

## 5 Keys to Food Safety Practical Tips for the Public



Centre for Food Safety  
Risk Communication Section



## Content

- What is foodborne disease?
- Symptoms, causes and contributing factors of foodborne Disease
- What are the “5 Keys to Food Safety”?
- How to apply the “5 Keys to Food Safety”
  - Purchase
  - Store
  - Prepare
  - Cook
  - Manage leftovers



## What is foodborne disease?

- Sickness caused by food that people eat
- Causes
  - Dangerous microorganisms
  - Toxic chemicals



## Common symptoms of Foodborne Disease

- Most symptoms occur in **24 to 72 hours** after eating
  - Stomach pain
  - vomiting
  - Diarrhoea, etc
- Most symptoms are mild
- Some diseases may severely affect **infants, pregnant women, the elderly and the sick**



## Common pathogens



## Common pathogens

- *Vibrio parahaemolyticus*
- *Staphylococcus aureus*
- Norovirus



## 1. *Vibrio parahaemolyticus*

- Naturally found in **marine environment**
- **Seafood, e.g. fish, shellfish, shrimps, crabs, etc.**



## 1. *Vibrio parahaemolyticus*

### High risk foods



## 1. *Vibrio parahaemolyticus*

- **Mode of transmission**
  - **Cross contamination**
    - Raw food and cooked food
    - Utensils and containers
    - Refrigerator
    - Hands
  - **Infected persons (faecal-oral route)**



## 1. *Vibrio parahaemolyticus*

- **Prevent contamination**
  - **Cook seafood thoroughly (if meant to be cooked)**
  - **Store seafood (including raw shrimp, salmon) at 4°C or below**



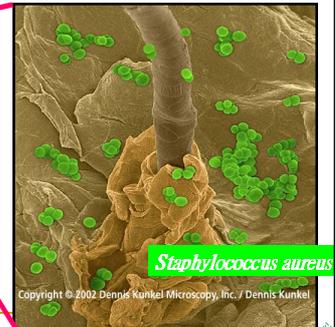
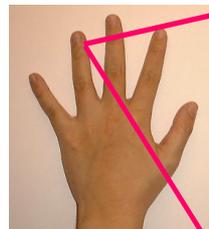
## 1. *Vibrio parahaemolyticus*

### Separate raw food from cooked food

- Use separate utensils for raw food and cooked food
- Use designated utensils for handling ready-to-eat food such as sashimi and salad, etc.



## 2. *Staphylococcus aureus*



*Staphylococcus aureus*

Copyright © 2002 Dennis Kunkel Microscopy, Inc. / Dennis Kunkel



## 2. *Staphylococcus aureus*

- Commonly found on human skin and mucous membranes
- About one third of the healthy population carry the bacteria in their nasal passages or skin without showing any symptoms



## 2. *Staphylococcus aureus*



*Staphylococcus aureus* is commonly found in kitchen surfaces, including:

- dish cloths
- fingers, nasal passages
- fridge doors
- hand towels
- taps



## 2. *Staphylococcus aureus*

### High risk foods



## 2. *Staphylococcus aureus*

### Causes of food poisoning

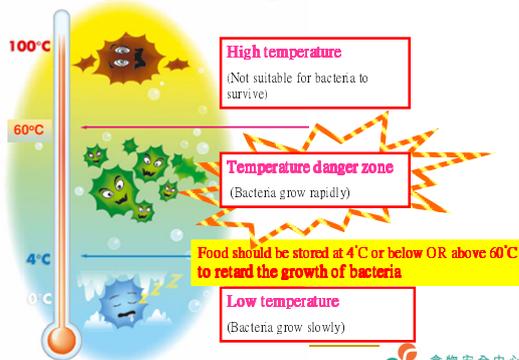
1. Foods that need to be handled a lot

2. Food held in temperature danger zone after cooking for a while

Temperature danger zone ?



## Temperature danger zone



## 2. *Staphylococcus aureus*

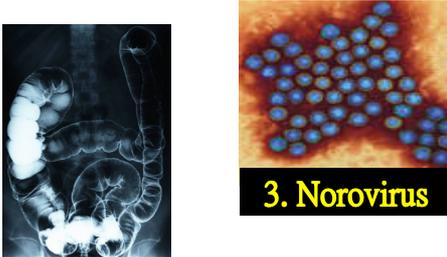


1. Avoid touching food with bare hands

2. Store food at a low temperature

3. Avoid display of food at room temperature over 2 hours



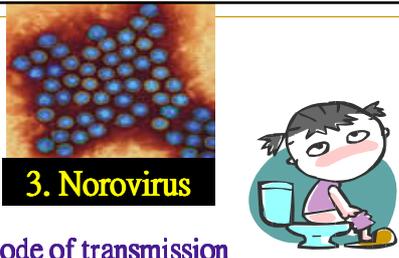


### 3. Norovirus

**Sources of contamination**

- Humans are the only known host for norovirus
- Norovirus can survive, though not multiply, outside a human body

食物安全中心  
Centre for Food Safety



### 3. Norovirus

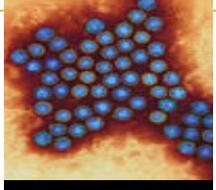
**Mode of transmission**

- by faecal-oral route
- via contaminated food, water and shellfish

食物安全中心  
Centre for Food Safety

**Key point**

- Humans can contaminate food directly and indirectly (infected persons contaminate sea water, irrigation water and drinking water)



### 3. Norovirus

**Infections**

- Aquatic products, in particular shellfish, should be cooked thoroughly before consumption
- Obtain food from reputable food premises

食物安全中心  
Centre for Food Safety

**What are the “5 Keys to Food Safety”?**

Advocated by the World Health Organization to prevent foodborne diseases



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)**

食物安全中心  
Centre for Food Safety

**How to apply “5 Keys to Food Safety” in daily life?**

- Purchase
- Store
- Prepare
- Cook
- Manage leftovers



食物安全中心  
Centre for Food Safety

**Purchase - CHOOSE(1)**

Buy food from **hygienic** and **reliable** shops

- Do not buy food from **illegal** hawkers
- Do not buy food from **questionable** source, e.g. food of unreasonably low price or meat with abnormal red colour

食物安全中心  
Centre for Food Safety

## Purchase - CHOOSE(2)

### Select fresh and wholesome food

- Fruits or vegetables are **not damaged** and **without bruised areas**
- Canned foods are **not bulging or dented**
- Jars are **not cracked** or have **loose lids**
- Eggs in the carton are **not cracked or leaking**



### Choose ready-to-eat, cooked or perishable foods that are stored correctly

- **Hot food:** above 60°C
- **Cold food:** at or below 4°C
- **Frozen food:** at or below -18°C



## Purchase - CHOOSE(3)

### Do not use food beyond its expiry date

- Read food labels carefully and follow instructions
- Choose food before its expiry date
  - "Use by" Date
  - "Best before" Date

READ THE FOOD LABELS



### Separate raw food from ready-to-eat food or cooked food

- Pick up your **packaged and canned foods first**, shop for **raw meat, poultry and seafood last**
- Keep raw meat, poultry, and seafood **separated** from other food items in your grocery cart and shopping bags to **prevent their juices** from **contaminating** other food items.



## Purchase - CHOOSE(4)

### Table: Difference between "Use by" and "Best before" date

	"Use by" date 「此日期或之前食用」日期	"Best before" date 「此日期前最佳」日期
Example of food	A cup of ice-cream	A pack of biscuit
Example of expiry date	1-1-2014 If the food is properly stored, it is recommended for use on or before 1-1-2014	1-1-2014 If the food is properly stored, it can be expected to retain its specific properties on or before 1-1-2014
Recommendations after the expiry date	Usually, the food is highly perishable. If you consume it after the date, there is a chance that you will suffer from foodborne disease	If you consume it after the date, the food may not be at its best flavour and quality



## Store - SAFE TEMPERATURE

- Refrigerate cooked and perishable food within **2 hours**
- Check the **temperature of the refrigerator** with a thermometer
  - **Fridge:** at or below 4°C
  - **Freezer:** at or below -18°C
- **Don't overstuff** your refrigerator



## Store - SEPARATE

### In the refrigerator

- Store food in **containers with lids** to avoid contact between raw and ready-to-eat food or cooked food
- Store **raw meat, poultry, and seafood below ready-to-eat food or cooked food** to prevent juices from dripping onto ready-to-eat food or cooked food



## Prepare - CLEAN (Personal Hygiene)

### Always wash your hands

- Before handling food
- After handling raw meat or poultry
- During food preparation
- Before eating
- After blowing nose, handling rubbish, going to the toilet or changing nappies
- After playing with pets or smoking



## Prepare - CLEAN (Personal hygiene)

Wash your hands with soapy water for 20 seconds

1. Wet hands under running water
2. Rub hands together for at least 20 seconds with liquid soap
3. Rinse hands under running water
4. Dry hands with a clean dry towel, preferably a paper towel



食物安全中心  
Centre for Food Safety

## Prepare – CLEAN (Environmental hygiene)

- Wash utensils and working surfaces with hot water and detergent after each use
  - Scrape excess food into a rubbish bin
  - Wash in hot water with detergent, using a clean cloth or brush (sponge is not recommended) to remove leftovers and grease
  - Rinse in clean hot water
  - Leave cutting boards, dishes, or utensils to air-dry, or wipe with a clean dry cloth



食物安全中心  
Centre for Food Safety

## Prepare – CLEAN (Environmental hygiene)

- Keep kitchen clean

- Keep food covered or in closed containers
- Keep rubbish bins covered and dispose of rubbish regularly
- Keep food preparation areas in good condition, e.g. repair wall cracks or holes
- Use baits or insecticides to kill pests but take care not to contaminate food
- Keep pets away from kitchen



食物安全中心  
Centre for Food Safety

## Store - SEPARATE

- Use separate utensils to handle raw food and cooked or ready-to-eat food such as poached chicken or fruits
- Label utensils (including cutting boards and knives) with different colours, e.g.
  - Red for raw food
  - Blue for cooked food
  - Green for ready-to-eat food
- Use one utensil for tasting and another one for stirring or mixing food



食物安全中心  
Centre for Food Safety

## Cook - COOK thoroughly

- Thaw frozen food properly before cooking. Put it
  - In microwave
  - In the fridge, or
  - Under running water



食物安全中心  
Centre for Food Safety

## Cook - COOK thoroughly

- Ideally, use a food thermometer to check that the core temperature of food reaches at least 75 °C
- When you use the food thermometer, make sure you use it properly:
  - Place the food thermometer in the centre of the thickest part of the meat
  - Make sure that the food thermometer is not touching a bone or the side of the contain
  - Clean the food thermometer between each use



Bi-metallic Stemmed  
Thermometer

食物安全中心  
Centre for Food Safety

## Cook - COOK thoroughly



If you do not have a food thermometer, cook or reheat food thoroughly until it is piping hot throughout and check

- **Meat and poultry:** make sure that **juices are clear, not red**; blood is not visible when you cut the cooked meat
- **Eggs:** egg yolks are **not runny or liquid**
- **Soups and stews:** bring to a **boil** and continue to boil for **at least one minute**
- When microwaving
  - Cover food
  - Stir and rotate food to ensure thorough cooking



食物環境衛生署  
Food and Environmental Hygiene Department



食物安全中心  
Centre for Food Safety

## Manage leftovers- SAFE TEMPERATURE

- Consume food promptly after cooking. **Do not** leave cooked food at room temperature for **more than 2 hours**
- Promptly **cool** leftovers and refrigerate them **within two hours**
- Leftovers can be cooled quickly by :
  - Slicing large pieces of meat into smaller pieces
  - Placing food in a cool, clean container
  - Stirring regularly for soups



食物環境衛生署  
Food and Environmental Hygiene Department



食物安全中心  
Centre for Food Safety

## Management of leftovers- SAFE TEMPERATURE

- If cooked food are not eaten immediately, keep them **piping hot (above 60°C)** prior to serving
- Leftovers **should not** be stored in the refrigerator for **longer than 3 days** and **should not** be reheated **more than once**
- Reheat leftovers thoroughly until it is **steaming hot** before consumption



食物環境衛生署  
Food and Environmental Hygiene Department



食物安全中心  
Centre for Food Safety

“Follow Five Keys to Ensure Food Safety”



食物環境衛生署  
Food and Environmental Hygiene Department



食物安全中心  
Centre for Food Safety