



學校糖尿病照顧手冊

Diabetes Care in Schools

前言 Preface

確診糖尿病對於家庭及小朋友來說一點都不容易。但若然學校能提供足夠的支援，糖尿病童也可以跟所有小朋友一樣享受校園生活！我們並非要求學校職員成為糖尿病護理的專家，而是希望為校方提供照顧糖尿病童必要的知識。

本手冊將為您提供糖尿病童的一般照顧資料，以確保病童的安全。我們希望這些資料會對您有幫助，而您亦會與相關的工作人員分享。如您要了解個別病童的詳情，必須向孩子、父母和醫療團隊查詢。

Diabetes can be challenging for everyone involved, but with your loving support, children with diabetes could enjoy school as much as others do! We do not aim to make you an expert in diabetes care, but we wish to equip you with the essential knowledge.

This booklet will provide you with the information you need to understand the condition to safeguard the children in your school. We hope you find it useful and will share it with the rest of your staff as appropriate. The information and guidance are for general reference only. Patient-specific details should ALWAYS be sought from the child, parents and the medical team.

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甚麼是糖尿病？

What is diabetes?

糖尿病是一種慢性疾病，是由於胰臟無法產生足夠的胰島素或細胞對胰島素敏感度降低。胰島素是一種調節血糖的荷爾蒙。不受控制的糖尿病會導致血糖升高(高血糖)，久而久之，會損害身體不同的器官，特別是腎臟、神經和血管。

Diabetes is a chronic condition that occurs when the pancreas does not produce enough insulin or there is a reduction in sensitivity of cells to insulin. Insulin is a hormone that regulates blood glucose. Uncontrolled diabetes leads to raised blood glucose (hyperglycaemia) and over time leads to damages to many of the body's systems, especially the kidneys, nerves and blood vessels.



糖尿病的症狀包括

Symptoms of diabetes include

- 尿頻
Frequent urination
- 口渴
Increased thirst
- 疲累
Fatigue
- 食量增加
Increased food intake
- 體重減輕
Weight loss
- 傷口癒合緩慢
Slow wound healing
- 視力模糊
Blurred vision
- 在嚴重的情況下，或會出現酮酸中毒症的症狀，包括：腹痛、噁心、嘔吐、呼吸急促及呼氣帶有果味。如果沒有適當處理，可能會導致嚴重的後遺症。
In severe cases, symptoms of diabetic ketoacidosis (DKA) may occur. These include abdominal pain, nausea, vomiting, rapid breathing, and fruity breath. Without appropriate interventions, this could result in severe complications.



糖尿病的類型

Types of diabetes



兒童糖尿病主要有兩種類型，還有一些較不常見的類型。

There are 2 main types of diabetes in children and some other less common forms.

一型糖尿病 Type 1 diabetes

一型糖尿病是兒童及青少年糖尿病中最常見的類型，是一種自體免疫疾病。一型糖尿病是由於身體的免疫系統錯誤地破壞胰臟的 β 細胞，導致其無法正常分泌胰島素。

一型糖尿病是不可避免的，患者必需長期接受胰島素治療。

Type 1 diabetes is the commonest form of diabetes in children and teenagers. It is an autoimmune condition where the body's immune system attacks the 'beta cells' of the pancreas, affecting its ability in producing insulin.

There is nothing the child or their parents did or didn't do that could have prevented the condition. People with Type 1 diabetes need insulin treatment to stay alive.

二型糖尿病 Type 2 diabetes

二型糖尿病通常影響較年長人士，但在年輕人中亦越來越常見。二型糖尿病與生活習慣和肥胖有密切關係。二型糖尿病患者的胰臟仍可產生一些胰島素，但身體對胰島素的敏感性降低。二型糖尿病通常可以透過改變生活習慣及控制體重來管理，但部份患者或需要接受口服或注射（胰島素或其他藥物）治療。

Type 2 diabetes usually affects older people but is increasingly seen in younger people. It is often associated with sedentary lifestyle and obesity. In people with Type 2 diabetes, the pancreas can still produce some insulin but the body is less sensitive to insulin. Patients with Type 2 diabetes can often be managed by lifestyle changes and weight control, although some may need oral or injectable (insulin or other agents) treatment.

其他類型的糖尿病 Other types of diabetes

其他類型的糖尿病較不常見，這些類型的糖尿病與其他情況有關，例如：胰臟受損或遺傳疾病等。

Other types of diabetes occur less commonly. They are associated with different conditions such as damage to the pancreas or genetic conditions.

自我血糖監測

Self-monitoring of blood glucose

自我血糖監測是糖尿病管理重要的一環。一型糖尿病童需要篤手指和/或使用連續葡萄糖監測裝置定期監測血糖水平。

Self-monitoring of blood glucose is an important component of diabetes management. Children with Type 1 diabetes need to check their glucose levels regularly by performing finger-pricks and/or using continuous glucose monitoring system (CGMS).

篤手指 Finger-prick blood glucose monitoring

血糖計是一個小型便攜式儀器，用於量度血液中的葡萄糖水平。使用時，需篤手指取一滴血液以作測試。

A blood glucose meter is a small, portable machine that is used to measure glucose level in the blood. A finger-prick device is used to draw a drop of blood for the test.



連續葡萄糖監測裝置 Continuous glucose monitoring system (CGMS)



CGMS是植入在皮膚下的感應器，可持續監測組織液的葡萄糖濃度。與傳統血糖機不同，CGMS除了提供當刻的葡萄糖數據外，還可以提供葡萄糖數據的變化，部份型號還會發出葡萄糖水平過高或過低的警報。

CGMS is a device inserted under the skin to measure interstitial glucose level continuously and gives information on glucose trends. Some models also have alarms to alert users on high or low sensor glucose levels.

使用CGMS時，在這些情況下仍需要篤手指：

When using a CGMS, finger-prick tests are still necessary under these situations:

- ★ 出現低或高血糖症狀
Symptoms of low or high blood glucose
- ★ 症狀與葡萄糖監測裝置讀數不相附
When symptoms and signs do not match the sensor glucose value
- ★ 當葡萄糖監測裝置顯示低(<3.9mmol/L) 或高血糖(≥ 15 mmol/L)，如需要處理低血糖、在餐前需要調教胰島素劑量或在高血糖需要補針時
When treatment decision has to be made with low (<3.9mmol/L) or high (≥ 15 mmol/L) sensor glucose readings, e.g. treatment of low blood glucose, adjusting insulin dosage before a meal or giving a correction dose of insulin

糖尿病童對於監測、理解及回應血糖水平的能力，會因年紀和經驗而有所不同。年紀較輕、新確診或有特殊學習需要的學童通常需要較多的協助。

Students have different abilities in monitoring, interpreting and responding to their blood glucose levels according to their age and experience. Students who are younger, newly diagnosed with diabetes or with special needs require more assistance from school teachers and staff.

一般來說，糖尿病童需要在以下時間監測血糖水平：

In general, students will need to check their glucose level:

- | | |
|---------------------------------|--|
| ★ 進食前
Before eating | ★ 當出現低或高血糖的症狀時
When having symptoms of hypoglycaemia (low) or hyperglycaemia (high) |
| ★ 運動前
Before exercising | ★ 其他於糖尿病管理計劃中所列的時間
Other times as described in the diabetes management plan |
| ★ 當感到不適時
When feeling unwell | |

胰島素治療：每日多次注射 (MDI) 及胰島素泵

Insulin therapy: multiple daily injections (MDI) and insulin pump

一型糖尿病童必須每日接受胰島素治療來代替他們身體無法產生的胰島素。胰島素必須通過皮下注射 (使用注射筆或針筒) 或以胰島素泵注入皮下脂肪層。每個糖尿病童所需的支援、監督和協助程度會有所不同。 Students with Type 1 diabetes depend on daily insulin therapy to replace the insulin that their body cannot produce. This has to be given by injection (injection pen or syringe) or insulin pump into the fat layer under the skin (subcutaneous). The level of support, supervision and assistance required varies for each student.

每日多次注射 Multiple daily injections (MDI)

每日多次注射 (MDI) 胰島素，通常指每日四次或更多次的注射。包括一次長效 (基礎) 胰島素及每次進餐前 (餐前劑量) 的速效或短效胰島素注射。

Multiple daily injections (MDI) typically consist of four or more injections per day. This includes one injection of long-acting insulin (basal) and injections of rapid- or short-acting insulin before each meal (bolus).

長效 (基礎) 胰島素 Long acting (basal) insulin:

- 起效較慢，藥效時間較長
Slower onset and longer duration of action
- 於每天相約時間注射，應付身體的基礎所需
Usually given once daily at an approximate similar time every day to cover basic requirements of the body
- 如 Examples : Glargine, Degludec

短效或速效 (餐前劑量) 胰島素 Short or rapid acting (bolus) insulin:

- 注射後迅速被身體吸收
Absorbed quickly into the body after the injection
- 通常於每次進餐前或高血糖時作校正劑量注射
Usually given before each meal and used to correct high glucose levels
- 學童需在注射胰島素後10分鐘內進食
Children need to eat within 10 minutes after insulin is administered
- 起效時間各有不同，例如：Aspart, Lispro : 15-30分鐘，Actrapid : 30-60分鐘
Onset of action varies, for example: Aspart, Lispro: 15-30 mins, Actrapid: 30-60 mins
- 注射部位：腹部、臀部外上位置、手臂、大腿外上方
Injection sites: abdomen, outer upper quadrant of buttock, arm, outer upper thigh



胰島素泵 Insulin pump



胰島素泵是一個小型儀器，具有預設計算胰島素劑量的功能。使用者會利用胰島素泵配備的儲液器及輸注裝置，連接到身體以注入胰島素。胰島素泵會持續地提供速效胰島素。使用者需在每餐前輸入要攝取的碳水化合物含量。然後，泵會計算所需的胰島素劑量並會與使用者確認後給予餐前劑量。有些泵可根據CGMS的血糖水平自動調整基礎胰島素和校正劑量。

Insulin pump is a small machine with pre-programmed insulin dose calculator. There is an insulin reservoir and infusion set that is connected to the user's body for delivery of insulin. Insulin pump gives rapid acting insulin continuously. Users need to enter the carbohydrate content to be consumed before each meal. The pump then calculates the insulin dose required and delivers the bolus after confirming with the user. Some pumps can automatically adjust basal and correction bolus according to the glucose levels from a connected CGMS.

胰島素泵故障 Pump failure

如果出現以下症狀，應懷疑泵出現故障：

Pump failure should be suspected if these signs and symptoms appear:

- 持續高血糖，儘管已給予校正劑量
Persistently high blood glucose, despite correction bolus
- 酮症的症狀(例如：中量/大量的尿酮或血酮 >0.6)
Evidence of ketosis (e.g., urine ketone: moderate/large or blood ketone >0.6)
- 輸注裝置脫落
Infusion set falling off

應採取的行動 Actions to be taken:

- 通知家長
Inform parents
- 多喝清水
Drink plenty of clear fluid
- 遵循泵故障行動計劃並用胰島素筆給予校正劑量
Follow pump failure action plan and give correction bolus by insulin pen
- 每小時檢查血糖(+/-酮)，每次小便檢查尿酮
Check blood glucose (+/- ketone) every hour, and check urine for ketones with each urination








低血糖及處理













Hypoglycaemia (low blood glucose) and management








原因 Causes

-  胰島素過多
Too much insulin
-  忘記或延遲進餐
Missed or delayed meals
-  攝取不足碳水化合物
Inadequate carbohydrate-containing food
-  進行額外、強度高或沒有計劃的運動
Doing extra, intense or unplanned physical activities
-  生病時，如腸胃炎出現腹瀉，胃口減少或嘔吐
Fallen sick, e.g., gastroenteritis with diarrhoea, decreased appetite or nausea/vomiting

輕度至中度低血糖症狀 Signs & symptoms of mild to moderate low blood glucose:


- | | | | |
|---|--|---|---|
|  手震
Shaky hands |  肌餓
Hungry |  難以集中
Unable to concentrate |  頭暈
Dizzy |
|  冒汗
Sweaty |  不安易躁
Irritable or nervous |  感到虛弱
Weak |  性格或行為改變
Change in personality or behaviour |
|  蒼白
Pale |  心悸
Palpitation |  嗜睡
Sleepy |  思緒混亂
Disorientated / Confused |

輕度至中度低血糖處理 Management of mild to moderate low blood glucose:


-  檢測血糖
Check blood glucose
-  如血糖 $< 3.9\text{mmol/L}$ ：立刻進食5-15克快糖(例如:果汁／糖果)
If blood glucose level $< 3.9\text{mmol/L}$: Take 5-15 grams quick-acting sugar (e.g. juice / candies)
-  15分鐘後，再次檢測血糖
Recheck blood glucose level after 15 minutes
-  如血糖 $< 3.9\text{mmol/L}$ ：再次進食5-15克快糖(例如:果汁／糖果)
If blood glucose level $< 3.9\text{mmol/L}$: Repeat 5-15 grams quick-acting sugar (e.g. juice / candies)
-  如血糖 $\geq 3.9\text{mmol/L}$ ：進食10克碳水化合物(例如:餅乾/牛奶)或進食正餐
If blood glucose level $\geq 3.9\text{mmol/L}$: take 10 grams of complex carbohydrate (e.g. crackers / milk) to sustain the blood glucose level or take main meal instead if it is meal time and food is ready


嚴重低血糖症狀 Signs & symptoms of severe low blood glucose:


 沒反應
Unresponsive


 出現抽搐
Convulsions

嚴重低血糖處理 Management of severe low blood glucose:


 保持冷靜
Remain calm

 將患者側臥，避免出現窒息，跌倒或受傷
Position the student on the floor on his side
to prevent choking, fall or injury

 不要嘗試餵食
Do not attempt to give food or drink

 於大腿注射升糖素
Administer glucagon in the thigh

 致電999
Call 999

 通知家長或監護人
Contact parents/guardian

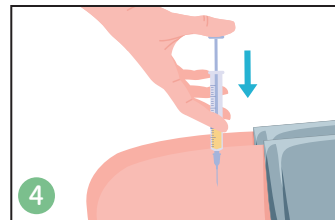
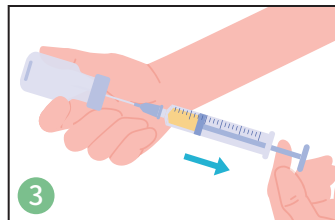
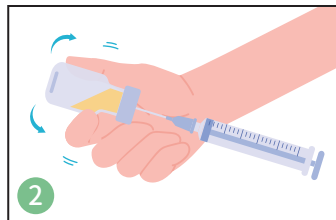
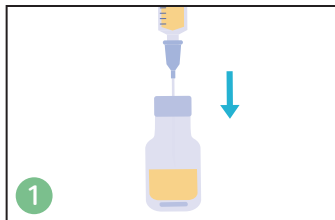


升糖素 Glucagon

升糖素是用於治療嚴重低血糖的急救藥物。當兒童因嚴重低血糖而昏迷或全身抽搐，請保持冷靜，切勿強行餵食。照顧者可為患者注射升糖素或交給救護員注射。

Glucagon is an emergency medication used to treat severe low blood glucose. When a child is comatose or having seizures due to severe low blood glucose, stay calm and do not force-feed. Caregiver can inject glucagon for the patient or allow medical staff to do it.

注射升糖素步驟 How to inject Glucagon










掃描觀看影片示範
Scan for video demo





高血糖及處理

Hyperglycaemia (high blood glucose) and management







原因 Causes

-  胰島素不足
Too little insulin
-  運動量減少
Decreased physical activity
-  壓力
Stress
-  忘記注射胰島素
Missing insulin dose
-  胰島素泵出現故障
Pump malfunction
-  生病／感染／受傷時
Illness / Infection / Injury
-  進食太多碳水化合物
Having a larger meal than usual

高血糖症狀 Signs and symptoms of high blood glucose:

-  口渴／口乾
Increased thirst sensation and/or dry mouth
-  視力朦糊
Blurry vision
-  經常尿急
Frequent urination
-  疲倦
Fatigue

高血糖處理 Management of high blood glucose:

-  檢測血糖
Check blood glucose level
-  如血糖 $\geq 15\text{mmol/L}$ ：檢測尿酮或血酮
If blood glucose level $\geq 15\text{mmol/L}$: Check urine or blood for ketones
-  多飲開水
Drink extra water
-  不要進行激烈運動
Do not engage in strenuous exercise
-  如果出現酮體，通知家長或監護人
Notify parents/guardian if ketones are present
-  如有酮酸中毒症的症狀，立刻到醫院求醫
Call the ambulance if there are symptoms of diabetic ketoacidosis

酮酸中毒症 Diabetic Ketoacidosis (DKA)

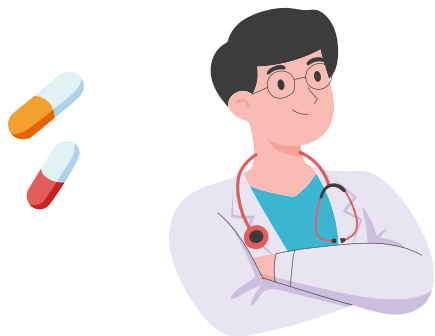


當身體嚴重缺乏胰島素時，身體會分解脂肪，而產生名為「酮」的副產品。當酮大量積聚在身體內，便會引發酮酸中毒症，而小便中亦會出現酮。當糖尿病童生病時，他們會有更容易出現酮酸中毒症。

DKA occurs when there is severe lack of insulin which forces the body to break down fat tissue. This causes the release of by-products called ketones, which are dangerous when released at high levels. Ketones are poisonous to the body and are passed into the urine as they reach high levels in the blood. Students with diabetes are at higher risk of DKA when they are sick.

酮酸中毒症症狀 Signs and symptoms of DKA:

- 極度口渴/缺水
Extreme thirst and dehydration
- 噁心、嘔吐
Nausea and vomiting
- 嚴重腹痛
Severe abdominal pain
- 呼吸重而急
Heavy breathing or shortness of breath
- 非常疲倦
Increasing sleepiness or lethargy



處理 Management:

- 立刻通知家長及到醫院求醫
Inform parents and call an ambulance to seek emergency medical care

運動時的血糖處理

Exercise management

糖尿病童可以參與任何運動，有些糖尿病童長大後更成為傑出的運動員！

Children with diabetes can participate in all kinds of exercise. Some people with diabetes are in fact outstanding athletes!

運動時的血糖會受以下因素影響 Blood glucose response to exercise may vary depending on:

- 運動開始前的血糖值
Blood glucose level before starting activity
- 運動的強度
Intensity of activity
- 運動習慣
Exercise habit
- 運動的類型
Type of activity
- 運動時間的長短
Duration of activity

運動前血糖的監測 Blood glucose monitoring before exercise:

一般來說，如血糖指數 In general, if blood glucose level:

< 3.9 mmol/L	不要運動，處理低血糖 Delay exercise and treat low glucose
3.9 – 6.9 mmol/L	補充10-20克碳水化合物 Give extra 10-20g carbohydrate
7 – 14.9 mmol/L	可以進行運動，並監測血糖 Proceed to exercise and monitor blood glucose regularly
≥ 15 mmol/L	檢測尿酮或血酮，如出現酮：不可運動 如沒有酮：多喝清水及可以進行運動並密切監測血糖 Check urine/blood ketones, if positive: delay exercise If negative: drink extra water and proceed to exercise, monitor blood glucose regularly



運動中 During exercise:

如進行中度或高強度運動，或需每30分鐘補充10-15克碳水化合物

May need to take 10-15g carbohydrate every 30 mins during moderate to vigorous exercise



胰島素泵使用者運動小貼士 Exercise tips for insulin pump user

- 運動前，可能需要轉換到臨時目標值
May need to set to temporary target before exercise
- 如需要進行撞擊性或水上活動，最多可暫停胰島素泵一小時
For contact sports/ water activities, insulin pump can be disconnected but for 1 hour at most only

詳情請參照第17頁 - 學生的糖尿病管理計劃

Please refer to the student's Diabetes Management Plan on page 17 for more details

糖尿病兒童的心理照顧

Psychological care of children and adolescents with diabetes

糖尿病兒童或青少年常見的心理現象： Common psychological issues for children or adolescents with diabetes:

- 管理糖尿病、因管理糖尿病而與家人發生糾紛，以及處理糖尿病引起的情緒問題，是糖尿病兒童或青少年最常見的壓力成因。
Managing diabetes, family conflicts about diabetes management, and dealing with diabetes emotions are often a major source of stress for children and adolescents with diabetes.
- 一型糖尿病青少年出現精神問題的機會比朋輩高兩倍，尤其在飲食失調、情緒低落、精神緊張或行為問題方面。
Youth with Type 1 Diabetes are about twice as likely to be diagnosed with psychiatric disorders, especially eating disorders, depression, anxiety, and behavioral disorders, compared with peers without diabetes.



一個能夠給予支持的學校環境能夠幫助糖尿病童更有信心地處理他們的血糖問題。糖尿病童能完全正常地參與學術、社交和運動活動。我們鼓勵糖尿病童和家長讓學校老師和同學都知道他們的情況。

A supportive school environment can help children and adolescents with diabetes gain confidence in managing their illness. Having diabetes shouldn't stop the child from fully participating in all academic, social and sporting activities. We encourage students and families affected by diabetes to let the school and other classmates know about their condition.

糖尿病童有時會因此而在學校被其他小朋友取笑，所以讓老師了解實際情況及在需要時給予支持和引導是非常重要的。透過學校和醫療團隊的密切溝通，糖尿病童亦能如其他兒童一樣去追尋他們的生活目標和夢想。

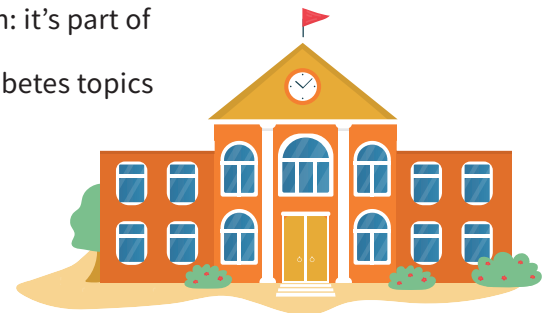
Sometimes other kids at school may tease about it. Hence it is important that teachers know what is going on and offer support and guidance when necessary. With close collaboration between the school and the medical team, children with diabetes can achieve their life goals and dreams as far as others do.

糖尿病兒童的校園生活

Living a normal school life

學校有甚麼可以支援？ What can the school do to support?

- ✓ 為糖尿病學童提供支援和監測
Provide support and supervision to children with diabetes in school
- ✓ 學習糖尿病的基本知識
Receive basic diabetes education
- ✓ 提供有足夠私隱度和潔淨的空間用作胰島素注射(例如：教室的一個角落)
Provide a private and clean space for insulin injection (e.g., a corner in the classroom)
- ✓ 需要時批准糖尿病童去洗手間或喝水
Allow bathroom breaks or water drinking as needed
- ✓ 容許糖尿病童在任何時候使用血糖機、持續葡萄糖監測裝置或胰島素泵(接收器或手提電話)
Allow students to have access to glucose monitoring device, CGMS or insulin pump (receiver or smartphone) at all times
- ✓ 容許糖尿病童在校內安全及全面地參與體育活動
Allow students to participate safely and fully in physical activities
- ✓ 為糖尿病童實行個人化糖尿病管理方案，有疑問時可與家長及醫療團隊商討
Implement student's individualised diabetes management plan and discuss with parents and medical team if in doubt
- ✓ 留意有否出現朋輩排斥的情況，有需要時提供心理和社交支援
Beware of peer influence, support students' psychological and social needs if necessary
- ✓ 鼓勵學童告訴同學自己的健康狀況：這是自己的一部分，沒有什麼好羞恥的！
例如，舉辦關於糖尿病的故事分享會、戲劇或工作坊等活動
Encourage students to tell their peers about their health condition: it's part of them and there is nothing to be ashamed of! You could help too!
E.g., organising a story telling session, drama, or workshop on diabetes topics



常見問題 FAQs



1 糖尿病童如在餐前忘記打速效胰島素，應怎樣處理？

What should I do if the student missed a dose of rapid-acting insulin before a meal?

- ✿ 於餐後一小時內發現：注射平常胰島素份量的一半，並於兩小時後再檢查血糖。如血糖水平仍然偏高，可額外注射校正劑量
Within 1 hour after eating: give half of the usual insulin dose and recheck blood glucose after 2 hours. If glucose level is still high, give a correction bolus according to the blood glucose level
- ✿ 於餐後一小時後發現：根據當時血糖，給予校正劑量
More than 1 hour after eating: give a correction bolus according to the blood glucose level
- ✿ 密切觀察有沒有出現高低血糖的症狀，並更頻繁地檢驗血糖
Observe closely for any signs of high or low blood glucose levels, and check blood glucose levels more often than usual
- ✿ 有疑問時，可致電家長或聯絡醫療團隊
Contact parents or medical team for advice if in doubt

2 如果糖尿病童意外地注射多了胰島素，應怎樣處理？

What should I do if the student has accidentally given too much insulin?

- ✿ 可聯絡家長或醫療團隊
Contact parents or medical team for advice
- ✿ 吃額外含碳水化合物的食物
Take extra food with carbohydrates
- ✿ 於3-5小時內，密切監測血糖。如發生低血糖情況，請跟從醫療團隊建議之糖尿病管理方案處理
Monitor blood glucose closely for 3-5 hours and follow diabetes management plan for low glucose management if it occurs

3 可否進食曲奇或牛奶來處理低血糖？

Can we use cookies or milk to treat low glucose levels?

- ✿ 不可以。如需即時處理低血糖，建議進食快糖食物，如糖果或果汁。因為快糖令血糖上升的速度比複雜性碳水化合物(如曲奇或牛奶)快很多
No. For rapid treatment of low glucose, consuming fast acting carbohydrate e.g., juice/candies is recommended. It is because simple sugars help elevate the glucose levels much quicker than complex carbohydrate found in cookies and milk

4 什麼時候需要聯絡家長？

When should the school contact parents?

- ✿ 在緊急情況下，如出現嚴重低血糖、持續高血糖(尤其在出現酮的情況下)、有酮酸中毒症的症狀、泵出現故障等，都需要聯絡家長
The school should contact parents when there is an emergency, e.g., severe low blood glucose, persistent high blood glucose (especially with presence of ketones), symptoms of DKA, pump failure etc
- ✿ 另外，如學校留意到糖尿病童有任何心理或情緒問題，都應聯絡家長
At any time when there are concerns about psychological issues found at school

糖尿病管理計劃 Diabetes Management Plan

學生資料 Student details

姓名 Name:	
出生日期 DOB:	性別 Gender:
糖尿病類型 Type of Diabetes :	確診年齡 Age at diagnosis:
學校 School:	班別 Class:

聯絡方法 Contact details

姓名 Name:	Relationship 關係:
Phone 電話:	Alternate phone 其他電話:
姓名 Name:	Relationship 關係:
Phone 電話:	Alternate phone 其他電話:

血糖監測 Glucose monitoring

方式 Type	<input type="checkbox"/> 篤手指 Finger prick	<input type="checkbox"/> 葡萄糖監測裝置 CGMS		
需要學校支援 School staff assistance	<input type="checkbox"/> 提醒 Remind	<input type="checkbox"/> 觀察 Observe	<input type="checkbox"/> 協助 Assist	<input type="checkbox"/> 不需要支援 No assistance
檢測時間 When	<input type="checkbox"/> 用餐前 Before meals	<input type="checkbox"/> 體育課前 Before physical activity	<input type="checkbox"/> 出現高/低血糖症狀時 Symptoms of high or low glucose	
	<input type="checkbox"/> 考試前 Before exams	<input type="checkbox"/> 體育課後 After physical activity	<input type="checkbox"/> 身體不適時 Physical complaints/illness	
	<input type="checkbox"/> 離開學校前 Before leaving school	<input type="checkbox"/> 其他Others: _____		
葡萄糖監測裝置(如適用) CGMS (if applicable)	牌子及型號 Brand & Model: _____			
使用的監測儀器 Viewing equipment	<input type="checkbox"/> 接收器 Device reader	<input type="checkbox"/> 手提電話 Smartphone	<input type="checkbox"/> 電子手錶 Smartwatch	<input type="checkbox"/> 胰島素泵 Insulin pump
警報 Alarm	<input type="checkbox"/> 有 Yes	高 High: _____ 低 Low: _____ 其他 Other: _____	<input type="checkbox"/> 沒有 No	

胰島素注射 Insulin administration

胰島素裝置 Insulin device	<input type="checkbox"/> 胰島素筆 Insulin pen	<input type="checkbox"/> 智能胰島素筆 Smart pen	<input type="checkbox"/> 胰島素泵 Insulin pump			
需要學校員工支援 School staff assistance	<input type="checkbox"/> 提醒 Remind	<input type="checkbox"/> 觀察 Observe	<input type="checkbox"/> 協助 Assist	<input type="checkbox"/> 不需要支援 No assistance		
注射時間 Injection time	<input type="checkbox"/> 用餐前 Prior to meal	<input type="checkbox"/> 其他 Others: _____				
胰島素劑量 Insulin regimen	午餐 Lunch: _____ 長效 Long-acting: _____					
注射位置 Injection sites	<input type="checkbox"/> 手臂 Arm	<input type="checkbox"/> 肚子 Abdomen	<input type="checkbox"/> 大腿 Thigh	<input type="checkbox"/> 屁股 Buttock		
胰島素泵 (如適用) Insulin pump (if applicable)	牌子 Brand: _____	型號 Model: _____	胰島素 Insulin: _____			
模式 Mode	<input type="checkbox"/> 自動模式 Automated delivery system				<input type="checkbox"/> 手動模式 Manual	<input type="checkbox"/> 其他 Others: _____
運動模式 Exercise mode	<input type="checkbox"/> 有 Available (目標值 Target: _____)				<input type="checkbox"/> 沒有 Not available	

糖尿支援團隊 Diabetes health care team

醫院 Hospital:
電話 Phone:
電郵 Email:

自我管理技巧 Self-management skills

- ☐ 使用葡萄糖監測裝置來監測血糖
Glucose monitoring by CGMS
- ☐ 使用胰島素泵給予胰島素
Insulin administration by pump
- ☐ 知道低血糖的症狀
Identify signs and symptoms of low blood glucose
- ☐ 計算碳水化合物
Carbohydrate counting
- ☐ 使用血糖機來監測血糖
Glucose monitoring by glucometer
- ☐ 注射胰島素
Insulin administration by injection
- ☐ 基於進食的碳水化合物份量和當刻血糖來計算胰島素劑量
Calculate insulin dose based on carbs and blood glucose level
- ☐ 低血糖處理
Low blood glucose treatment

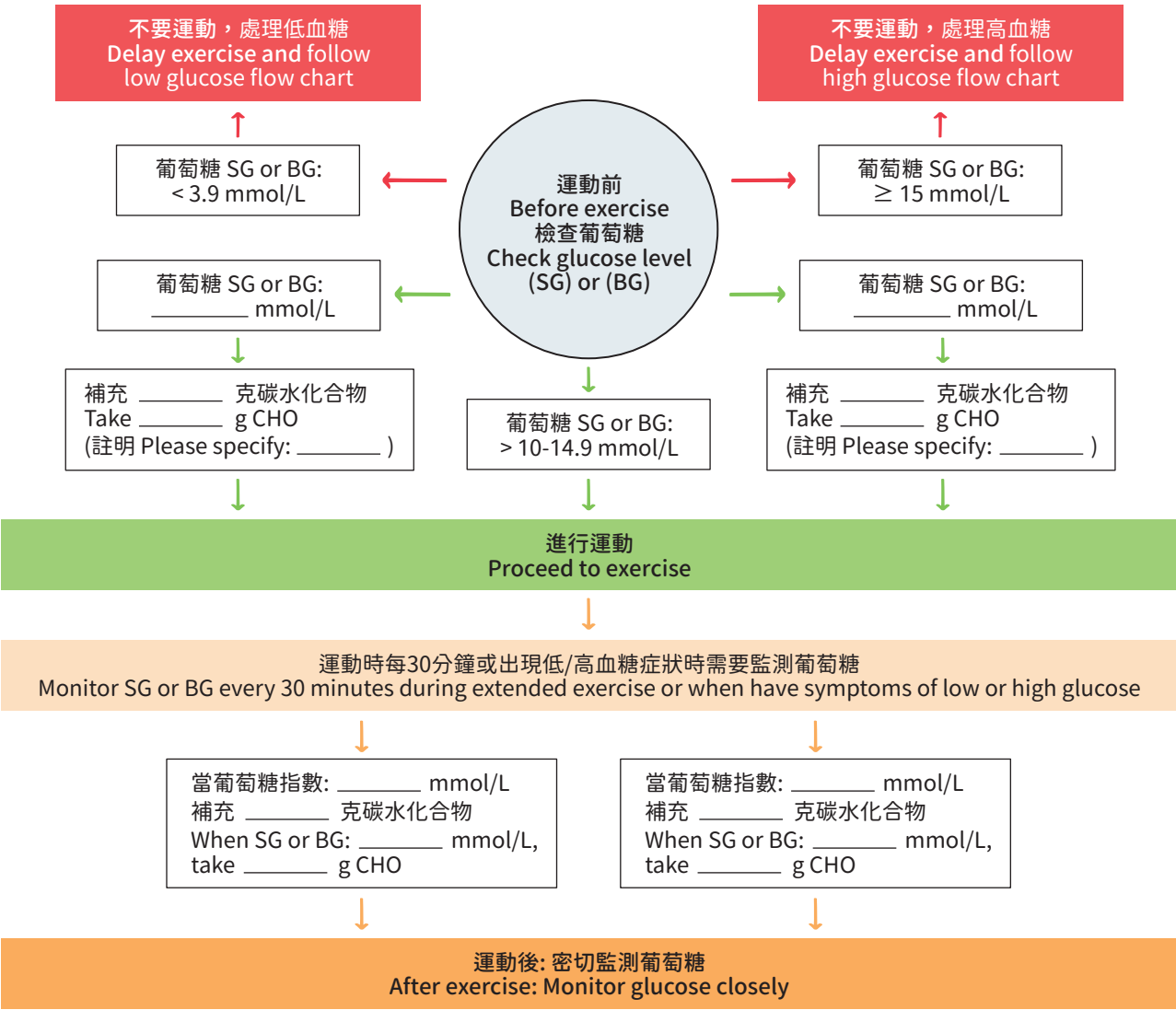
注意事項 Notes：不要停泵超過1小時 Do not suspend pump ≥ 1 hours
如持續高血糖，請檢查泵、喉管及輸注位置 Check pump, tubing and site when persistent high blood glucose
如泵故障，請參照泵故障行動計劃 Follow pump failure action plan if pump is not working

糖尿病管理計劃（每日多次注射）Diabetes Management Plan (MDI)

運動管理流程表 Physical activity flow chart

SG: 葡萄糖感應器讀數 CGM sensor glucose
BG: 血糖 Blood glucose

□ 餐後如有運動，需在餐前調節胰島素劑量：午餐前速效胰島素需減少注射 _____ 度
Insulin adjustment for exercise after lunch: Decrease pre-lunch fast-acting insulin by _____ units



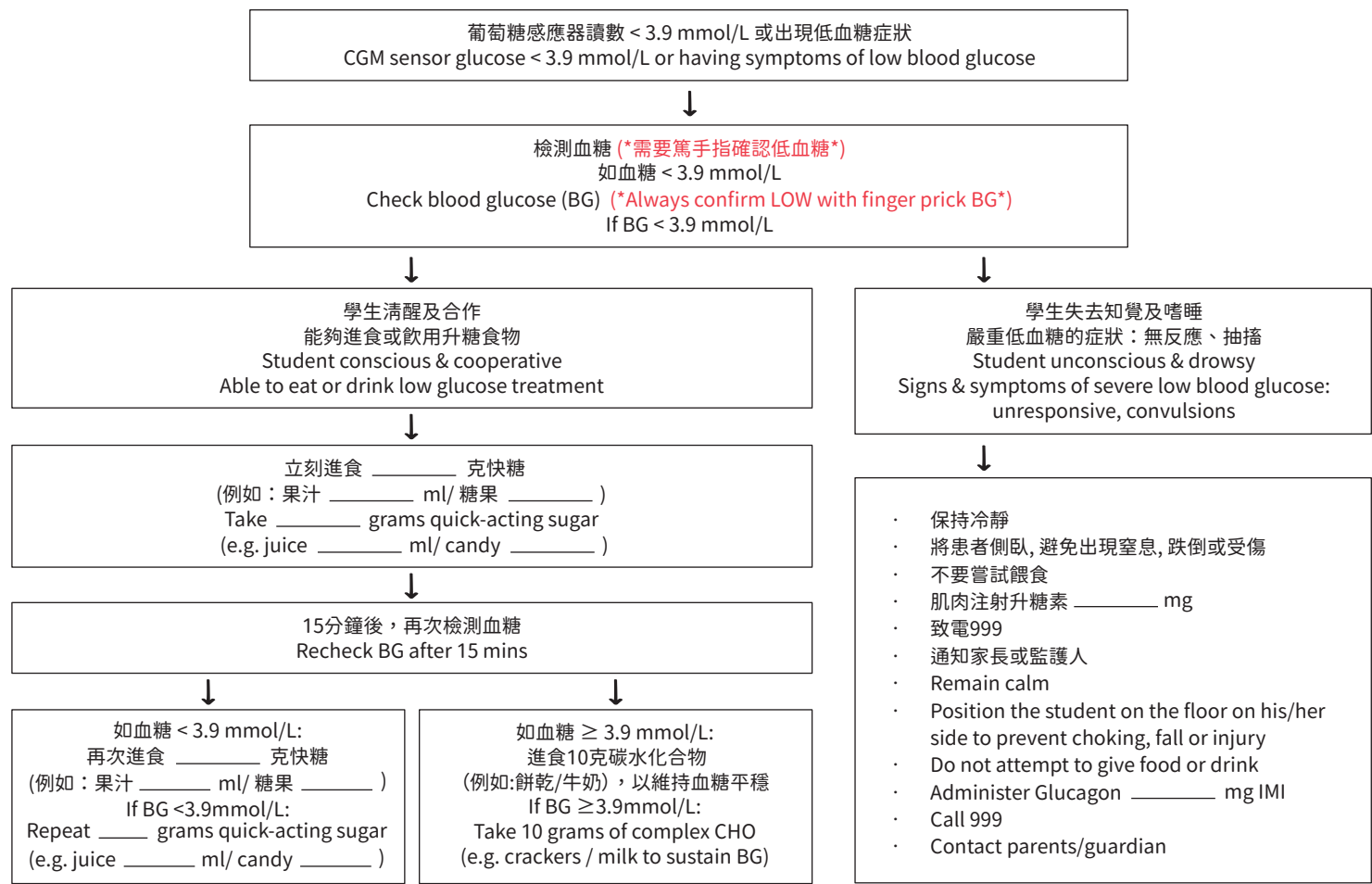
糖尿病管理計劃（每日多次注射）Diabetes Management Plan (MDI)

低血糖處理 LOW glucose management

低血糖症狀 Signs & symptoms of low glucose:

如: 顫抖、出汗、蒼白、飢餓、易怒或緊張、心悸、協調不良或無法集中、虛弱、嗜睡、頭暈、性格或行為改變、定向障礙或神智不清
e.g. shaky, sweaty, pale, hungry, irritable or nervous, palpitation, uncoordinated or unable to concentrate, weak, sleepy, dizzy, changed personality or behaviour, disorientated or confused

*症狀可能不明顯 symptoms may not always be obvious



注意事項 Notes:

- *不要讓懷疑低血糖的學生獨處 Never send a student with suspected low glucose anywhere alone
- *容許學生立即取得低血糖治療 Allow student to have immediate access to low glucose treatment sources

學生姓名 Student name: _____

家長聯絡 Parent contact: 1. _____
2. _____

醫護聯絡 Medical team contact

糖尿病管理計劃（每日多次注射）Diabetes Management Plan (MDI)

高血糖處理 HIGH glucose management

高血糖症狀 Signs & symptoms of high glucose:

如: 口渴/口乾、經常尿急、視力朦朧、疲倦
e.g. increased thirst and/or dry mouth, frequent urination, blurry vision, fatigue

酮酸中毒症狀 Signs and symptoms of DKA:

- 極度口渴/缺水 Extreme thirst and dehydration
- 噁心、嘔吐 Nausea and vomiting
- 嚴重腹痛 Severe abdominal pain
- 呼吸帶有甜味(生果味) Fruity breath
- 呼吸重而急 Heavy breathing or shortness of breath
- 非常疲倦 Increasing sleepiness or lethargy
- 血或小便測試出現酮體 Blood or urine ketones positive

葡萄糖感應器讀數 $\geq 15\text{mmol/L}$ 或出現高血糖症狀
CGM sensor glucose $\geq 15\text{ mmol/L}$ or having symptoms of high blood glucose



檢測血糖
Check blood glucose (BG)



如血糖 $< 15\text{mmol/L}$: 密切監測血糖及趨勢
If BG $< 15\text{mmol/L}$: Closely monitor BG & trend



<p>如血糖 $\geq 15\text{mmol/L}$:</p> <p><input type="checkbox"/> 檢測尿酮或血酮</p> <p><input type="checkbox"/> 每2小時喝清水 _____ 毫升</p> <p><input type="checkbox"/> 容許學生按需要使用洗手間</p> <p><input type="checkbox"/> 依指示給予校正劑量的胰島素：</p> <table><tr><td>血糖: _____ mmol/L:</td><td>度</td></tr><tr><td>血糖: _____ mmol/L:</td><td>度</td></tr><tr><td>血糖: _____ mmol/L:</td><td>度</td></tr><tr><td>血糖: _____ mmol/L:</td><td>度</td></tr></table> <p><input type="checkbox"/> 容許學生留在課室</p> <p><input type="checkbox"/> 如果血糖 $>$ _____ mmol/L，聯絡家長/監護人</p> <p><input type="checkbox"/> 如果出現酮體，聯絡家長/監護人</p> <p><input type="checkbox"/> 如果學生身體不適或出現酮酸中毒症狀，請致電999</p> <p><input type="checkbox"/> 其他 (請註明): _____</p>	血糖: _____ mmol/L:	度	血糖: _____ mmol/L:	度	血糖: _____ mmol/L:	度	血糖: _____ mmol/L:	度	<p>If BG $\geq 15\text{mmol/L}$:</p> <p><input type="checkbox"/> Check urine or blood ketones</p> <p><input type="checkbox"/> Give extra water _____ ml every 2 hours</p> <p><input type="checkbox"/> Allow liberal bathroom privileges</p> <p><input type="checkbox"/> Administer correction dose of insulin as prescribed:</p> <table><tr><td>BG: _____ mmol/L:</td><td>units</td></tr><tr><td>BG: _____ mmol/L:</td><td>units</td></tr><tr><td>BG: _____ mmol/L:</td><td>units</td></tr><tr><td>BG: _____ mmol/L:</td><td>units</td></tr></table> <p><input type="checkbox"/> Allow student to remain in class</p> <p><input type="checkbox"/> Contact parent/guardian if BG is $>$ _____ mmol/L</p> <p><input type="checkbox"/> Contact parent/guardian if ketones positive</p> <p><input type="checkbox"/> Call 999 if student is unwell or with symptoms of Diabetic Ketoacidosis (DKA)</p> <p><input type="checkbox"/> Other (specify): _____</p>	BG: _____ mmol/L:	units	BG: _____ mmol/L:	units	BG: _____ mmol/L:	units	BG: _____ mmol/L:	units
血糖: _____ mmol/L:	度																
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糖尿病管理計劃（胰島素泵） Diabetes Management Plan (Insulin pump)

運動管理流程表 Physical activity flow chart

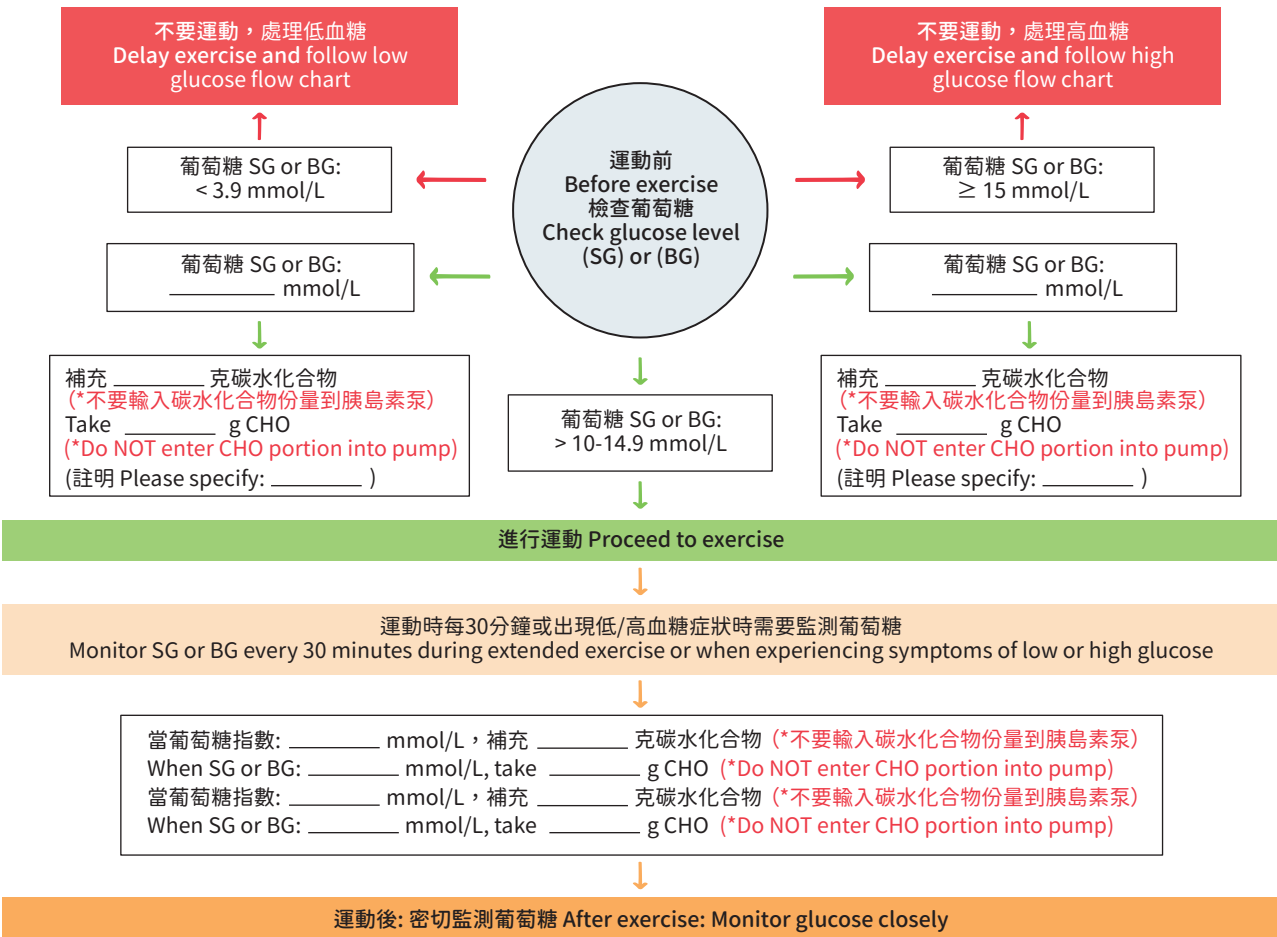
重要資訊 Important notes:

- 1. 不要暫停胰島素泵多於1小時 Do not suspend pump \geq 1 hour
- 2. 重新連接胰島素泵後，如有高血糖，請給予校正劑量 Give correction if there are high glucose readings after reconnecting the pump

SG: 葡萄糖感應器讀數 CGM sensor glucose
BG: 血糖 Blood glucose

運動時的胰島素劑量調節 Insulin adjustment for exercise:

- ☐ 於運動前 _____ 分鐘轉到運動模式 Switch to exercise mode _____ mins before exercise
- ☐ 維持運動模式直至運動後 _____ 分鐘 Keep exercise mode during and until _____ mins after exercise
- ☐ 於運動前 _____ 分鐘調較基礎率到原本 _____ % Change basal rate to _____ % _____ mins before exercise



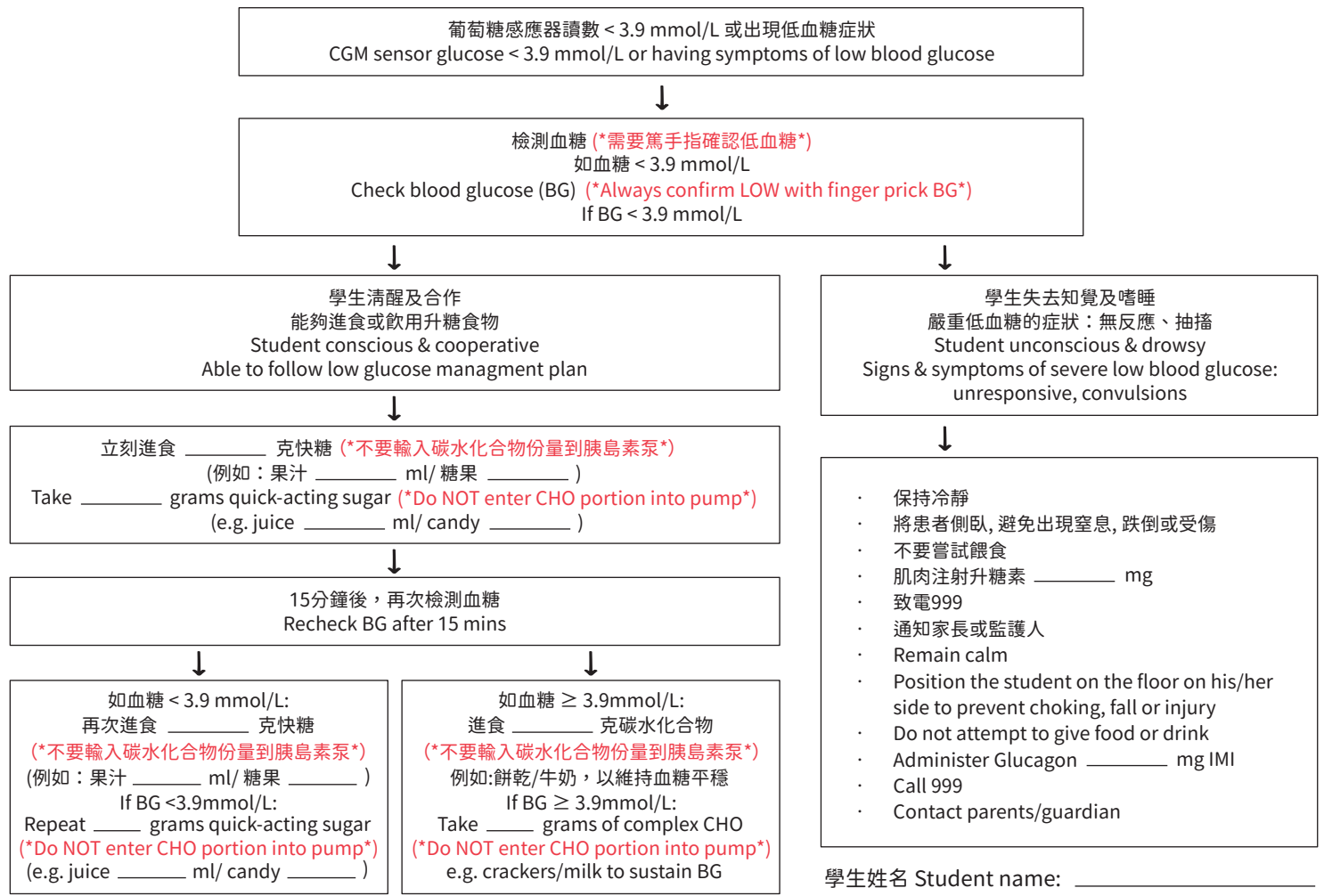
糖尿病管理計劃（胰島素泵） Diabetes Management Plan (Insulin pump)

低血糖處理 LOW glucose management

低血糖症狀 Signs & symptoms of low glucose:

如: 顫抖、出汗、蒼白、飢餓、易怒或緊張、心悸、協調不良或無法集中、虛弱、嗜睡、頭暈、性格或行為改變、定向障礙或神智不清
e.g. shaky, sweaty, pale, hungry, irritable or nervous, palpitation, uncoordinated or unable to concentrate, weak, sleepy, dizzy, changed personality or behaviour, disorientated or confused

*症狀可能不明顯 symptoms may not always be obvious



注意事項 Notes :

*不要讓懷疑低血糖的學生獨處 Never send a student with suspected low glucose anywhere alone

*容許學生立即取得低血糖治療 Allow student to have immediate access to treatment for hypoglycaemia

學生姓名 Student name: _____

家長聯絡 Parent contact: 1. _____

2. _____

醫護聯絡 Medical team contact _____

糖尿病管理計劃（胰島素泵） Diabetes Management Plan (Insulin pump)

高血糖處理 HIGH glucose management

高血糖症狀 Signs & symptoms of high glucose:

如: 口渴/口乾、經常尿急、視力朦朧、疲倦
e.g. thirst sensation and/or dry mouth, frequent urination, blurry vision, fatigue

酮酸中毒症症狀 Signs and symptoms of DKA:

- 極度口渴/缺水 Extreme thirst and dehydration
- 噁心、嘔吐 Nausea and vomiting
- 嚴重腹痛 Severe abdominal pain
- 呼吸帶有甜味(生果味) Fruity breath
- 呼吸重而急 Heavy breathing or shortness of breath
- 非常疲倦 Increasing sleepiness or lethargy
- 血或小便測試出現酮體 Blood or urine ketones positive

葡萄糖感應器讀數 $\geq 15\text{mmol/L}$ 或出現高血糖症狀
CGM sensor glucose $\geq 15\text{ mmol/L}$ or having symptoms of high blood glucose



檢測血糖
Check blood glucose (BG)



如血糖 $< 15\text{mmol/L}$: 密切監測血糖及趨勢
If BG $< 15\text{mmol/L}$: Closely monitor BG & trend



如血糖 $\geq 15\text{mmol/L}$:

- ☐ 檢測尿酮或血酮
- ☐ 多喝清水
- ☐ 檢查胰島素泵是否正常運作
- ☐ 輸入血糖值，並依指示給予校正劑量的胰島素 (每 ____ 小時)
- ☐ 容許學生留在課室
- ☐ 容許學生按需要使用洗手間
- ☐ 容許學校按需要飲水或使用洗手間
- ☐ 如果血糖 $>$ ____ mmol/L ，聯絡家長/監護人
- ☐ 如果出現酮體，聯絡家長/監護人
- ☐ 如果學生身體不適或出現酮酸中毒症的症狀，請致電999
- ☐ 其他(請註明): _____

If BG $\geq 15\text{mmol/L}$:

- ☐ Check urine or blood ketones
- ☐ Give extra water
- ☐ Check pump if it is connected properly and functioning
- ☐ Enter BG and give correction by pump (every ____ hour)
- ☐ Allow student to remain in class
- ☐ Allow liberal bathroom privileges
- ☐ Allow free and liberal access to water and the restroom
- ☐ Contact parent/guardian if BG is over ____ mmol/L
- ☐ Contact parent/guardian if ketones positive
- ☐ Call 999 if student is unwell or with symptoms of Diabetic Ketoacidosis (DKA)
- ☐ Other (specify): _____

聯合製作
Jointly produced

香港兒童醫院內分泌及糖尿組
Endocrine and Diabetes Team,
Hong Kong Children's Hospital

兒童糖尿協會
Youth Diabetes Action

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特別鳴謝
Acknowledgement

香港兒童醫院內分泌及糖尿組的病人及家屬
Patients and families of Endocrine and Diabetes Team,
Hong Kong Children's Hospital

Spring 2025

