

A Practical Guide for Ensuring Food Safety in Schools and Childcare Facilities

2023 Edition



Introduction


Safe and nutritious food supports the growth and promotes the wellbeing of children. Therefore, ensuring food safety at schools and childcare facilities is particularly essential, as young children are more vulnerable to food poisoning (foodborne diseases). In busy places like schools and childcare centres, it is imperative that both food handlers and other staff are aware of the specific risks related to those settings. These include the mass preparation and distribution of meals, food allergens and choking hazards of food in young children. Maintaining high food hygiene and safety standards can help to prevent food hazards and contamination and therefore, subsequent illness. People who work with food should receive appropriate food safety training. By learning about potential hazards and practising proper hygiene, food handlers, teachers and caregivers at schools and childcare facilities can prevent foodborne diseases and even threats to life.

This practical guide is intended to help schools and childcare facilities to coordinate all aspects of food safety to build a safe and healthy eating environment for students and young children. It identifies basic food safety requirements for schools and childcare facilities, as well as other important areas that should be addressed in order to have a comprehensive food safety programme.

The guide is divided into six chapters:

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The following symbols are used in this set of guidelines as reminders:

 Warning Sign Details of the Good Hygiene Practices (GHPs) that food handlers tend to overlook and should take note of	 Magnifier Detailed relevant information or external guidelines	 Light Bulb Additional information to facilitate the observance of the GHPs
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1

Food Safety Basics



During the school day, schools have different occasions to provide food to students and staff, such as lunchtime, breaks and school events. Along the food chain, foods can be exposed to various preparations and conditions that may contaminate them. Therefore, extreme caution is needed throughout the supply chain to ensure that food is not contaminated. In any case, all food handlers should make use of the "Five Keys to Food Safety" and "Good Hygiene Practices" (GHPs) to ensure that all food given to students and staff is safe to eat.

Food Hazards

Food hazards have the potential to harm consumers' health, and they arise when food is exposed to hazardous agents, resulting in food contamination. They are subdivided into four primary categories: biological, chemical, physical and allergenic hazards.

Hazard	Description	Examples
 <p>Physical hazards</p>	They are associated with the presence of foreign objects.	<ul style="list-style-type: none">• Foreign objects such as wood, glass or metal chips from damaged tools or utensils• Accessories worn by food handlers, hair or plasters
 <p>Chemical hazards</p>	They occur when chemicals are present in food at levels that can be hazardous to humans.	<ul style="list-style-type: none">• Natural toxins (from food plants and animals), mycotoxins (from mould) and pesticide residues• Detergents, sanitising agents, bleaching agents, and insecticides
 <p>Biological hazards</p>	They are mainly microorganisms that cause illness.	<ul style="list-style-type: none">• Bacteria, yeasts, moulds, viruses and parasites
 <p>Hazards from food allergens</p>	Food allergy refers to the immune system's reaction to certain substances or ingredients in foods.	<ul style="list-style-type: none">• Some students or staff may be allergic to specific foods or food ingredients. Please see Chapter 4 for more details.

Food Contamination

There are three ways on how food contamination could happen: primary, direct and cross-contamination.

1 Primary Contamination

Occurs in primary food production processes such as harvest, slaughter, collecting, milking and fishing. An example is the contamination of eggs by a hen's faeces.

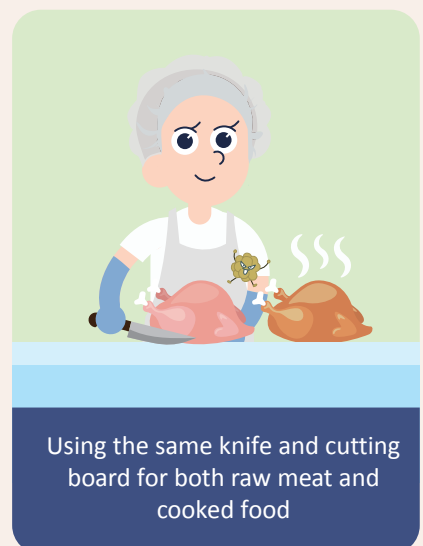
2 Direct Contamination

The contaminants (hazards) affect the food when the person handles it with direct contact. This is the most common type of contamination. Some examples are:



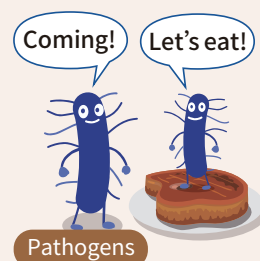
3 Cross-contamination

The contamination is caused by the transference of a hazard present in a food to another food via the surfaces of utensils that have contact with both without requisite cleaning and disinfection. Some examples are:

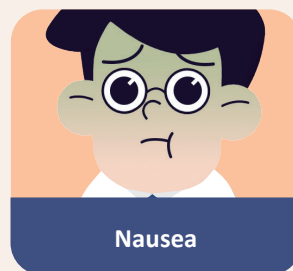
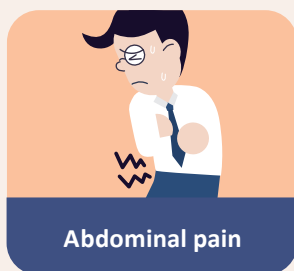


Food Poisoning

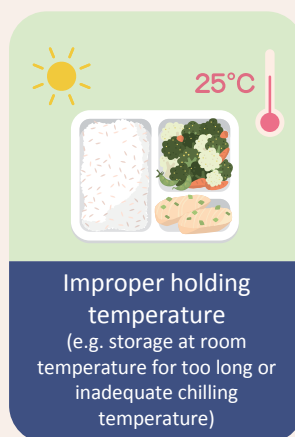
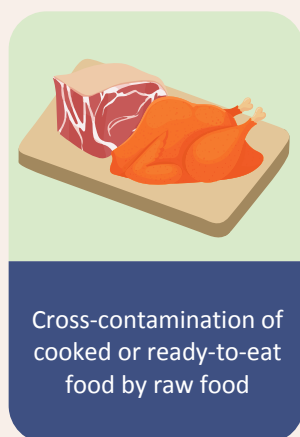
Food poisoning, also known as foodborne diseases, is usually caused by the consumption of contaminated food or water containing bacteria (e.g. *Salmonella*), viruses (e.g. norovirus), parasites or toxins (e.g. ciguatoxin). Depending on the causative agent involved, patients may fall ill within hours or days after the consumption of contaminated food.



Common symptoms of food poisoning include nausea, abdominal pain, diarrhoea and vomiting.

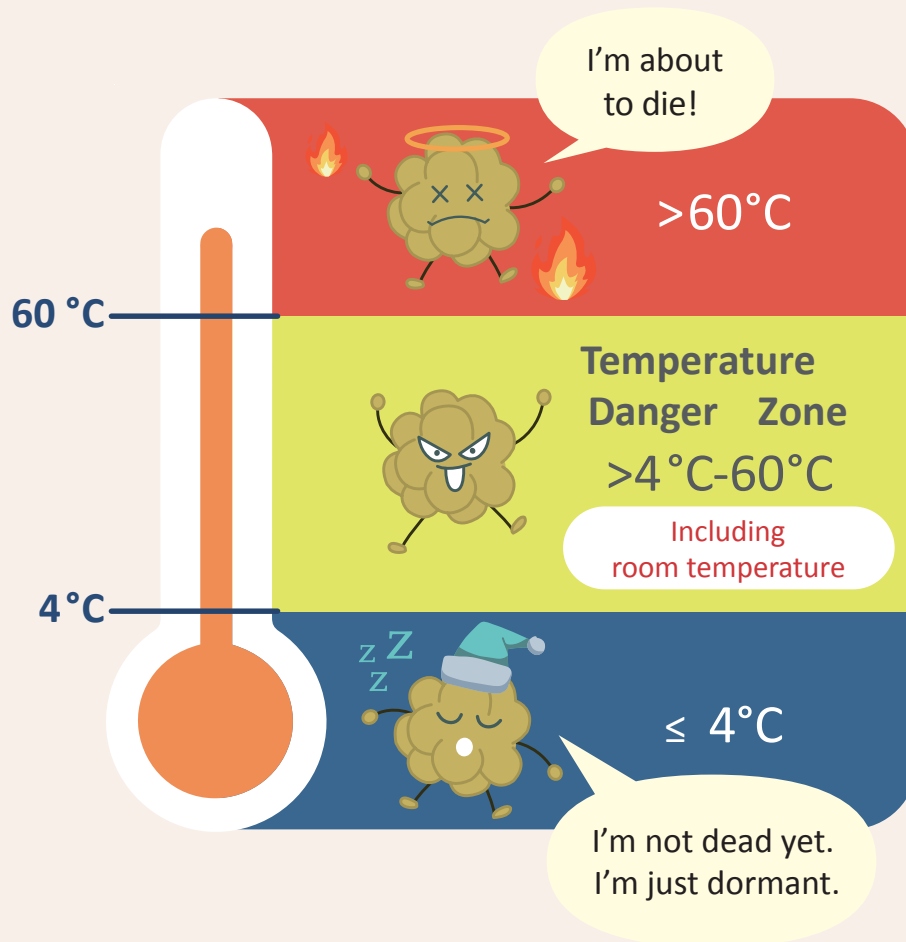


Bacteria and viruses are the most common causative agents of foodborne diseases related to food premises and food businesses in Hong Kong. The top causes of food poisoning are:



Temperature Danger Zone

Storing food at the Temperature Danger Zone (i.e. between 4°C and 60°C) can allow various types of bacteria to grow rapidly. Therefore, proper temperature control to keep food away from the Temperature Danger Zone at all stages of food preparation is important to prevent bacterial food poisoning. While chilling will inhibit bacterial growth (but **cannot** kill them), high temperature treatment can destroy bacteria effectively.



2-hour / 4-hour Rule: to Keep, to Eat or to Throw Away?

The **2-hour / 4-hour rule** is a good way to keep food safe even if it has been out of refrigeration or placed at ambient temperature after cooking. The rule has been scientifically proven and is based on how fast microorganisms grow in food at the Temperature Danger Zone between 4°C and 60°C.

The table below outlines the 2-hour / 4-hour rule. ✓ means "yes" and ✗ means "no".

Food held at 4°C-60°C for	For refrigeration to use later	For immediate use and consumption
<2 hours	✓	✓
2-4 hours	✗	✓
>4 hours	✗	✗



Prepared foods held at temperatures between 4°C and 60°C for 4 hours or more **must be thrown away**.



Five Keys to Food Safety and Good Hygiene Practices

To prevent food poisoning, food handlers and other staff should follow the “Five Keys to Food Safety” as below:



1

Choose

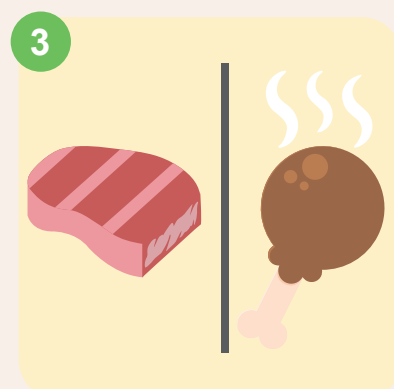
Choose safe raw materials



2

Clean

Keep hands and utensils clean



3

Separate

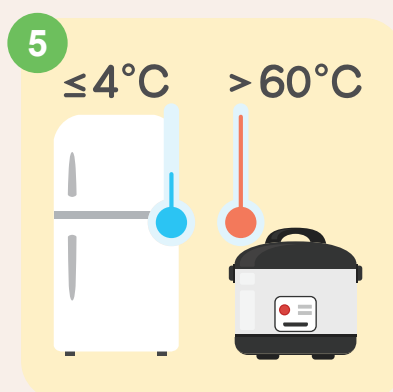
Separate raw and cooked food



4

Cook

Cook thoroughly



5

Safe Temperature

Keep food at safe temperature

Good Hygiene Practices (GHPs) are an extension of the "Five Keys to Food Safety" to cover personal hygiene, environmental hygiene and food hygiene. Apart from preventing contaminants during food production and maintaining of well-equipped establishments, operation monitoring, product information, food delivery and on-going training are equally important. GHPs are fundamental to ensuring food safety in food premises. We will elaborate on GHPs in **Chapter 2**.

Training of Food Handlers

Any staff member who prepares or handles food (including catering contractors) in a school or childcare facility should be supervised, instructed, and trained in food hygiene matters before reporting duty to ensure that they are familiarised with the working environment and adhere to safe food preparation practices. Food handlers should be trained according to their responsibilities, working environment and tasks. Refresher training is also essential, whereas the frequency will vary depending on the type of facility, its risks, the foods/drinks given and the competence of the staff. It is recommended to provide retraining courses to food handlers every two years.



2

Food Safety for Serving Meals at Schools and Management of Food Poisoning Outbreaks

School lunches are generally organised in one or more of the following modes:

- 1 School kitchen;
- 2 Ordering meals from suppliers; and
- 3 Students bringing their own lunch.

There are two common types of production system: cook-serve system and cook-chill system. In a cook-serve system, most food items are prepared primarily from ingredients on the day they are served. In a cook-chill system, a central kitchen prepares the food thoroughly and rapidly chills it in a blast chiller before delivering to satellite kitchens for reheating on the following day when they will be served.

For the sake of food safety, school staff and students should also practise personal and environmental hygiene. If a food poisoning outbreak occurs, school personnel should be equipped to handle it.

1 Advice for School Kitchen

Preparing meals for tens or even hundreds of students at an on-site kitchen is not an easy task as it can impose food safety hazards.

During bulk cooking, heat from the heat source may not be evenly distributed in the food, resulting in food that is not thoroughly cooked or warmed enough before consumption.

Cooking of food in large quantities can often result in food staying within the Temperature Danger Zone (4-60°C) for long periods of time before consumption, allowing foodborne pathogens to thrive. Cooling down large amounts of food can also be problematic, as heat trapped deeply within the food may not escape quickly enough, resulting in bacterial growth in food.

Furthermore, poor hygiene practices and a lack of kitchen space can increase the risk of cross contamination between raw and cooked food. Therefore, trained manpower as well as adequate room for purchasing, storing, preparing, cooking and distributing food at a school kitchen are crucial.

If schools serve meals from on-site kitchens, they should ensure that the kitchen is sufficiently large, well-equipped, regularly maintained and hygienic, and the staff who prepare and handle food are supervised, instructed and trained in food hygiene practices.





For facilities of a kitchen, reference can be made to Appendix 7 (i.e. *General Guidelines on Health Requirements for Registration of a New School (For Premises not Designed and Constructed as a School)*) in the Guidelines for Registration of a New School (For premises not designed and constructed as a school) issued by the Education Bureau. Scan the QR code for details.



The following simplified guide is adopted from the *Safe Kitchen: An Illustrated Guide to Good Hygiene Practices for Food Handlers* published by the Centre for Food Safety (CFS), covering GHPs necessary for working in a kitchen. All food handlers are advised to go through the materials before work:



Scan the QR code to access the *Safe Kitchen: An Illustrated Guide to Good Hygiene Practices for Food Handlers*



A Purchase

- Purchase food ingredients from licensed and reputable suppliers.
- Purchase food ingredients that are fresh and wholesome.
- Avoid any raw or undercooked food as they are high-risk foods with no or inadequate heat treatment involved to eliminate the microorganisms present. For details please refer to **Chapter 3**.

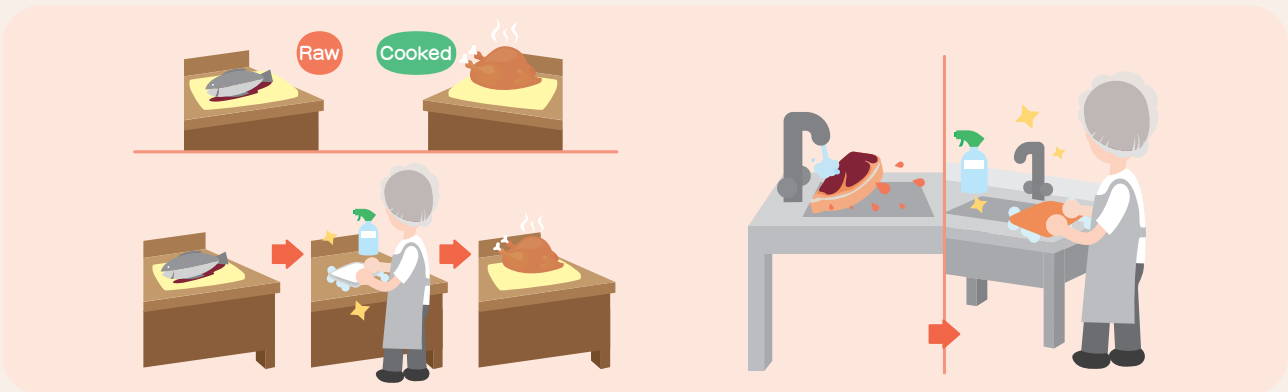
B Receiving and Storage of Raw Materials

- Check food for its quality, appearance, expiry dates, labelling and package integrity upon arrival and prior to storage. Check for any signs of infestation. Dispose of any suspicious foods that could compromise food safety.
- Store perishable foods, such as raw meat, pasteurised milk and cheese, in a refrigerator immediately after checking is completed.
- Store raw foods separately from cooked and ready-to-eat foods to avoid cross-contamination.
- Store food items to be kept at room temperature, such as canned food, cereals and potatoes, in a cool and dry place.
- For prepackaged foods, follow the storage instructions on the package.
- Practise an effective stock rotation system, e.g. the first-in-first-out principle.
- Store chemicals and cleaning equipment away from food storage areas.

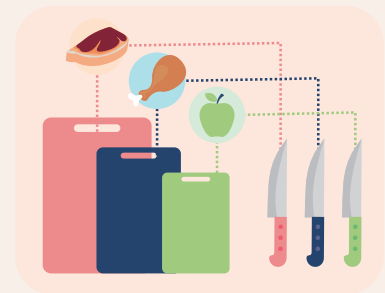


C Preparation

- Ensure that adequate facilities such as wash basins, refrigerators, cutting areas, defrosting areas or cooking appliances are available in the kitchen.
- Use separate food preparation areas to handle raw, cooked and ready-to-eat foods. No unauthorised switch of area use should be allowed. If raw, cooked and ready-to-eat foods need to be handled in the same preparation area, disinfect the area thoroughly between uses.
- Should washing raw meat or poultry be needed, clean and sanitise the sinks and the surrounding areas afterwards.



- Use designated tools and utensils, e.g. chopping boards and knives for handling raw and cooked/ready-to-eat foods.
- Fruits and vegetables should be washed thoroughly under clean running water before preparation. Scrub hard surfaces of produces, such as melons, with a clean brush to remove dirt and contaminants.
- Keep chilled (perishable) food out of the refrigerator for as little time as feasible during preparation.
- Defrost frozen foods in a refrigerator at 0-4°C, in a microwave, or under clean and cool running water. Food defrosted by the latter two methods should be cooked immediately after defrosting. **Do not defrost food at room temperature.** Except for food properly defrosted in the refrigerator, refreezing defrosted foods is not acceptable.



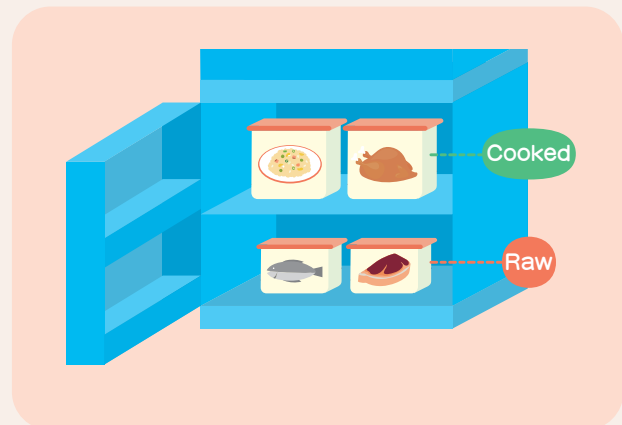
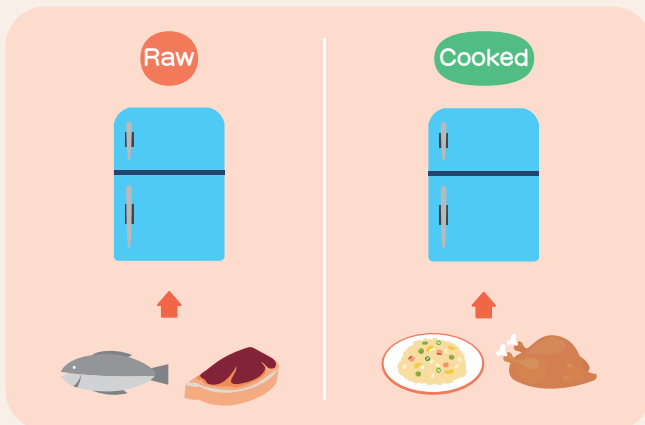
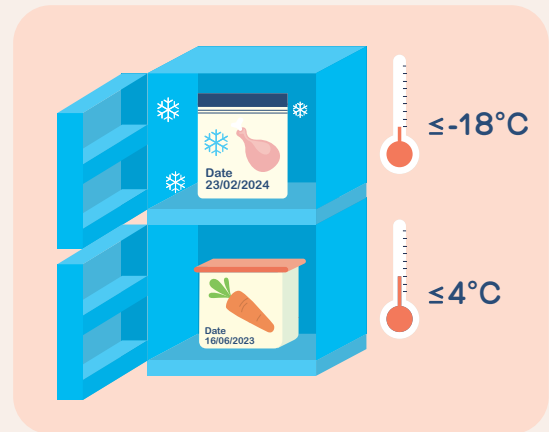
Should be used immediately after defrosting. Do not refreeze.

D Cold Storage



Chilling does not kill harmful bacteria, but can help to stop them from growing. If food is improperly chilled, it can enter the temperature danger zone (4-60°C) and encourage bacteria to grow, increasing the risk of food poisoning.

- Perishable food should be wrapped or put into an airtight container, and stored at the correct temperature:
 - Chilled food: 4°C or below
 - Frozen food: -18°C or below
- Ideally, use separate refrigerators for raw foods and cooked foods. Otherwise, store cooked or ready-to-eat foods on the upper shelves of the refrigerator, and raw foods on the lower shelves.



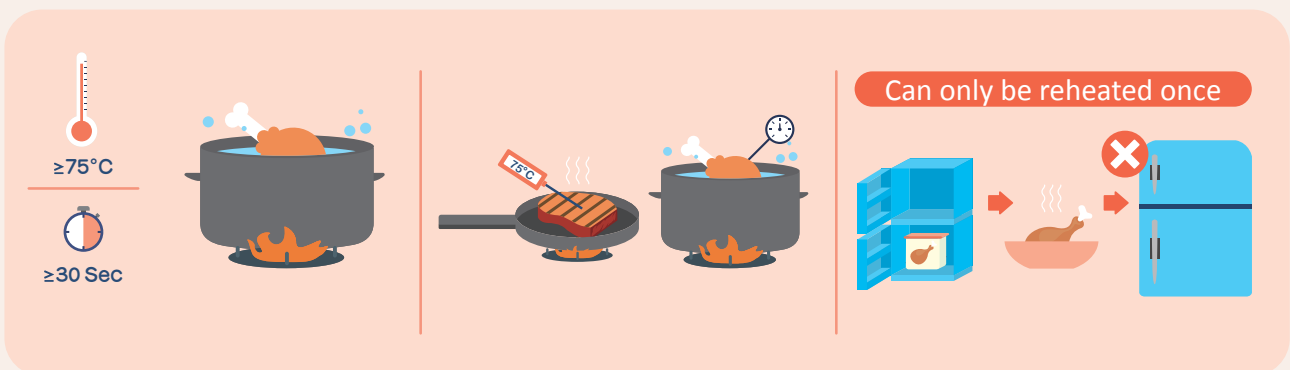
- Transfer any opened foods into a clean container and mark them with the food name and the date of opening before keeping them in the refrigerator.
- Check and record the temperatures of the refrigerators twice a day.
- Do not overfill the refrigerator.

E Cooking and Reheating



Proper cooking and reheating are important ways of eliminating bacteria or pathogens that can cause serious foodborne diseases.

- Always cook or reheat foods thoroughly before serving. Using a food thermometer to ensure that the centre or the thickest part of the food reaches 75°C or above for at least 30 seconds.
- Reheat foods only once; do not refrigerate them again after reheating.
- Follow the cooking instructions on the food packaging, if present.



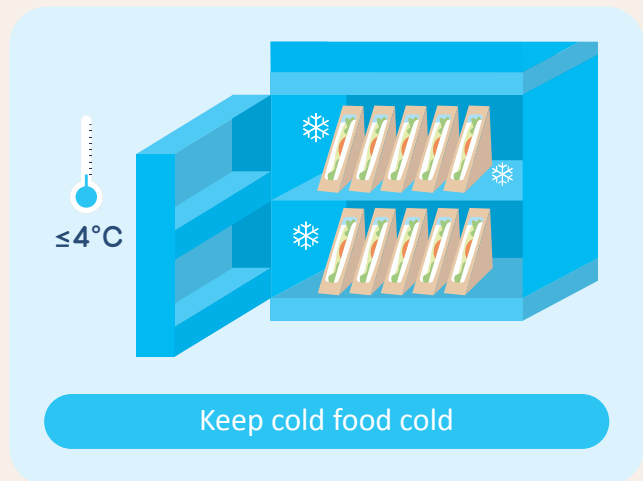
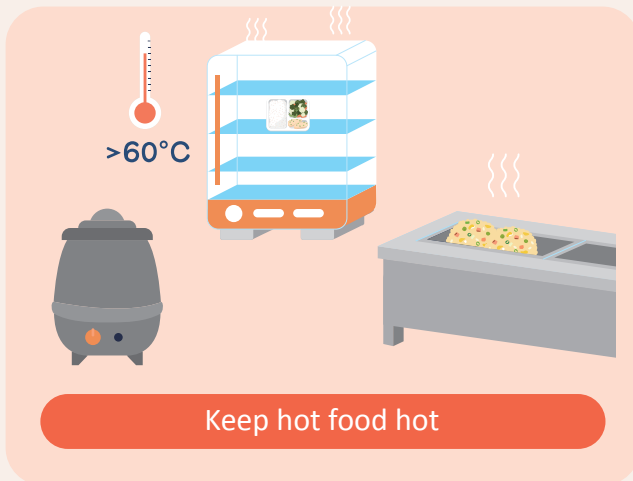
- Preferably adopt the “cook-serve system” (i.e. serve the food right after cooking) to shorten the preparation time.

F Hot and Cold Holding



Prolonged storage of food at room temperature can allow bacteria to thrive and spores to germinate, proliferate and even generate heat-resistant toxins.

- Pre-cooked foods, especially rice, pasta, eggs, meat, poultry and gravy, should be stored properly in hot- or cold-holding devices within 2 hours of cooking if not served immediately.
- Preheat suitable hot-holding equipment before storing hot food ingredients. Food must be kept at temperatures over 60°C.
- Pre-chill cold-holding equipment before storing cold food ingredients. Food must be kept at 4°C or below.



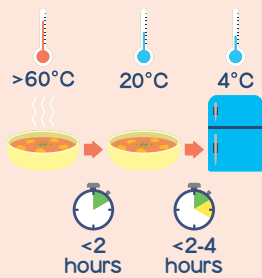
G Cooling



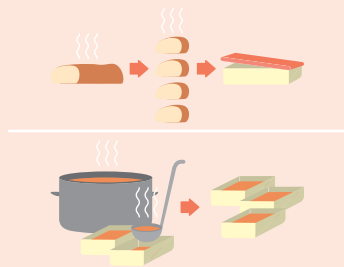
Cooked food, if not immediately consumed, should be cooled down quickly using safe chilling methods. When food such as cooked rice, pasta, noodles, beans, nuts, eggs, casseroles and meat-containing sauces sits out at room temperature for too long, harmful bacteria can grow and produce toxins. Certain toxins are heat-stable and cannot be eliminated even by thorough reheating.

1 Two-stage Cooling Method

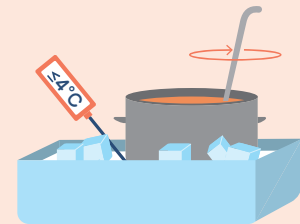
- Cooked food is divided into smaller portions and placed in shallow containers.
- Food is cooled down stepwise from 60°C to 20 °C within 2 hours, and then cooled further from 20°C to 4°C within 2-4 hours.
- A thermometer is used to ensure that the ice water temperature remains consistently at 4°C or below.
- An ice water bath, paired with stirring, can help to speed up the cooling process.



Food can be cooled down stepwise from 60°C to 20°C within two hours, then from 20°C to 4°C in a refrigerator within two to four hours.



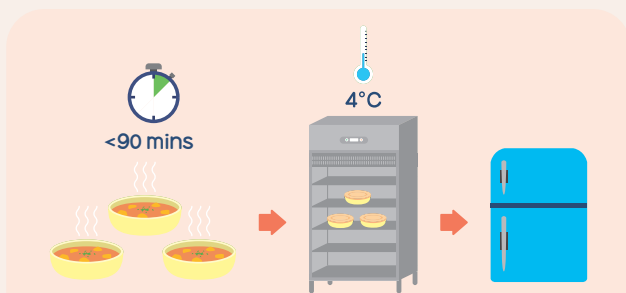
To speed up cooling, the food can be divided into small portions and placed in shallow covered containers in a well-ventilated area.



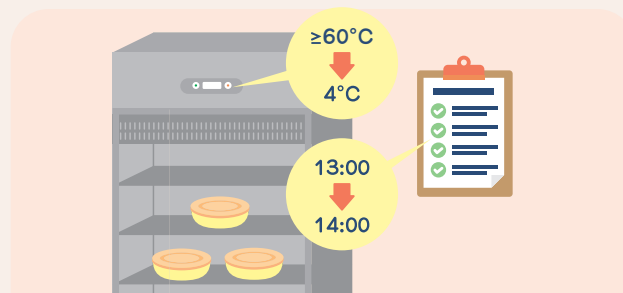
An ice water bath, paired with stirring, can also help to speed up cooling, but a thermometer should also be used to ensure that the ice water temperature remains at 4°C or below consistently.

2 Blast Chilling Method

Food is divided into smaller portions and placed in shallow containers before being rapidly cooled down to 4°C in a blast chiller within 90 minutes.



Food can be divided into small portions and placed in shallow containers before being rapidly cooled to 4°C in a blast chiller within 90 minutes. When blast chilling is done, place the food in the refrigerator or freezer.



The starting and ending temperatures, as well as the time period of the entire blast chilling process, must be recorded.

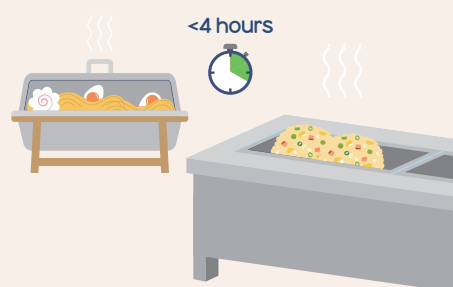
H Distribution

When portioning food on-site at school:

- There should be clean and adequate space, equipment (e.g. electric warming devices or insulated containers) and designated utensils for portioning. Sufficient manpower should be arranged to portion and distribute meals efficiently.
- Cooking and portioning should be performed in separate areas.
- There should be a complete set of hand-washing facilities for food handlers.
- Kitchen staff appointed for portioning should wear hand gloves and change them when they are torn or soiled. Hair nets, aprons and masks may be worn as appropriate.
- Food temperature should be checked just before distributing meals to students. Hot food should be kept above 60°C while chilled food should be kept at 4°C or below. All foods, once portioned, should be consumed immediately and finished within two hours.
- Reusable containers and cutlery should be stored in sealed cupboards or containers that are rendered proof against dust and pests.

Whether schools choose to provide buffet meals to students regularly or on a one-off occasion, such as a party, they should ensure that:

- The warming devices and cold units are in good condition.
- The food temperatures are monitored; cold foods are held at 4°C or below, while hot foods above 60°C.
- Core temperature of foods displayed is checked using a clean probe thermometer regularly.
- Follow the 2-hour / 4-hour rule (see Page 7). Leftover foods are disposed properly.
- Food display at room temperature should be well covered.





Schools should avoid having a potluck party or ordering food that requires time to reheat, such as poon choi, because there may not be sufficient refrigeration and reheating equipment for keeping perishable food away from the Temperature Danger Zone. Prolonged exposure of food to room temperature can result in bacterial growth and, ultimately, food poisoning.

2 Advice for Ordering Meals from Suppliers

Some schools place lunch orders for their students through an external meal supplier. When selecting a lunch meal supplier, schools should ensure that:

- The supplier has obtained a licence (“Food Factory (Approved to Supply Meal Boxes)”) issued by the Food and Environmental Hygiene Department (FEHD).



The list of licensed caterers is available here.



- The supplier keeps a good food safety record as revealed by FEHD health inspectors’ inspection record to the supplier regularly.
- The choice of food, preparation standards, temperature control during the processes and delivery, food storage methods and lunch box distribution are clearly stipulated in the contract. The supplier should monitor the aforementioned items properly to guarantee that they comply with the contractual requirements.
- The supplier observes proper hygiene practices during production by visiting their premises during the peak hours of operations before placing a long-term order for lunch boxes.
- Additional establishment, monitoring and record of procedures on food safety management with certifications, such as Hazard Analysis and Critical Control Point (HACCP) or ISO 22000 are in place.
- The holding temperature of meals is properly monitored during delivery of lunch boxes by the supplier.
- Maintain good communication with the delivery service provider to minimise the time in which the food is exposed to dangerous temperatures. Electric warming trolleys can be used to keep food consistently hot before use. When the meals arrive, distribute and consume them as soon as feasible.



Can you show us the production of lunch boxes please?

Sure, this way please.



If there are sub-contractors engaged to take up production for lunch boxes on behalf of the licensee or to manufacture ready-to-eat foods as part of the food components in the lunch boxes, they should also hold a valid and relevant food factory licence.



Some school lunch caterers may take the “on-site meal portioning” approach, delivering rice and vegetables that are cooked on the same day. This is different from the traditional mode of operation in which food is prepared and portioned in advance and delivered in lunch boxes. Please refer to Page 16 for the advice on portioning food on-site.



3 Food Safety Advice for Students Bringing Their Own Lunch

For parents or caregivers who prepare meals at home for their children to bring to school, they should:

- Observe the “Five Keys to Food Safety” (see Page 8) in the course of preparation and transportation.
- Choose nutritious ingredients and use recipes that allow for safe storage in appropriate insulated containers.
- Pack meals right before leaving home.
- Keep packed meals at safe temperatures:
 - Pack hot meals into appropriate insulated containers, such as vacuum flasks to keep them at safe temperatures. Use insulated containers as directed by the manufacturer. Cook or reheat food thoroughly with core temperatures reaching at least 75°C for at least 30 seconds before packing it into an insulated container.
 - Cold foods such as sandwiches prepared with cold cuts and sushi rolls (raw ingredients not preferred) should be kept cold in a lunch box or bag. An insulated lunch box or a bag with frozen gel packs can be used to keep food cold and safe until lunchtime.
- Make sure all cutleries, containers, utensils and food bags are clean before use.
- Dispose of any leftover food in lunch boxes that have been kept at room temperature for too long as it is probably no longer safe for consumption.



Please visit the Food Safety Advice on Packed Meals for more details.



Picnics and School Outings

It is easy to let the usual food hygiene standards slip when food is taken outside on occasions like picnics and school outings. This is because food is usually prepared in advance with no reheating before consumption, likely stored at the Temperature Danger Zone for extended periods, and there is a lack of hygiene practice. The aforementioned points can all contribute to an increased risk of foodborne diseases. Here is some specific advice:



- Parents or caregivers preparing meals for the picnic should always keep food clean by washing fresh fruits and vegetables (including those with rinds) thoroughly under running tap water.
- Avoid including high-risk foods for picnics (see [Chapter 3](#) for details).
- Keep packed meals at safe temperatures (please refer to [Page 14](#)).
- Keep food away from direct sunlight.
- Students should wash their hands thoroughly before eating at picnic locations where possible. Otherwise, they should sanitise their hands with 70-80% alcohol-based hand rub if their hands are not visibly soiled.
- Minimise the amount of time the cool box is opened in order to keep the contents cold for a longer duration.
- Do not eat any food that has warmed up, or has touched outdoor surfaces or the ground.

4 General Advice on Personal and Environmental Hygiene

A Personal Hygiene

Students and school staff should maintain good personal hygiene. Visual cues such as posters can be displayed in and around toilets and dining areas to remind students and staff to practise good personal hygiene including proper hand hygiene during meal times. There should be enough wash basins. Disposable paper towels and liquid soap should be kept near the wash basins.

Students and School Staff

Students should be taught on the topics of basic food hygiene and personal hygiene. Washing hands properly before eating, after using the toilet, touching one's face, coughing, sneezing or blowing one's nose, and touching articles for common use greatly helps to prevent the spread of infectious diseases.



The school is a pivotal setting for inculcating the value of food safety and disseminating the information and skills needed to put that value into practice. Please visit the “Eat Safe at School” thematic website for more educational resources for teachers, school staff, students, school nurses and parents on food safety.



Students and school staff should:

- Maintain good hand hygiene and wash their hands thoroughly with liquid soap and water for at least 20 seconds before and after handling food, before eating and after going to the toilet. Dry hands with a disposable paper towel.
- Cover both the nose and mouth with a handkerchief or tissue paper when coughing or sneezing.
- Wrap up sputum with tissue paper and discard it into a garbage bin with lid.



Food Handlers

Food handlers should be trained regularly (see Page 8) and observe good personal hygiene during food preparation at school. Any staff member who shows certain symptoms of diseases such as diarrhoea, abdominal pain and vomiting, should refrain from handling food to ensure food safety.

During food preparation, staff should:

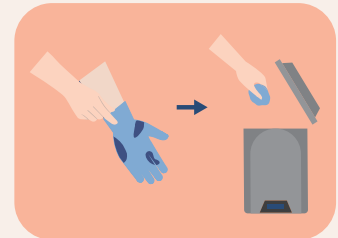
- Wash hands thoroughly with liquid soap and water for at least 20 seconds before and after handling food, after coughing, sneezing or blowing the nose, handling waste and chemicals, cleaning up, going to the toilet and contacting respiratory secretions.





Food handlers should wash their hands with liquid soap and water frequently as alcohol hand sanitisers work less effectively at removing grease, dirt and foodborne microorganisms. For non-food handlers, alcohol-based hand sanitisers can be used for cleaning hands when they are not visibly dirty. Otherwise, **wash hands with liquid soap and water.**

- Wear hand gloves properly after washing hands and change them if they are soiled or torn.
- Wear clean clothing, keep nails clean and trimmed, and refrain from smoking while at work.
- Maintain clean, tidily combed hair and tie up long hair. If using a cap / hair net, make sure it covers the hair entirely to prevent hairs from falling into the food.
- Cover any wounds, skin infections or sores with brightly coloured waterproof plasters or dressings, even if they are not infected.
- Dress discharging wounds or sores on any exposed part of the body properly so that they do not contaminate any food.



Food handlers can wear disposable gloves if there are wounds or cuts on hands, or cover all wounds or cuts on hands or forearms completely with bright-coloured waterproof plasters. Change both gloves and plasters regularly.

Appendix 1 includes some infographics for food handlers on personal hygiene such as hand-washing, appropriate glove use and work attire. (see Page 34)

B Environmental Hygiene

Cleanliness in food preparation areas and places of consumption are essential for producing safe lunch meals for students at school. Frequent cleaning and sanitisation at every stage of food handling is vital.

Food handlers should:

- Establish effective cleaning procedures and schedules to ensure that equipment for food storage and preparation (e.g. exhaust fans, drains, grease traps, refrigerators, cooking appliances) as well as serving and eating areas are kept clean and tidy, with adoption of the “clear and clean as you go” approach.
- Ensure places of consumption such as canteens, classrooms and offices are kept clean at all times.
- Ensure all food contacting utensils, including reusable lunch boxes and tableware, are clean, sanitised and properly stored. All items that come into contact with food must be effectively cleaned and sanitised in a 5-step process that removes food waste, dirt and grease and kills foodborne pathogens:

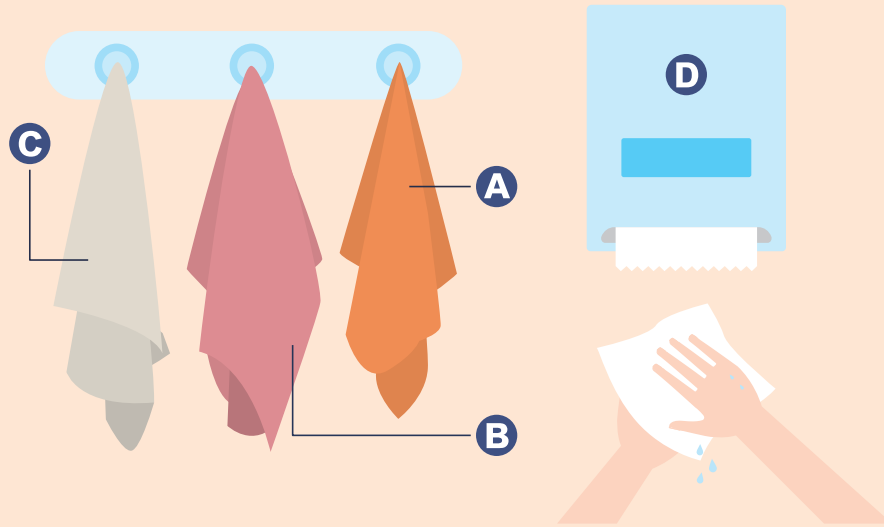


Ideally, a three-compartment sink for dishwashing is preferred, especially for school kitchens serving out meals on reusable plates, cups and utensils. Also, there should be a separate hand washing sink with liquid soap and paper towels.



Washing surfaces with warm water and detergent foam can effectively remove microorganisms that are present. Utensils can be sanitised by treating with hot water at 75°C or above for 30 seconds. Wear clean gloves to prevent burns. If using a chemical sanitiser, follow the instructions on the label. Do not overload the dishwasher and maintain it regularly.

- Each piece of cloth should be used for one single purpose only. For example:



Cloth **A** is used to clean the worktops in the kitchen; **B** is used to wipe off the food crumbs on the side of the dish before serving; and **C** is used to wipe the dining tables. Do not dry hands with a wiping cloth. Use a disposable paper towel **D** instead.

Schools are likely to produce many different types of waste from food and packaging. If waste is not well managed, it can encourage pests that can infest the environment and contaminate food with harmful pathogens. Therefore, schools should have a well-maintained infrastructure such as good ventilation, potable water supply and proper sewage and drainage systems. Approved contractors should be employed for waste management and pest control.

Schools should:

- Provide appropriate sizes and types and a sufficient number of garbage bins inside and outside the kitchen areas. Waste should be removed from school regularly by an approved and licensed waster carrier.
- Provide garbage bins designed with tight-fitting covers and foot pedals. It should be closed at all times.
- Always avoid waste accumulation by emptying food wastes regularly.
- Clean and disinfect garbage bins regularly.
- Train school staff for spotting any signs of pest infestations and checking for gaps or holes that could allow pests into buildings.
- Ensure external areas around the school kitchens are kept clear of vegetation and anything that could encourage or harbour pests.
- Apply fly screens on any open windows in food production areas.
- Make sure that pest control chemicals are kept away from food and students.
- Ensure food store is in good order if lunch is being prepared in the school kitchen. The layout should comply with the requirements of the Buildings Department.



5 Management of Food Poisoning Outbreaks

Food poisoning outbreaks can be suspected when two or more individuals developing similar gastrointestinal symptoms after eating common food items. Schools are responsible for closely monitoring for the occurrence of outbreaks, particularly those related to statutory notifiable diseases.



Acute Gastroenteritis vs Food Poisoning

While they might look alike, acute gastroenteritis is not equivalent to food poisoning. Acute gastroenteritis is usually caused by viruses, most commonly norovirus, rotavirus and adenovirus, and occurs more frequently in winter. The modes of transmission include contact with vomitus or faeces from infected persons, contact with contaminated environment or objects and aerosol spread with contaminated droplets of splashed vomitus. Acute gastroenteritis outbreaks can happen in institutions where susceptible populations gather, such as schools, childcare facilities and nursing homes.

Food poisoning is usually caused by the consumption of contaminated food or water containing bacteria, viruses, parasites, biotoxins or chemicals. Victims of group food poisoning often share common food items in a meal, whereas this is not necessary in an acute gastroenteritis outbreak.

Schools should have protocols in place for handling food poisoning outbreaks that occur in their institution. Follow-up actions may include:

- Isolate students or staff who exhibit symptoms of illness and help them seek medical treatment as necessary.
- Advise other students to stop eating concerned food items immediately to prevent further food incidents from occurring.
- Record the following items to facilitate further investigation:
 - Name list of students to whom meals are provided (with information such as the types of food served);
 - Names of food suppliers and corresponding purchasing records; and
 - Contact information of outsourced contractors.
- Submit a food incident report with details on:
 - Meal consumption history, onset time, symptoms and medication; and
 - Records of on-site checks on food storage, temperature control and personal hygiene for schools with in-house kitchens.
- Report suspected outbreaks to the Centre for Health Protection (CHP) of the Department of Health as soon as possible so that timely preventive measures can be implemented.
- Keep and provide food exhibits, if any, according to the instructions of the health inspectors.
- Step up personal and environmental hygiene measures according to the advice of the health authority.



For details on the management of outbreaks of foodborne diseases, please refer to the CHP's "Guidelines on Prevention of Communicable Diseases in Schools / Kindergartens / Kindergartens-cum-Child Care Centres / Child Care Centres".



3

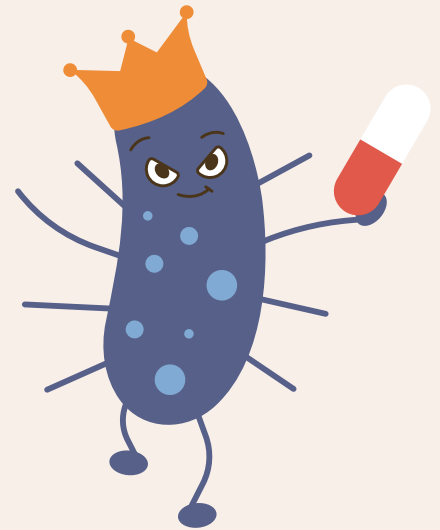
High-risk Food

Young children are especially vulnerable to foodborne diseases. This is because their immune systems are still developing and they cannot fight off infections as effectively as adults can. Young children also produce less stomach acid that kills harmful bacteria, making them at an increased risk of being infected.

Raw or Undercooked Food

Raw or undercooked foods are high-risk foods as there is no or inadequate heat treatment to eliminate the disease-causing microorganisms they carry, which can pose risks to health.

Raw or undercooked foods are also associated with the risk of “superbugs”, which are microorganisms that have developed antimicrobial resistance (AMR) and are capable of resisting a wide range of antimicrobial agents. While cooking is effective in killing “superbugs”, raw or undercooked foods are more likely to carry these microorganisms, which can be transferred to humans through food intake. “Superbugs” may also transfer their antibiotic resistance genes to other bacteria inside the human body, therefore affecting the effectiveness of the future use of antibiotics when needed.



Please visit the thematic website on foodborne AMR for more details.

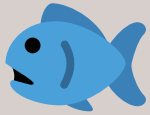


Schools should avoid high-risk foods and choose safer alternatives for students:

Foods to Avoid 

Safer Alternatives 

Seafood



Fish served raw / undercooked (e.g. sushi, sashimi, smoked salmon)

All other raw / undercooked seafood (e.g. oysters, scallops, shrimps, cuttlefish)

Thoroughly cooked fish; smoked fish and precooked fish reheated thoroughly; canned fish

Thoroughly cooked seafood; smoked seafood and precooked seafood reheated thoroughly; canned seafood

Eggs



Eggs served raw or undercooked (unhardened whites and yolks, e.g. sunny-side-up eggs, scrambled eggs)

Salad and sandwich dressings or desserts made with raw eggs (e.g. Caesar dressing, mayonnaise, puddings)

Fully cooked eggs

Salad and sandwich dressings or desserts containing no raw eggs or made with pasteurised eggs

Meat



Raw or undercooked meat and offal (e.g. congees served with undercooked minced beef / pork liver, partially cooked steak)

Cold meat and meat products (e.g. ham, sausages, pate)

Thoroughly cooked meat and offal

Thoroughly cooked cold meat and meat products

Dairy products



Soft cheeses (e.g. Feta, Brie, Camembert) and blue cheeses (e.g. Danish blue, Gorgonzola and Roquefort) made from raw milk

Hard cheeses (e.g. Cheddar) and cheeses made from pasteurised milk (e.g. sliced cheeses, cheese spread)

Vegetables



Ready-to-eat raw vegetables (e.g. prepackaged salad vegetables, seed sprouts, raw greens in sandwiches)

Thoroughly washed and cooked fresh vegetables



For preparation of powdered milk, such as infant formula, please refer to Guide to Bottle Feeding - How to Prepare Infant Formula and Feed your Baby Safely at the Department of Health website.




4

Food Allergy and Other Food Ingredients that Require Attention

Food allergy is a reaction of the body's immune system to some common, otherwise harmless, substances in food. A very low level of an allergenic substance may cause a potentially fatal allergic reaction in susceptible individuals. A local survey revealed that about 1 in 20 children in Hong Kong reported having a food allergy. Therefore, it is necessary for all school catering staff to be fully educated about what foods contain allergens, and which foods are suitable for specific dietary needs.

Common Food Allergens

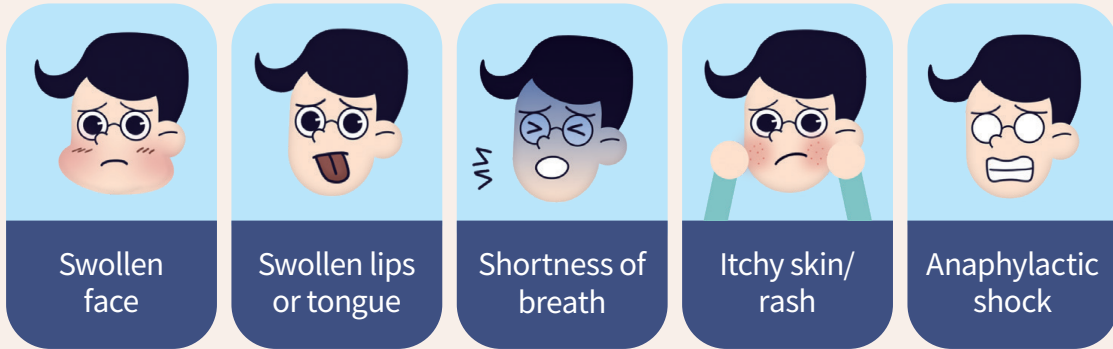
Common food allergens include:

Allergens	Some typical examples of food item in which allergens may be found
Cereals that contain gluten (e.g. wheat, rye, barley and oats) 	In foods containing flour, such as bread, pasta, cakes, pastry, meat products, sauces, soups, batter, stock cubes, breadcrumbs, foods dusted with flour, vegetarian products (e.g. plant-based milk)
Crustaceans (e.g. prawns, crabs and lobsters) 	In shrimp paste
Eggs 	In cakes, mousses, sauces, pasta, quiche, some meat products, mayonnaise, foods brushed with egg
Fish 	In some salad dressings, pizzas, relishes, fish sauce, other sauces (e.g. soy and Worcestershire sauces)
Milk 	In yoghurt, cream, cheese, butter, milk powders, foods glazed with milk
Molluscs (e.g. mussels and oysters) 	In oyster sauce
Tree nuts (e.g. almonds, cashews, hazelnuts, pecans and walnuts) 	In sauces, desserts, crackers, bread, ice cream, marzipan, ground almonds, nut oils, vegetarian products (e.g. plant-based milk)
Peanuts 	In sauces and spread (e.g. peanut butter), cakes, desserts, groundnut oil, peanut flour
Soybeans 	In beancurd (tofu), green soybeans (edamame), fermented beans (douchi), tempeh, soya flour, textured soya protein, certain ice-cream, soy sauces, desserts, meat products, vegetarian products (e.g. plant-based milk and meat)
Sulphur dioxide and sulphites 	In meat products, fruit juice drinks, dried fruit and vegetables

Symptoms of Food Allergy

Symptoms of food allergies usually develop within several minutes to two hours after consuming the offending food.

Common food allergy symptoms include:



In most cases, allergic reactions to food are uncomfortable but not particularly dangerous. However, food allergies can cause a potentially fatal reaction known as anaphylactic shock in severe instances. This can present severe symptoms including constriction of the airways, difficulty breathing, severe drop in blood pressure and loss of consciousness. Anaphylactic shock requires immediate emergency care.

Advice for Schools and Childcare Facilities

To minimise the risk of food allergy in children, schools and childcare facilities are advised to:

- Have clear instructions and protocols in place to reduce the risk of cross-contamination of allergens during food preparation.
- Obtain the students' food allergy history along with other medical history at the beginning of each school year.
- Ensure that meals can accommodate children with food allergies and specific dietary requirements.
- Ensure that all catering personnel are informed of the ingredients in the foods they serve. Check the ingredient list for prevalent allergens and take precautions to reduce the risks.
- Read food labels carefully to identify any food or food ingredients of allergic concern.
- Prepare and train staff for handling food allergy emergencies.



For clinical management of an allergy reaction, please refer to this advice issued by the Hospital Authority. In case of life-threatening emergency, please dial 999 for immediate medical assistance.



5

Choking Hazards of Food

This chapter is especially relevant for children under five years old. For children suffering from swallowing difficulties due to certain medical conditions, special dietary arrangements should be made to reduce the risk of choking. Please seek medical advice from a speech therapist or other equivalent experts.

Food can be a choking hazard for babies and young children, especially if they do not chew it well or try to swallow it whole. Choking can happen with any food, but it is more likely to happen with "firm foods" that contain bones or other hard substances, and foods that are small and round which can easily get stuck in the throat.

Reduce Choking Hazards of Food

In general, some foods should not be provided to young children under five years of age, including konjac (hard) jellies, glutinous rice balls, fish balls, chewing gum, marshmallows, hard or sticky candies, ice cubes, whole nuts, and peanut butter and nut spreads to be consumed directly without spreading.



Measures that can be taken to reduce the choking risk of certain foods consumed by young children:

- Cut hard vegetables (carrots, cucumbers, etc.) into narrow sticks;
- Cut large or firm fruits (melons, apples, etc.) into slices;
- Soften fruits and vegetables by cooking or mashing;
- Peel the skins of fruits and vegetables;
- Cut small fruits (grapes, cherries, berries, cherry tomatoes, etc.) into quarter pieces;
- Check for fragments of pips or stones when preparing fruits;
- Remove the skin of sausages and slice them thinly; and
- Cut breads into thin strips.



Safe Eating Habits

- Make sure babies and young children are alert and sitting up straight in a high chair or a low chair that is appropriate for their height while they eat. Avoid talking or running around.
- Babies and young children should always be watched while they eat in order to spot the first signs of choking and stop it from getting worse.
- Help babies and young children chew their food well. Teach them how to chew and swallow food the right way, and make sure they eat slowly.



Caregivers should also know what to do if a child is choking. The Primary Healthcare Office of the Health Bureau has published an advice on basic handling of choking in children (available in Chinese only). Scan the QR code for details. In case of life-threatening emergency, please dial 999 for immediate medical assistance.



6

Other Food Safety and Nutrition Issues

Caffeinated Drinks

Caffeine is a central nervous system stimulant that exists naturally in plants such as coffee beans, tea leaves, cocoa beans and kola nut. Many foods and drinks are fortified with caffeine for its bitter taste and refreshing effect. Excessive intake of caffeine can cause anxiety, rapid heartbeat, tremors, sleep disturbance and upset stomach, and these effects may be amplified in children.

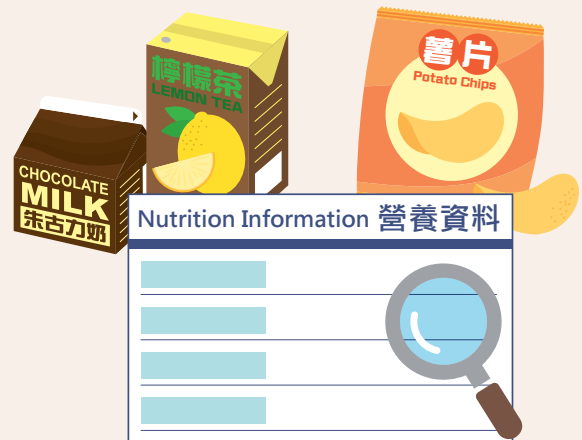


Children should therefore try to avoid beverages high in caffeine such as coffee, milk tea and certain soft drinks, and maintain a balanced and varied diet. Schools and childcare facilities should avoid serving such beverages to children.

Salt and Sugar

Dietary sodium and sugar intakes are closely related to health. Excessive sodium intake increases the risk of developing hypertension, fatal stroke and coronary heart disease, while added sugars are a significant source of excess calories, provide no nutritional value and may cause weight gain and an increased risk for dental caries, cardiovascular disease and diabetes.

Schools and childcare facilities play an important role in creating an eating environment that promotes low sugar and sodium in meals.



Please scan the QR codes below for the CFS' educational materials on the promotion of low sugar and sodium at school:

Appendix 2 also includes **Shopping Cards** and posters, which contain information and recommended intake limits for sodium, sugars and total fat. Please refer to Page 39.



The Department of Health has also produced the following guidelines to promote healthy eating at school:



*Nutrition Guidelines
for Children Aged 2
to 6*



*Nutritional
Guidelines on Lunch
for Students for Use
in Primary and
Secondary Schools*



*Nutritional
Guidelines on Snacks
for Students for Use
in Primary and
Secondary Schools*



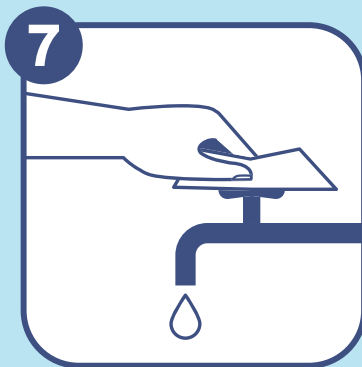
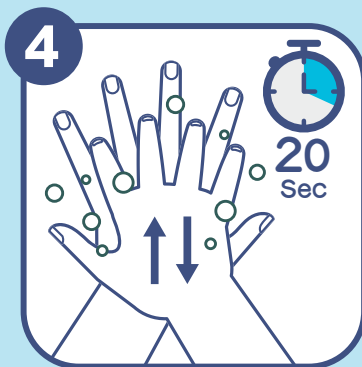
Appendix 1

Infographics for Hand-washing, Proper Use of Gloves and Work Clothing

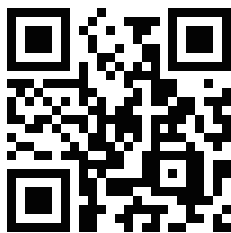
1 When You Should Wash Your Hands?



2 How to Wash Your Hands Properly?



Video:
7 Steps to Hand Washing



- 1 Pull sleeves up to the elbows.
- 2 Wet hands under running water.
- 3 Apply liquid soap.
- 4 Rub hands thoroughly for 20 seconds, including the forearms, wrists, palms, the back of hands, fingers and under the fingernails.
- 5 Rinse thoroughly.
- 6 Dry with a paper towel and avoid sharing a hand towel.
- 7 Use a paper towel to turn off the tap if not automatic or foot operated.

3 Setup of Proper Hand-washing Facilities



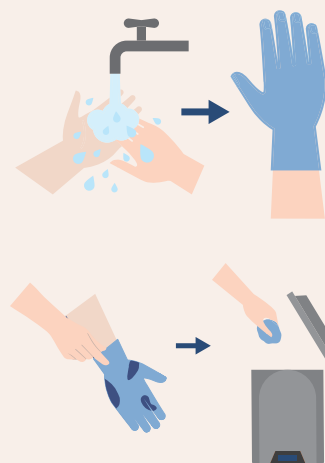
- ① Liquid soap dispenser and liquid soap
- ② Disposable tissue paper
- ③ Sensor or non-touch tap
(e.g. pedal or elbow operated tap)
- ④ Continuous supply of hot and cold water
- ⑤ Pedal operated trash bin with lid
- ⑥ Poster on steps for hand washing

4 How to Use Disposable Gloves Properly and When to Change Them



Wearing disposable gloves cannot replace hand washing. The following should be noted when using them:

- Wash hands thoroughly **before putting on, after removing and when changing gloves.**
- Discard gloves after use and **never reuse them.**



- Disposable gloves are a tool that helps to handle food safely, especially when there are wounds or cuts on hands, or when handling ready-to-eat food (e.g. salads):



- Change gloves at the appropriate time:



Between handling raw and cooked foods



After completing each task (e.g. handling garbage)



When gloves are torn or dirty



When gloves are wet with hand sweat



When switching jobs or shifts



Using tools such as food tongs can also help to avoid bare hand contact with foods

5 Proper Clothing for Food Handlers at Work

Wrong demonstration



- 1 Long hair should be tied up. If using a cap / hair net, make sure it covers the hair entirely to prevent hairs from falling into food.
- 2 Wear a mask and make sure it covers the nose and mouth.
- 3 Working clothes should preferably be light-coloured and should be worn solely in the work area.
- 4 Working clothes and aprons should be clean at the beginning of a work shift. Do not wipe hands on an apron.
- 5 Comfortable closed toe shoes should be worn exclusively in the work area.

Good demonstration



- 6 Do not wear working clothes or aprons outside the food preparation area.
- 7 Avoid wearing jewellery (e.g. bracelet, rings) and watches while handling food.
- 8 Keep fingernails short and clean. Do not wear nail polish or acrylic nails.
- 9 Wear disposable gloves if there are wounds or cuts on hands, or cover all wounds or cuts on hands or forearms completely with bright-coloured (e.g. blue) waterproof plasters. Change both gloves and plasters regularly.



Appendix 2

Shopping Cards for a Healthier Diet

Tips for Choosing Healthier Food

Check out the fat, sugars and sodium (or salt) contents in nutrition labels and make a healthier choice of "3 Low".

	What is High? (Choose less)		What is Low? (Choose more)	
	Per 100 g (more than)	Per 100 mL (more than)	Per 100 g (not more than)	Per 100 mL (not more than)
Total fat	20 g		3 g	1.5 g
Sugars	15 g	7.5 g	5 g	
Sodium	600 mg	300 mg	120 mg	

01/20



Nutrients	Daily intake upper limits	Excessive intake will increase risk of developing
Total fat	60 g*	Overweight and obesity
Sugars	50 g*	
Saturated fat	20 g*	Heart diseases
Trans fat	2.2 g*	
Cholesterol	300 mg	
Sodium	2000 mg	High blood pressure and stomach cancer

*Based on a 2000-kcal diet. Individual intake amounts may be higher or lower depending on energy requirements.

Posters

找出鹽疑犯

LOOK OUT FOR THE HIDDEN SALT

少食高鈉調味料 保持健康血壓有辦法

REDUCE YOUR SODIUM INTAKE FOR A HEALTHIER BLOOD PRESSURE

成人每日鈉攝取量
Daily sodium Intake for Adult
<2000毫克
mg
大抵少於一茶匙的鹽
(Less than a teaspoon of salt)

每罐裝食納 Sodium per Tins/Can	佔每日鈉攝上層比例 Contribution to Daily Upper Intake	高鈉指數 High Sodium Index
雞粉 Chicken Powder	2100毫克mg	105%
魚露 Fish Sauce	1300毫克mg	65%
蝦醬 Shrimp Paste	1190毫克mg	60%
豉油 Soy Sauce	1000毫克mg	50%
豆豉醬 Black Bean Paste	750毫克mg	38%
蠔油 Oyster Sauce	620毫克mg	31%
海鮮醬 Seafood Sauce	390毫克mg	20%

低鈉廚房宣言
LESS SODIUM NOW

可選用蒜頭、薑、蔥、醋、檸檬汁、香茅、沙薑粉、五香粉、七味粉、花椒、八角、羅勒等天然食材來調味，或含有谷氨酸的菇菌類、蕃茄作為配料。
Use natural ingredients like garlic, ginger, spring onions, shiitake, lemon juice, lemongrass, annatto, black pepper, coriander, fennel seeds, star anise and fennel for flavouring. Ingredients containing glutamate and the mushroom and tomato will work too!

食物環境衛生署
Food and Environmental Hygiene Department

食物安全中心
Centre for Food Safety

cfs.gov.hk

hkassr

減糖斷捨離

REDUCE SUGAR CRAVINGS

選擇少糖食品 保持健康體重有辦法

CHOOSE FOODS WITH LESS SUGAR FOR HEALTHIER WEIGHT

留意甜蜜陷阱：
Beware of the Sugar Traps:

甜味飲品 Sweetened beverages	糖果 Confections	能量補充食品 Energy supplements
蛋糕及甜點 Cakes and Desserts	醬汁 Condiments	早餐穀物 Breakfast cereals
加工水果 Processed fruits		

成人每日游離糖攝取量
Daily Free Sugar Intake for Adult
<50克*
Grams
(約10粒方糖)
*100% 游離糖 = 2000千卡糖 = 50克
100% Free sugar = 2000 kcal sugar = 50g

一起少甜 LESS SWEET NOW

選擇含有較少糖、無糖或無甜味劑的食物及飲品
Choose foods and beverages with less sugar, no sugar or no sweeteners added

參閱預先包裝食品上的食物標籤，作出有依據的選擇
Refer to the food labels on pre-packaged foods to have informed choices

慢慢適應味道較清淡的食物，最終改變飲食習慣
Alter dietary habits by gradually adapting to the lighter-flavoured food

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Published by the Centre for Food Safety
Food and Environmental Hygiene Department
Hong Kong Special Administrative Region Government
Printed by the Government Logistics Department (2023/08)

