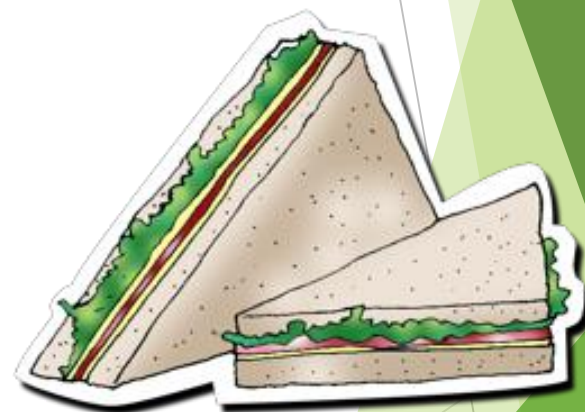


更新給食物業的 三文治食物安全指引

Updates in Food Safety Guidelines on Sandwiches for Food Businesses



09 2022



食物安全中心
Centre for Food Safety

引言 Introduction

- ▶ 過去幾年，本港出現與三文治有關的食物中毒個案，引起大眾對這類食品安全的關注。

- ▶ During the last few years, local food poisoning outbreaks caused by sandwiches have raised public concern on the safety of sandwiches available in the local market



食物安全中心 Centre for Food Safety

2020年5月22日 · 6

【心安食堂·三文治🥪的微生物風險】

食安中心早前跟進懷疑涉及三文治🥪嘅食物中毒🦠事件時，發現涉事三文治🥪係由本地一間無牌嘅食物製造工場製造！中心已經呼籲市民不論批次同口味都唔好食用該款三文治，而業界亦應立即停止使用或出售涉事產品。

其實，三文治屬於高風險食物，因為三文治可能含有生或者未煮熟嘅材料，例如係生嘅蔬菜、未煮熟嘅蛋🥚等，而且一般會直接用人手👏配製。因此，高風險嘅原材料同製造過程中出現交叉污染，通常會係令三文治受污染嘅原因。如果無適當嘅貯存，例如不當嘅時間🕒同溫度🌡️控制，致病菌就會响三文治中滋生同繁殖，引致食物中毒🦠。

食安小隊呼籲市民，記得要光顧可靠嘅持牌食物業處所。買咗嘅三文治就最好盡快食用；如果唔係即時食，就要妥善存放响攝氏4度或以下❄️，並响保質期內食用。

焦點個案 Incident in Focus

含蛋三文治中的沙門氏菌 引致食物中毒

Food Poisoning Caused by Salmonella in Sandwiches Containing Eggs

食物安全中心風險管理組 梁麗君醫生及蔡育嬌醫生報告
Reported by Dr. Queenie LEUNG and Dr. Lousia CHOI,
Medical and Health Officers, Risk Management Section, Centre for Food Safety

二零二零年五月，食物環境衛生署食物安全中心(食安中心)調查一個品牌三文治所造成的大型食物中毒事故，當中涉及99宗個案，合共236人受影響。據衛生署衛生防護中心表示，患者在進食購自本港不同零售店的含蛋三文治後，出現腹痛、嘔吐、腹瀉及發燒徵狀，51人需要入院，其中一人更需要接受深切治療。在受影響人士當中，有37名的糞

In May 2020, the Centre for Food Safety (CFS) of the Food and Environmental Hygiene Department investigated a large-scale food poisoning outbreak involving a brand of sandwiches, with a total of 99 clusters affecting 236 persons. According to the Centre for Health Protection of the Department of Health, the victims suffered from abdominal pain, vomiting, diarrhoea and fever after consumption of egg-containing sandwiches purchased from different retail shops in Hong Kong. Fifty-one of the victims required hospitalization, including one required intensive care. Stool specimens of 37 affected persons



沒有遵從良好衛生守則

Fail to Observe Good Hygiene Practices

交叉污染

個人衛生

溫度控制

溫度控制

標籤

- ▶ 在同一工作枱上處理生熟配料
- ▶ 食物處理人員全日共用一條抹手毛巾
- ▶ 以沒有任何溫度控制設備的同一車輛運送包裝好的三文治
(未售出的三文治會有時送往其他零售點)
- ▶ 產品貯存溫度及標籤不當，亦無食用期限或生產日期



Cross contamination

Personal Hygiene

Temp. control

Temp. control

Labelling

- ▶ Cooked and raw ingredients were handled on the same working table
- ▶ The same towel for hand drying was shared among food handlers throughout the whole day
- ▶ Packed sandwiches were delivered using a vehicle without any temperature control facilities
(There were occasions when, unsold sandwiches were transported between retail outlets)
- ▶ Improper storage and labelling of the finished products. No expiry date or production date too



年份 Year	地方/地區 Place / Region	涉事食物 Incriminated Food	致病原 Causative agent	受影響人數 Affected no. of people
2021	卑詩省 British Columbia	醫院食品供應商的預製三文治中的新鮮芹菜碎 Raw minced celery within prepared sandwiches provided by hospital food services	大腸桿菌 O103 <i>E. coli</i> O103	6
2020	丹麥 Denmark	員工食堂供應的包裝午餐盒包含有三文治 (雞蛋/蝦和鹹牛肉) Pre-packed lunchboxes containing open sandwiches (egg/shrimp and corned beef), served in staff canteen	微孢蟲 Microsporidian	52
2019	蘇格蘭 Scotland	三文治中的葉菜沙律 (外賣) Mixed leaf salad in sandwich fillings (takeaway food)	大腸桿菌 O26:H11 <i>E. coli</i> O26:H11	32
2019	深圳和東莞 Shenzhen and Dongguan	托兒所供應的雞蛋三文治 Egg sandwiches served at a nursery	沙門氏菌 <i>Salmonella</i>	121
2019	英國 England	醫院提供的預製三文治 (雞蛋/蝦和鹹牛肉) Hospital-provided preprepared sandwiches	李斯特菌 <i>Listeria monocytogenes</i>	9 (7死亡dead)
2018	台灣 Taiwan	法式三文治的蛋漿 Egg mixture used in the French toast sandwich	沙門氏菌 <i>Salmonella</i>	47
2013	威斯康辛州 Wisconsin	生碎牛肉即食或作為三文治餡料 Raw ground beef served as tiger meat or cannibal sandwiches	大腸桿菌O157:H7 <i>E. coli</i> O157:H7	17
2012	福建 Fujian	食品公司向大學提供的雞蛋三文治 Egg sandwiches supplied to universities by a food company	沙門氏菌 <i>Salmonella</i>	56
2011	英國 England	醫院提供的三文治和/或沙律 Hospital supplied sandwiches and/or salads	李斯特菌 <i>Listeria monocytogenes</i>	3
2010	台灣 Taiwan	由麵包店生產並通過網上銷售的三文治； 蛋黃醬是唯一含有生雞蛋的成分 Sandwiches produced by a bakery and sold over the internet; mayonnaise was the only ingredient containing raw egg	沙門氏菌 金黃葡萄球菌 <i>Salmonella</i> ; <i>Staphylococcus aureus</i>	324
2009	瑞典 Sweden	用於三文治的黃瓜片 (預洗·即食) Sliced cucumbers (pre-washed, ready-to-eat) used in sandwiches	微孢蟲 Microsporidian	135
2008	英國 England	預包裝雞蛋三文治、袋裝沙律 Pre-packaged egg sandwiches, bagged salad	沙門氏菌 <i>Salmonella</i>	179



三文治的微生物風險 Sandwiches - Microbiological Risk

個人衛生
Personal hygiene



金黃葡萄球菌
S. aureus

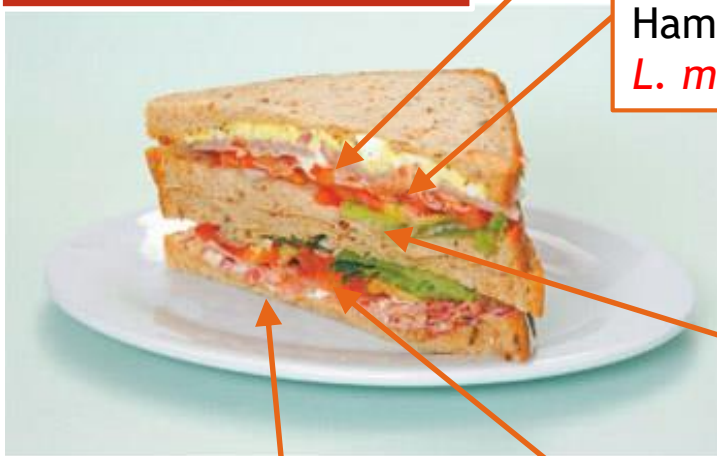
運輸
Transportation



製作 / 貯藏 / 展示
Preparation / Storage / Display



食物衛生
Food hygiene



雞蛋:沙門氏菌
Egg: *Salmonella*

火腿或煙三文魚:李斯特菌
Ham or smoked salmon:
L. monocytogenes

沙律菜:產志賀毒素大腸桿菌 沙門氏菌
Salad vegetables:
STEC, Salmonella

沙律醬:沙門氏菌
Salad dressings: *Salmonella*

番茄:沙門氏菌
Tomato: *Salmonella*



評估現況 Assessing Current Situation

- ▶ 零售點發售的三文治(尤其是以微生物風險較高配料製作的三文治)的微生物質素
 - ▶ 在2021年，收集了100個樣本
- ▶ Microbiological quality of sandwiches containing high risk ingredients
 - ▶ Collected 100 samples in 2021



雞蛋 Eggs



新鮮蔬果 Fresh produce



芝士、火腿、煙三文魚
Cheese / ham / smoked salmon



樣本 – 地區和店舖類型

Samples - Regions & Types of Shops

地區 Regions	收集樣本數量 No. of Samples taken				地區總數 Region Total
	持牌烘製麵包餅 食店 Licensed bakery	外賣店舖或攤位 Takeaway shop or stall	便利店 Convenient store	食肆 Restaurant	
香港島 Hong Kong Island	6	17	2	8	33
九龍 Kowloon	9	11	2	12	34
新界 New Territories	7	14	1	11	33
總數 Total	22	42	5	31	100

包括獨立店和連鎖店

Included both chain and individual stores



需氧菌落計數結果 ACC Results

(適用樣本數目 Number of applicable samples = 47)

滑蛋三文治
Scrambled egg sandwiches:
 1.2×10^5 cfu/g

食物類別 Food category	需氧菌落計數結果 ACC Results (cfu/g)					
	<10 ³	10 ³ -<10 ⁴	10 ⁴ -<10 ⁵	10 ⁵ -<10 ⁶	10 ⁶ -<10 ⁷	≥10 ⁷
類別 Category 2 滑蛋三文治 Scrambled egg sandwiches (n=23)	滿意 Satisfactory 19	尚可 Borderline 3	0	不滿意 Unsatisfactory 1 0 0		
類別 Category 5 火腿芝士三文治、不含沙律的三文治等 Ham & cheese sandwiches, sandwiches without salad, etc. (n=24)	20	滿意 Satisfactory 1	1	尚可 Borderline 1	1	不滿意 Unsatisfactory 0

兩個樣本都是火腿芝士三文治
Both are ham and cheese sandwiches:
 2.2×10^6 cfu/g
 9.1×10^5 cfu/g



三文治的微生物質素

Microbiological quality of sandwiches



- ▶ 三文治的微生物質素整體令人滿意
 - ▶ 只有一個滑蛋三文治樣本需氧菌落計數含量過高屬質量問題
 - ▶ 可能是食物處理不當所致，例如混合蛋漿存放欠佳、蛋類未經徹底煮熟，以及/或與三文治長時間在室溫下存放有關
- ▶ Microbiological quality of sandwiches were generally satisfactory
 - ▶ Only one scrambled egg sandwich had excessive ACC and thus having quality issue
 - ▶ This might be the results of improper handling practices such as improper storage of pooled eggs, inadequate cooking of egg and/or leaving sandwiches at room temperature for a prolonged period



混合蛋漿

Egg pooling

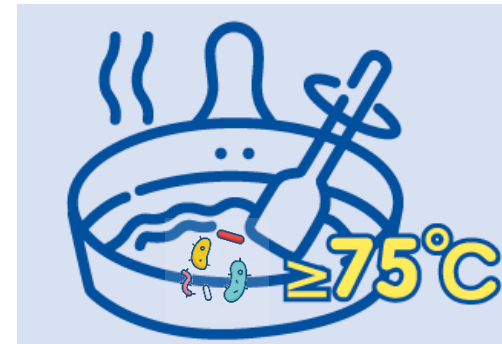
- ▶ 零售點/食肆慣常製備混合蛋漿，以節省時間和控制份量
- ▶ 問題：混合蛋漿並非製備後即時使用，並長時間置於室溫下
- ▶ Common practice in local retail outlets and restaurants; save time and control portion size
- ▶ Problem: Prepared pooled eggs not for immediate use and left at room temperature for a period of time



整盤蛋漿在混合時被污染
Contaminate whole pool
during pooling



細菌於室溫下大量繁殖
Bacteria multiply when left
under ambient condition



蛋漿**未經**徹底煮熟，細菌仍可存活
Bacteria survive if **not** cooked
thoroughly

將風險減低的措施

Measures to reduce the risk

- ▶ 預備混合蛋漿作即時之用
- ▶ 非即時使用的混合蛋漿
 - ▶ 放進雪櫃，並只取出所需分量使用
 - ▶ 徹底煮熟
- ▶ Prepare pooled eggs for immediate service
- ▶ Pooled eggs for later use
 - ▶ Keep in the fridge and only take out the amount as needed
 - ▶ Cook thoroughly

烹製蛋及蛋製品要留神
預防食物中毒更安心

Handle eggs and egg products safely Keep food poisoning at bay

蛋類菜式如處理不當，可引致沙門氏菌食物中毒。
食安仔提醒各位廚房工友，留意以下要點：
Egg dishes handled improperly can cause Salmonella food poisoning.
Take note of the following steps when working in the kitchen:

- 採用經巴士德消毒的蛋製作含生或半生熟蛋的菜式
Use pasteurised eggs for dishes containing raw or undercooked eggs
- 保持雙手、用具及工作地方清潔
Keep hands, utensils and working areas clean
- 慎用混合蛋漿，並須一天內用畢
Use pooled eggs carefully within a day
- 蛋須煮至75°C或以上，或至蛋黃凝固
Cook eggs at 75°C or above or until the yolks are firm
- 如非立即進食，熱食須保持於60°C以上
Keep hot dishes at above 60°C if not to be eaten immediately
- 凍食存放在4°C或以下，而非置於室溫
Keep cold dishes at 4°C or below, not at room temperature

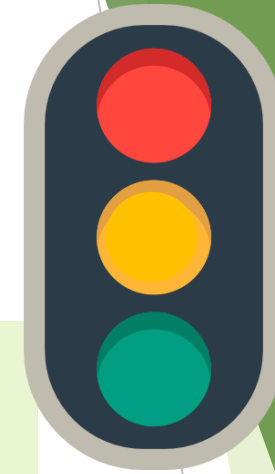
食安仔
食物環境衛生署
Food and Environmental Hygiene Department
食物安全中心
Centre for Food Safety
安樂飯
cfs.gov.hk/eggs
cfs.hk

處理容易腐壞的配料

Handling of perishable ingredients

- ▶ 尚可質素： 兩個樣本都是火腿芝士三文治
- ▶ 即食配料會在製作三文治的過程中受到食物處理人員的污染
- ▶ 在貯存和製作過程中將它們置於室溫環境下會導致細菌繁殖

- ▶ Borderline quality: Two ham & cheese sandwiches
- ▶ Ready-to-eat ingredients are also subject to contamination by food handlers during preparation of sandwiches
- ▶ Leaving them under ambient conditions during preparation will allow the proliferation of bacteria



使用前
會先切開和貯存
Cut and store
before use



處理容易腐壞的配料

Handling of perishable ingredients

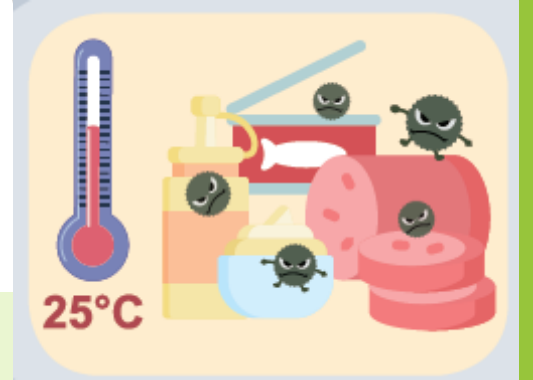
KEEP REFRIGERATED AT 0°C-4°C
需保持冷藏於攝氏0°C-4°C

- ▶ 食物處理人員應遵循良好的衛生守則以防止交叉污染，並避免將它們置於室溫下以防止細菌滋生
- ▶ 作為最佳做法，建議一直把三文治（尤其是那些含有高微生物風險配料的三文治）放入冷藏櫃貯存和陳列，而非在室溫下存放和陳列三文治
- ▶ When handling ready-to-eat ingredients, food handlers should follow Good Hygiene Practices (GHPs) to prevent cross-contamination and multiplication of bacteria
- ▶ As a good practice, it is recommended to always store and display sandwiches, especially those with ingredients of high microbiological risk, in refrigerated cabinets and not at ambient temperature



室溫下處理容易腐壞的配料

Handling of perishable ingredients under ambient conditions



- ▶ 剛製成三文治可以在室溫環境下展示或存放不超過4小時（即4小時規則）
- ▶ 當中須計及在攝氏4度至60度下運送、貯存或配製三文治的全部時間
- ▶ Freshly-prepared sandwiches may be displayed or stored at room temperatures for a period of not more than four hours (i.e. 4-hour rule)
- ▶ Include all durations during **preparation**, transport and storage under temperature danger zone (4°C to 60 °C)

在室溫下的時間（小時）

Duration of leaving at ambient temperatures (hours)

0 to 2

可放入雪櫃留待稍後食用
Can be kept refrigerated for
final use later

2 to 4

時限屆滿前食用
Use within the time limit

>4

丟棄
Discard



給公眾的建議

Advice to Public

- ▶ 應在購買三文治後盡早食用
 - ▶ 對於預先包裝的三文治，應按包裝上指示貯存食物和在"此日期或之前食用"日期之前進食
 - ▶ 高危人士(包括孕婦、幼童、長者及免疫力弱人士)不宜進食含有生的或未經徹底烹煮配料(包括未經徹底煮熟的滑蛋)的三文治
-
- ▶ Consume sandwiches as soon as possible after purchase
 - ▶ For pre-packaged sandwiches, follow the storage instructions on the packaging carefully and consume them before the use-by date
 - ▶ High-risk groups, including pregnant women, young children, the elderly, immunocompromised persons, and persons taking antibiotics and antacids, are advised not to consume sandwiches with raw or undercooked ingredients, including undercooked scrambled eggs



給業界的建議

Advice to Trade



- ▶ 應時刻遵循良好衛生守則以防止污染食物
 - ▶ 食物業界還有責任為其員工（即其商戶的食物處理人員）持續提供適當和足夠的食品安全/衛生培訓
 - ▶ 應設立一個預防性的食物安全管理系統（例如食物安全重點控制系統），確保採取有效的監管措施，在製造過程中盡量避免食品可能受到污染
- ▶ Good Hygiene Practices for preventing contamination in food should be followed at all times
 - ▶ Food businesses also have the responsibility to provide sufficient ongoing food safety/hygiene training to their staff (i.e. food handlers in their businesses)
 - ▶ A preventive food safety management system (such as the HACCP) should be established to ensure that effective control measures are in place to minimise potential contamination of the products during the manufacturing process

給業界的建議

Advice to Trade

處理醬汁及餡料

- ▶ 所有三文治醬汁和餡料，尤其是沙律醬 / 塗抹醬、其他含蛋的醬汁和魚肉，在不使用時應貯存在攝氏4度或以下。在室溫下放置太久的醬汁和餡料會迅速滋生細菌
- ▶ 預先包裝或罐頭食物開封後應按照製造商的指示貯存，並盡快用完
- ▶ 避免過早製備自製的醬汁及餡料，並應即日用完

Handling of sauces and fillings

- ▶ Keep all sandwich sauces and fillings, particularly salad dressings/spreads, other egg-containing sauces and fish, at 4°C or below when not in use. Bacteria may develop quickly in sauces and fillings left at room temperature for too long
- ▶ After opening, prepackaged or canned food should be stored in accordance with the manufacturer's instructions and used up as soon as possible
- ▶ Avoid preparing self-prepared sauces and fillings too early, and use them up on the same day



給業界的建議

Advice to Trade

製備混合蛋漿

- ▶ 非即時使用的混合蛋漿應以有蓋容器盛載，放進雪櫃，並只取出所需分量使用
- ▶ 混合蛋漿應即日用完，不要添加新蛋
- ▶ 混合蛋漿應徹底煮熟至中心溫度達攝氏75度，或進行同等的熱處理

Preparation of pooling eggs

- ▶ Pooled eggs not for immediate use should be kept in covered containers in the fridge and only take out the amount as needed
- ▶ Use all pooled eggs on the day of pooling and do not top up with new eggs
- ▶ Cook pooled eggs thoroughly, with core temperature reaching 75°C or with equivalent heat treatment

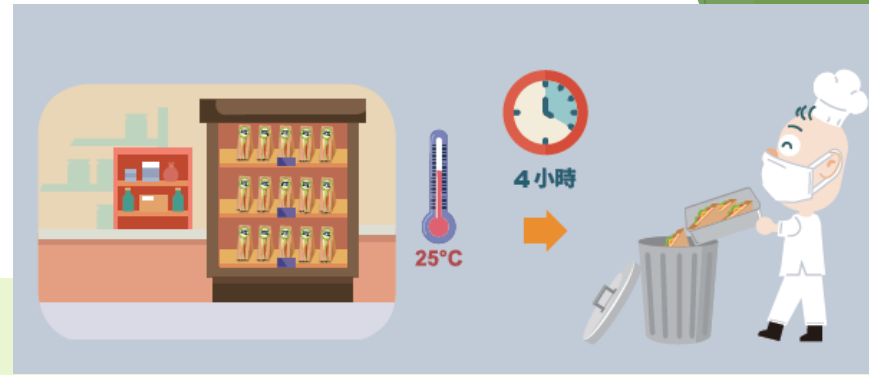


給業界的建議

Advice to Trade

陳列/ 貯存

- ▶ 預先包裝三文治應在配製後立即冷藏以供貯存和陳列
- ▶ 食物業商戶如選擇在室溫下陳列即場包裝的三文治(供即時食用)，陳列時間不應超過4小時，當中須計及在室溫下運送、貯存或配製三文治的全部時間
- ▶ 商戶可以不同顏色的圓點日期貼紙(或類似系統)標示三文治的陳列時限(即“陳列至”)，以減低長時間(特別是在室溫下)陳列預先包裝三文治的風險。在指定時間內仍未售出的三文治，即須棄置



Display/Storage

- ▶ Refrigerate packaged sandwiches immediately after preparation for storage and display
- ▶ If food businesses choose to display on-site packaged sandwiches (for immediately consumption) at ambient temperature, they should display the sandwiches for no longer than four hours, taking into account all durations during transport, storage or preparation of sandwiches under ambient conditions
- ▶ A colour coded 'day dot' system or similar can also be used on the display cabinet to identify the time limit of display (i.e. “display until”) and reduce any risk of packaged sandwiches being kept on display for long periods, especially those that are displayed at ambient temperature. Sandwiches that have not been sold by the specified time are discarded



三文治 給食物業的食物安全指引 Sandwiches Food Safety Guidelines for Food Businesses



謝謝
Thank you

