



Chinese Community Health Resource Center (CCHRC)
華人社區健康資源中心

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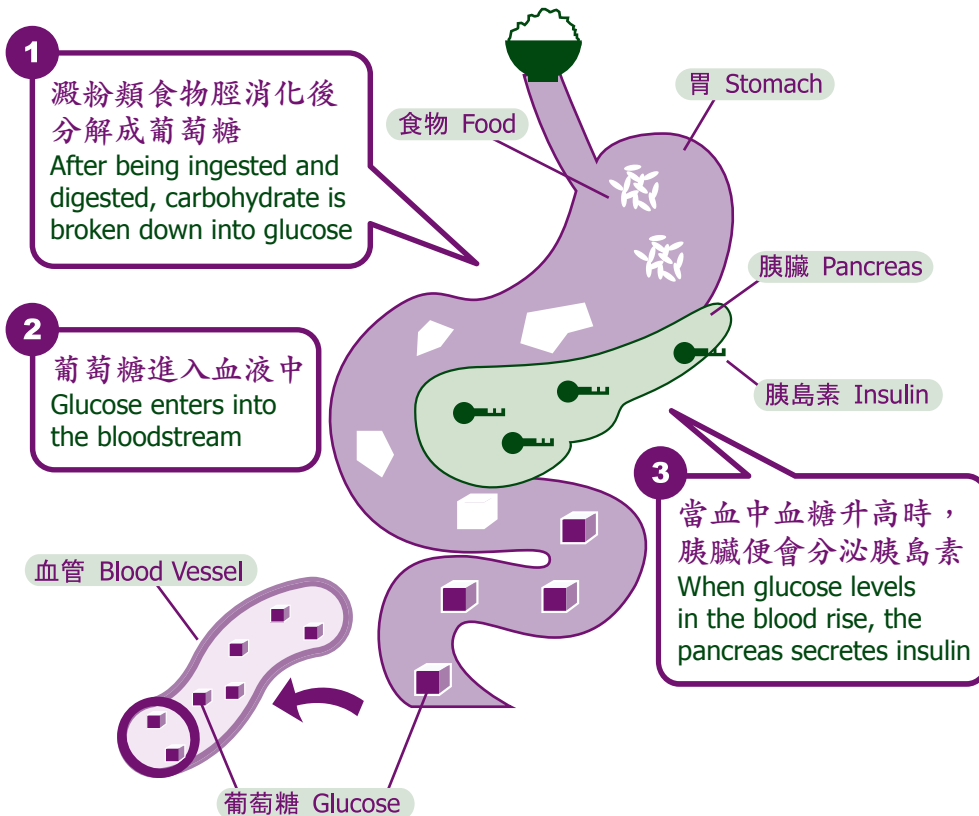
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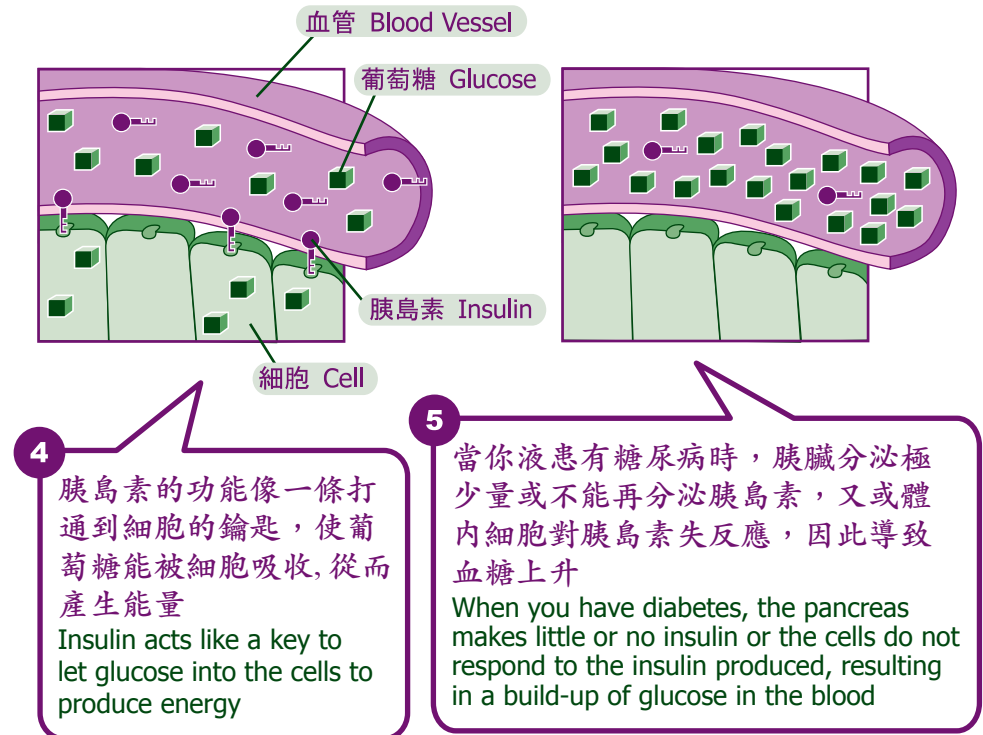
I. 甚麼是糖尿病？

糖尿病是指身體不能正常地吸收食物中的糖和澱粉質(碳水化合物)的一種疾病。澱粉類食物被消化後分解成葡萄糖。人體利用葡萄糖作為能源。進食後，血液內糖份增高，胰臟便會分泌一種激素稱為胰島素。胰島素的功用是使葡萄糖能被細胞吸收，從而產生人體所需能源。糖尿病患者因胰臟不能產生適量的胰島素或胰島素失去其正常的功能，因此糖份便會在患者的血液內積聚起來，引起“血糖過高症”。當血糖過高時，尿液中便會出現糖份。



I. What is Diabetes?

Diabetes is a condition in which your body is unable to properly use the sugars and starches (carbohydrates) that you eat. When food is digested, much of it is turned into GLUCOSE, a form of sugar that the body uses for fuel. The pancreas, a gland near the stomach, produces a hormone called INSULIN, which helps the glucose enter the cells to produce energy. When you have diabetes, your body does not make enough insulin or the insulin produced does not function properly. As a result, glucose cannot get into the cells and begins to build up in the bloodstream leading to a condition known as “HYPERGLYCEMIA” or high blood sugar. When the level of glucose becomes too high, it spills into the urine.



II. 糖尿病の種類

第一型糖尿病

一型患者通常發病於童年或青年期間。因患者胰臟所產生的胰島素極少，或完全缺乏，所以必須注射胰島素以補不足。控制第一型糖尿病的方法包括：

- 每日注射胰島素
- 遵照控制糖尿病飲食的原則以改善飲食習慣
- 定時運動

第二型糖尿病

二型患者是因胰臟分泌少量胰島素或細胞對胰島素產生抗拒作用。二型糖尿病是一種最為普遍的糖尿病，任何人都有可能患上。患者需改善生活方式及使用藥物來控制。如患者肥胖，應控制體重。



妊娠糖尿病

這類糖尿病發病於懷孕期間。病症通常會在產後消失，但有些患者也可能在日後患上第二型糖尿病。患者需改善生活方式及使用藥物來控制。

II. Types of Diabetes

Type 1 diabetes

People with type 1 diabetes make very little or no insulin. This type of diabetes usually starts in childhood or adolescence but may occur at any age. Type 1 diabetes can be managed by daily insulin injections, a diabetes meal plan and regular exercise.

Type 2 diabetes

People with type 2 diabetes make some insulin but not enough, or the cells fail to respond to the insulin produced. Anyone can develop type 2 diabetes, the most common form of diabetes. This type of diabetes can be controlled by lifestyle changes and diabetes medications. If you are overweight or obese, losing weight can improve your body's ability to use insulin.

Gestational diabetes

This type of diabetes appears during pregnancy and usually disappears following delivery. However, women with gestational diabetes may develop type 2 diabetes later on in life. Gestational diabetes can be controlled by lifestyle changes and diabetes medications.

III. 如何診斷糖尿病

驗血可以測試出糖尿病前期和糖尿病。空腹血糖檢驗正常值為 100mg/dl (100 毫克/公合) 以下。空腹的意思是指至少在八小時內沒有進食過任何東西。糖化血紅蛋白 A1C 是測量過去三個月以來的平均血糖度數。正常 A1C 是低於 5.7%。診斷糖尿病前期和糖尿病通常有以下的方法:

糖尿病前期:

- 空腹血糖指數在 100-125mg/dl 之間
- 或口服葡萄糖耐受性試驗 (Oral Glucose Tolerance Test) 的血糖在 140-199mg/dl 之間
- 或血糖血紅素 A1C 在 5.7-6.4% 之間

糖尿病:

- 空腹血糖指數在 126mg/dl 或以上*
- 或口服葡萄糖耐受性試驗 (Oral Glucose Tolerance Test) 的血糖高達 200mg/dl 或以上*
- 或血糖血紅素 A1C 在 6.5% 或以上*
- 或隨機血糖指數高達 200mg/dl 或以上，並有高血糖症狀*

* 需在兩次不同日期驗測，以確定患有糖尿病



III. Diagnosis of Diabetes

A blood glucose test can detect prediabetes and diabetes. A normal fasting blood glucose level is less than 100 mg/dl. Fasting means no food intake for at least 8 hours. Hemoglobin A1C reflects the average blood sugar over the last 3 months. A normal A1C level is less than 5.7%.

The criteria for diagnosing prediabetes and diabetes are as follows:

Prediabetes:

- Fasting blood glucose level between 100-125 mg/dl
- OR Oral Glucose Tolerance Test (OGTT) value between 140-199 mg/dl
- OR hemoglobin A1C level between 5.7%-6.4%

Diabetes:

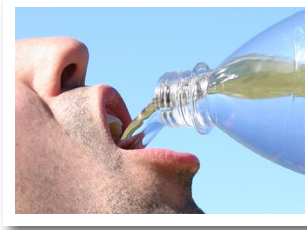
- Fasting Plasma Glucose (FPG) level greater than or equal to 126 mg/dl*
- OR Oral Glucose Tolerance Test (OGTT) value greater than or equal to 200 mg/dl*
- OR hemoglobin A1C level greater than or equal to 6.5%*
- OR Random (Casual) Plasma Glucose level greater than or equal to 200mg/dl with classic symptoms of hyperglycemia (high blood sugar) or hyperglycemic crisis*

* all tests must be repeated on a second day

IV. 糖尿病症狀

糖尿病症狀因人而異。有些患者可能沒有任何症狀。最普遍症狀包括有以下幾種：

- 體重下降
- 容易疲倦
- 常感口渴
- 食慾增加
- 頻尿及尿量增加
- 傷口痊癒緩慢
- 視力減低
- 皮膚發癢
- 足部感到刺痛或麻木



V. 罹患糖尿病的因素

- 家族史
- 缺乏運動
- 肥胖
- 高血壓
- 高血脂
- 好膽固醇 (HDL) 過低
- 孕期糖尿
- 年齡 (通常 45 歲或以上人士容易患此症)
- 亞裔，非洲裔，美國印第安人，西班牙裔及太平洋島國人仕

IV. Symptoms of Diabetes

Symptoms vary from person to person. Some may have no symptoms at all. The most common are:

- Rapid weight loss
- Fatigue
- Increased thirst and urination
- Frequent hunger
- Blurred vision
- Slow healing wounds
- Tingling or numbness in feet
- Itchy skin

V. Risk Factors for Development of Diabetes

- Family history
- Physical inactivity
- Obesity
- High blood pressure
- High triglycerides (blood fats)
- Low HDL (good) cholesterol
- History of diabetes during pregnancy
- Age (usually affects people age 45 and older)
- Persons of the following descent: Asian American, African American, Native American, Hispanic American, and Pacific Islander



VI. 未能控制糖尿病所引起之併發症

1. 糖尿病性昏迷或酮酸中毒

這病情是由於血糖過高，以致血液內的酮酸成份積聚引起。酮酸其實是身體分解脂肪時產生的一種物質，若體內積存過多，將引起昏迷甚至死亡。酮酸中毒症狀包括噁心、嘔吐、胃部抽搐、經常口渴、呼吸時很費力及呼氣帶果酸味等。控制血糖可以預防酮酸中毒。

2. 感染

糖尿病患者比較容易受到口腔、泌尿系統、陰道、腳部及皮膚感染。

3. 糖尿病性神經系統疾病

神經系統受損會引發一連串不同的病狀。例如失去性功能、四肢刺痛或失去知覺、肌肉衰弱、腸胃功能失調等。

4. 循環系統及心臟血管併發症

糖尿病患者較容易出現血管硬化，因而增加患上心臟病及中風的機會。除此以外，血液循環功能減退亦會令足部肌肉壞死，並可能需要動手術把壞死部份切除。

5. 糖尿病性視網膜病

糖尿病會導致眼部血管脆弱、受損，使視力模糊甚至永久失明。

6. 腎衰竭

由於糖尿病患者的血液積存過多糖份，導致腎臟內的微細血管受到破壞；時間越久，腎臟功能亦會因而受損。

VI. Complications of Uncontrolled Diabetes

1. Diabetic Coma or Ketoacidosis

This condition is a result of accumulation of ketones in the blood due to very high blood glucose levels. Signs of ketoacidosis are nausea, vomiting, stomach cramps, deep and labored breathing, intense thirst, and fruity smelling breath. Ketones are the by-products of fat breakdown, and excessive levels can lead to coma and death. Ketoacidosis can be prevented by keeping blood glucose levels under control.

2. Infections

Diabetes increases chances of infections of the mouth, urinary tract, vagina, foot, and skin.

3. Diabetic Neuropathy

Nerve damage can cause a variety of symptoms such as sexual impotence, tingling or loss of sensation in the hands and feet, muscle weakness, and problems with digestion.

4. Circulatory and Cardiovascular Complications

People with diabetes have an increased risk for heart disease and stroke. Decreased circulation to the limbs may lead to gangrene in the toes and feet, resulting in amputation.

5. Diabetic Retinopathy

Weakened or damaged blood vessels in the eye can cause blurry vision and blindness.

6. Kidney Failure

High blood sugar levels may damage the tiny blood vessels in the kidneys. Over time, kidney damage can occur.

VII. 控制糖尿病的方法：

A. 糖尿病飲食計劃

如果你腎臟功能有問題，你需要遵從特別的飲食計劃，限制鉀，鈉，磷和蛋白質的攝入量。你可以向你的醫生或註冊營養師諮詢有關合乎你病情的適當膳食計劃。

糖尿病飲食規則

1. 定時飲食及保持良好的飲食習慣，每日應包括三小餐及一至兩次的小吃，並選擇合適的食物種類及適當的份量。最好每隔四至五小時吃一小餐。
2. 多選擇含纖維素高的食物，如糙米 (brown rice)、乾豆類 (黃豆、眉豆、黑豆等)、全麥麵包 (100% whole wheat)、麥片 (oatmeal)、鮮果和蔬菜等。
3. 選擇低脂肪蛋白質類食品，如瘦的肉類、魚類、海鮮、雞胸肉、豆腐和蛋白等。肉類應切除脂肪和皮。適量進食果仁、種子 (瓜子) 和花生醬等。每日進食大約五到七安士蛋白質。
4. 多選用蒸、灼、炆、煲和烤的烹飪方法。
5. 烹飪時可用少量的植物油，如菜籽油 (canola oil) = 或橄欖油 (olive oil) 等。每日可進食五到六茶匙油。

VII. Management of Diabetes

A. Diabetes Meal Planning

If you are already having problems with your kidneys, you will need to follow a more specialized diet which limits your intake of potassium, sodium, phosphorous and protein. Consult with your doctor or a registered dietitian regarding an appropriate meal plan for your condition.

Principles of Diabetes Meal Plan

1. Eat at regular times and maintain healthy eating habits. Consume 3 small meals and 1-2 snacks daily. Include appropriate servings from each food group at each meal. Ideally, you should eat every 4-5 hrs.
2. Include foods high in fiber such as brown rice, dried beans, whole grain breads and cereals, fresh fruits, and vegetables.
3. Choose protein foods low in fat such as lean meats, fish, seafood, chicken breast, tofu, and egg white. Remove all visible fat and skin from meat. Nuts, seeds, and peanut butter may be eaten in moderation. Aim for 5 to 7 ounces of protein per day.
4. Prepare foods by steaming, braising, boiling, or baking.
5. Use a small amount of vegetable oil in cooking. Choose canola oil or olive oil. About 5 to 6 teaspoons of oil may be used daily.

6. 多選用低鈉質的調味品及配料，如芹菜、蒜頭、薑、青椒、洋蔥、香菜、芫茜、香草、胡椒、咖喱粉、五香粉、花椒、八角、辣椒、醋和檸檬汁等。
7. 可以適量選擇無糖飲品或食品 (Diet or sugar free)、清湯、咖啡和茶等。
8. 減少用糖類，如砂糖、黃糖、冰糖和蜜糖等。若要加糖可用適量假糖代替，如 Sweet & Low, Equal, Splenda 等。
9. 減少進食含糖的食品，飲品或調味品，如甜豆奶、波霸奶茶、汽水、煉奶、甜包、果醬、糖果及各類甜品、甜酸食物、燒烤醬、番茄醬、海鮮醬、甜麵醬、酸梅醬和蠔油等。
10. 減少吃白飯，粥，糯米及米類製品，如腸粉、米粉、河粉、粽、湯丸、年糕。
11. 減少吃高澱粉質的水果，如香蕉及榴槤。
12. 以下的食物，含高澱粉質及糖份 (碳水化合物)，需酌量食用。

飯、麵、粥、粉、麵包、麥片、餅乾、番薯、薯仔、芋頭、淮山、薏米、葛、粟米、青豌豆和乾豆類等	每餐大約一碗飯/麵/麥片或二片麵包 (一碗 = 八安士)
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水果	每日二至三個小型水果
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牛奶 (脫脂 Fat Free 或 1% 低脂 Low fat) 或加鈣純豆奶	每日大約二杯 (一杯 = 八安士)
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6. Use low sodium seasonings: celery, garlic, ginger, green pepper, onion, parsley, cilantro, herbs, black pepper, red pepper, curry powder, five spice powder, peppercorns, anise, chili pepper, vinegar, and lemon juice.
7. Sugar-free products, diet soda, broth, coffee, and tea may be consumed in moderation.
8. Reduce sugar (white sugar, brown sugar, corn syrup, honey) in foods or beverages. Sugar substitutes such as Sweet'N Low, Equal, or Splenda can be used in moderation to provide sweetness.
9. Reduce sugar-containing beverages, foods, and condiments such as sweetened soy drinks, bubble tea, soda, condensed milk, sweet buns, jams, candies, desserts, sweet and sour foods, BBQ sauce, ketchup, hoisin sauce, sweet bean paste, plum sauce, and oyster sauce.
10. Limit white rice, rice porridge, glutinous (sticky) rice and rice products such as rice noodles (cheong-fun, mei-fun, ho-fun), zong, rice balls, and rice cakes.
11. Eat less of starchy fruits such as bananas and durian.
12. The following foods contain mostly starches and sugars (carbohydrates) and should be consumed in moderate amounts:

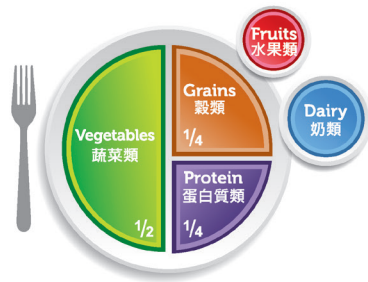
Rice, rice porridge, rice noodles, bread, cereal, crackers, potato, yam, taro, corn, barley, gourd, green peas, dried beans	Approx. 1 cup cooked rice/noodle/cereal or 2 slices bread per meal 1 cup = 8 oz.
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Fruits	2-3 small fruits per day
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Milk (fat free or 1% low fat) or unsweetened soymilk with calcium	Approx. 2 cups per day 1 cup = 8 oz.
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13. 有時可飲用半杯 (四安士) 純果汁以代替一個水果。
14. 減少吃含有高膽固醇的食品，如內臟 (肝、腎、腰、腦、舌)、蛋黃、蝦、蟹、龍蝦、貝殼類、墨魚和魷魚等。
15. 減少吃動物脂肪 (豬油、雞油、牛油)、煎炸食物、點心、人造牛油和沙律醬等。減少用椰汁作配料。
16. 減少吃鹹 (高鈉質) 的食物和調味品，如鹹蛋、鹹魚、火腿、香腸、臘味、罐頭食品、鹽、豉油、魚露、蠔油、味精、豆豉、辣椒醬、豆瓣醬、蝦醬和腐乳等。
17. 避免空腹喝酒，以免引起低血糖反應。

Choose **MyPlate**.gov



Use the MyPlate icon as a guide to plan your meal

使用“MyPlate”營養建議指引來計劃你的餐膳

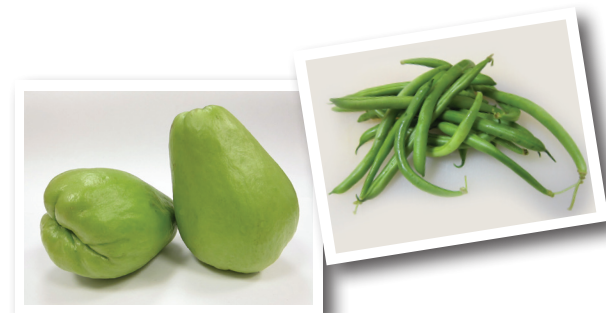
On a 9" plate:
 $\frac{1}{2}$ = vegetables
 $\frac{1}{4}$ = grains
 $\frac{1}{4}$ = protein

以一個9英吋大小的碟來計算:
 $\frac{1}{2}$ = 應該是蔬菜類
 $\frac{1}{4}$ = 應該是穀類
 $\frac{1}{4}$ = 應該是蛋白質類

May include a small fruit and a cup (8 oz) of milk or soy milk

另外可以加一個小型水果及一杯 (8 安士) 牛奶或豆奶

13. 4 oz. (1/2 cup) of 100% unsweetened fruit juice may be substituted for 1 serving of fruit occasionally.
14. Eat less of high cholesterol foods such as organ meats (liver, gizzard, kidney, brain, tongue), egg yolk, shrimp, crab, lobster, shellfish, cuttlefish, and squid.
15. Reduce animal fats (lard, chicken fat, butter), fried foods, dim sum, margarine, mayonnaise, and salad dressing. Limit coconut milk.
16. Limit salty (high sodium) foods and condiments such as salted egg, salted fish, ham, sausage, preserved meats, canned foods, salt, soy sauce, fish sauce, oyster sauce, MSG, fermented black beans, chili sauce, bean paste, shrimp paste, and fermented bean curd.
17. Avoid drinking alcohol on an empty stomach as it may cause low blood sugar.



如何計算碳水化合物 (Carbohydrate) 的份量

碳水化合物是食物裏升高血糖的主要成分。患有糖尿病的人不單要注意所進食的甜品及糖類，也應該注意碳水化合物的攝入量。

碳水化合物主要來源於澱粉類的食物 (如，米飯、麵、薯仔、穀類、麵包、乾豆類)，水果，牛奶和某些蔬菜 (如，玉米、青豌豆、胡蘿蔔)。當你閱讀食物營養標籤時，應了解每一份量的碳水化合物總含量，而不要只單純考慮糖份的含量。要牢記，四克 (gram) 的碳水化合物相當於一茶匙的糖。

最好將含碳水化合物的食物分成小餐吃，並在每次進餐或小吃時均衡份量並留意碳水化合物的攝入量。一般建議每餐攝取碳水化合物 45 至 60 克，小吃則 15 至 20 克均較為合宜。



開始進餐之後兩小時，測量一下你的血糖值，以便了解那一種食物會影響你的血糖度數，以及攝取多少碳水化合物較為合適你。

參考碳水化合物含量的圖表來協助你計劃你的餐膳，並向註冊營養師諮詢有關合適你個人的飲食餐單。

Carbohydrate Counting

Carbohydrates are the primary nutrients in foods that raise blood glucose. People with diabetes need to watch their total carbohydrate intake, as well as that of sweets and sugars.

Carbohydrates come from starchy foods (e.g. rice, noodles, potato, cereal, breads, dried beans), fruits, milk and certain vegetables (e.g. corn, peas, carrots). When reading a food label, consider the total carbohydrate per serving rather than the amount of sugar in a product. Keep in mind that 4 grams of carbohydrate is equivalent to about a teaspoon of sugar.

It is a good idea to spread your carbohydrate foods into small frequent meals and keep the amount of carbohydrates consistent at each meal and snack.

The general guideline is to include 45-60 grams of carbohydrate per meal and 15-20 grams per snack.

By checking your blood sugar 2 hours after the start of a meal, you can see how a particular food affects your blood glucose reading and whether the amount of carbohydrates eaten is appropriate for you.



Use the carbohydrate content list to assist with meal planning and consult a registered dietitian if you need help designing a personalized diet.

糖尿病飲食餐單樣本

(1200 卡路里/熱量)

碳水化合物 (克)

早餐	一平碗	麥片	27
	一杯	脫脂牛奶	12
小吃	一個 (小型)	水果	15
	一個	煮熟的雞蛋	1
午餐	半碗	麵	20
	兩安士	瘦的肉類	0
	一碗	蔬菜	5
	一茶匙	油	0
小吃	一個 (小型)	水果	15
	一安士	無鹽杏仁	6
晚餐	半碗	糙米飯	23
	兩安士	魚	0
	兩安士	豆腐	4
	一碗	蔬菜	5
	一茶匙	油	0

Sample Diabetes Meal Plan

(1200 calories)

Carbohydrates (gm)

BREAKFAST	1 c.	Oatmeal	27
	1 c.	Fat free milk	12
SNACK	1	Small fruit	15
	1	Hard boiled egg	1
LUNCH	½ c.	Noodles	20
	2 oz.	Lean meat	0
	1 c.	Cooked vegetable	5
	1 tsp.	Oil	0
SNACK	1	Small fruit	15
	1 oz.	Unsalted almonds	6
DINNER	½ c.	Brown rice	23
	2 oz.	Fish	0
	2 oz.	Tofu	4
	1 c.	Cooked vegetable	5
	1 tsp.	Oil	0



糖尿病飲食餐單樣本

(1500卡路里/熱量)

碳水化合物 (克)

早餐	一平碗	麥片	25
	一隻	煮熟的雞蛋	1
	一杯	脫脂奶	6
小吃	一個 (小型)	水果	15
	一安士	無鹽杏仁	6
午餐	一平碗	麵	40
	二安士	瘦的肉類	0
	一碗	蔬菜	5
	一茶匙	油	0
小吃	一個 (小型)	水果	15
	三安士	小胡蘿蔔	7
晚餐	一平碗	糙米飯	45
	兩安士	魚	0
	兩安士	豆腐	4
	一碗	蔬菜	5
	一茶匙	油	0

Sample Diabetes Meal Plan

(1500 calories)

Carbohydrates (gm)

BREAKFAST	1 c.	Oatmeal	25
	1	Hard boiled egg	1
	1 c.	Fat free milk	6
SNACK	1	Small fruit	15
	1 oz.	Unsalted almonds	6
LUNCH	1 c.	Noodles	40
	2 oz.	Lean meat	0
	1 c.	Cooked vegetable	5
	1 tsp.	Oil	0
SNACK	1	Small fruit	15
	3 oz.	Baby carrots	7
DINNER	1 c.	Brown rice	45
	2 oz.	Fish	0
	2 oz.	Tofu	4
	1 c.	Cooked vegetable	5
	1 tsp.	Oil	0



有關份量的縮略語：

Abbreviations:

gm.	= 克	Gram
oz.	= 安士	Ounce
c.	= 杯 (八安士)	Cup (8 oz)
sl.	= 片	Slice
tsp.	= 茶匙	Teaspoon
med.	= 中型	Medium



一般食品碳水化合物 (澱粉質及糖) 成份

Carbohydrate (Starch & Sugar) Content of Common Foods

澱粉質類 (煮熟)		份量	碳水化合物 (克)	熱量
STARCHES, COOKED		AMT	CARBOHYDRATE (gm)	CALORIES
白飯	White rice	1c.	44	205
糙米飯	Brown rice	1c.	45	216
糯米飯	Glutinous rice	1c.	53	242
餃子	Dumplings	7-8	40	240
河粉	Ho-fun	1c.	50	240
米粉	Mei-fun	1c.	50	230
瀨粉	Lai-fun	1c.	44	190
粉絲	Bean thread (Fun-see)	1c.	45	200
麵	Noodles	1c.	40	200
意大利粉	Spaghetti	1c.	39	92
通心粉	Macaroni	1c.	40	197
麥皮	Oatmeal	1c.	25	145
薏米	Barley	1c.	44	193
白麵包	White bread	1sl.	15	70
麥麵包	Wheat bread	1sl.	12	70
餅乾	Crackers	5	11	60
黃豆	Soy beans	1c.	17	298
蠶豆	Lima beans	1c.	39	217
黑豆	Black beans	1c.	41	221
眉豆	Black-eyed peas	1c.	35	190

鮮果類 FRUITS, FRESH		份量 AMT	碳水化合物 (克) CARBOHYDRATE (gm)	熱量 CALORIES
蘋果	Apple	1 med.	19	72
杏	Apricots	3	12	51
雪梨	Asian pear	1 med.	13	51
香蕉	Banana	1 med.	28	105
香瓜	Cantaloupe	1c.	13	57
車厘子	Cherries	10	11	49
榴槤	Durian	3 oz.	28	147
葡萄	Grapes	18	14	57
西柚	Grapefruit	½ med.	10	40
蜜瓜	Honeydew	1c.	15	60
奇異果	Kiwi	1 med.	11	46
龍眼	Longan	10	5	20
枇杷果	Loquats	10	12	47
荔枝	Lychee	10	16	66
芒果	Mango	½ med.	18	67
桃李	Nectarine	1 med.	16	67
橙	Orange	1 med.	16	65
桃	Peach	1 med.	10	37
啤梨	Pear	1 med.	25	98
柿子	Persimmon	1 med.	8	32
黑李	Plum	1 med.	8	36
木瓜	Papaya	½ med.	15	60
菠蘿	Pineapple	1c.	19	77
沙田柚	Pummelo	1c.	18	71
士多啤李	Strawberries	1c.	10	45
柑	Tangerine	1 med.	9	37
西瓜	Watermelon	1c.	11	50

乾果類 FRUITS, DRIED		份量 AMT	碳水化合物 (克) CARBOHYDRATE (gm)	熱量 CALORIES
杏脯	Apricots	5	11	40
蜜棗	Dates	5	30	114
無花果	Figs	5	61	238
西梅	Prunes	5	26	100
葡萄乾	Raisins	1/3 c.	40	150
蔬菜類 (煮熟) VEGETABLES, COOKED				
蘆筍	Asparagus	1c.	8	44
竹筍	Bamboo shoots	1c.	2	15
豆芽	Bean sprouts	1c.	5	26
西蘭花	Broccoli	1c.	8	44
白菜	Bok choy	1c.	3	16
紅蘿蔔	Carrots	1c.	16	70
玉米 *	Corn *	1c.	41	180
芹菜	Celery	1c.	6	26
椰菜	Cabbage	1c.	7	32
椰菜花	Cauliflower	1c.	6	30
青瓜 (生)	Cucumber, raw	1c.	3	14
茄子	Eggplant	1c.	6	26
葛 *	Gourd *	1c.	25	100
豆角	Green beans	1c.	10	44
生菜 (生)	Lettuce, raw	1c.	2	10
蓮藕	Lotus root	10 sl.	15	60
芥菜	Mustard green	1c.	3	22
紹菜	Napa cabbage	1c.	8	36

蔬菜類 (煮熟)		份量	碳水化合物 (克)	熱量
VEGETABLES, COOKED		AMT	CARBOHYDRATE (gm)	CALORIES
洋蔥	Onions	1c.	14	60
南瓜 *	Pumpkin *	1c.	12	48
青碗豆 *	Peas *	1c.	25	134
馬鈴薯 *	Potato *	1 med.	22	93
蕃薯 *	Sweet potato *	1 med.	34	148
菠菜	Spinach	1c.	7	42
節瓜	Wax gourd	1c.	8	36
草菇	Straw mushroom	1c.	8	60
冬菇	Dried mushroom	4	10	40
芋頭 *	Taro *	4 oz.	46	188
蘿蔔	Turnip	1c.	8	28
蕃茄 (生)	Tomato, raw	1 med.	6	26
西洋菜	Watercress	1c.	0.5	4
馬蹄	Water chestnut	1c.	30	130

* = Starchy Vegetables (高澱粉質瓜菜)

飲料

飲料		份量	碳水化合物 (克)	熱量
DRINKS		AMT	CARBOHYDRATE (gm)	CALORIES
汽水	Soda, regular	1 can (12 oz.)	40	150
葡萄酒	Wine	4 oz.	<2	70
啤酒	Beer	12 oz.	12	145
烈酒	Liquor	1 oz.	0	82
茶	Tea	1c.	0	0
咖啡	Coffee	1c.	0	0
果汁	Fruit juice	1c.	26-42	105-170
蔬菜汁	Vegetable juice	1c.	11	56
牛奶	Milk	1c.	12	90-180
淡豆漿	Soymilk (unsweetened)	1c.	4	79

糖		份量	碳水化合物 (克)	熱量
SUGARS		AMT	CARBOHYDRATE (gm)	CALORIES
沙糖	White sugar	1 tsp.	4	15
黃糖	Brown sugar	1 tsp.	4	17
蜜糖	Honey	1 tsp.	5	21
果醬	Jam	1 tsp.	4	16
糖漿	Syrup	1 tsp.	5	20

其他

其他		份量	碳水化合物 (克)	熱量
OTHERS		AMT	CARBOHYDRATE (gm)	CALORIES
蛋	Egg	1	0	75
肉類	Meat	3 oz.	0	150-250
魚類	Fish	3 oz.	0	70-120
果仁	Nuts	1 oz.	4-7	160-200
栗子	Chestnuts	1 oz.	14	64
白果	Ginko nuts	1 oz.	11	52
蓮子	Lotus seeds	1 oz.	18	94
花生醬	Peanut butter	1 tsp.	1	35
油	Oil	1 tsp.	0	45
豆腐	Tofu (bean curd)	4 oz.	4	100



B. 體力活動與糖尿病

運動的益處

- 可減低血糖的度數
- 可減低甘油三酯的度數
- 增加高密度膽固醇 (好膽固醇) 的度數
- 改善胰島素的作用
- 增強你的肌肉，骨質和其他身體的重要器官
- 使你精力充沛
- 幫助你減輕體重或保持健康的體重
- 舒緩焦慮及憂鬱
- 減低患上心臟病，中風，高血壓以及某些癌症的機會

保持運動並注意飲食，可減低你身體對胰島素或降血糖藥物的需求及依賴。

運動前後以及運動中要注意的事項

在開始任何運動計劃之前，先請你的醫生為你做詳細的身體檢查，以免使併發症更加惡化。

運動前：

- 檢查血糖。如果你的血糖低於 100mg/dl，在運動之前，要進食額外的澱粉質類食物，如麵包或米飯等。
- 檢查你的足部是否有毛病。切記穿著適合你運動類型的鞋子。
- 做 5-10 分鐘熱身運動。開始時先做輕度的健身運動，如步行，然後伸展肌肉等。

B. Physical Activity and Diabetes

Benefits of Exercise

- Lowers blood glucose levels
- Lowers triglyceride levels
- Increases HDL (good) cholesterol
- Helps cells respond better to insulin
- Strengthens your muscles, bones, and other vital organs in the body
- Increases your energy level
- Helps you lose weight, or maintain a healthy weight
- Reduces anxiety and depression
- Reduces your risk of heart disease, stroke, high blood pressure, and some types of cancers

Combined with a healthy diet, regular physical activity may lower your need for insulin or diabetes medications.

Precautions Before, During, and After Exercise

Before starting any exercise program, it is important that your health care providers check your health condition thoroughly to avoid risk of worsening complications.

Before exercise:

- Check your blood glucose level. If your blood sugar is lower than 100 mg/dl, eat additional starchy foods such as bread or rice before beginning to exercise.
- Inspect your feet for foot problems. Make sure you wear proper footwear for the type of exercise you choose.
- Warm-up for 5-10 minutes. Start with low-intensity aerobic activity, such as walking, followed by stretching of your muscles.

運動中：

- 要做到運動中也可以毫無困難地與人談話
- 為免身體缺水，應帶備飲用水，尤其在天氣炎熱時。身體缺水可使血糖升高影響心臟功能。
- 應隨身帶備碳水化合物補充食品，如葡萄糖片，果汁或餅乾等以預防低血糖或在低血糖時服用，特別在進行長時間的運動時。
- 在太炎熱或太寒冷的日子裏最好不要運動。
- 如覺得眩暈，胸悶，呼吸困難或噁心，應馬上停止運動。
- 最好隨身帶上糖尿病人的確認手環 (I.D. Band) 以防發生緊急意外時可辨別你患有糖尿病。

運動後：

做放鬆運動使心臟回復運動前的狀態。放鬆運動與熱身運動很相似。記得運動後也要測量血糖的度數。

運動時間的長短

每個人的運動時間或頻密程度要視乎各人的年齡，性別，健康情況以及平日的運動習慣等因素來確定。專家建議，通常每天運動 30 分鐘較為合適。如果你剛剛開始進行有規律的運動，則應從做 5-10 分鐘的運動開始，然後慢慢增加至 30 分鐘。如果你需要減輕體重，應盡量每日做到 60 至 90 分鐘的運動。

During exercise:

- You should be able to carry a conversation without difficulty while working out.
- Carry a water bottle with you to keep hydrated, especially when it is hot. Dehydration can increase blood sugar levels and affect heart function.
- Carry a source of carbohydrate, such as glucose tablets, fruit juice, or crackers, to treat or prevent low blood sugar, especially during prolonged activities.
- Do not exercise in extreme hot or cold weather.
- Stop exercising if you experience lightheadedness, chest tightness, severe shortness of breath, or nausea.
- Wear a diabetes identification band in case of emergency.

After exercise:

Do cool-down exercises to allow your heart rate to gradually return to pre-exercise level. Cool-down exercises are similar to warm-up exercises. Remember to check your blood glucose after exercising.

Length of Exercises

How long and how often you should exercise depends on your age, sex, health condition, and level of fitness. Generally, 30 minutes of physical activity on most days of the week is recommended. If regular physical activity is something new to you, start with 5-10 minutes of exercise, and gradually increase to 30 minutes a day. If you need to lose weight, aim for 60-90 minutes of exercise daily.

運動的類型

糖尿病患者，特別是那些因糖尿病而有眼部或足部問題的人仕，在選擇運動類型時更要注意，以免因為選擇不當而加深對眼睛或足部的損害。

建議的運動：

- 步行
- 騎單車
- 輕量健身操
- 原地踩單車
- 輕量舉重
- 游泳
- 鍛煉手臂
- 太極拳
- 六通拳
- 園藝

不建議的運動：

- 重量的舉重
- 激烈的運動
- 強度健身操



Types of Exercises

People with diabetes, especially those with eye or foot problems, should choose the appropriate type of exercise to avoid further damage to the eyes and feet.

Exercises recommended:

- Walking
- Bicycling
- Low impact aerobics
- Stationary cycling
- Light weight training
- Swimming
- Arm exercises
- Tai Chi
- Loo Tung Chuan
- Gardening

Exercises not recommended:

- Heavy weight lifting
- Heavy competitive sports
- High impact aerobics

C. 糖尿病藥物

如果控制飲食和運動仍然不能將血糖維持到正常的水平的話，就需要服食藥物。通常有口服藥丸，注射胰島素或兩者結合的治療方法。

口服藥丸 (糖尿丸)

糖尿丸並不是胰島素，因為胰島素不可能是丸狀。若是丸狀則會經過胃部，而會被胃酸破壞。糖尿丸通過以下的方法將血糖降低：

- 刺激胰臟釋放更多胰島素
- 減低肝部產生葡萄糖
- 改善細胞對葡萄糖的吸收應用
- 緩慢澱粉質類食物及糖份的消化及吸收
- 阻止腎臟重吸收葡萄糖和增加尿液中葡萄糖的排泄服食

糖尿丸的副作用有：氣脹，腹瀉，尿道感染，和低血糖。記得詢問你的醫生或藥劑師甚麼時間服藥較為適宜，以便減少副作用，並學習如何處理低血糖 (請參閱低血糖症章節)。

非胰島素注射性糖尿藥

非胰島素注射性糖尿藥通過以下的方法將血糖降低：

- 刺激胰臟胰島素分泌
- 減慢胃的排空
- 減低肝臟產生葡萄糖
- 增加飽肚感覺

C. Diabetes Medications



When diet and exercise are not enough to lower blood glucose to the desired levels, diabetes medications may be necessary. Oral diabetes pills, insulin injections, or a combination of both are used to control blood glucose.

Oral Medications (diabetes pills)

Diabetes pills are not insulin. Insulin does not come in pill form, because stomach acids can easily destroy insulin.

They work to reduce blood glucose by:

- Stimulating the pancreas to release more insulin
- Reducing the amount of glucose produced by the liver
- Improving the use of glucose by the cells
- Slowing down the digestion and absorption of starches and sugar
- Blocking reabsorption of glucose by the kidneys and increasing elimination of glucose in the urine

Side effects may include gas, diarrhea, urinary tract infections, and low blood sugar. Ask your doctor or pharmacist for the best time to take your medication in order to minimize side effects and learn how to treat low blood sugar (refer to section on treatment of low blood sugar).

Non-insulin Injectable Diabetes Medications

They work to reduce blood glucose by:

- Stimulating insulin secretion
- Slowing stomach emptying
- Reducing production of glucose by the liver
- Increasing feeling of fullness

這藥物需要在餐前皮下注射，每天1至4次。副作用包括有：作悶、嘔吐、體重下降、低血糖（若同時採用胰島素）。

注射胰島素



如果你的胰臟不能再產生足夠的胰島素，又或者它在你的身體中起不到作用時，你則需要注射胰島素。根據每個人身體情況的不同需求，胰島素可一天注射一次或數次。注射部位最佳是腹部，其次是上臂或大腿。

胰島素主要的副作用是低血糖。懂得如何預防及處理低血糖是非常重要（請參閱低血糖症章節）。如果你手部，嘴唇，面部，舌頭有麻痺感，言語不清，或昏昏欲睡，應立刻與醫生聯絡。

目前有不同類型的胰島素：快效，短效，中效，長效以及混合的幾種。各種不同的胰島素合劑，是根據其在身體上停留的時間長短以及生效的快慢而用來控制血糖。何時吃東西，吃甚麼東西，以及注射胰島素的時間等對控制血糖均很重要，因為這些因素都可以幫助你身體維持正常的血糖度數以及防止低血糖的產生。緊記遵從醫生指示在何時及如何注射胰島素，以達到最佳效果。

胰島素吸入劑是一種在進餐前吸入的快效胰島素，現時已批准使用。請與你的醫生商討這選擇是否適合你。

Injections are given under the skin before meals, between 1-4 times a day. Side effects may include nausea, vomiting, weight loss and low blood sugar (when given along with insulin).

Insulin

You will need to take insulin injections when your pancreas does not produce enough insulin to keep your blood glucose levels within a healthy range. Insulin shots are given one or more times a day depending on the person's need. The preferred injection site is the abdomen, followed by the upper arm or thigh.

The major side effect of insulin is low blood sugar. It is important to know how to prevent and treat low blood sugar (refer to section on low blood sugar). Contact your doctor immediately if you begin to experience tingling in your hands, lips, face or tongue, slurred speech, or become extremely drowsy.

There are different types of insulin: fast-acting, short-acting (regular), intermediate-acting, long-acting and premixed. Depending on how fast the insulin begins to work and how long it remains in your body, a combination of the different types of insulin is used to control blood glucose. When and what you eat as well as the timing of your insulin shots are important as they help to maintain a normal range of blood glucose and prevent low blood sugar. For best results, follow your doctor's instructions on when and how to give insulin injections.

Inhaled insulin, a fast-acting insulin that you breathe in before meals, is currently available. Ask your doctor if this option is right for you.

D. 自我血糖測試

為甚麼我要測試血糖？

定時測試血糖可幫助你更好地護理你的糖尿病，並可減低糖尿病併發症。你可以在家中使用血糖測試機自我測試。

多久或何時測試血糖？

需要注射胰島素的一型糖尿病以及孕期糖尿病患者：

- 每天至少測試三次。

二型糖尿病患者：

- 如果服用糖尿丸，每天至少測試一次。
- 如果注射胰島素，在每次注射前測試。

測試時間：空腹，進餐之前，或進餐之後兩小時其他測試時間：

- 運動之前，運動之中或運動之後。
- 當你感覺到血糖低症狀的時候
- 當你生病時

你也可以在一天中更頻密地或在不同的時間內測試血糖，以便了解你血糖上升或下降的情況。

D. Blood Glucose (Sugar) Monitoring

Why should I check my blood glucose?

Checking your blood sugar regularly helps you better manage your diabetes and reduce long-term complications from the disease. You can check it yourself with a blood glucose monitor (meter).

How often and when should I check my own blood glucose?

For type 1 diabetes and pregnant women on insulin:

- at least 3 times a day

For type 2 diabetes:

- at least once a day if on oral medications
- every time before insulin injection if on insulin

Time to test - fasting, before meal, and/or 2 hours after meal other times to test:

- before, during, and/or after exercise
- when you experience low blood sugar symptoms
- when you are sick



You may wish to check your blood glucose more often and at different times of the day to determine a pattern of your blood glucose readings.

血糖目標

空肚及進食之前	80-130 mg/dl
開始進餐之後兩小時	低於 180 mg/dl (最理想是 140 mg/dl 以下)
血糖紅素 (A1C) *	低於 7 %

*血糖紅素檢驗是一種特別血液檢驗，可測量過去三個月以來一個人的平均血糖度數。這測驗是用來測量一段長時間內血糖的控制情況。

A1C (%)	估計平均血糖 (mg/dl)
6	126
7	154
8	183
9	212
10	240
11	269
12	298

血壓目標

正常	目標
低於 120/80 mmHg**	低於 140/90 mmHg

**有些資料顯示，正常血壓應低於115/75mmHg

血脂肪目標

血脂肪	目標 (mg/dl)
總膽固醇 (Total Cholesterol)	低於 200
壞膽固醇 (LDL)	低於 100 ***
好膽固醇 (HDL)	高於 40 (男性) 高於 50 (女性)
甘油三酯 (Triglyceride)	低於 150

*** 對患心血管疾病有高風險的病人，其壞膽固醇之目標應低於 70mg/dl.

資料來源: 美國糖尿病協會 (2019)

Blood Glucose Goal

Before Breakfast & Meals	80-130 mg/dl
2 Hours after the start of a meal	Less than 180 mg/dl (ideally less than 140 mg/dl)
A1C Test*	Less than 7 %

* A1C test is a special blood test which reflects a person's average blood glucose over the past 3 months. It is a measure of long-term blood glucose control.

A1C (%)	Estimated average glucose (mg/dl)
6	126
7	154
8	183
9	212
10	240
11	269
12	298

Blood Pressure Goal

Normal	Goal
Less than 120/80 mmHg **	Less than 140/90 mmHg

** Some data suggests normal BP should be less than 115/75 mmHg

Blood Lipid Goal

Blood Lipid	Goal (mg/dl)
Total Cholesterol	Less than 200
LDL (Bad Cholesterol)	Less than 100 ***
HDL (Good Cholesterol)	More than 40 (Men) More than 50 (Women)
Triglyceride	Less than 150

*** For people with very high-risk cardiovascular disease, LDL goal is less than 70mg/dl

Reference: American Diabetes Association (2019)

綠色區域：控制良好

- 血糖血紅素 (A1C) 低於 7，意味著您的平均血糖值低於 150
- 空腹血糖值介於 80-130 之間
- 進食兩小時之後的血糖值低於 180

採取行動:

- 請繼續遵從醫生指示服用您的藥物
- 請繼續定時測量您的血糖
- 請遵循健康的飲食習慣
- 請按時見您的醫生

黃色區域：提醒/警示

- 血糖血紅素 (A1C) 介於 7-9 之間，意味著您的平均血糖值處於 150-210 之間
- 空腹血糖值低於 200
- 進食兩小時之後的血糖值高於 600

採取行動:

- 適當地增加您的運動量
- 請與您的家庭醫生密切跟進，並和他/她討論是否有需要調整您的糖尿病治療法
- 請諮詢註冊營養師或糖尿病教育師，來幫助您更好地調理飲食和生活習慣

紅色區域: 停下來並思考

- 血糖血紅素 (A1C) 超過 9，意味著您的平均血糖值高於 210
- 空腹血糖值連續兩天高於 200
- 進食兩小時之後的血糖值高於 250
- 空肚或隨機血糖值同一天內連續兩次測量都高於 250



採取行動:
請立刻聯繫或致電您的家庭醫生!!!

Green Zone: Great Control

- A1C under 7, which means average blood sugars under 150
- Fasting blood sugars between 80 to 130
- 2-hour blood sugars after meal under 180

Green Zone Actions:

- Continue taking your medications as prescribed
- Continue regular blood sugar monitoring
- Follow healthy eating habits
- Keep all doctor appointments

Yellow Zone: Caution

- A1C between 7 and 9, which means average blood sugars between 150-210
- Fasting blood sugars under 200
- 2- hour blood sugars after meal over 200

Yellow Zone Actions:

- Increase your activity level, as tolerated
- Follow up closely with your primary care provider to discuss any need to adjust your diabetes treatment
- Consult a registered dietitian and/or diabetes educator to work on diet and lifestyle changes

Red Zone: Stop and Think

- A1C greater than 9, which means average blood sugars over 210
- Fasting blood sugars over 200 two days in a row
- 2-hour blood sugars after meal over 250
- Fasting and/or random blood sugar is over 300 two times on the same day



Red Zone Actions: CALL YOUR PRIMARY CARE PROVIDER IMMEDIATELY!!!

VIII. 低血糖症及高血糖症

	* 低血糖症	高血糖症
成因:	<ul style="list-style-type: none"> • 注射過量胰島素 • 服食過多糖尿丸 • 食物攝入量不足 • 少吃一餐或飲食不定時 • 運動過量但攝食不足 • 過量飲酒 	<ul style="list-style-type: none"> • 胰島素不足 • 攝入過量食物 • 生病 • 精神壓力 • 攝水量不足
症狀:	<ul style="list-style-type: none"> • 饑餓 • 發抖及虛弱 • 出汗 • 頭痛 • 神志昏亂 • 心跳快促 • 暈眩 	<ul style="list-style-type: none"> • 常感饑餓 • 長期口渴 • 小便頻繁 • 皮膚痕癢 • 疲憊 • 體重下降 • 視力模糊 • 足部有刺痛或麻木感 • 傷口癒合緩慢

* 低血糖：血糖度數少於或等於 70mg/dl
 有些病患者可能在血糖度數高於 70mg/dl 時，也會有低血糖的症狀反應。可能的話，在接受治療之前最好用血糖測試機檢驗血糖的度數。

VIII. Low Blood Sugar and High Blood Sugar

	* LOW BLOOD SUGAR (Hypoglycemia)	HIGH BLOOD SUGAR (Hyperglycemia)
CAUSES:	<ul style="list-style-type: none"> • Too much insulin • Too many diabetes pills • Too little food • Skipping or delayed meals • Too much exercise without enough food • Too much alcohol 	<ul style="list-style-type: none"> • Not enough insulin • Too much food • Illness • Emotional stress • Not enough fluids
SYMPTOMS:	<ul style="list-style-type: none"> • Hunger • Shakiness or weakness • Sweatiness • Headache • Confusion • Rapid heartbeat • Dizziness 	<ul style="list-style-type: none"> • Frequent hunger • Frequent thirst • Frequent urination • Itchy skin • Fatigue • Weight loss • Blurred vision • Tingling or numbness in feet • Slow healing wounds

* Low blood sugar = blood glucose level less than or equal to 70mg/dl
 Some people may experience low blood sugar symptoms at higher levels. Whenever possible, check blood sugar level with glucose meter before giving treatment.

治療:

* 低血糖症

- 服食葡萄糖片劑 (3至4片) 或膠 (Glucose tablets or gel), 或硬糖, 又或飲約4安士的果汁或普通汽水。等15分鐘, 並重新檢查你的血糖。如果血糖仍然是低, 或你的症狀沒有消失, 需重複治療。當你感覺好些時, 進食一些食物如麵包, 餅乾, 飯或水果。
- 若病者已昏迷, 不應給與食物或飲料。應請家中受過訓練的親人給您注射 (Glugacon) 針以促進肝臟輸放葡萄糖。
- 如情形依然無改善, 即與醫生聯繫或打911求救。

高血糖症

- 服食醫生開的糖尿丸或注射胰島素
- 遵從糖尿病飲食規則
- 控制體重
- 運動
- 若血糖指數經常超過300mg/dl, 請馬上與你的醫生聯絡。

* 低血糖: 血糖度數少於或等於 70mg/dl
有些病患者可能在血糖度數高於 70mg/dl 時, 也會有低血糖的症狀反應。可能的話, 在接受治療之前最好用血糖測試機檢驗血糖的度數。

TREATMENT:

* LOW BLOOD SUGAR
(Hypoglycemia)

- Take glucose tablets/gel (3-4) or hard candies or drink 4 oz. juice or regular soda. Wait 15 minutes and recheck your blood sugar. If it is still low or your symptoms do not go away, repeat the treatment. When you feel better, eat some food such as bread, crackers, rice or fruit.
- If unconscious, do not give food or drink. Have a trained family member give a GLUCAGON shot to stimulate release of glucose from the liver.
- If no improvement, call your doctor or 911.

HIGH BLOOD SUGAR
(Hyperglycemia)

- Take diabetes pills or insulin as prescribed
- Follow a diabetes diet
- Weight control
- Exercise
- Seek medical attention immediately if blood sugar is consistently over 300mg/dl

* Low blood sugar = blood glucose level less than or equal to 70mg/dl
Some people may experience low blood sugar symptoms at higher levels. Whenever possible, check blood sugar level with glucose meter before giving treatment.

IX. 患病時糖尿病的護理

當身體有其他疾病時，血糖會變得更為難以控制。當您患有傷風，感冒，發燒，感染，腹瀉或嘔吐時，體內會釋放一種壓力荷爾蒙。這種壓力荷爾蒙會使您的血糖上升。學會患病時如何在家護理糖尿病，不但可使您感覺好些，也可以減低入醫院的機會。在見醫生時，最好請教醫生在生病時如何護理糖尿病。

患病時糖尿病的護理指引

1. 更頻密測驗血糖，每 4-6 小時一次。
2. 每四小時測量尿中酮酸 (Ketone) 的含量 (特別是一型糖尿病患者)。糖尿病患者由於體內沒有足夠的胰島素，身體不能從葡萄糖，而要從脂肪轉變為能量，而導致產生酮酸。酮酸度數過高可引起昏迷，是很危險的情況。測驗酮酸的紙條可在藥房無需處方買到。
3. 即使你不能吃東西也切勿停止注射胰島素或服食糖尿藥丸。生病時期如需要調整糖尿病藥物，先要諮詢您的醫生。您或者需要增加胰島素的劑量或暫時停服糖尿藥丸而轉為注射胰島素。

IX. Diabetes Management During Illness

Diabetes may be more difficult to control when you are sick. Your body releases stress hormones which can raise your blood glucose during times when you have a cold, flu, fever, infection, diarrhea, or vomiting. Learning to manage “sick days” at home can help you avoid hospitalization and make you feel more comfortable. It is a good idea to talk with your doctor, during a regular visit, about what to do on days when you are sick.

Sick Day Guidelines

1. Test blood glucose frequently, every 4-6 hours.
2. Check for ketones in the urine every 4 hours (especially for type 1 diabetes). Ketones are produced when your body burns fat instead of glucose for energy due to insufficient insulin. High ketone levels are dangerous and can lead to coma. Ketone test strips can be purchased from your local drug store without a prescription.
3. Do not stop taking insulin or diabetes pills even if you are not able to eat. Always consult your doctor before adjusting your diabetes medications during illness. You may need to take extra insulin or temporarily switch from diabetes pill to insulin when you are sick.

4. 不要胡亂服食非處方的藥物，因為這些藥物可能影響您的血糖度數。應詢問醫生或藥劑師那些藥物是可以安全服用的。
5. 身體未完全康復時不要進行運動。
6. 當您不能正常吃和喝東西時，尤其要注意低血糖的症狀。每2-3小時應吃或喝一些含碳水化合物的食品或飲料（參考下頁圖表）。
7. 為避免體內脫水，每小時喝一杯（8安士）的水。如果您的血糖偏高，（240mg/dl 以上），喝點水，茶，雞湯或不含糖的飲料。否則，可以喝些含有碳水化合物的飲料（參考下頁圖表）。
8. 如果你沒有胃口，盡量少食多餐，並選擇流質和稀的食物。
9. 如果您覺得噁心想吐，可以每半個小時，咀嚼一些碎的冰塊或喝一些薑啤或七喜汽水。

4. Be careful when using over-the-counter medications because they can affect blood glucose levels. Ask your doctor or pharmacist which ones are safe to use.
5. Stop exercising until you are well.
6. Watch for signs of low blood sugar particularly if you are unable to eat or drink as usual. Eat or drink foods or fluids containing carbohydrates every 2-3 hours (refer to list on next page).
7. To prevent dehydration, drink 1 cup (8 oz) of fluid every hour. If your blood sugar is high (over 240 mg/dl), drink water, tea, broth or sugar-free (diet) soft drinks. Otherwise, include liquids that contain carbohydrates (refer to list on next page).
8. If your appetite is poor, try to eat small, frequent meals containing mostly fluids and soft foods.
9. If you are nauseated, chew on small pieces of crushed ice or sip on regular ginger ale or Seven Up every half hour.



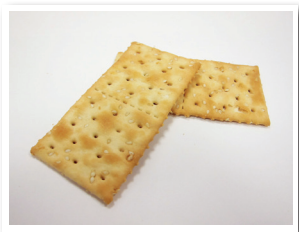
含有碳水化合物 (澱粉類或糖類) 的食物或飲料

- 餅乾
- 麵包/多士
- 饅頭/餐包
- 麥片粥
- 米飯
- 粥
- 粉麵
- 薯仔
- 番薯
- 涼粉
- 啫哩
- 蜜糖
- 豆漿
- 果汁
- 果味飲料
- 蔗汁
- 菊花晶
- 汽水
- 運動飲料 (Gatorade)
- 葡萄糖飲料 (葡萄靈)

何時需要聯絡您的醫生

如有以下的症狀，請馬上與您的醫生聯絡：

- 血糖低於 60 mg/dl
- 持續不斷的腹瀉或嘔吐
- 持續發燒
- 呼吸困難
- 胸口痛
- 神志混亂
- 增加胰島素或流質後，
血糖依然維持在
240mg/dl 以上
- 尿中有酮酸成分



Foods and Fluids containing Carbohydrates (starches and sugars):

- Crackers
- Bread/toast
- Plain bun
- Cooked cereal
- Rice
- Rice porridge
- Noodles
- Potato
- Sweet potato
- Grass jelly
- Gelatin
- Honey
- Soymilk
- Juice
- Fruit-flavored drink
- Sugar cane drink
- Chrysanthemum beverage
- Soft drink
- Sports drink (Gatorade)
- Glucose drink (Glucolin)

When to Contact Your Doctor

Call your doctor if you have any of these conditions:

- Blood glucose level lower than 60 mg/dl
- Persistent diarrhea or vomiting
- Prolonged fever
- Difficulty breathing
- Chest pain
- Signs of confusion or disorientation
- Blood glucose level consistently above
240 mg/dl despite extra insulin and fluids
- Ketones in the urine

X. 糖尿病眼部護理

常見糖尿病眼部病變及其治療

- 視網膜病變
視網膜之細小血管受損，血管變腫脹並滲出液體。視網膜表面有新的血管增生，但此新的血管非常脆弱，易破裂出血。

治療：雷射治療、外科手術治療。
- 白內障
眼球之晶體變混濁，導致視力模糊。

治療：外科手術治療。
- 青光眼
眼壓上升導致視神經受損及喪失視力。

治療：處方眼藥水或外科手術治療。



X. Diabetic Eye Care

Common diabetic eye diseases and treatments:

- Diabetic retinopathy
Diabetic retinopathy occurs when diabetes damages the tiny blood vessels in the retina. In the early stages, the retinal blood vessels swell and leak fluid. In the later stages, abnormal, weak new vessels grow on the retina's surface and leak blood into the eye.

Treatments: Laser treatment or Vitrectomy (surgical removal of the clear, colorless substance that fills the eyeball)
- Cataracts
The lens of the eye becomes cloudy leading to blurred vision.

Treatments: Surgical removal of the lens and replacement with an artificial lens.
- Glaucoma
An increase in fluid pressure inside the eye leading to optic nerve damage and loss of vision.

Treatments: Prescription eye drops or surgery.

糖尿病視網膜病變之症狀

- 早期：多數人沒有任何症狀、無痛、視力也沒有改變。有些人可能會有視力模糊、中央視力喪失或色覺變化。
- 晚期：視網膜脫落導致視力嚴重喪失甚至失明。

如有以下情形要盡快通知醫生：

突然失去視力，突然眼前有浮動物及黑影蒙罩、眼睛發痛或畏光等。

糖尿病眼部疾病可通過以下方法來預防：

- 保持血糖、血壓及膽固醇度數良好
- 每年做眼部瞳孔擴張檢查
- 不吸煙
- 配戴防紫外線太陽眼鏡
- 吃含有大量抗氧化劑的食物（富有色彩的水果及蔬菜，果仁及種子）

視網膜病變患者運動時應注意並避免以下幾點：

- 勿將頭部彎至腰部以下。
- 勿做些會導致血壓上升之動作（如舉重和用力排便）。
- 勿進行激烈的跳躍動作。
- 勿將頭部快速移動。
- 勿進行氣壓急速變化的運動（如跳傘、潛水等）。

美國糖尿病協會建議應每年做一次眼部瞳孔擴張檢查。

What are the symptoms of diabetic retinopathy?

- In the early stages of diabetic retinopathy, there are no symptoms, pain, or vision changes. Some people may notice blurred vision, a loss of central vision, or change in color vision.
- In the later stages of retinopathy, retinal detachment can lead to severe vision loss or even blindness.

Report to your doctor if there is a sudden loss of vision, sudden appearance of floaters, appearance of a shade or curtain coming across the vision field, eye pain or sensitivity to light.

Diabetic eye diseases can be prevented by:

- Good blood glucose, blood pressure and cholesterol control
- Annual dilated eye exam
- Not smoking
- Wearing ultraviolet (UV) protective sunglasses
- Eating foods high in antioxidants (colorful fruits and vegetables, nuts and seeds)

Exercise precautions for those with active diabetic retinopathy

Avoid

- Bending over
- Activities that increase blood pressure or involve holding of breath, e.g. heavy weight lifting, straining during bowel movement
- Vigorous bouncing
- Rapid head movements
- Extreme changes in atmospheric pressure, e.g. sky diving or scuba diving

The American Diabetes Association (ADA) recommends a comprehensive dilated eye exam every year.

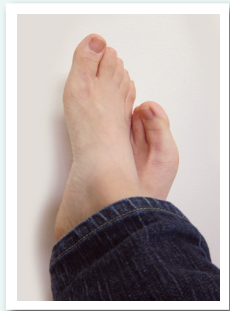
XI. 糖尿病足部護理

糖尿病如何影響足部

- 高血糖可導致足部神經病變：因神經功能受到損傷糖尿病患者下肢及雙腳對痛覺及冷熱溫度之感覺變遲鈍。
- 高血糖可導致血管炎症及血液循環不良：血液流至下肢及足部減慢及不足，傷口及感染難以治癒。

常見糖尿病足部問題

- 雞眼和老繭
- 水泡
- 腳指甲向內生長
- 腳拇趾關節發炎腫脹
- 鐵槌形腳趾
- 皮膚乾燥及爆裂
- 香港腳



糖尿病患者因上述原因，足部容易感染，而感染可能會造成組織壞死，嚴重的甚至有截肢的可能。

由於糖尿病患者的血液循環及神經系統受損，導致血液流通減慢和足部對痛楚不敏感，造成足部肌肉壞死。因此，適當的足部護理對減輕這種情況極有幫助。

XI. Diabetic Foot Care

How does diabetes affect the feet?

- High blood sugar can cause nerve damage — with damaged nerves, people with diabetes may not feel pain, heat, or cold in the legs and feet.
- High blood sugar can cause inflammation of the blood vessels and interfere with blood flow to the legs and feet, making it hard for a sore or infection to heal.

Common diabetic foot problems:

- Corns and calluses
- Blisters
- Ingrown toenails
- Bunions
- Hammertoes
- Dry and cracked skin
- Athlete's foot

People with diabetes are more likely to develop foot problems, which can lead to infections. The infection may cause gangrene (death and decay of the skin and tissue around the sore). To keep gangrene from spreading, amputation (cutting off a toe, foot, or part of a leg) may be needed.

Development of foot problems is more common in people with diabetes because of impaired circulation and nerve damage, which reduces blood flow and sensitivity to pain and discomfort. Proper foot care can prevent many of these problems.

糖尿病患者之日常足部護理

1. 每天檢查足部，確定並無傷口或感染。
2. 每天以溫水及肥皂清洗足部。小心輕抹足部(特別是趾縫之間部位)，避免大力擦乾。如有需要，可塗上潤膚液，但避免塗在趾縫之間。
3. 經常修剪趾甲，剪時應向橫而不應在兩邊角位直剪。
4. 切勿用藥物或剪刀去除硬皮和雞眼。
5. 保持足部溫暖，但不要在腳或腿上使用熱水袋或加熱墊。
6. 不要赤足走路。
7. 穿著舒適的鞋子，避免穿著無保護趾部及跟部的涼鞋。
8. 選擇合適的襪子，不要穿過緊的褲襪。
9. 每天更換襪子。

Guidelines for Foot Care:

1. Examine feet daily to make sure there are no sores or infections.
2. Wash feet daily with soap and lukewarm water. Dry feet carefully, especially between toes (pat dry and avoid rubbing). Apply lotion if skin is dry but not between the toes.
3. Keep toenails trimmed, straight across and never dig into the corners.
4. Do not cut or apply chemical removers onto corns or calluses.
5. Keep feet warm but do not use hot water bottles or heating pads on feet or legs.
6. Do not walk barefoot.
7. Wear properly fitted shoes and avoid open-toed or open heeled shoes.
8. Wear properly fitted stockings. Avoid tight pantyhose or socks with elastic bands.
9. Change socks and stockings daily.

詢問醫生有關足部護理的問題

- 如有足部問題，儘快通知醫生。
- 每次看門診時，要求醫生檢查雙腳。在醫生進入檢查房前，先脫掉鞋子及襪子。
- 要求醫生檢查足部的血液循環及腳部的感覺。
- 若你不能自行修剪腳指甲或有足部問題時，要求醫生推介一位足科醫生。

美國糖尿病協會建議至少每年做一次詳細的足部檢查。



Involve Your Doctor in Foot Care

- Tell your doctor right away about any foot problems.
- Ask your doctor to look at your feet at each checkup. Take off your shoes and socks before the doctor comes into the room.
- Ask your doctor to check the circulation and sensation of your feet.
- If you cannot cut your toenails or you have a foot problem, ask your doctor to send you to a foot doctor.

The American Diabetes Association recommends a comprehensive foot exam at least once a year (more often for patients at high risk for foot problems).



XII. 糖尿病人牙齒的保養

糖尿病如何影響牙齦及口腔？

- 細菌感染
- 口腔血管變狹窄
- 口腔內神經受損

牙周病之症狀

- 牙齦紅腫及疼痛
- 牙齦出血
- 牙齦萎縮，牙齒顯得較長
- 口臭
- 牙齒咬合異常
- 假牙佩戴不再合適

如何保持牙齒及牙齦健康？

- 血糖度數保持正常
- 每日至少用一次牙線
- 每次進食後要用軟毛牙刷刷牙
- 保持假牙清潔
- 學習正確刷牙及使用牙線的方法
- 如有牙齒及牙齦問題，盡快通知牙醫
- 每年洗牙及做牙齒檢查兩次
- 應該告訴牙醫你患有糖尿病
- 戒煙

牙齒檢查之建議

每半年一次。如有牙周病，檢查次數可能需要更頻繁。

XII. Diabetic Dental Care

How does diabetes affect the gums and mouth?

- Bacterial infections
- Narrowing of the blood vessels to the mouth
- Damage to the nerves of the mouth

What are the symptoms of periodontal disease?

- Red, sore, and swollen gums
- Bleeding gums
- Gums pulling away from the teeth so the teeth look longer
- Loose or sensitive teeth
- Bad breath
- A bite that feels different
- Dentures that do not fit well



How to keep teeth and gums healthy

- Keep blood sugar as close to normal as possible
- Use dental floss at least once a day
- Brush your teeth after each meal and snack
- Keep dentures clean
- Ask the dentist to show you the best way to brush and floss your teeth and gums
- Call the dentist right away if there are any problems with your teeth and gums
- Have your teeth and gums cleaned and checked by the dentist twice a year
- Let the dentist know that you have diabetes
- Quit smoking if you smoke

People with diabetes should have dental checkups at least every six months, or more often if their dentist recommends it.

XIII. 糖尿病的測檢，檢查及防疫注射

請遵循醫生的建議，定期檢查身體，檢驗血液和尿液以及早發現身體的毛病，避免病情惡化。

血/尿檢查	目的	次數
血糖血紅素 (A1C)	觀察長期的血糖控制情況	每 3-6 個月
膽固醇	早期發現心臟病	每年
微量尿蛋白	早期發現腎病	每年

測檢

測檢	目的	次數
血壓	早期發現高血壓	每次看醫生時
眼睛	早期發現眼睛毛病	每年
足部	早期發現足部問題	每次看醫生時
牙齒	早期發現牙齒問題	一年兩次

防疫注射

防疫注射	目的	次數
流感針	預防流感	每年
肺炎針	預防肺炎	65 歲之前一次 (65 歲或以上再 注射一至兩次)

XIII. Recommended Tests, Exams and Immunizations for Diabetes

Follow your doctor's advice, get regular medical checkups, and blood and urine tests to detect health problems before they become serious.

Blood/Urine tests	Purpose	Frequency
Hemoglobin A1C	To monitor long term glucose control	every 3-6 months
Cholesterol	For early detection of heart disease	yearly
Urine microalbumin	For early detection of kidney disease	yearly

Exams

Exams	Purpose	Frequency
Blood Pressure	To detect high blood pressure	at each visit
Eye	To detect eye problems	yearly
Foot	To detect foot problems	at each visit
Dental	To detect dental problems	twice a year

Immunizations

Immunizations	Purpose	Frequency
Flu shot	To protect against the flu	yearly
Pneumonia shot	To protect against pneumonia	once before age 65 (1 to 2 more doses at age 65 or older)

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