Food Safety Seminar

Thai Restaurants
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Food Hazards and Risks in Thai Restaurants

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Food Hazards and Risks in Thai Restaurants
Popular Thai dishes

- Thai pomelo salad
- Shrimp sashimi
- Spicy and sour chicken soup with coconut milk
- Thai pork and lemongrass stir-fry
- Fried rice in pineapple boat
- Thai coconut tapioca pudding

[....the list is not exhaustive...]

食物安全中心
Centre for Food Safety
High risk foods (sashimi)

What do these dishes have in common?

High risk foods (sashimi)
Common problems of high risk foods

- the preparation requires a lot of handling
  - susceptible to contamination
- absence of cooking steps
  - absence of steps to kill pathogens
- frozen/chilled only
  - slow the growth of bacteria
Food Hazards

Hazard

A hazard is anything in food that may cause harm to consumers.
Physical Hazard

- Extraneous objects
  - Glass fragments
  - Metal fragments
  - Stones
  - Pieces of product packaging
  - Hair
  - Buttons
Chemical Hazard

- Naturally occurring toxins in microorganisms or marine fish (ciguatoxin)
- Environmental contaminant (mercury in wastewater)
- Pesticide residue in vegetables
- Chemicals formed during certain food processing and cooking conditions (acrylamide in fried food)
Biological Hazard

- Bacteria
- Virus

Staphylococcus aureus
What is food poisoning?
Food poisoning = foodborne disease

- Any illness resulting from the consumption of contaminated food

- Causes
  - pathogenic microorganisms and/or
  - toxic chemicals
Common symptoms of foodborne disease

- occur 24 to 72 hours after eating
  - abdominal pain
  - vomiting
  - diarrhoea
- most are mild
- some may severely affect infants, pregnant women, elderly and the sick
Causes of foodborne diseases

Microbiological contamination of food

Use of food from an unsafe source

Consumption of raw shrimp

Cross-contamination
- raw food contaminate cooked food
- food handlers contaminate food
- utensils contaminate food

infected food handlers
Causes of foodborne diseases

Survival or growth of pathogens in food

- Inadequate thawing of frozen meat
- Inadequate cooking
- Preparation of food too far in advance
- Preparation of food too much in amount
- Prolonged holding of food in the temperature danger zone*
- Prolonged cooling of food
- Improper reheating
There have been 1099 food poisoning cases in the past three years affecting 4176 persons, 74 of these cases involved Thai restaurants (494 persons affected in total)
Most Common Pathogens
Common Pathogens

- *Vibrio parahaemolyticus*
- *Staphylococcus aureus*
- *Norovirus*
1. *Vibrio parahaemolyticus*

- Naturally found in marine environment
- Seafood (fish, shellfish (raw oyster), shrimps, crabs)
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** (fecal-oral route)
1. *Vibrio parahaemolyticus*

- Prevent contamination
  - Cook seafood thoroughly (if meant to be cooked)
  - Store seafood (including raw shrimp, salmon fish) 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 of sashimi and salad, etc.
1. Vibrio parahaemolyticus

- store raw food and cooked food separately
- practice good personal hygiene

store “raw seafood” and “ready-to-eat food” in separate refrigerators
2. Staphylococcus aureus
2. *Staphylococcus aureus*

- commonly found on human skin and in mucous membranes
- about one third of the healthy population carries this bacterium in their nasal passage or skin without showing any symptoms.
2. Staphylococcus aureus

*Staphylococcus aureus* is commonly found in kitchen surfaces, including:
- dish cloths
- food handlers’ fingers, nasal passage
- fridge doors
- hand towels
- taps
2. *Staphylococcus aureus*

High risk foods
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

High Temperature
(Not suitable for bacteria to survive)

Temperature Danger Zone
(Bacteria grow rapidly)

Food should be stored at 4°C or below or above 60°C to retard the growth of bacteria

Low Temperature
(Bacteria grow slowly)
2. Staphylococcus aureus

1. Avoid touching food with bare hands

2. Store food at a low temperature

3. Avoid display of food in 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
3. Norovirus

Mode of Transmission
- by fecal-oral route
- via contaminated food, water and shellfish
3. Norovirus

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

Implications

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

Key point
Conclusions: Part I
Thai Restaurant and food
Potential hazards and Risk of Food Poisoning
Part II:
Thai Restaurants
Tips on Effective Control on Food Risks
Risk Analysis for Thai Dishes

- Thai pomelo salad
- Shrimp sashimi
- Spicy and sour chicken soup with coconut milk
- Thai pork and lemongrass stir-fry
- Fried rice in pineapple boat
- Thai coconut pudding
Hazard Analysis and Critical Control Point System (HACCP)

- What is HACCP?
- Apply HACCP in Thai Restaurants
  - Purchase (including receiving)
  - Storage
  - Preparation
  - Cold Storage
  - Serving (display)
HACCP System

- Principle 1 Analyse hazards
- Principle 2 Determine critical control points
- Principle 3 Establish limits for critical control points
- Principle 4 Establish monitoring procedures for critical control points
- Principle 5 Establish corrective actions
- Principle 6 Establish verification procedures
- Principle 7 Establish a record system
*Choose→*Receiving→*Storage (frozen/chilled) →*Preparation→*Cold Storage→*Display

*Critical Control Points
Apply HACCP in daily operation

- Purchase *(including receiving)*
- Storage
- Preparation
- Cold Storage
- Serving *(display)*
Purchase -

Obtain food and food ingredients from approved and reliable sources

- Ensure that the suppliers have obtained relevant and valid licences from the Food and Environmental Hygiene Department. Please visit http://www.fehd.gov.hk/licensing/licence-typec.html for details
- imported raw materials should be accompanied with valid and recognised official health certificates
- keep records of acquisition and stock of raw material
Use fresh and wholesome ingredients and check the quality of the ingredient upon receipt:

- use fresh/chilled shrimp intended for making sashimi
- Food or food ingredients are stored at safe temperature
  - Chilled food: 4°C or below
  - Frozen food: -18°C or below
Choose → Receiving → Storage

- Check if the packaging is intact
- Check the *expiry date*
Storage -

- Refrigerate cooked and perishable food within 2 hours
- Check the temperature of the refrigerator with a thermometer and keep a record
  - Fridge: at 4°C or below
  - Freezer: at -18°C or below
- Don’t overstuff the refrigerator
Ideally, use two separate refrigerators for storing raw food and cooked food/ready-to-eat food (raw materials for the preparation of sashimi should be stored in a separate or designated part of a freezer) and bilingually labelled “刺身専用” ”Sashimi only”.

If raw food and cooked food/ready-to-eat food have to be stored in the same refrigerator, do the following:

- Store food in **containers with lids**
- Store ready-to-eat /cooked food on the **top shelf** of the refrigerator
- Store raw meat, poultry and seafood on the **bottom shelf** of the refrigerator
Preparation – Clean (keep yourself clean)

Wash hands
- Before handling food
- After handling raw meat or poultry
- During food preparation
- After coughing, sneezing, blowing nose, eating or drinking
- After going to the toilet
- After engaging in any activities that may contaminate hands (e.g. handling money, carrying out cleaning duties)
Preparation – Keep Clean (personal hygiene)

Wash your hands with soapy water for 20 seconds
- wet hands under running water
- apply liquid soap
- rub hands together for at least 20 seconds
- rinse hands under running water
- dry hands with clean paper towels or air dryers
Preparation – Keep Clean (personal hygiene)

- Food handlers should
  - wear clean and light-coloured outer clothing or protective overalls
  - wear masks during food handling
  - wear disposable gloves when handling ready-to-eat food
  - cover sores or cuts on hands by waterproof bandages or gloves
Use Gloves

Purpose of using gloves

- Minimise bare hand contact with food
- prevent infection of cuts by the bacteria in food

When to use gloves

- When there is a cut on hands
  - Prevent contamination of the food by the bacteria in cut (e.g. *Staphylococcus aureus*)
  - Prevent infection of cut by the bacteria in food (e.g. *Streptococcus suis*)
- When handling ready-to-eat food (e.g. sushi, desserts, sandwiches, etc.)
  - Ready-to-eat food will not undergo further heat treatment to kill pathogens
Use Gloves Correctly

- Use disposable gloves
- Wear gloves of appropriate size
- Wash hands thoroughly before and after wearing or changing gloves
Use Gloves Correctly

- Change gloves frequently
  - When changing tasks or leaving the work station
  - When the gloves are soiled
  - When the gloves are torn
  - Change regularly during work (e.g. every half an hour/one hour)
- Discard gloves after use and never reuse gloves
Preparation – Keep Clean (personal hygiene)

- Clean utensils and worktops with hot water and detergent after each use
- All knives used for the preparation of ready-to-eat food shall be placed under cover in the knife sterilization apparatus and immersed in sterilization solution when they are not in use
- Keep kitchen clean and away from insects, pests and other animals
  - Keep food covered or in closed containers
  - Keep rubbish bins covered and remove rubbish at least once a day
  - Use rodenticides or insecticides to kill pests but take care not to contaminate food
Preparation

- Use separate utensils to handle raw food and cooked food/ready-to-eat food (such as fruit and sashimi)
- Use designated utensils (including cutting boards and knives) for handling sashimi
- Label utensils with different colours:
  - Red – Raw Food
  - Blue – Cooked food
  - Green – Ready-to-eat food
- Use one utensil to taste and another to stir or mix food
Prevent Cross-contamination

- Designate a separate portion in a food room for handling ready-to-eat food and labelled “For preparation of sashimi only”
- Cover unpackaged ready-to-eat food is an effective way to prevent bacteria contamination
Thawing

Frozen food should be thawed properly:

- Thawing in a refrigerator (4°C or below); or
- Thawing under cold running water
- Avoid re-freezing and re-defrosting
Serving

- **Cold Food**: 4°C or below
  - When serving cold food, put them in a shallow container and keep food chilled by setting the container with food in a deep container with ice-cubes
  - Drain off water as ice melts and refill new ice-cube
  - Serve ready-to-eat food as soon as possible after preparation
Thai Sashimi

- **Valid license** is required for manufacturing of shrimp sashimi
- In addition to food premises license, a **specific endorsement for sale of sashimi** is required
- Meet the licensing requirements and conditions for food premises selling sashimi
Licensing Requirements and Conditions

- Preparation of sashimi shall be conducted in a separate portion or food preparation room specified for such purpose, which shall be bilingually labelled “此處只供配製刺身之用” “This portion is to be used only for the preparation of sashimi”

- Frozen raw materials for the preparation of sashimi shall be stored in a separate or designated part of a freezer. The freezer shall be bilingually labelled “刺身之用” “Sashimi only”

- The temperature of the freezer should be kept at -18°C or below and equipped with a thermometer

- There shall be a refrigerator kept at a temperature between 0°C and 4°C and bilingually labelled “刺身之用” “Sashimi only”

- A sushi/sashimi-knife sterilization apparatus shall be provided and use approved sterilization solution

- Separate equipment and cutting boards shall be provided for the preparation of sashimi. The equipment shall be bilingually labelled “Sashimi only” and “刺身專用”
Licensing Requirements and Conditions

- If the food materials are imported, a copy of the health certificate issued by the relevant authority of the exporting country shall be kept by the licensee.

  (It is not advisable to buy raw shrimps from market stalls or use shrimps intended for hotpot to make shrimp sashimi)

- The sushi/sashimi knife sterilization apparatus shall be cleansed and the sterilization solution renewed at least once daily

- All handlers of sashimi shall wear clean protective clothing including head coverings

- Stock records on the raw materials for the preparation of sashimi shall be kept
Conclusions: Part II
Thai Restaurants and Food Risks can be controlled effectively by adopting the HACCP principle
References

Know More About Japanese Sashimi

Hygiene practices for preparation of foods eaten raw
Reference

Communication Resource Unit

8/F, Fa Yuen Street Municipal Services Building,
123A Fa Yuen Street, Mong Kok, Kowloon
2381 6096

Centre for Food Safety Website :
http://www.cfs.gov.hk
Thank you