-toed slippers.

▶ **Move your feet around.** Perform simple foot exercises daily by rotating and flexing your feet up and down.


▶ **Take care.** Do not soak your feet in very cold or hot water. Avoid acupuncture, massage machines and foot reflexology as these may break your skin. Go for a diabetic foot screening at least once a year.

# Changes for the BETTER

**LIFEWISE FINDS OUT HOW LIFESTYLE TWEAKS HAVE ENABLED THREE DIABETIC PATIENTS TO MANAGE THEIR CONDITIONS AND LEAD HEALTHIER LIVES.**

BY NIRMALA SIVANATHAN AND AUDRINA GAN

## Chan Guan Xiong 19, STUDENT

 **WHEN HE WAS 11 YEARS OLD,** Guan Xiong's parents noticed that their younger child was not being his usual self. He complained of being frequently thirsty and needed to visit the washroom more often than usual. He was also less active than he had been previously.

Worried, his parents took him to Kandang Kerbau Women's and Children's Hospital. A battery of tests later, his doctors broke the unhappy news.

Guan Xiong had Type 1 diabetes. His pancreas — the organ responsible for producing insulin — had stopped functioning and his blood sugar levels were at 17.3mmol/L, more than double the normal level of 6 to 7mmol/L for a healthy person. Insulin is the hormone responsible for regulating carbohydrate absorption.

Guan Xiong was immediately warded and the doctors tried to stabilise his blood sugar levels. Over the next month, the hospital conducted classes for his parents so they would be able to look after him. They were taught to measure Guan Xiong's blood sugar levels at home, monitor his carbohydrate intake and administer the

insulin injections which he would need to take after every meal.

Today, Guan Xiong's diabetes is under control, with his blood sugar level in the optimal range. He still has to self-administer insulin shots three times daily, to regulate his blood sugar levels. He's also careful to watch what he eats as skipping or delaying meals — or even changing the amount of food he eats — can cause problems with his blood sugar control.

"I've gotten used to facing my diabetes every day," says the third-year Accountancy student at a local polytechnic. "But it wasn't always this way."

He recalls a time when he was in Secondary Two that he grew resentful towards his illness. "I remember

asking myself: Why can't I be normal? Why do I need injections every day?" he says.

"I was so sick of it." So he started skipping injections. Luckily, his doctors noticed the spike in his blood sugar levels and sent him for counselling. "I learnt to adapt and deal with my diabetes. I've learnt to live with it."

These days, Guan Xiong lives a relatively normal life. Other than the need

**“ I LEARNT TO ADAPT AND DEAL WITH MY DIABETES. I'VE LEARNT TO LIVE WITH IT ”**







## Menaka d/o Krishnan

55, ASSISTANT NURSE



### WHEN MENAKA D/O KRISHNAN

**WAS DIAGNOSED** with Type 2 diabetes six years ago during a routine health screening, it underscored the need for her to start living healthier. She had already been diagnosed with hypertension and high cholesterol — and this was the final straw.

The hectic nature of her job meant that she didn't get much time to exercise. "When I came home from work, I didn't feel like doing anything," says Menaka who is an Assistant Nurse at Tan Tock Seng Hospital.

Her diagnosis changed that. Now, she tries to incorporate more exercise into her life. She goes for weekly walks around her neighbourhood. She also changed her diet by cutting down on carbohydrates and sugary foods. Today, Menaka has her diabetes under control with a blood sugar level of between 6 and 7mmol/L, down from 14mmol/L when she was first diagnosed. Her cholesterol and blood

pressure levels are also under control.

Menaka herself isn't quite sure what brought on her diabetes. A family history of diabetes is one of the primary risk factors when it comes to the condition but neither of her parents suffered from it. However, she has struggled with her weight most of her life — obesity can be a

contributing factor to the development of diabetes. "My favourite food is chocolate," Menaka admits. "But I eat it in moderation these days." Instead, she has started eating healthier by switching to brown rice and increasing the amount of vegetables in her diet.

One vegetable she has started taking more of is bittergourd. "I heard that it can help with diabetes," says Menaka, who is divorced. In fact, a 2008 study published in the *Journal of Chemistry and Biology* found that compounds in bittergourd extract can reduce blood sugar levels in humans.

Having taken these measures, Menaka has gotten back on track with regard to her health. "I don't believe diabetes is a death sentence," says Menaka. "With the right actions, you can lead a normal life."



**I DON'T BELIEVE DIABETES IS A DEATH SENTENCE. WITH THE RIGHT ACTIONS, YOU CAN LEAD A NORMAL LIFE**

for daily insulin shots, he is able to indulge in regular teenage pursuits such as playing computer games, listening to music and bowling. He even enjoys the occasional game of badminton with his family — though he takes care not to tire himself out. Too much strenuous activity will cause his blood sugar levels to drop, resulting in light-headedness. And as long as these simple rules are observed, the condition doesn't interfere with his daily life.

"I don't feel restricted by my diabetes at all," says Guan Xiong. "My advice to young diabetics is that if you take care, you can live your life like any other person."



PHOTOS: HONG CHEE YAN CLOTHES: ON GUAN XIONG: SPORTS JACKET, WHITE PRINTED T-SHIRT AND PANTS FROM PUMA. ON MENAKA: POLO T-SHIRT FROM UNIQLO, JACKET FROM PUMA.

## Tan Hong Chee 66, SECURITY GUARD

→ **WHEN TAN HONG CHEE WENT TO THE POLYCLINIC** for his regular health screening five years ago, he was diagnosed with pre-diabetes. His blood sugar level was 9.5mmol/L, which exceeded normal levels of between 6 and 7 mmol/L.

Pre-diabetes is a condition in which blood glucose levels are higher than normal but lower than those with full-blown diabetes. This condition is sometimes called impaired fasting glucose (IFG). People with pre-diabetes are at increased risk of developing Type 2 diabetes. But by making a few lifestyle changes — such as eating well and exercising regularly — and taking oral medication, the condition can be managed effectively.

“I did not experience giddiness, fatigue or other symptoms associated with diabetes. I just took the news calmly,”

recalls Hong Chee. Fortunately, he did not need to be put on medication and took the doctor’s advice to reduce his sugar and carbohydrate intake.

Apart from encouraging him to consume less rice, his wife also switched to cooking brown rice when she prepares meals for the family on weekends. When they dine out on weekdays, Hong Chee opts for healthier dishes such as fish soup. Currently, he is also cutting down on his meat intake after his cholesterol level shot up recently. He is also on long-term medication for high blood pressure and has managed to keep his blood pressure levels under control.

Still, Hong Chee — who has a sweet tooth — cannot resist indulging in chocolate

or ice-cream once in a while. “When you come to my age, you want to enjoy life a little. It would be miserable if you cut out everything. I believe that we should eat everything in moderation,” says the 66 year-old. Admitting that he doesn’t drink plain water “unless I need to take my medicine”, he has at least made the compromise of cutting down his intake of carbonated beverages and now solely consumes fruit juice.

Another major lifestyle change was his decision to quit smoking in July this year. A heavy smoker since picking up the habit at 18, Hong Chee admits he sometimes smoked up to two packets of cigarettes a day. He had tried to kick the habit many times in the past without success. “Before, I never convinced myself to quit smoking. Many smokers come up with excuses to continue smoking,” he says.

It was his consideration for his daughter that led him to stub out the habit for good. “I would always smoke in the living room and she found the smoke unbearable,” he says. Since he stopped smoking, Hong Chee says he feels more refreshed and his breath and clothes doesn’t smell of nicotine anymore. Slowly but surely, he is also making other efforts to maintain a healthy lifestyle. For example, during his morning commute he will alight from the bus at Thomson Road and take a seven-minute walk to Toa Payoh where he works as a security guard in a school.

So far, his hard work has paid off. This year, he has managed to bring his blood sugar level down to normal (about 6mmol/L). “I’m happy that I have made some progress in coping with my condition,” he says. “I will continue to go for regular health screenings.” **LW**

“**I’M HAPPY THAT I HAVE MADE SOME PROGRESS IN COPING WITH MY CONDITION, AND WILL CONTINUE TO GO FOR REGULAR HEALTH SCREENINGS**”

