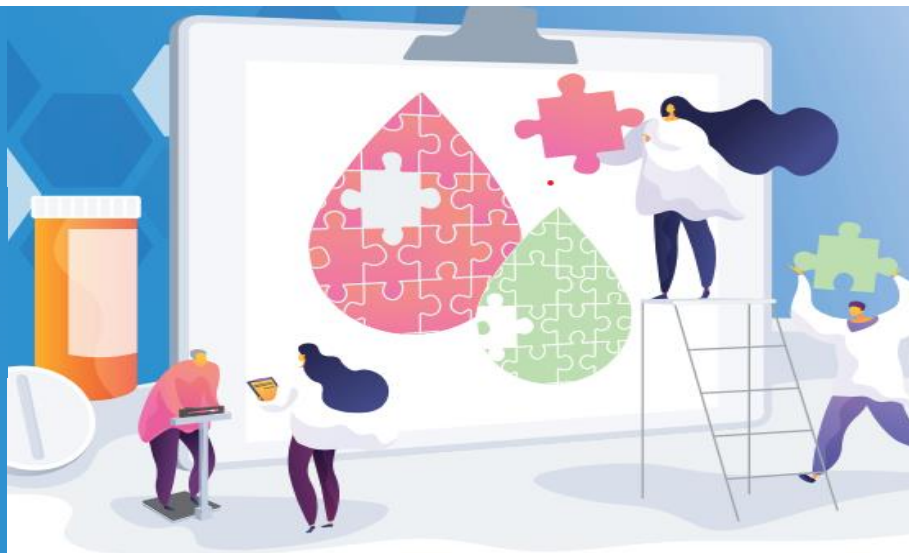


PREVENTION AND MANAGEMENT OF DIABETES & 3-HIGHS, YOUR GREAT COMPANION!

DIABETES AND 3-HIGHS ALLIANCE



Precision medicine to improve quality of care and clinical outcomes in patients with young onset diabetes

Professor Juliana Chan

Chief Executive Officer, Asia Diabetes Foundation and Director, Hong Kong Institute of Diabetes and Obesity, The Chinese University of Hong Kong

Diabetes is a complex progressive disease with a rapidly growing prevalence. Worldwide and locally, up to 10% of the population live with diabetes. Diabetes consumes enormous health care resources with much of the expenditure spent on treatment of diabetes-related complications and hospitalisation.

The Chinese University of Hong Kong (CUHK) Diabetes Research Team analysed data of 770,000 diabetes patients from public hospitals in Hong Kong between 2001 and 2016. They found that the incidence rates of major diabetes-related complications including ischaemic heart disease, heart failure, stroke and leg amputation have declined by 60% to 80% (Fig 1 and Fig 2)¹. There was also a 70% decrease in deaths due to cardiovascular diseases, 60% decrease in deaths due to cancer, and an overall decrease of 50% in all causes of death among people with diabetes².

These improvements are the results of the combined efforts in society, including health care reform, establishment of territory-wide diabetes centres, regular screening of diabetes complications and advances in medical therapy for people with diabetes.

Despite the encouraging trends, these improvements were limited to middle-aged to older age groups, and no improvements were seen in young people. In those aged under 45, the rates of diabetes-related complications and death have remained unchanged over time. In the latest estimates, **young people with diabetes are 5 times**

more likely to die compared with their age-matched counterparts without diabetes.

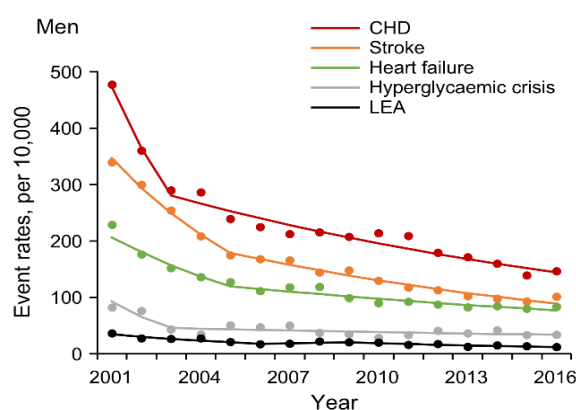


Fig 1 : Age-standardized event rates of diabetes-related complications in men with diabetes¹

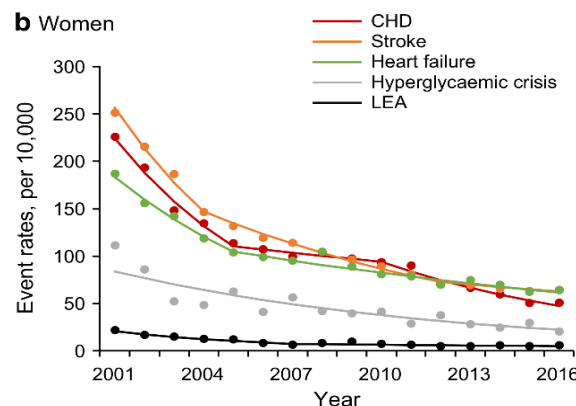


Fig 2 : Age-standardized event rates of diabetes-related complications in women with diabetes¹

*CHD - Coronary Heart Disease; LEA - Lower Extremities Amputation

Using data from the Hong Kong Diabetes Register established by CUHK since 1995, the researchers

reported that life expectancy of people with young-onset diabetes is shortened by 7 to 8 years compared with the general population. On average, a young person with diabetes spent 100 days in hospital in his or her lifetime. Of note, **mental illness is a leading cause of hospitalization during their early days of diabetes**. Here, low level of awareness, delayed presentation, suboptimal treatment adherence, frequent default, competing priorities are some major barriers in young people in managing their diabetes. If the onset of diabetes can be delayed to 65 years old, the number of days spent in hospital can be reduced by up to 29 days.

Besides, while the incidence of diabetes is flattening or plateauing in people over the age of 45, the number of young people with diabetes has been steadily rising. Due to their long disease duration, young patients have many decades of exposure to high blood glucose which can lead to multiple organ damage during their prime of life.

Yet, early diagnosis, good self management, adherence to medications and continuing structured care by a health care team can reduce these complications by 50-60%.

Making the correct diagnosis is the first step towards precision care. In non-obese patients with diabetes, some may require insulin early while some are particularly responsive to certain types of oral medications. The use of biogenetic markers to



classify disease types may also help define these complex causes which will help care team to select appropriate medications and personalize care. The presence of genetic markers for complications will also help doctor make decisions on early use of organ protective drugs. For some rare genetic variants, family screening and pre-pregnancy counselling are also recommended.

Every person with diabetes is different. This is especially the case in young people who may have complex causes, such as environmental, genetic, lifestyles and psychosocial stress that explain their early onset of diabetes.

Some of the common risk factors for young onset diabetes:

- Extremes of birth weight (less than 2.5 kg or more than 4 kg)
- Obesity, especially childhood obesity
- History of childhood illness with exposure to steroid treatment
- Depression and psychosocial stress
- Fatty liver
- Gestational diabetes
- Polycystic ovarian syndrome
- Positive family of diabetes, especially for young-onset diabetes and diabetes that run in several generations

Diabetes is preventable and treatable. Early detection, correct diagnosis, self management and continuing care is critically important especially in young patients. We urge young people with these risk factors to learn more about diabetes and get tested and treated early to protect themselves and their families.

(From left) Professor Ronald MA, Head of the Division of Endocrinology and Diabetes; Dr. Andrea LUK, Associate Professor of the Division of Endocrinology and Diabetes, Department of Medicine and Therapeutics, CU Medicine; and Professor Juliana CHAN, Chair Professor of Medicine and Therapeutics and Founding Director of Hong Kong Institute of Diabetes and Obesity, CUHK.³

Reference:

1 Wu H, Lau ESH, Yang A, et al. Trends in diabetes-related complications in Hong Kong, 2001–2016: a retrospective cohort study. *Cardiovascular Diabetology*. 2020;19(1):60. doi:10.1186/s12933-020-01039-y.

2 Wu H, Lau ESH, Ma RCW, et al. Secular trends in all-cause and cause-specific mortality rates in people with diabetes in Hong Kong, 2001-2016: a retrospective cohort study. *Diabetologia*. 2020;63:757-766. doi:10.1007/s00125-019-05074-7.

3 Faculty of Medicine, The Chinese University of Hong Kong (CU Medicine). CU Medicine Studies Reveal Diabetes Death and Complication Rates Declining - but Not in the Young. <https://www.med.cuhk.edu.hk/press-releases/cu-medicine-studies-reveal-diabetes-death-and-complication-rates-declining-but-not-in-the-young>

A SMOKE BY ANY OTHER NAME... would smell as sweet

This article provided by Qualigenics Medical.

Anti-smoking campaigns often use lung cancer as a key example of the kind of disease a habitual smoker risks developing. However, aside from the other expected respiratory illnesses that can also be caused by tobacco smoking, did you know that diabetes is also linked to smoking? Diabetes mellitus is a disease characterized by high blood glucose levels that result from defects in the body's ability to produce/secrete and/or use insulin. According to the Mayo Clinic in the United States, tobacco smoking has been shown to raise blood sugar levels, which results in increased insulin levels. Over a period of time, sustained high insulin levels can eventually lead to insulin resistance, which increases the chance of developing Type 2 diabetes mellitus. A study by the University of Lausanne in Switzerland showed that smokers have a 44% higher chance of developing Type 2 diabetes compared with non-smokers. This risk also increases with the average number of cigarettes smoked daily.

However, the detrimental health effects do not stop at diabetes, as there are many diabetes related complications, which can include heart disease, eye disease (retinopathy), kidney disease (nephropathy), foot damage, and nerve disease (neuropathy). In fact, more people die from heart disease each year than from lung cancer.

Even quitting smoking does not completely remove the risk of diabetes. In fact, the diabetes risk rises temporarily for smokers who quit. This risk peaks 3

years after quitting, but takes 12 years to fall completely to 0. One possible reason for this increased risk is the probable weight gain after quitting, since obesity is another risk factor for diabetes. Diabetes patients who smoke are more prone to developing diabetes-related complications. Diabetic nephropathy has been proven to be aggravated by smoking. There are also links between smoking and diabetic retinopathy. The development and progress of diabetic neuropathy is also related to smoking. Some studies have also shown that the combination of nicotine and human blood actually raises levels of haemoglobin A1C (HbA1C, which is a standard indicator of blood sugar content in the body) by as much as 34%.

This is an indication that nicotine replacement products, such as nicotine patches and nicotine inhalers, may not be a safe option for diabetes patients. Even electronic cigarettes, which purportedly contain less nicotine per puff than a normal cigarette, may not be suitable for diabetes patients. Although some studies have found that smoking electronic cigarettes does not show signs of nicotine in the blood system, this alternative is still relatively new to the market and longer-term effects have yet to be studied. To minimize the risk of developing Type 2 diabetes, the best practice is to avoid smoking. For non-smokers, exposure to second-hand smoking also increase diabetes risk. As for smokers, the sooner the habit is kicked, the sooner the risk can be eliminated.

! Tips to quit smoking

When you start to quit smoking, you'll still have urges for a cigarette. As your urge will last for just a few minutes, you will be able to get it over.

Delay

When you want to buy, pick up or light a cigarette, slow down your action and steps, recall your reasons of quitting. In a few minutes, you will get over your urge.

Distraction

Wash your face, listen to your favourite music or talk to others in order to let yourself 'calm down'. You may also take a short break or do some stretching exercises for diverting your attention on the urge.

Deep breathing and drink water

Deep breathing and drinking water could help you defeat your urge to smoke. You can relieve your stress and regain your concentration by doing breathing exercise slowly.

Avoid triggers

- Avoid environment that is filled with secondhand smoke and refuse any invitation to smoke.
- Avoid drinking alcohol as it may lower your vigilance to smoking.
- Avoid caffeine-containing drinks such as coffee, strong tea, cola, etc. These drinks may provoke cravings.
- If you used to smoke when you feel bored, why not do something else such as planting, keeping pet, jogging, doing exercise and making use of community resources, such as participating courses in community centres.

Source: *Prevent the Preventable*, Asia Diabetes Foundation (www.dibetesrisk.hk)

Know more about Gestational Diabetes Mellitus

This article provided by GemVCare.

Pregnancy and motherhood can be the greatest joy in life! But worries are inevitable. Gestational diabetes - a severe and often neglected condition to maternal and child health, should be brought to expectant mothers' early attention. According to IDF Diabetes Atlas 2019, 1 in 7 pregnancies was affected by gestational diabetes¹ and should not be taken lightly.

What causes Gestational Diabetes Mellitus (GDM)?

Expectant mothers' need for insulin increases as pregnancy progresses coupled with weight gain. Normally, the pancreas is able to secrete additional insulin, however, when the production of insulin is insufficient to overcome the increase in demand, it results in gestational diabetes. Gestational diabetes usually occurs during week 17-28 of pregnancy². Currently, oral glucose tolerance test (OGTT) is a common test for gestational diabetes screening. A liquid containing a certain amount of glucose is to be ingested followed by multiple blood samples taken at specific intervals after the glucose drink is consumed. Pregnant women are recommended to undergo OGTT during week 24-28 of pregnancy.

The implications of GDM³

For babies:

- Excessive birth weight - may call for the likelihood of cesarean delivery or induced labour
- Premature birth
- Low blood sugar and episodes of hypoglycemia after birth - may cause seizures
- Increased risk of developing type 2 diabetes and obesity later in life
- Stillbirth though rare

For mothers:

- Daily blood glucose testing and/or treatment with insulin injections
- Increased risk of high blood pressure and preeclampsia

- Increased risk of having GDM in future pregnancies
- Women with GDM are 7 times more likely to develop type 2 diabetes later in life⁴

**The above information is in comparison with mothers without GDM and their children*

Prediction of GDM?

Genetic testing has emerged as a novelty to assess the risk of developing gestational diabetes as well as postpartum high blood sugar prior to pregnancy and/or at early pregnancy - something conventional blood sugar tests would not reveal. In addition to GDM risk prediction, it could indicate whether early OGTT might be beneficial. The results would also provide a personalized pregnancy weight gain suggestion as well as an individualized postnatal weight control and blood sugar level recommendations in accordance with your risk index of having postpartum high blood sugar - to help all the expectant mothers out there to prepare for the arrival of a newborn and embrace the wonders of motherhood.

For further information about gestational diabetes risk assessment, please seek professional advice and consult a doctor.



Reference:

- 1 International Diabetes Federation. IDF Diabetes Atlas, 9th edn. Brussels, Belgium: International Diabetes Federation, 2019.
- 2 The Family Planning Association of Hong Kong. (2012, October 1). Gestational diabetes. <https://www.famplan.org.hk/zh/resources/feature-articles/detail/pm1207>
- 3 United Kingdom National Health Service. (2019, August 6). Overview gestational diabetes. Health A-Z. <https://www.nhs.uk/conditions/gestational-diabetes>
- 4 Bellamy L, Casas JP, Hingorani AD, Williams D. Type 2 diabetes mellitus after gestational diabetes: a systematic review and meta-analysis. *Lancet*. 2009;373(9677):1773-9.

Lowering bad cholesterol level

This article provided by AXA.

Cholesterol and health: How to reduce cholesterol level?

Saturated fat and trans fat can increase bad cholesterol level. We should reduce the intake of these 2 types of fat. The major source of saturated fat includes animal fat (e.g. skin and fat layer of the meat), palm oil and coconut oil. Trans fat is usually found in fries, margarine, non-dairy creamer, salad dressing bakery products with shortening and hydrogenated oil, such as cookies, cakes and tarts, etc.

In our diet, we can reduce saturated fat and trans fat by:

Remove poultry skin, avoid eating bones and belly as these parts usually contain more fat. Before cooking, remove the visceral fat because the fat in the skin will be absorbed into the meat by the heat and makes it hard to reduce the saturated fat intake.

Reduce intake of coconut products such as coconut milk and coconut cream. Suggest choosing low fat

coconut products and check the saturated fat level on the nutrition information panel.

When choosing dairy products, avoid choosing high fat versions. We should choose low fat milk, skim milk and low fat yogurt.

Reduce using animal fat for cooking, such as lard and butter. Use plant oil with lower saturated fat.

Reduce consuming instant noodle and biscuits as they usually contain palm oil, we should choose rice vermicelli, macaroni and other healthy snacks, such as nuts and fruit.

In addition, we should eat more soluble fiber containing food, such as oat, lentils and fruits etc. We should add these ingredients to the diet, such as adding oat to make steamed pork patty, congee, rice, lentil soup and lentil curry.

Remarks: Health Information jointly provided by Asia Diabetes Foundation and GemVCare

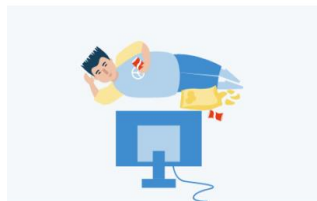
Risk factors of high cholesterol

MODIFIABLE RISK FACTORS



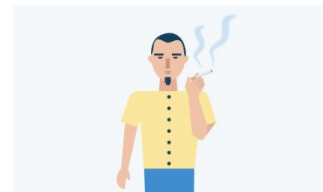
Unhealthy diet

- includes diet with high saturated fat and trans fat, may lead to high cholesterol and higher risk of conditions such as heart disease.



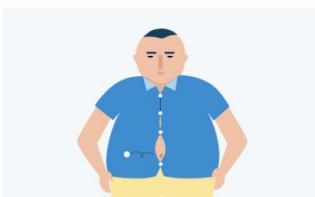
Lack of physical activity

- may contribute to weight gain and may lead to high cholesterol.



Smoking

- may damage your blood vessels and also lower the HDL ("good") cholesterol.



Excess weight and obesity

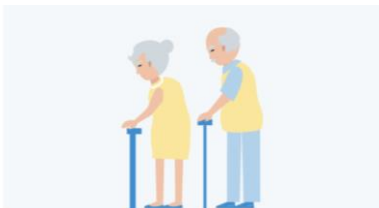
- is linked to higher LDL ("bad") cholesterol lower HDL ("good") cholesterol and higher triglycerides level. Overweight is also linked to increased risk of some cancers, diabetes and high blood pressure.



Having type 2 diabetes

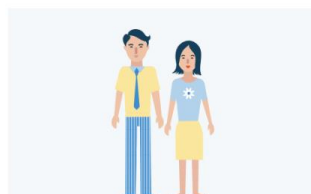
- may lower HDL ("good") cholesterol, and raises LDL ("bad") cholesterol, hence increases the risk of heart disease and stroke.

NON-MODIFIABLE RISK FACTORS



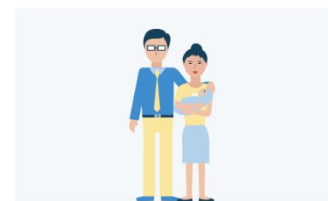
Age

- Risk for high cholesterol goes up with age. As we age, our bodies can't clear cholesterol from the blood as well and may lead to higher cholesterol.



Gender

- Men tend to have lower HDL ("good") cholesterol than women. While premenopausal women tend to have lower LDL ("bad") cholesterol than men.



Family history

- If you have a family history of high cholesterol, you will have a higher risk of having high cholesterol as well. You are recommended to get your cholesterol checked more often.

Source: Prevent the Preventable, Asia Diabetes Foundation (www.diabetesrisk.hk)

Eat less to control diabetes? Controlling diet helps to stabilize blood glucose

Dr. Tong Chun Yip, Peter

Specialist in Endocrinology and Diabetes

Controlling your diet is the key to controlling diabetes. Dr. Tong Chun Yip, Peter, a senior Specialist in Endocrinology and Diabetes, stated the biggest problem for people with diabetes is they often do not understand why they should control their diets. They think visiting a doctor and taking medicine are enough. In fact, controlling diet is the key to control diabetes.

Controlling diet doesn't mean giving up all your favorite foods. Diabetes patients can pay attention to food categories, calories, including carbohydrates and oil potions and Glycemic Index. By choosing suitable food, it's not hard to control diet.

Dr. Tong recommended diabetes patients can have meal replacement for breakfast, total energy and fat proportion must be lower than their normal breakfast. They can consider diabetes specific nutritional supplement which is in low sugar, fat and protein proportion meets the American Diabetes Association recommendations. Diabetes specific nutritional supplement helps patients to sustain sense of fullness and stabilize blood glucose or control weight. Having at least five meal replacements a week or consume it for three consecutive months as to obtain the best result.

People with diabetes can have a balanced diet with a lot of food choices.

HEALTHY EATING TIPS FOR PEOPLE WITH DIABETES



Eat regular food portions at regular intervals and have many meals but with only small amounts each time in order to maintain stable blood glucose levels.



Follow a diet of "3 Low, 1 High", meaning low sugar, low fat, low sodium and high fibre.



Avoid drinks with high sugar content and control your intake of food containing sugar (including fruit). Choose sugar-free beverages or drinks using sugar substitutes such as sugar-free tea and diet soft drinks.



Choose low glycaemic index (GI) foods such as whole grains, beans, lentils, kiwi fruit and apples.



Prolonged boiling of long-boiled soup with ingredients such as pork bone or fatty meat will make the soup higher in carbohydrates and fat content. Excessive consumption might affect blood sugar levels. Avoid frequent consumption of long-boiled soup. As an alternative, you may choose short-boiled soup.



Learn about the carbohydrates counting and exchanges of various types of food from professionals such as dietitians. Learning to choose and eat appropriate amounts of carbohydrates can help to control blood sugar effectively.



If you need insulin injections or take oral antidiabetic drugs, rely on your individual needs to increase snacking between meals.



Have 2-hour postprandial blood glucose tests regularly and understand the effects of different foods on blood glucose levels.

Source: Prevent the Preventable, Asia Diabetes Foundation (www.dibetesrisk.hk)

Members of the Diabetes and 3-Highs Alliance

As a member, you will receive our regular newsletters and updated information by email including activities such as outreach program and education talk. Also you will have priority in signing up or joining these alliance activities at membership rate. Please fill in below information and submit to Asia Diabetes Foundation for becoming our members: (1) Fax: (852) 2647 6624; or (2) Post to Unit K, 4/F, Haribest Industrial Building, 45-47 Au Pui Wan Street, Shatin, N.T., Hong Kong; or (3) Email: enquiry@adf.org.hk; or (4) Scan the QR Code (Diabetes and 3-Highs Alliance www.diabetesrisk.hk/register) for online submission.

Online registration form



diabetesrisk.hk/register

Member information

**Required*

Chinese name*: _____ English name*: _____
Age*: 18-25 26-35 36-45 46-55 56-65 66-75 76 or above
Gender*: Male Female
Email*: _____ Tel no.: _____
Address: _____

Personal Information Collection Statement

Your hereby provided personal information will be used for the purpose of communication, survey, application, dispatch of Diabetes and 3-High Alliance's newsletters or promotion of events (which may or may not include messages or participation of other organizations or companies). Apart from personnel duly authorized by the organization, no one will be given access to your personal information. In accordance with the personal data (privacy) ordinance, you have a right to request access to and correction of your personal data provided. Request for personal data access and correction should be addressed to Asia Diabetes Foundation in writing.

Declaration

- I declare that all information given in this application is correct and complete to the best of my knowledge and belief. ADF reserves the right to reject any application without providing explanation to the applicant.
- I fully understand and agree with the "Personal Information Collection Statement" listed above.
- I do not want to receive the Diabetes and 3-High Alliance's Newsletter or activities promotion information.

Signature: _____ Date: _____

HEALTH FACTS

- Nearly 10% have diabetes. Almost half of them are unaware they have diabetes.
- Nearly 18% have high blood pressure.
- About 14% have high blood lipid or cholesterol.



Reference: The Centre for Health Protection, Department of Health, the Government of the Hong Kong Special Administrative Region.
Report of population health survey 2014/15, 2017.

Members of the Diabetes and 3-Highs Alliance Member Benefits



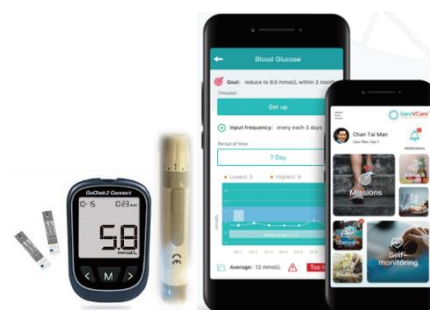
Let's register as a member, receive a free sachet and enjoy 'buy one get one free' on your first purchase!



GemVCare

<SUGAR CRUSH FUN> Personalized Diabetes Management Kit and Points Redemption Scheme

Measuring blood sugar has become an important part of self-management for people with diabetes. Finger pricking and taking regular readings day after day can become mundane and boring over time. To encourage and reward everyone to develop the habit of self-monitoring while making the process more manageable and enjoyable, members of "Diabetes and 3-Highs Alliance" can purchase the <SUGAR CRUSH FUN> Personalized Diabetes Management Kit at an exclusive price of HK\$ 300, inclusive of: GocheK2 blood glucose meter, lancing device, lancets (100 pcs), test strips (100 pcs). Members can also enjoy a complimentary access to the MyGem App digital health management platform as well as to win a free redemption of test strips. Limited Time Offer - Act Now While Supplies Last!



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For details of the points redemption scheme and terms and conditions, please scan the following QR code or contact GemVCare Customer Service at 2809 2893.



AXA BetterMe is a holistic wellness platform with a comprehensive suite of programmes and services covering:

- Physical wellness support
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Customers who hold a designated policy* are eligible to access the full suite of services thus being equipped to become stronger and more resilient, and achieve an all-rounded healthy lifestyle to become a BetterMe!

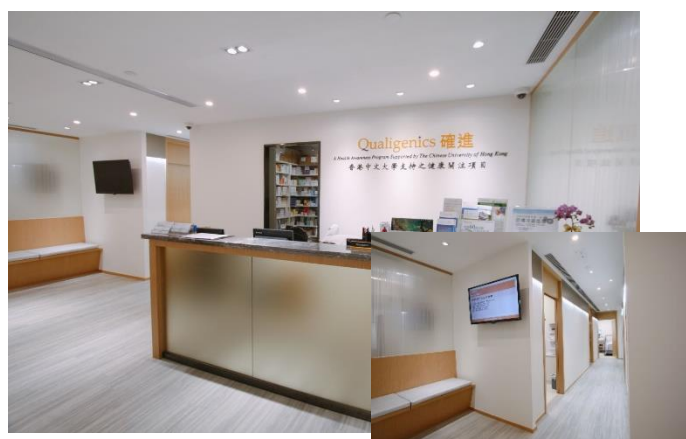


Remarks: For details of the Programme, please refer to this page (<https://www.axa.com.hk/en/diabetes-and-3-highs-alliance-newsletter>).

[Know more](#)

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A Health Awareness Program Supported by The Chinese University of Hong Kong
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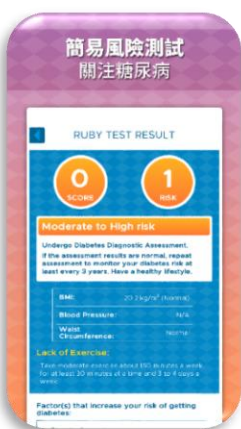


Patient who has a new appointment with Diabetes Specialist at Qualigenics can enjoy a HbA1c test for free (Price: \$290) upon his/her first consultation.

HbA1c is the average blood glucose (sugar) levels for the last three months. The results can give us a good indication of how well the diabetes is being controlled.

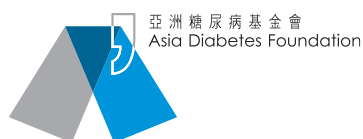
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About

The Asia Diabetes Foundation (ADF) is a charitable organisation, governed by the Chinese University of Hong Kong Foundation, developed to initiate and implement medical, scientific and academic research activities to collect and translate current evidence into prevention and control strategies for diabetes and other chronic diseases. ADF is dedicated to promote informed decision making in order to enhance the sustainability, affordability and accessibility of chronic care.

Tel: (852) 2637 6624
Website: www.adf.org.hk

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About Diabetes and 3-Highs Alliance

Diabetes, hypertension or hyperlipidaemia are the top three chronic diseases in Hong Kong. Together with obesity (high body weight), underlie the 4 critical illnesses in Hong Kong people including heart disease, stroke, kidney disease and cancer. With the increase in the population of diabetes and "3-Highs", which has increased the burden on society, the "Diabetes and 3-Highs Health Alliance" is committed to raising public awareness of diabetes and "3-Highs" in order to maintain health and prevent diseases.



Members and Sponsors



Abbott founded in 1888 by operating in the form of a small pharmaceutical factory under the name of "People's Drug Store" in the United States, implemented "At one's healthiest and life to the fullest". The full range of products from nutrition and diagnostic products to medical devices and medical treatment solutions run through all ages to fulfill health needs from infants to older adults. Through more than 130 years of research experience and countless clinical evidences, Abbott has continuously launched and improved high-quality formulae to cater for the health needs of different ages around the world.



AXA Hong Kong and Macau, a member of the AXA Group, prides itself on serving over 1.3 million customers in the region. In addition to being the #1 global Property & Casualty commercial lines insurer, we are also one of the largest health protection providers in Hong Kong and Macau.



GemVCare, founded in 2014, is a Hong Kong based bio-genetic testing company specialized in diabetes. Our patented technology is based on 20+ years of big data and the world's first discovery of diabetes genes specific for Asian population. We dedicate ourselves to diabetes prevention and providing health management solutions to our community.



Qualigenics aims to integrate all aspects of specialist disease management, providing all-rounded medical treatments for patients suffering from chronic diseases such as diabetes, cardiovascular disease and related complications. As the saying goes, prevention is better than cure. This is why we put our emphasis on education and health management to raise awareness on disease prevention and control.



For more than a century, MSD, a leading global biopharmaceutical company, has been inventing for life, bringing forward medicines and vaccines for many of the world's most challenging diseases.