

Introduction to food Safety and Hygiene

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Content

- ▶ Overview of food principles
- ▶ Importance of proper hygiene in the culinary industry

Introduction

- ▶ it is important to follow the five keys to safer food because proper food handling is key to food borne disease prevention
- ▶ In some countries , it may be necessary to address the use of safe water and raw materials before presenting the five keys to safer food

Five keys to safer food

Keep clean

- Wash your hands before handling food and often during food preparation.
- Wash your hands after going to the toilet.
- Wash and sanitize all surfaces and equipment used for food preparation.
- Protect kitchen areas and food from insects, pests and other animals.

Why?
While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, eating utensils and cloths, especially cutting boards and cloths, especially cutting boards and the slightest contact can transfer them to food and cause foodborne illness.

Separate raw and cooked

- Separate raw meat, poultry and seafood from other foods.
- Use separate equipment and utensils such as knives and cutting boards for handling raw foods.
- Store food in containers to avoid contact between raw and prepared food.

Why?
Raw food, especially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

Cook thoroughly

- Cook food thoroughly, especially meat, poultry, eggs and seafood.
- Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink, and fully use a thermometer.
- Reheat cooked food thoroughly.

Why?
Proper cooking kills almost all dangerous microorganisms. Studies have shown that cooking food to temperatures of 70°C can help ensure it is safe for consumption. Foods that require special attention include ground meats, rolled meats, large joints of meat, and whole poultry.

Keep food at safe temperatures

- Do not leave cooked food at room temperature for more than 2 hours.
- Refrigerate promptly all cooked and perishable food (preferably below 5°C).
- Keep cooked food piping hot (more than 60°C) prior to serving.
- Do not store food too long even in the refrigerator.
- Do not thaw frozen food at room temperature.

Why?
Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C, or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms will grow below 5°C.

Use safe water and raw materials

- Use safe water or treat it to make it safe.
- Select fresh and wholesome foods.
- Choose foods processed for safety, such as pasteurized milk.
- Wash fruits and vegetables, especially if eaten raw.
- Do not use food beyond its expiry date.

Why?
Raw materials, including water and soil, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be harmful to humans and animals. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

Knowledge = Prevention

Food Safety
World Health Organisation

Survival of Microorganisms on Surfaces

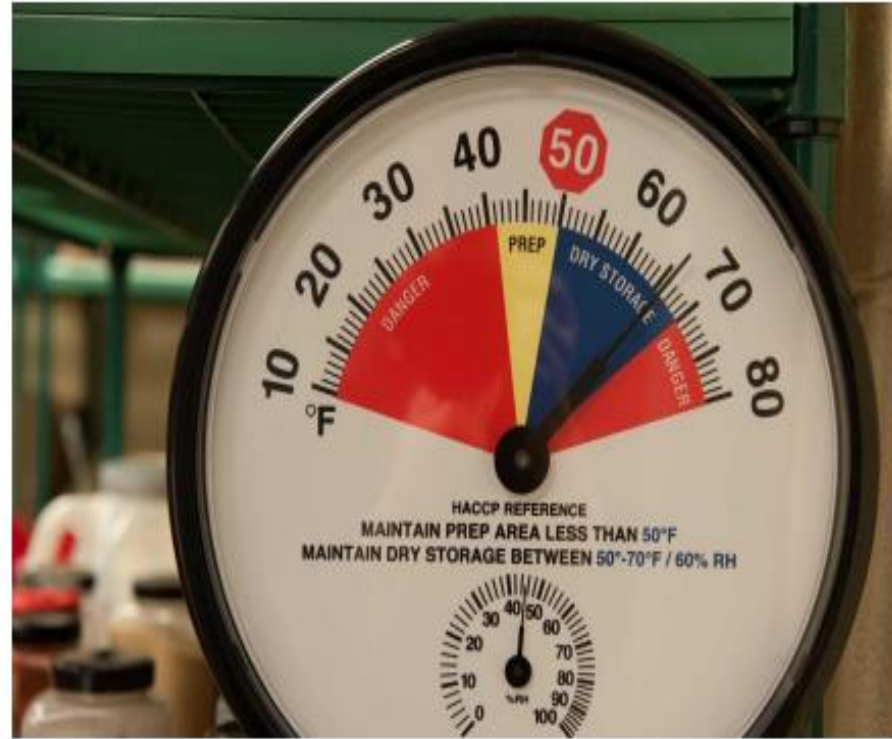
Two hours to several months – *It Depends!*

Varies by environmental conditions:

- Surface material
- pH
- Temperature
- Food and water sources
- Humidity
- Competition for the space



Survival of Microorganisms on Surfaces



Survival of Microorganisms on Surfaces



Person-to-Person Transmission





Risk Mitigation Strategies

Handwashing: How To



Handwashing: Signage

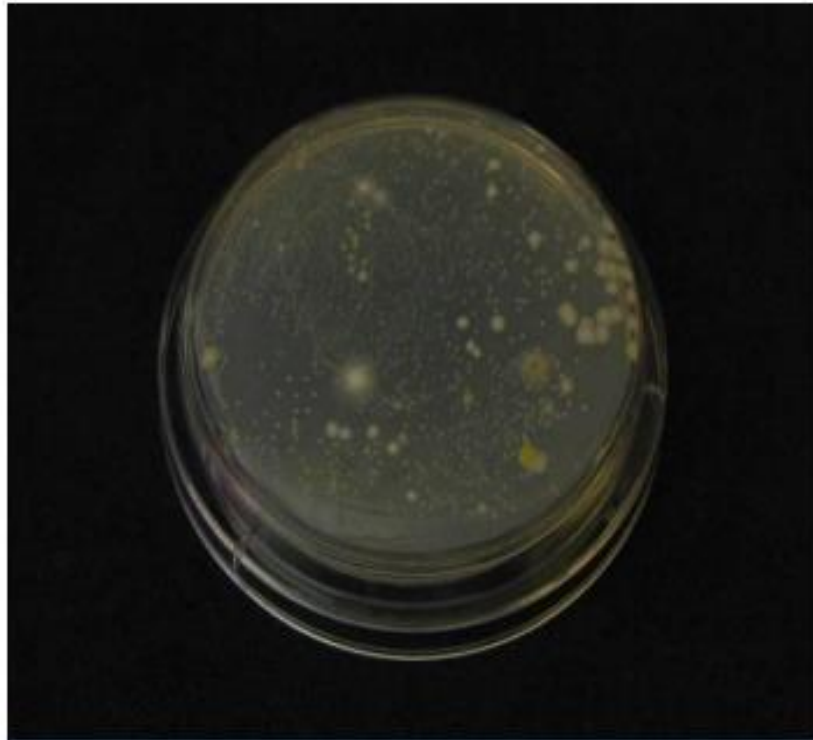


Handwashing: When To

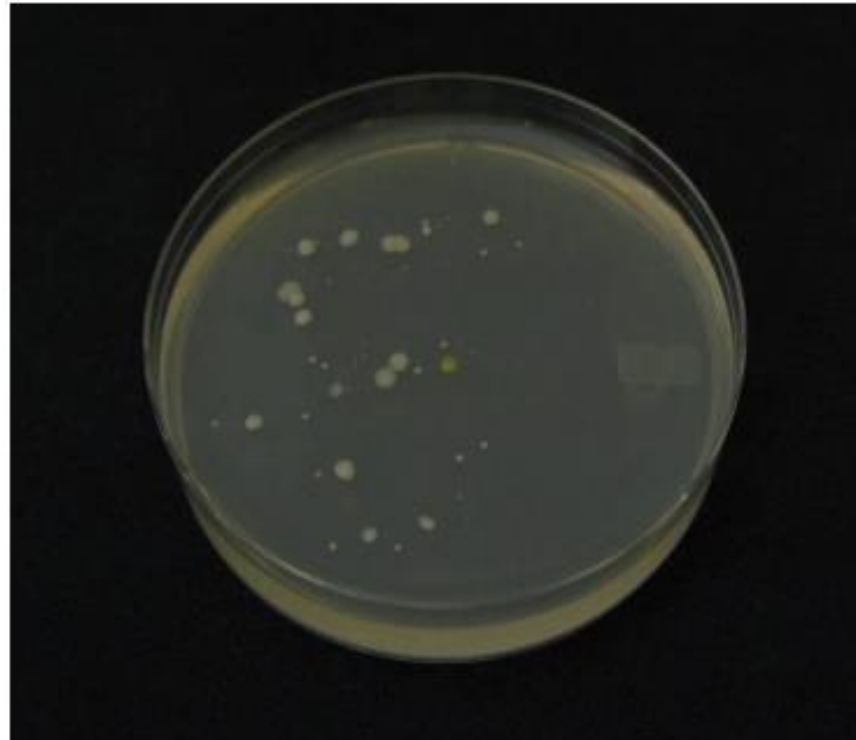
- Before entering food production area/preparing food
- After handling raw foods
- Using the restroom
- Taking out garbage
- And more



Keeping Hands Clean



Microorganisms from the refrigerator door handle



Microorganisms from glove that touched door handle

Hand Sanitizer



- 60 % ethyl alcohol
- 70% isopropyl alcohol

Glove Use



Glove Use: Do

- Wash hands prior to donning
- Change:
 - Between tasks
 - If contaminated
 - If torn



Glove Use: Don't

- Blow into glove when donning
- Wear multiple layers to remove when changing tasks
- Wash you hands with your gloves on
- Handle entire glove when putting on
- Touch face or surfaces other than food when wearing gloves – including phone or packages



Gloves as Personal Protective Equipment (PPE)



Glove Use: How to Remove



**Other PPE:
Cloth Face
Coverings and
Masks**



Other PPE: Aprons



Microorganisms from an apron used in food production



Cleaning and Prep Supplies



Sanitizing Methods and Applications

- Temperature
- Chemical



Sanitizing Method

Temperature



Chemical Sanitizers

Quaternary Ammonium Compounds or “Quats”

- Sanitizer – 200 to 400 PPM
- Disinfectant – 600 to 800 PPM



Chemical Sanitizers

Sodium Hypochlorite

“Bleach” or “Chlorine”

- Sanitizer – 50 to 100 PPM
- Disinfectant – 600 to 800 PPM



Sanitizer Guidelines

	Chlorine		Iodine	Quats
Water Temperature	$\geq 100^{\circ}\text{F}$	$\geq 75^{\circ}\text{F}$	$\geq 68^{\circ}\text{F}$	$\geq 75^{\circ}\text{F}$
Water pH	≤ 10	≤ 8	≤ 5 or manufacturer's recommendation	Per manufacturer's recommendation
Sanitizer Concentration	50-99 ppm	50-99 ppm	12.5-25 ppm	Per manufacturer's recommendation
Sanitizer Contact Time	≥ 7 sec	≥ 7 sec	≥ 30 sec	≥ 30 sec

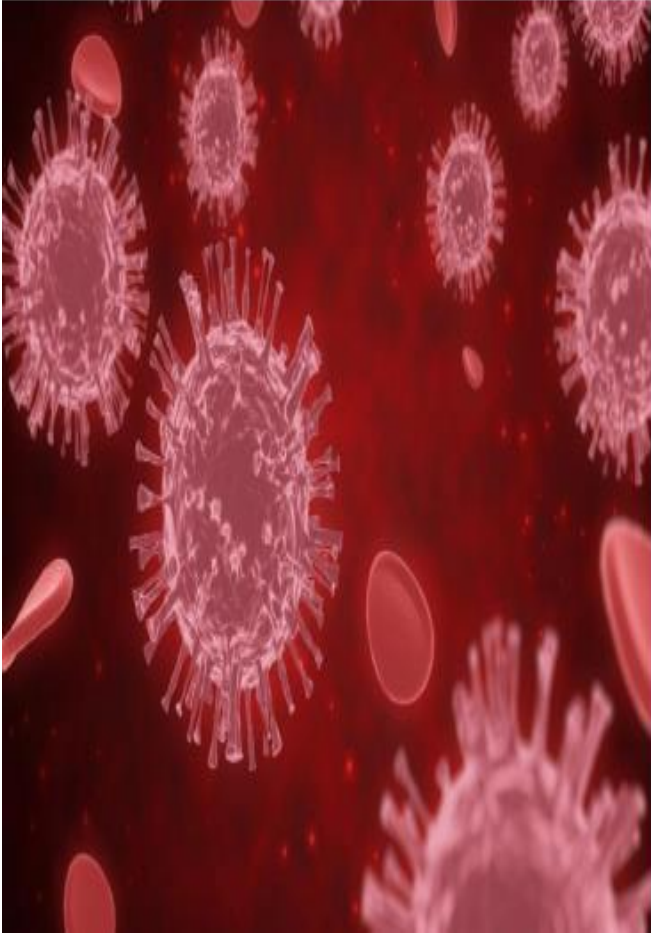
Applications of Sanitizers

Keys to sanitizer effectiveness:

- Chemical concentration
- Water temperature
- Contact time



Disinfecting



Impact on School Nutrition Programs: Receiving, Production, & Service



Receiving



Food Production



Service



What's your
new normal?

Cleaning and Sanitizing in the Dish Room



Additional Recommendations

Cleaning and sanitizing:
Proper towel use

Cleaning and
disinfecting:
Frequently touched
surfaces



Summary



Wash Hands Thoroughly



Use Soap or Hand Sanitizer



Keep Safe Distance from Other People



Stay at Home if Possible



Use Face Mask or Respirator



Avoid Large Crowds



Do Not Meet Infected or Sick People



Do Not Touch Your Face esp. Mouth, Eyes, Nose



Do Not Travel Unless Necessary



Do Not Touch The Front Part of a Mask