Common Mistakes Food Service Employees Make in Food Safety

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Risks

A foodborne illness is a disease transmitted to people through food

An illness is considered an outbreak when:

- Two or more people have the same symptoms after eating the same food
- An investigation is conducted by state and local regulatory authorities
- The outbreak is confirmed by laboratory analysis

CDC Risk Factors

Five Risk Factors for Foodborne Illness

1. Purchasing food from unsafe sources
2. Failing to cook food correctly
3. Holding food at incorrect temperatures
4. Using contaminated equipment
5. Practicing poor personal hygiene

Populations at High Risk for Foodborne Illnesses

These people have a higher risk of getting a foodborne illness:

- Elderly people
- Preschool-age children
- People with compromised immune systems

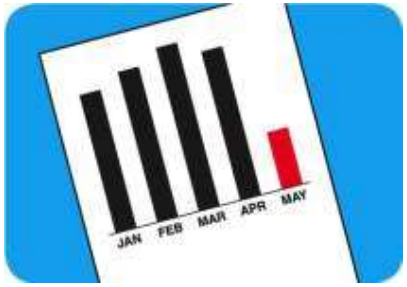
Challenges to Food Safety

Challenges include:

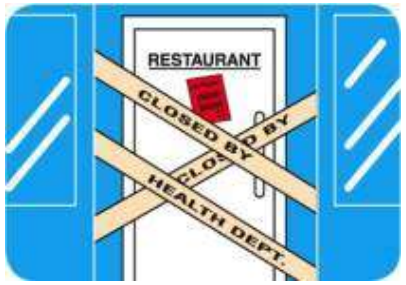
- Time and money
- Language and culture
- Literacy and education
- Pathogens
- Unapproved suppliers
- High-risk customers
- Staff turnover

Costs of Foodborne Illness

Costs of a foodborne illness to an operation:



Loss of customers and sales



Loss of reputation

Negative media exposure

Lowered staff morale

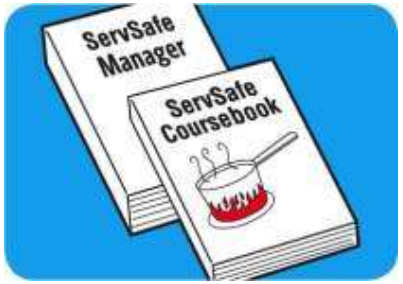
Costs of Foodborne Illness

Costs of a foodborne illness to an operation:

Lawsuits and legal fees

Staff missing work

Increased insurance premiums

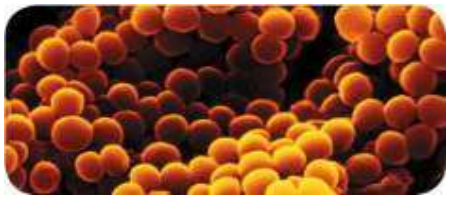


Staff retraining

How Foodborne Illnesses Occur

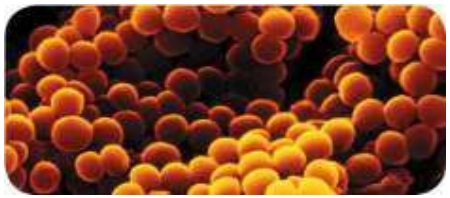
Unsafe food is the result of contamination

- Biological
- Chemical
- Physical



Contaminants

Biological Contaminants



- Bacteria
- Viruses
- Parasites
- Fungi

Biological Contamination

Common Symptoms of Foodborne Illness

- Diarrhea
- Vomiting
- Fever
- Nausea
- Abdominal cramps
- Jaundice (yellowing of skin and eyes)

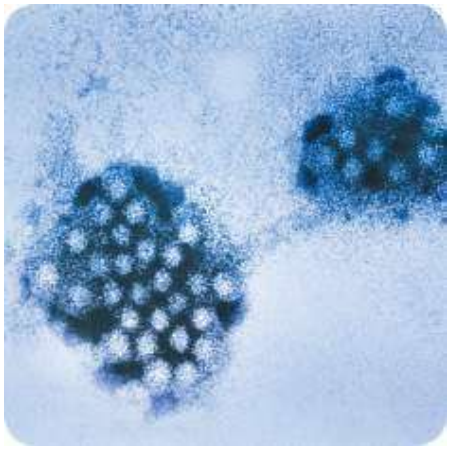
Onset times

- Depend upon the type of foodborne illness
- Can range from 30 minutes to 6 weeks

Viruses: Basic Characteristics

Location

- Carried by human beings and animals.
  - Require a living host to grow
  - Do not grow in food
  - Can be transferred through food and remain infectious in food



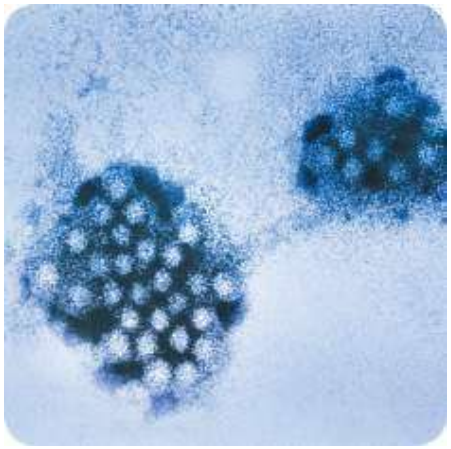
Sources

- Food, water, or any contaminated surface.
- Typically occur through fecal-oral routes.

Viruses: Basic Characteristics

Destruction

- Not destroyed by normal cooking temperatures.
- Good personal hygiene must be practiced when handling food and food-contact surfaces.
- Quick removal and cleanup of vomit is important



Major Viruses That Cause Foodborne Illness

Virus: *Norovirus (NOR-o-VI-rus)*
Source: Human feces

Food Linked with the Virus	Prevention Measures
• Ready-to-eat food • Shellfish from contaminated water	• Exclude staff who have been diagnosed with Norovirus from the operation.
	• Exclude staff who have diarrhea and vomiting from the operation.
	• Wash hands.
	• Avoid bare-hand contact with ready-to-eat food
	• Purchase shellfish from approved, reputable suppliers.

Contaminants

Chemical Contaminants

- Cleaners
- Sanitizers
- Polishes

Contaminants

Physical Hazards

- Metal shavings
- Staples
- bandages
- Glass
- Dirt
- Natural objects (e.g., fish bones in a fillet)

Deliberate Contamination of Food

Groups who may attempt to contaminate food

- Terrorists or activists
- Disgruntled current or former staff
- Vendors
- Competitors

FDA Defense Tool

- ALERT

How Food Handlers Can Contaminate Food

Foodhandlers can contaminate food when they:

- Have a foodborne illness
- Have wounds that contain a pathogen
- Sneeze or cough
- Have contact with a person who is ill
- Touch anything that may contaminate their hands and don't wash them
- Have symptoms such as diarrhea, vomiting, or jaundice—a yellowing of the eyes or skin

How Foodhandlers Can Contaminate Food

Actions That Can Contaminate Food

A. Scratching the scalp

B. Running fingers through hair

C. Wiping or touching the nose

D. Rubbing an ear

E. Touching a pimple or infected wound

F. Wearing a dirty uniform

G. Coughing or sneezing into the hand

H. Spitting in the operation

Common mistakes with hand washing

Food handlers must wash hands *after*:

- Using the restroom
- Handling raw meat, poultry, and seafood (before *and* after)
- Touching the hair, face, or body
- Sneezing, coughing, or using a tissue
- Eating, drinking, smoking, or chewing gum or tobacco
- Handling chemicals that might affect food safety

Common mistakes with hand washing

Food handlers must wash their hands after:
continued

- Taking out garbage
- Clearing tables or busing dirty dishes
- Touching clothing or aprons
- Handling money
- Leaving and returning to the kitchen/prep area.
- Handling service animals or aquatic animals
- Touching anything else that may contaminate hands

Handwashing

How to Wash Hands (Should take at least 20 seconds)

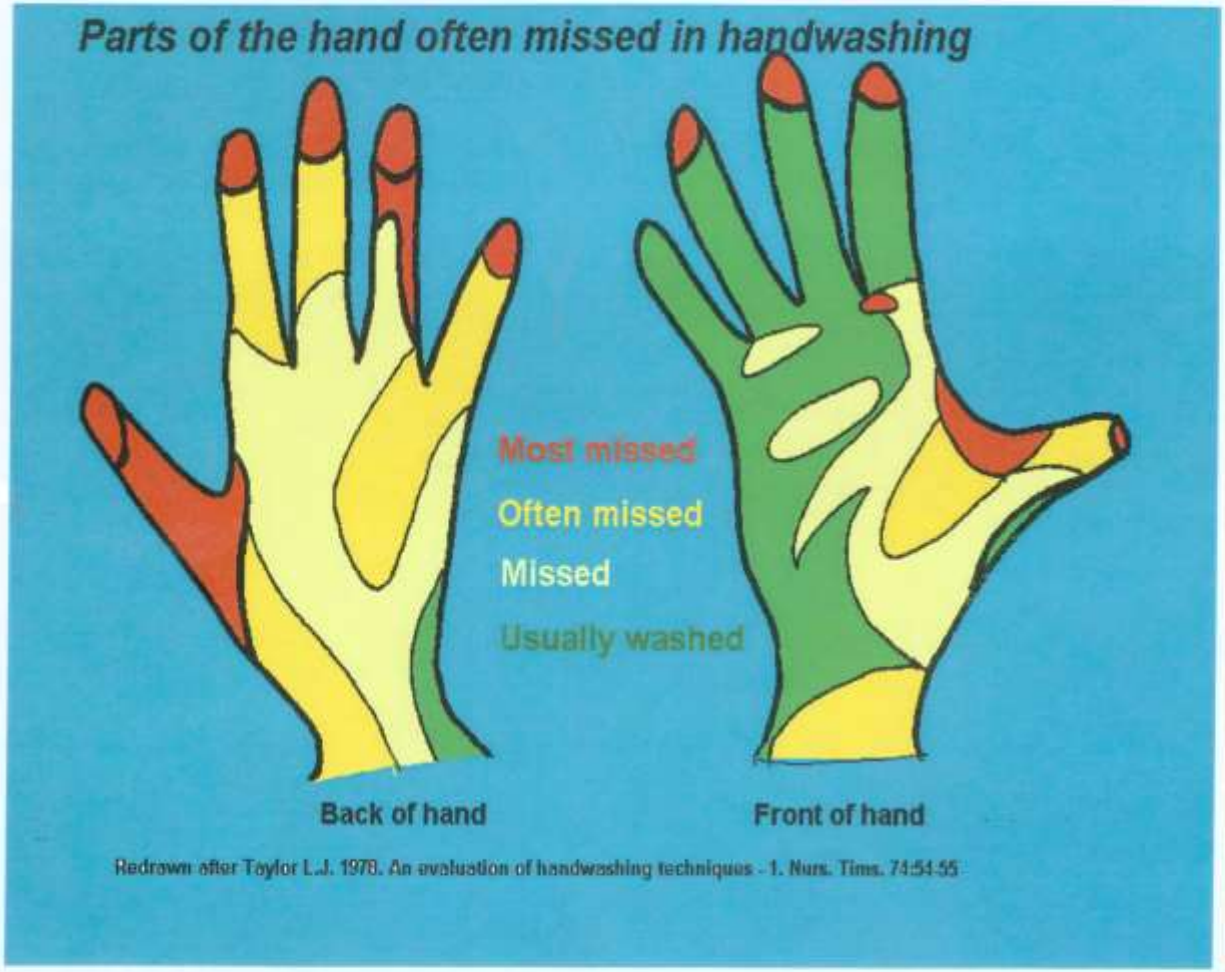
1. Wet hands and arms. Use running water as hot as you can comfortably stand. It should be at least 100˚ F(38˚ C).

2. Apply soap. Apply enough to build up a good lather.

3. Scrub hands and arms vigorously. Scrub them for 10 to 15 seconds. Clean under fingernails and between fingers.

4. Rinse hands and arms thoroughly. Use running warm water.

5. Dry hands and arms. Use a single-use paper towel or hand dryer**.** Consider using a paper towel to turn off the faucet and open the restroom door.



◆The **FINGERTIPS & UNDER NAILS** harbor 80-90 % of the bacteria on your hands that can cause illness.

Hand Antiseptics

- Liquids or gels used to lower the number of pathogens on skin
- Must comply with the CFR and FDA standards
- Should be used only *after* handwashing
- Must ***never*** be used in place of handwashing
- Should be allowed to dry before touching food or equipment

Hand Care

Requirements for Foodhandlers

Keep fingernails short and clean

Do not wear false nails

Do not wear nail polish

Infected Wounds or Cuts

Infected wounds or cuts

- contain pus.
- must be covered to prevent pathogens from contaminating food and food-contact surfaces.

How a wound is covered depends upon where it is located

- Cover wounds on the hand or wrist with an impermeable cover. (i.e. bandage or finger cot) and then a single-use glove.
- Cover wounds on the arm with an impermeable cover, such as a bandage.
- Cover wounds on other parts of the body with a dry, tight-fitting bandage.

Single-Use Gloves

Single-use gloves:

- Should be used when handling ready-to-eat food
  - Except when washing produce
  - Except when handling ready-to-eat ingredients for a dish that will be cooked
- Must *never* be used in place of handwashing
- Must never be washed and reused
- Must fit properly

Single-Use Gloves

How to Use Gloves:

- Wash and dry hands before putting gloves on
- Select the correct glove size
- Hold gloves by the edge when putting them on.
- Once gloves are on, check for rips or tears
- **NEVER** blow into gloves
- **NEVER** roll gloves to make them easier to put on

Single-Use Gloves

When to Change Gloves

- As soon as they become dirty or torn
- Before beginning a different task
- After an interruption, such as taking a phone call
- After handling raw meat, seafood, or poultry and before handling ready-to-eat food

Bare-Hand Contact with Ready-to-Eat Food

Bare hand contact with ready-to-eat food must be avoided.

- Some jurisdictions allow it but require:
  - Policies on employee health
  - Training in handwashing and personal hygiene practices
- **NEVER** handle ready-to-eat food with bare hands when you primarily serve a high-risk population

Work Attire

Food handlers must:

- Wear a clean hat or other hair restraint
- Wear clean clothing daily
- Remove aprons when leaving food-preparation areas
- Remove jewelry from hands and arms before prepping food or when working around prep areas

Eating, Drinking, Smoking, and Chewing Gum or Tobacco

Foodhandlers must not:

- Eat, drink, smoke, or chew gum or tobacco

When:

- Prepping or serving food
- Working in prep areas
- Working in areas used to clean utensils and equipment

Handling Staff Illnesses

IF:

The food handler has a sore throat with a fever.

THEN:

- **Restrict** the food handler from working with or around food.
- **Exclude** the food handler from the operation if you primarily serve a high-risk population.
- A written release from a medical practitioner is required before returning to work

Handling Staff Illnesses

IF:

The food handler has at least one of these symptoms:

- Vomiting
- Diarrhea

THEN:

Exclude the food handler from the operation

- Before returning to work, food handlers who vomited or had diarrhea must meet one of these requirements:
- Have had no symptoms for at least 24 hours
- Have a written release from a medical practitioner

Handling Staff Illnesses

IF:

The food handler has Jaundice

THEN:

- Food handlers with jaundice must be reported to the regulatory authority
- **Exclude** food handlers with jaundice for less than 7 days from the operation.
- Food handlers must have a written release from a medical practitioner and approval from the regulatory authority before returning to work.

Handling Staff Illnesses

IF:

The food handler has been diagnosed with a foodborne illness caused by one of these pathogens and has symptoms.

- Hepatitis A
- Salmonella Typhi
- Enterohemorrhagic and shiga toxin-producing E. coli
- Norovirus
- Shigella spp.

THEN:

- **Exclude** the food handler from the operation.
- Work with the food handler's medical practitioner and/or the local regulatory authority to decide when the person can go back to work.

Food Allergens

Food Allergen

- A protein in a food or ingredient some people are sensitive to
- These proteins occur naturally
- When an enough of an allergen is eaten, an allergic reaction can occur

Food Allergens

Allergy Symptoms

- Nausea
- Wheezing or shortness of breath
- Hives or itchy rashes
- Swelling of the body, including the face, eyes, hands, or feet
- Vomiting and/or diarrhea
- Abdominal pain

Allergic reactions

- Symptoms can become serious quickly
- A severe reaction, called anaphylaxis, can lead to death

Food Allergens

Common Food Allergens

- Milk
- Eggs
- Fish
- Shellfish, including lobster, shrimp, and crab
- Wheat
- Soy
- Peanuts
- Tree nuts, such as almonds, walnuts, and pecans

Prevent Allergic Reactions

Service Staff

- Describe how the dish is prepared
- Identify ingredients
- Suggest simple menu items
- Hand-deliver food to customers with food allergies

Prevent Allergic Reactions

Kitchen Staff

- Avoid cross-contact
  - **DO NOT** cook different types of food in the same fryer oil
  - **DO NOT** put food on surfaces that have touched allergens

Prevent Allergic Reactions

Kitchen Staff

- Avoid cross-contact
  - Wash, rinse, and sanitize cookware, utensils, and equipment after handling an allergen
  - Wash your hands and change gloves before prepping food
  - Prep food for customers with food allergies in a separate area from other food
  - Label food packaged onsite for retail use

Avoid Cross-Contact

- Wash, rinse, and sanitize cookware, utensils, and equipment after handling a food allergen.
- Wash hands and change gloves before prepping food
- Use separate fryers and cooking oils when frying food for customers with food allergies
- Prep food for customers with food allergies in a separate area from other food
- Label food packaged on site for retail sale. Name all major allergens on the label and follow any additional labeling requirements

Storage

Preventing Cross Contamination:
continued

- Keep all storage areas clean and dry
- Clean up spills and leaks right away
- Clean dollies, carts, transporters, and trays often
- Store food in containers that have been cleaned and sanitized
- Store dirty linens in clean nonabsorbent containers or washable laundry bags.

Storage

Preventing Cross Contamination:
continued

- Store food items in the following top-to-bottom order:
  - A. Ready-to-eat food
  - B. Seafood
  - C. Whole cuts of beef and pork
  - D. Ground meat and ground fish
  - E. Whole and ground poultry
- This storage order is based on the minimum internal cooking temperature of each food.

Service Staff Guidelines for Serving Food

Handling Dishes and Glassware

Right

Wrong

Re-serving Food

Never re-serve:

- Food returned by one customer to another customer
- Uncovered condiments
- Uneaten bread
- Plate garnishes

Generally, only unopened, prepackaged food in good condition can be re-served:

- Condiment packets
- Wrapped crackers or breadsticks

Managing Risk Factors

Managers must focus on the following:

- Creating personal hygiene policies
- Training food handlers on personal hygiene policies and retraining them regularly
- Modeling correct behavior at all times
- Supervising food safety practices
- Revising personal hygiene policies when laws or science change

Handwashing

-FDA study also found…

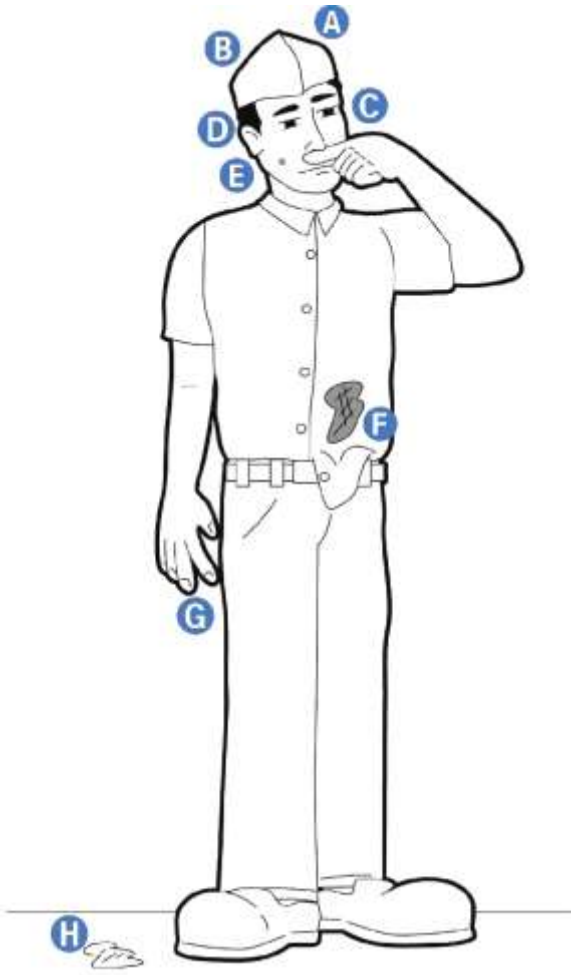
71% Women wash hands after using the restroom

38% Men wash hands after using the restroom

8% of High school boys wash hands

Something to think about the next time you

shake hands!



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Cleaners

Cleaners must be:

- Stable and noncorrosive
- Safe to use

When using them:

- Follow manufacturers' instructions
- Do not use one type of detergent in place of another unless the intended use is the same

Sanitizing

Surfaces can be sanitized using:

- Heat
  - The water must be at least 171F° (77° C)
  - Immerse the item for 30 seconds
- Chemicals
  - Chlorine
  - Iodine
  - Quats

Sanitizing

Chemical Sanitizing:

- Food-contact surfaces can be sanitized by either:
  - Soaking them in a sanitizing solution
  - Rinsing, swabbing, or spraying them with a sanitizing solution
- In some cases a detergent-sanitizer blend can be used:
  - Use it once to clean
  - Use it a second time to sanitize

Sanitizer Effectiveness

Concentration

- Sanitizers should be mixed with water to the right concentration
  - **Not enough sanitizer:**
    May make the solution weak and useless
  - **Too much sanitizer:**
    May make the solution too strong, unsafe, and corrode metal

Sanitizer Effectiveness

Concentration *continued*

- Check concentration with a test kit
  - Make sure it is designed for the sanitizer used
  - Check the concentration often
- Change the solution when:
  - It's dirty
  - The concentration is too low

Sanitizer Effectiveness

Temperature

- Follow manufacturer's recommendations for the correct temperature

Contact Time

- The sanitizer must make contact with the object for a specific amount of time
- Minimum times differ for each sanitizer

Sanitizer Effectiveness

Water Hardness and pH

- Find out what your water hardness and pH is from your municipality
- Work with your supplier to identify the correct amount of sanitizer to use

Guidelines for the Effective Use of Sanitizers

	Chlorine	
Water temperature	≥100°F (38°C)	≥75°F (24°C)
Water pH	≤10	≤8
Water hardness	As per manufacturer's recommendations	
Sanitizer concentration range	50–99 ppm	50–99 ppm
Sanitizer contact time	≥7 sec	≥7 sec

Guidelines for the Effective Use of Sanitizers

	Iodine	Quats
Water temperature	68°F (20°C)	75°F (24°C)
Water pH	≤5 or as per manufacturer's recommendations	As per manufacturer's recommendations
Water hardness	As per manufacturer's recommendations	≤500 ppm or as per manufacturer's recommendations
Sanitizer concentration range	12.5–25 ppm	As per manufacturer's recommendations
Sanitizer contact time	≥30 sec	≥30 sec

How and When to Clean and Sanitize

How to clean and sanitize

1. Scrape or remove food bits from the surface.

2. Wash the surface.

3. Rinse the surface.

4. Sanitize the surface.

5. Allow the surface to air-dry

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How and When to Clean and Sanitize

Food-contact surfaces must be cleaned and sanitized:

- After they are used
- Before working with a different type of food
- Any time a task was interrupted and the items may have been contaminated
- After four hours if the items are in constant use

How and When to Clean and Sanitize

Cleaning and Sanitizing Stationary Equipment:

- Unplug the equipment
- Take the removable parts off the equipment
  - Wash, rinse, and sanitize them by hand or run the parts through a dishwasher if allowed
- Scrape or remove food from the equipment surfaces
- Wash the equipment surfaces

How and When to Clean and Sanitize

Cleaning and Sanitizing Stationary Equipment:
continued

- Rinse the equipment surfaces with clean water
- Sanitize the equipment surfaces
  - Make sure the sanitizer comes in contact with each surface
- Allow all surfaces to air-dry.
- Put the unit back together

Machine Dishwashing

High-Temperature Machines

- Final sanitizing rinse must be at least 180° F (82° C)
  - 165° F (74° C) for stationary rack, single-temperature machines

Chemical-Sanitizing Machines

- Clean and sanitize at much lower temperatures
- Follow the temperature guidelines provided by the manufacturer

Dishwasher Operation

Guidelines

- Clean the machine as often as needed
- Scrape, rinse, or soak items before washing
- Use the correct dish racks
- **Never** overload dish racks
- Air-dry all items
- Check the machine's water temperature and pressure

Manual Dishwashing

Setting Up a Three-Compartment Sink

- Clean and sanitize each sink and drain board.
- Fill the first sink with detergent and water at least 110° F (43° C).
- Fill the second sink with clean water.
- Fill the third sink with water and sanitizer to the correct concentration.
- Provide a clock with a second hand to let food handlers know how long items have been in the sanitizer.

Three-Compartment Sinks

Steps for Cleaning and Sanitizing

1. Rinse, scrape, or soak items before washing them.

2. Wash items in the first sink.

3. Rinse items in the second sink.

4. Sanitize items in the third sink.

5. Air-dry items on a clean and sanitized surface.

Storing Tableware and Equipment

When storing clean and sanitized tableware and equipment:

- Store them at least 6" (15 cm) off the floor
- Clean and sanitize drawers and shelves before items are stored
- Store glasses and cups upside down on a clean and sanitized shelf or rack

Storing Tableware and Equipment

When storing clean and sanitized tableware and equipment: *continued*

- Store flatware and utensils with handles up
- Cover the food-contact surfaces of stationary equipment until ready for use
- Clean and sanitize trays and carts used to carry clean tableware and utensils

Cleaning and Sanitizing in the Operation

When cleaning the premises:

- Clean nonfood-contact surfaces regularly
  - Includes floors, ceilings, walls, equipment exteriors, etc.
  - Prevents dust, dirt, food residue and other debris from building up.

Cleaning and Sanitizing in the Operation

Cleaning up after people who get sick:

- Diarrhea and vomit in the operation, must be cleaned up the correct way.
  - It can carry Norovirus, which is highly contagious.
- Correct cleanup can prevent food from becoming contaminated and keep others from getting sick

Cleaning and Sanitizing in the Operation

Consider the following when developing a plan for cleaning up vomit and diarrhea:

- How you will contain liquid and airborne substances, and remove them from the operation
- How you will clean, sanitize, and disinfect surfaces
- When to throw away food that may have been contaminated
- What equipment is needed to clean up these substances, and how it will be cleaned and disinfected after use
- When a food handler must wear personal protective equipment

Cleaning and Sanitizing in the Operation

Develop a plan for cleaning up vomit and diarrhea: *continued*

- How staff will be notified of the correct procedures for containing, cleaning, and disinfecting these substances
- How to segregate contaminated areas from other areas
- When staff must be restricted from working with or around food or excluded from working in the operation
- How sick customers will be quickly removed from the operation
- How the cleaning plan will be implemented

Cleaning and Sanitizing in the Operation

Storing Cleaning Tools and Chemicals

- Place in a separate area away from food and prep areas

The storage area should have:

- Good lighting so chemicals can be easily seen
- Utility sink for filling buckets and washing cleaning tools
- Floor drain for dumping dirty water
- Hooks for hanging cleaning tools

Cleaning and Sanitizing in the Operation

Never:

- Dump mop water or other liquid waste into toilets or urinals
- Clean tools in sinks used for:
  - Handwashing
  - Food prep
  - Dishwashing

Using Foodservice Chemicals

Chemicals

- Only purchase those approved for use in foodservice operations
- Store them in their original containers away from food and food-prep areas
- If transferring them to a new container, label it with the common name of the chemical

Using Foodservice Chemicals

Chemicals *continued*

- Keep MSDS for each chemical
- When throwing chemicals out, follow:
  - Instructions on the label
  - Local regulatory requirements

Developing a Cleaning Program

To develop an effective cleaning program:

- Create a master cleaning schedule
- Train your employees to follow it
- Monitor the program to make sure it works

Developing a Cleaning Program

To create a master cleaning schedule, identify:

- What should be cleaned
- Who should clean it
- When it should be cleaned
- How it should be cleaned

Developing a Cleaning Program

Monitoring the cleaning program:

- Supervise daily cleaning routines
- Check cleaning tasks against the master schedule every day
- Change the master schedule as needed
- Ask staff for input on the program