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焦點個案 Incident in Focus

外送食物的安全控制

Control for Safe Delivered Foods

食物安全中心風險傳達組
科學主任莊梓傑博士報告

Reported by Dr Ken CHONG, Scientific Officer,
Risk Communication Section, Centre for Food Safety

背景

二零一八年七月有兩宗食物中毒個案，據報涉及的顧客進食了來自同一食肆烹製的外送食物。近年來，訂購外送食物的流動應用程式漸趨普及。與傳統訂外賣的方式相比，顧客透過應用程式便可從更大範圍的食肆訂購外送食物，並由應用程式公司提供送遞服務。

Background

Two food poisoning clusters involving customers consuming delivered food prepared from the same premises were reported in July 2018. In recent years, food ordering mobile apps are getting more popular. Comparing with traditional way of ordering, customers can make food orders from premises in a wider area through the apps and the courier service provided by the app companies.

外送食物的食物安全風險

相比傳統送外賣，在這種外送服務的運作模式下，烹製好的食物要由送遞員前往食肆領取，需時可能較長。一些外送食物可能有大批顧客訂購，並以保溫容器送往室外地點，供顧客各自到取，或會因而延長了送遞及/或分發的時間。外送餐點通常是容易腐壞的食物，如果送遞的時間與溫度控制不當，食物中

Food Safety Risk of Delivered Foods

Under this operation of delivery service, comparing with traditional delivery, prepared foods may need to wait longer as delivery persons have to pick up foods from premises. In some cases, delivered foods may be purchased in bulk and delivered in insulation containers to an open area for picking up by individual customers. These may result in additional time in delivery and/or distribution. Delivered meals are usually perishable foods. If there is improper time

 容易腐壞的食物置於危險溫度範圍(4°C至60°C)的時間控制
Time control of perishable food kept under temperature danger zone (4°C to 60°C)

▶ 例子：滑蛋飯
Example: Scrambled egg on rice



預先炒好滑蛋
cooking scrambled
egg in advance



置於沒有溫度控制的環境
keeping without
temperature control



收到訂單
order received



把滑蛋放在飯上
placing egg on rice



等待送遞員領取
pending for pick up
by delivery person



運送
transportation



透過流動應用程式提供外送食物
的時間控制例子

Example on keeping time for
ordering by mobile apps.

可能存在的微生物，包括病原體，可以迅速大量滋長，使人生病。事實上，與傳統送外賣一樣，在沒有時間或溫度控制的情況下送遞食物，會增加食物安全風險。因此，妥善控制時間與溫度，對於減少外送餐點所帶來的潛在食物安全風險是很重要的。

由準備好即食材料的時間起計，而非出發送遞的時間
Timing should start from finishing preparation of ready-to-eat ingredients, but not right before delivery

我們一起合作，縮短所需時間
Let's work together to
minimise the duration

temperature control during delivery, microorganisms including pathogen that may be present in foods can grow rapidly to a large number and make people sick. Indeed, similar to traditional way of ordering, delivering foods without time or temperature control can increase food safety risk. As such, proper time temperature control is important to address the potential food safety risk arising from delivered meals.

確保外送食物安全的時間與溫度控制

保持熱食於攝氏60度以上，冷食於攝氏4度或以下，便可保障外送食物安全。大部分致病細菌在攝氏4度至60度的溫度下繁殖迅速，故稱之為「危險溫度範圍」。外送食物可保持在此危險範圍之外，方法包括使用保溫容器，在送遞前將食物保存在保溫器或冷藏器內，以及避免過早烹製食物等。

食物安全涉及時間與溫度控制，如在危險溫度範圍內送遞食物，便只有事先的時間控制發揮把關的作用。容易腐壞的食物有兩個放置時限，分別為2小時及4小時：

- 烹製好的食物如置於室溫超過4小時，便須棄掉；
- 烹製好的食物如置於室溫不超過2小時，可放入雪櫃待用或在總時限4小時內食用。

在沒有溫度控制的情況下，食物的送遞時間越長，之後可供消費者食用的時間便越短。

置於危險溫度範圍的時間

食物置於危險溫度範圍的時間是累計的，即是要把食物每次置於環境溫度的時段加起來，包括處理、存放、運送等時間（見圖）。個別即食的材料可能預先準備好，其後一直置於環境溫度，如在奉客前並無進一步處理，或以其他方法來抑制微生物的生長，便要把材料置於危險溫度範圍的時間加起來，以計算出2小時及4小時原則下的總時間。因此，提供外送食物服務的食物處理者及送遞者必須共同定出安排，以符合時間與溫度控制的要求，從而確保食物安全。

注意事項：

1. 外送餐點通常是容易腐壞的食物，如果送遞的時間與溫度控制不當，食物中可能存在的微生物可以迅速大量滋長，使人生病。
2. 保持熱食於攝氏60度以上，冷食於攝氏4度或以下，以保障外送食物安全。如把容易腐壞的食物置於危險溫度範圍，則須遵從2小時及4小時原則。
3. 把食物(包括個別材料)置於危險溫度範圍的所有時段加起來，以計算出總時間。

給市民的建議

- 訂購外送食物時只光顧可靠的持牌食肆。
- 檢查外送食物，尤其是刺身、壽司等供生吃食物的大致狀況，例如溫度、食物容器是否完好及衛生狀況。
- 消費者應盡快食用外送食物，特別是當不清楚食物在沒有溫度控制下的處理時間。

給業界的建議

- 食肆與送遞商應共同合作，務求外送食物符合時間與溫度控制的要求。
- 縮短外送食物置於沒有溫度控制下的時間，並在適當時提醒顧客盡快食用。
- 備存紀錄，並遵行時間與溫度的要求，特別是外送食物。

Time Temperature Control for Safe Delivered Foods

Keeping hot food hot and cold food cold, i.e. above 60°C and at/below 4°C respectively, can keep delivered foods safe. Most pathogenic bacteria grow and multiply rapidly at temperatures between 4°C and 60°C. This range of temperatures is therefore called the "temperature danger zone". Delivered foods can be maintained out of this danger zone by ways such as using insulated containers, keeping foods in a warmer or cooler before delivery, and avoiding preparing food too early, etc.

Under the time-temperature control for food safety, if foods are delivered within the temperature danger zone, time control in advance will become the only gatekeeper. There are two time limits, two-hour and four-hour, for keeping perishable foods:

- prepared food should be discarded if it has been held at room temperature for more than four hours;
- if prepared food is kept at room temperature for less than two hours, it can be refrigerated for final use later or used within the four-hour limit.

The longer the time period the foods delivered without temperature control, the shorter the time left for consumers for consumption later.

Time within Temperature Danger Zone

The time for foods being kept within the temperature danger zone is cumulative, i.e. it is needed to add up each and every time period that the foods have been left under ambient temperature, including handling, storage, transportation, etc. (See figure). Individual ready-to-eat ingredient may be prepared in advance and left under ambient temperature before serving. If there is no further processing or other means to control the growth of microorganisms, the time that the ingredients have been left under the temperature danger zone should be added up to work out the total time under the two-hour and four-hour principle. As such, for food delivery, both food handlers and delivery persons have to work out the arrangement together to fulfill time temperature control requirements to ensure food safety.

Key Points to Note:

1. Delivered meals are usually perishable foods. Microorganisms that may be present in foods can grow rapidly to a large number and make people sick if there is improper time temperature control during delivery.
2. Keep hot food hot and cold food cold for safe delivered foods (i.e. above 60°C and at/below 4°C respectively). If not, the two-hour and four-hour principle should be followed for perishable foods that have been kept in the temperature danger zone.
3. Add up all time periods that the foods, including individual ingredients, have been left under the temperature danger zone to work out the total time.

Advice to the Public

- Patronise only reliable and licensed restaurants for food ordering and delivery.
- Check general conditions of delivered foods, such as temperature, integrity of food container and hygiene condition, especially for [those that are intended for raw consumption such as sashimi and sushi](#).
- Consumers are advised to consume delivered foods as soon as possible, especially when they are not certain about the handling time without temperature control.

Advice to the Trade

- Both food premises and delivery agents are advised to work together to meet the time temperature control requirements for delivered foods.
- Shorten the time the delivered foods left out of temperature control and remind customers to consume as soon as possible where appropriate.
- Keep records and adhere to the time temperature requirements, especially for delivered foods.



參閱營養標籤以防患上糖尿病/兒童肥胖症 ◀

Read Nutrition Labels for Preventing Diabetes/Childhood Obesity

食物安全中心風險評估組營養科主任梁喜媚女士及
風險傳達組科學主任莊梓傑博士報告

Reported by Ms Amy Leung, Dietitian, Risk Assessment Section,
and Dr Ken CHONG, Scientific Officer, Risk Communication Section,
Centre for Food Safety

健康飲食可以幫助我們預防不同類型的非傳染性疾病。預先包裝食品上的營養標籤便是有助我們達致飲食健康的工具。在本文中，我們會談談糖尿病及兒童肥胖症，以及如何利用營養標籤來促進飲食健康，從而預防患上這些疾病。

兒童肥胖症

兒童超重及肥胖的根本原因是攝取過多能量，這可能是因為進食了過量食物，通常包括高糖及高脂肪的食物。超重及肥胖兒童傾向在成年期持續肥胖，並會在較年輕時患上慢性疾病，例如糖尿病、高血壓及心臟病。

糖尿病

糖尿病是由新陳代謝失調引致的疾病，而肥胖是其中一項風險因素。胰島素是由胰臟分泌的一種荷爾蒙，糖尿病患者因為缺乏胰島素，或胰島素在身體不能發揮正常功能，以致影響體內葡萄糖的轉化。糖尿病若控制不宜，可導致嚴重併發症，例如心臟病、腎衰竭及中風。若攝取過多脂肪及鈉，可能會使這些併發症更加嚴重。

善用營養標籤

肥胖兒童需要控制體重，成年人也需要控制體重以防患上糖尿病。查閱食物所含的能量，可以為控制體重提供重要的便捷參考。能量需要因人而異，並受多項因素影響，例如年齡、性別及活動量等。以一名輕度活動量的14-17歲女性為例，每天需要大約2000千卡能量。另一方面，選擇「三低」（即低脂、低鈉（或鹽）、低糖）飲食，對於肥胖兒童及糖尿病患者也很重要。他們可以集中注意關乎其健康狀況的營養素，來開始養成參閱營養標籤的習慣。

睇標籤

使用營養標籤比較產品時，應以相同的參考量進行比較，例如每100克（見圖）。根據相同的食物參考量，便可以比較各款產品的總脂肪、鈉及糖的含量，然後選擇這三種營養素含量較低的產品。

選三低

以100克為參考量，食物須符合特定標準，才可聲稱營養素含量屬於低（見圖）。在比較產品時，最好經常選擇總脂肪、鈉及糖含量屬「低」的食物。

知分量

另一方面，亦要了解實際進食的分量。若進食量為食用分

Healthy eating can help us prevent different types of non-communicable diseases (NCD)s. Nutrition labels on prepackaged foods are a tool that helps us in achieving healthy eating. In this article, we will talk about diabetes and childhood obesity as well as preventing these conditions by referring to nutrition labels for healthy eating.

Childhood Obesity

The fundamental cause of childhood overweight and obesity is excessive energy consumed. Excessive energy intake can be resulted from eating too much food, often include sugary and fatty foods. Overweight and obese children are more likely to stay obese into adulthood and to develop chronic diseases such as diabetes, hypertension and heart diseases at a younger age.

Diabetes

Diabetes is a metabolic disorder and obesity is one of the risk factors. People with diabetes have either insulin deficiency or resistance to insulin, a hormone produced by the pancreas. As a result, it affects the use of glucose in their bodies. Uncontrolled diabetes can lead to severe complications, such as heart diseases, renal failure and stroke. Excessive fat and sodium intakes may make these complications even worse.

Use of Nutrition Labelling

Weight control is needed for obese children while it is also required for adults to prevent diabetes. Examining energy content of food can provide a quick reference that is important for weight control. Energy requirement varies among individuals and is affected by a number of factors such as age, gender and physical activity level, etc. For example, a 14-to 17-year old female with light level of physical activity needs around 2000 kcal a day. On the other hand, choosing a "3 Low" (i.e. low fat, low sodium (or salt), low sugars) diet is also important for obese children as well as people with diabetes. They can start the habit of reading nutrition labels by focusing on nutrients of concern in relation to their health status.

Read Labels

When comparing products using nutrition labels, comparison should be made basing on the same reference amount e.g. per 100 grams (See figure). Based

on the same reference amount of food, people can make comparison among the contents of total fat, sodium and sugars of various products. Then choose the one that is lower in the three nutrients.

Choose Low

Using the reference of 100 grams of food, there are specific limits for claiming the nutrient content as low (See figure). It is better to choose more often the foods that are "Low" in total fat, sodium and sugars when comparing products.

Know Intake

On the other hand, people should also be aware of the actual amount of food that is consumed. If one eats twice the serving size, the energy and nutrient content

睇標籤 Read Labels

注意參考量，視乎需要作出換算以便比較

Take note of the reference amount and see conversion is required for comparison

Nutritional Information / 營養資料	VS	Nutritional Information / 營養資料
Serving Size / 食用分量 1 Pack / 包 (20 克 / g)		每100克 / Per 100g
Sugars / 糖 5 克 / g		Sugars / 糖 5 克 / g
For 100 grams food: 5g sugars x 5 = Sugars 25g / 100g 換算為100克食物：5克糖 x 5 = 糖25克 / 100克		Sugars 5g / 100g 糖5克 / 100克

選三低 Choose Low

查閱需予關注的營養素，多選擇「低」含量

Check for concerned nutrients and choose more for "LOW"

	What is Low? 何謂低含量?	
	Per 100g (not more than) 每100克 (不超過)	Per 100mL (not more than) 每100毫升 (不超過)
Total fat 總脂肪	3 克 / g (for solid food 固體食物)	1.5 克 / g (for liquid food 液體食物)
Sugars 糖	5 克 / g	
Sodium 鈉	120 毫克 / mg	

知分量 Know Intake

了解你的進食量，並與每日攝取上限比較

Know your consumption amount and compare with daily intake upper limits

My consumption amount: 50g 我的進食量：50克

My sugars intake: 21g 我的糖攝取量：21克

Sugars: 50g*
糖: 50克*

Sodium: 2g* 鈉: 2克*

Fat: 60g* 脂肪: 60克*

* Based on a 2 000 kcal diet * 以2000千卡膳食計算

參閱標籤，選擇更健康 Read Labels for Healthier Choice

量的兩倍，能量及營養素的攝取量會隨之倍增。營養標籤上的資料，可用來計算從食物中攝取的能量及營養素分量，與相應每日攝取上限作出比較。以圖中的玉米片為例，可能有人關注糖的攝取量，他們便可參閱營養標籤，以了解玉米片中的糖含量，然後可以計算糖的攝取量，並與每日攝取上限加以比較。假設一個人進食了50克玉米片，糖的攝取量便是21克，將之對照糖的每日攝取上限50克(以2000千卡膳食計算)，進食玉米片所攝取的糖便佔每日攝取上限的約40%。至於總脂肪及鈉也可作同樣的計算，來與每日攝取上限比較。

本文未有就鈉詳加討論，但攝取過量的鈉與罹患高血壓及冠心病有關，下一期將會探討這些非傳染性疾病。

will be doubled accordingly. Nutrition labels can be used to calculate the amount of energy and nutrients people get from food, and compare with daily intake limits accordingly. For the corn flakes example in the figure, people may be concerned about their sugars intake, i.e. they can refer to nutrition labels on sugar content from the corn flakes. The intake amount for sugars can then be calculated and compared with our daily intake upper limits. Assuming one has consumed 50 grams, the intake amount of sugars is 21 grams. Comparing with the daily intake upper limit for sugars, i.e. 50 grams based on a 2 000 kcal diet, consuming the corn flakes contributes to around 40% of daily upper limit for sugars. For total fat and sodium, similar calculation for comparing with the daily upper limits can be done.

Sodium has not been talked much in this article, but excessive sodium intake is related to hypertension and coronary heart disease. These NCDs will be addressed in the next issue.

食物事故點滴
Food Incident Highlight

慎防有毒植物、野生菇類及野生芋頭

Beware of Toxic Plants, Wild Mushroom and Wild Taro

過去兩個月，據報有數名市民在進食自行採摘的野生菇類及野生芋頭後感到不適。一些野生有毒植物與無毒的可食用品種外觀相似，難以區分。一旦進食了有毒植物，可導致嚴重中毒。

野生菇類可能含有不同種類的有毒物質，例如毒傘肽、毒蕈鹼或腸胃毒素，可引致腹痛、嘔吐、抽搐，甚或死亡。野生芋頭則可能含有草酸鈣針晶體。進食含有草酸鈣的食物可使人舌頭麻痺及嘴唇腫脹。這些野生植物可在郊野中找到，是不可食用的。

為防止野生植物造成食物中毒，消費者宜向信譽良好的店鋪購買蔬菜。此外，野生植物可能有毒，切勿採食。

In the last two months, several persons were reported ill after consuming self-picked wild mushrooms and wild taros. Some wild toxic plants look similar to non-toxic edible species and it may be difficult to distinguish them. Consumption of toxic plants can cause severe poisoning.

Wild mushrooms may contain different kinds of toxic substances like amatoxins, muscarine or gastrointestinal toxin which can cause abdominal pain, vomiting, convulsions or even death. Wild taros may contain calcium oxalates raphide which are fine needle-shaped crystals. Consumption of food with calcium oxalates raphide can result in numbness of the tongue and swelling of lips. These wild plants can be found in countryside and are not edible.

To prevent food poisoning caused by wild plants, consumers are advised to purchase vegetables from reputable shops. In addition, people should never pick and eat wild plants as they could be poisonous.

非洲豬瘟並不構成食物安全問題

African Swine Fever is Not a Food Safety Issue

自二零一八年八月初以來，內地數個省份先後爆發非洲豬瘟。由於這不是人畜共患的疾病，故對人類健康並無威脅。然而，對豬隻來說，非洲豬瘟是可怕的病症，可在短時間內造成大量豬隻死亡。

所有從內地進口本港供人食用的活豬，均來自註冊養殖場，並附有衛生證明書。食物環境衛生署(食環署)會在邊境管制站檢查活豬的證明書及健康狀況。送往屠房的豬隻均須經過進一步的宰前及宰後檢驗。進口的肉類亦須附有出口地簽發的衛生證明書。為防範非洲豬瘟傳入本港豬場，食環署已採取各項預防措施，其中包括加強運豬車、存豬欄及屠房內屠宰線的清潔和消毒工作。

雖然人類進食豬肉不會患上非洲豬瘟，但市民仍必須把豬肉徹底煮熟才可食用，以免感染食源性疾病。

Since early August 2018, there were outbreaks of African swine fever (ASF) in several provinces in the Mainland. ASF is not a human health threat because it is not a zoonotic disease. However, ASF is a dreadful disease in pigs and can cause massive deaths of pigs in a short period of time.

In Hong Kong, all live pig consignments imported from the Mainland for human consumption are from registered farms and accompanied by health certificates. The Food and Environmental Hygiene Department (FEHD) will check both the certificates and health status of live pigs at the border control point. Pigs admitted to the slaughterhouses are subject to further ante-mortem and post-mortem inspections. Imported meats must also be accompanied by health certificates issued by exporting places. To prevent the introduction of ASF into local pig farms of Hong Kong, among other preventive measures, the FEHD has strengthened the cleansing and disinfection of livestock conveying trucks, lairages and slaughtering lines of pigs in slaughterhouses.

Although people will not contract ASF whilst eating pork, the public are still reminded to cook pork thoroughly before consumption to avoid contracting foodborne diseases.



風險傳達工作一覽 (二零一八年八月)

Summary of Risk Communication Work (August 2018)

事故/食物安全個案 Incidents/ Food Safety Cases: 121	公眾查詢 Public Enquiries: 216	業界查詢 Trade Enquiries: 203	食物投訴 Food Complaints: 515
給業界的快速警報 Rapid Alerts to Trade: 7	給消費者的食物警報 Food Alerts to Consumers: 0	教育研討會/演講/講座/輔導 Educational Seminars/ Lectures/ Talks/ Counselling: 29	上傳到食物安全中心網頁的新訊息 New Messages Put on the CFS Website: 47