Note: Review of these slides does not replace the requirement to attend an actual in-person class or an approved online food handler permit training course. These slides are provided for review purposes only.

Food Handler Class

Slide Show Presentation

- This presentation is a visual of the slide show that is presented during the class. <u>This is not an all encompassing training.</u>
- For a complete training, sign up for a class taught at our office: 22 South State Street, Clearfield, Utah
- Call to reserve a seat: 801-525-5120
- English:
  - Tuesdays at 9:00 am
  - Thursdays at 3:00 pm
- Spanish (Español):
  - Fridays (Viernes) at 9:00 am

R392-103.6(8)

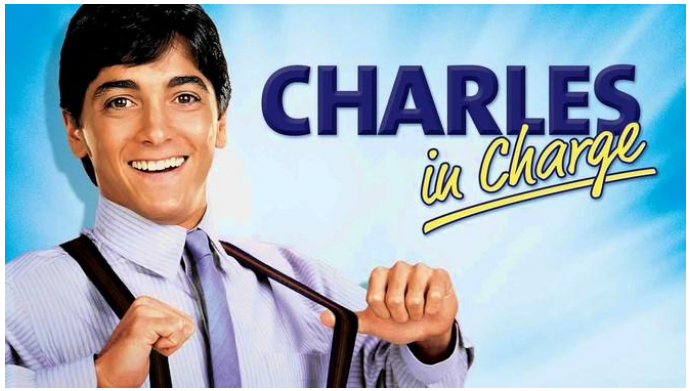
- …***downloading exams onto a flash drive or other portable electronic devices or distribution of any exam by the individual in any way to other persons is strictly prohibited….***
- ***…that note taking, use of a cell phone or other recording device, talking to or receiving aid to answer questions from another person during the exam process is strictly prohibited.***

Food Handler Permit

- Provide proper training to allow food handlers to have the ability to prevent Food-Borne Illnesses
- Food handlers must have valid food handler permit within 14 days of hire
- Must be renewed every **three** years **before** expiration date
- Davis County Residents – Receive permit
- Non-Davis Residents – Receive certificate

Permits

- Food Service Establishments are required to have a permit to operate
  - Separate from the Food Handler Permit
- Someone must be in charge of facility at all times
- Certified Food Safety Manager



Food Handling

It is more than cooking:

- Serving
- Dispensing
- Storing
- Displaying
- Dividing
- Preparing snacks
- Etc

•Managers, cooks, and other employees are all responsible to serve safe food

Food-borne Illness (FBI)

- Illness caused by ingestion of contaminated food or beverage (CDC 2011) – National data
  - 48 million illnesses
  - 128,000 hospitalized
  - 3,000 deaths
  - $7.7-$23 billion annual cost
  - $77,000 average cost per incident
    - http://www.cdc.gov/features/dsfoodborneestimates/

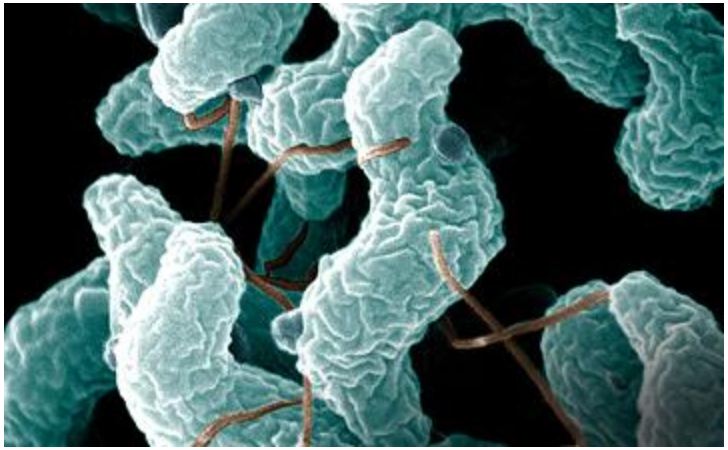
Highly Susceptible Populations to Food-borne Illnesses

- Very old
- Very young
- Weak Immune System
- Pregnant Women

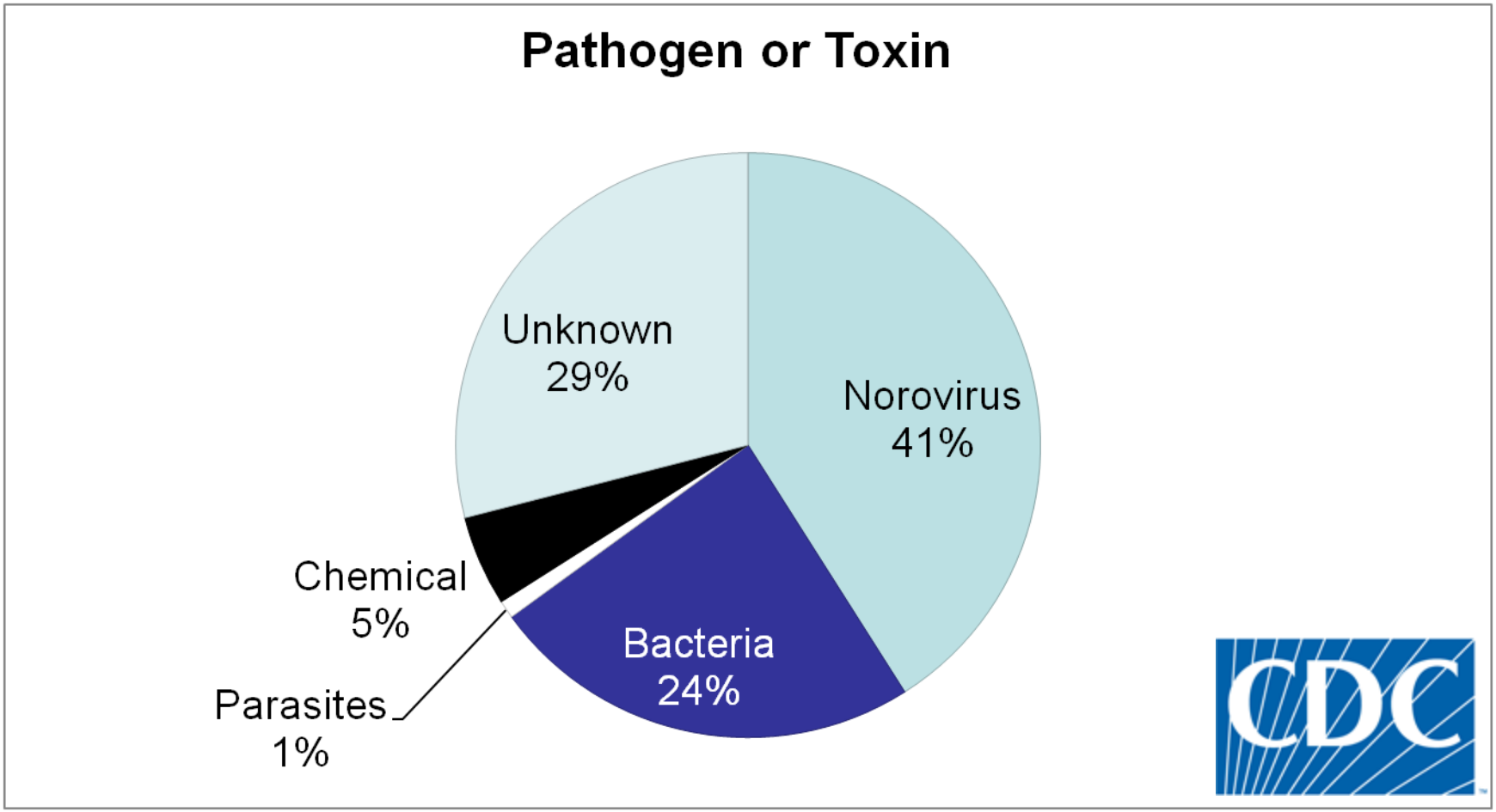
Extra care must be taken when preparing food in settings such as hospitals, child care facilities and retirement homes

What Causes Food-borne Illness?

- Bacteria
- Viruses
- Parasites
- Chemicals



Etiology of 1247 Food-borne Outbreaks Reported to CDC in 2006



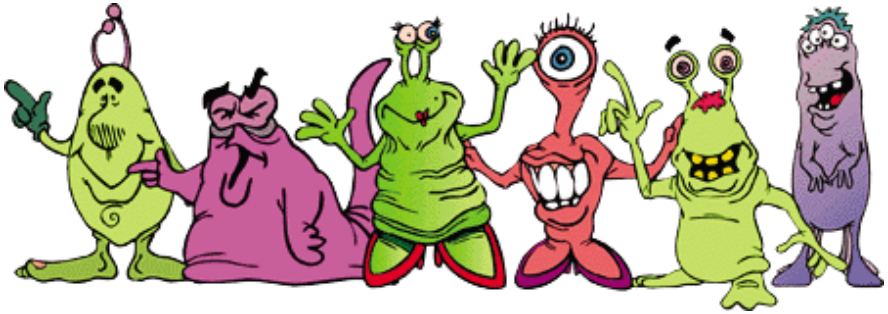
You Can't…

- See
- Smell
- Taste

Disease-Causing Bacteria, Viruses or Parasites

Disease-Causing Pathogens May Come From

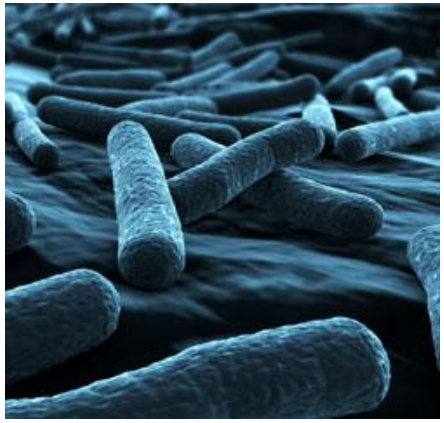
- Raw foods
- Soil, water, or air
- Food handlers
  - Nose, hands, sores, cuts, fecal material, etc.
- Insects and rodents



Food-borne Illness

Food-borne Infections

- Long incubation
- Ingest live pathogen



Food-borne Intoxications

- Short incubation
- Ingest toxin

Bacteria

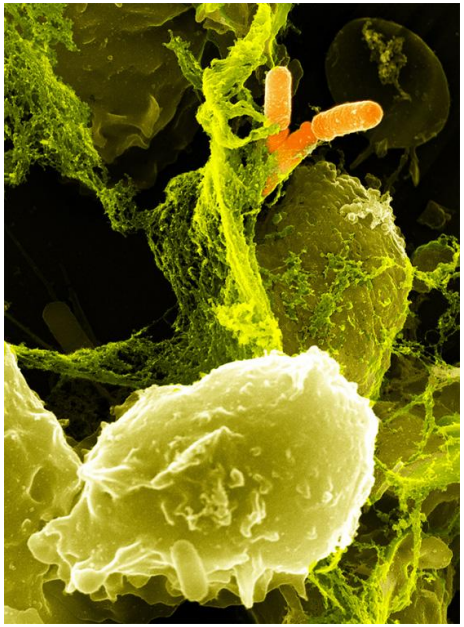
Listeria

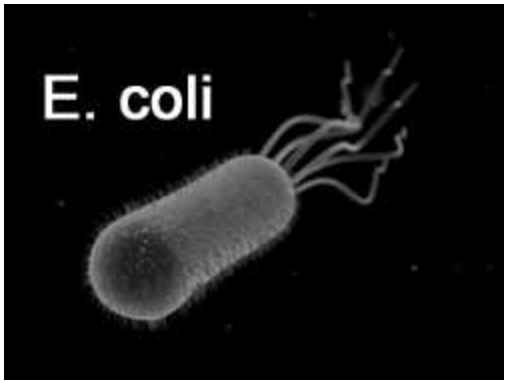
Salmonella

Shigella

E-coli

Campylobacter

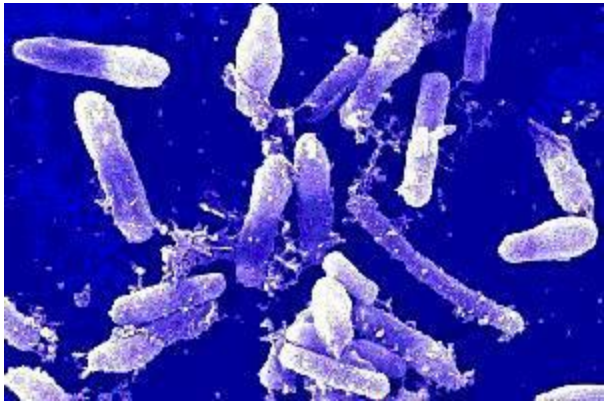




Bacteria

Even if killed during cooking, some may leave spores that will grow and produce more bacteria

- Bacillus Cereus
- Clostridium Perfringens
- Clostridium Botulinum



Bacteria - Toxin Formers

- Produce toxins that can make people sick

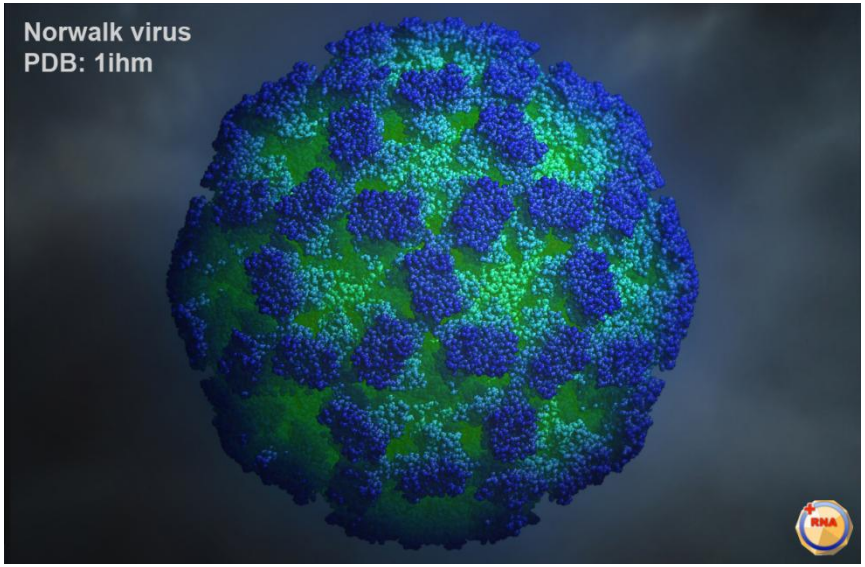
- Staph
- Bacillus Cereus
- Clostridium Perfringens
- Clostridium Botulinum

Viruses

Hepatitis A

Norovirus

Rotovirus



Can be transferred on surfaces or foods

Norwalk Virus - Norovirus

Foods Associated

- Anything handled by an infected worker

Transmission

- Human feces (fecal-oral route)
- 18 viral particles
- Up to 100 billion per gram

Characteristics

- Vomiting, diarrhea
- Onset: 12-48 hours
- Most common cause of food-borne illness

Prevention

- Wash hands, eliminate bare-hand contact
- Exclude ill employees

Parasites

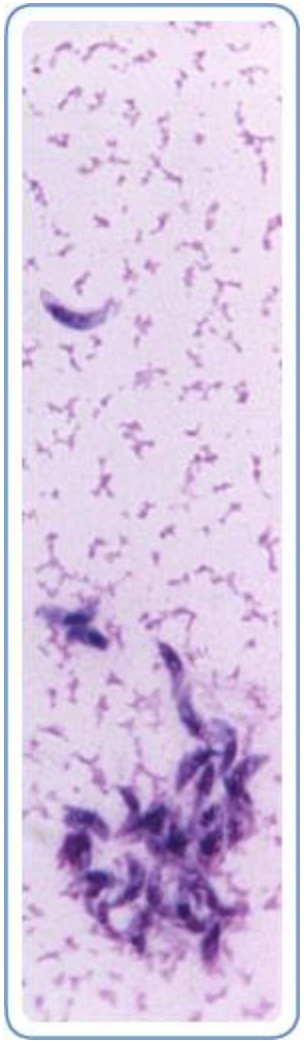
Giardia

Cryptosporidium

Anisakiasis

Trichinella

Toxoplasmosis



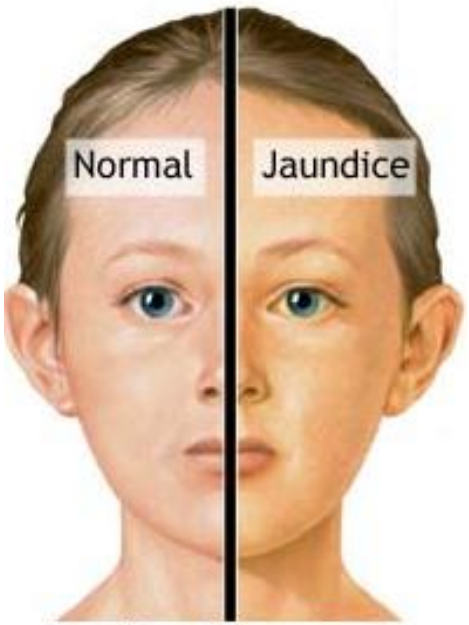
Symptoms Associated with FBI

- Abdominal/stomach cramps, vomiting, diarrhea
- Fever, headache and blurred vision
- Paralysis and death

Sick at Work?

*Big 5 Symptoms:

- Diarrhea
- Vomiting
- Jaundice
- Sore throat & fever
- Lesions or boils



Jaundice is a symptom where the skin and eyes become yellow

*Manager must be informed if you have these symptoms

Reportable Diseases

*Confirmed Big 5 Diseases:

- Salmonella Typhi
- Norovirus
- Shigella
- E. Coli
- Hepatitis A

*Must be reported to manager and Health Department

Big 5*

- **Salmonella Typhi**
  - Onset time after ingesting: 6-48 hours
  - Symptoms: Diarrhea, fever, abdominal cramps, vomiting
  - Duration: 4-7 days
  - Food Sources: Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables

*FDA 2013 - http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm

Big 5*

- **Norovirus**
  - Onset time after ingesting: 12-48 hrs
  - Symptoms: Nausea, vomiting, abdominal cramping, diarrhea, fever, headache
    - Diarrhea is more prevalent in adults, vomiting more common in children
  - Duration: 12-60 hrs
  - Food sources: Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters

*FDA 2013 - http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm

Big 5*

- **Shigella**
  - Onset time after ingesting: 4-7 days
  - Symptoms: Abdominal cramps, fever, and diarrhea. Stools may contain blood and mucus
  - Duration: 24-48 hrs
  - Food Sources: Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler

*FDA 2013 - http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm

Big 5*

- **E. Coli**
  - Onset time after ingesting: 1-3 days
  - Symptoms: Watery diarrhea, abdominal cramps, some vomiting
  - Duration: 3-7 or more days
  - Food sources: Water or food contaminated with human feces

*FDA 2013 - http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm

Big 5*

- **Hepatitis A**
  - Onset time after ingestion: 28 days average (15-50 days)
  - Symptoms: Diarrhea, dark urine, jaundice, and flu-like symptoms, i.e., fever, headache, nausea, and abdominal pain
  - Duration: Variable, 2 weeks-3 months
  - Food Sources: Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters

*FDA 2013 - http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm

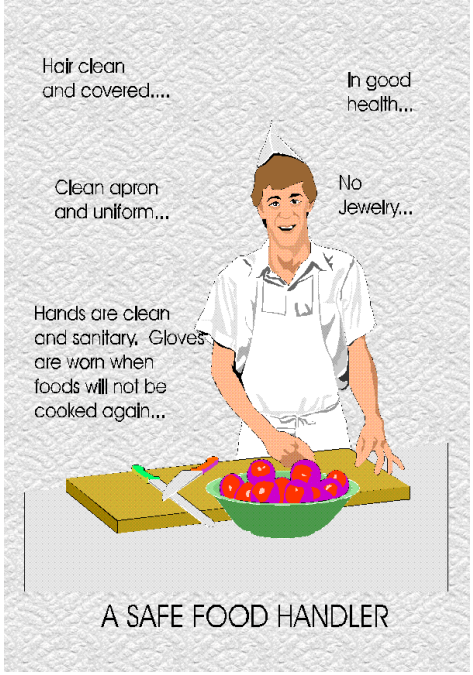
Sick at Work?

- A food handler should not work in food preparation areas if they have
  - A Cold
  - Any Respiratory Infection
- http://igotsick.health.utah.gov/

Restriction

- Individuals in contact with a family member diagnosed with one of the "Big 5 Diseases"
- No direct handling of food

Practice Good Hygiene



- Ill employees may cause food-borne illnesses
- Wear hair restraints (hair net or clean baseball cap) and clean clothing
- Wash hands **only** in the hand sink

Practice Good Hygiene

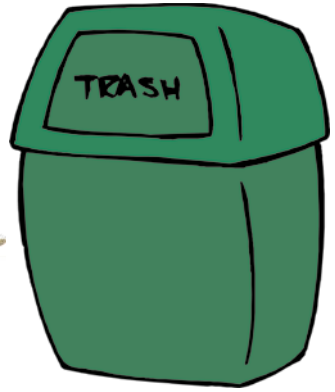
- Cuts, burn, boils, and infected wounds should be:
  - Covered with an impermeable cover (bandage) and
  - A single-use glove worn over the impermeable cover

Practice Good Hygiene

- No jewelry
  - Except a plain ring – wedding band
- Clean and trim fingernails
- Nail polish or artificial fingernails with gloves only

Hand Washing Is Important!

- Prevents transfer of bacteria and viruses to food
- Keep hand sinks clean and useable – only for hands
- Hand sanitizer can be used only after hands have been thoroughly washed and dried
- Everyone should wash hands after:



Wash Your Hands!

Wet hands with warm water

Apply soap

Wash Your Hands!

Rub hands and arms vigorously for at least 20 seconds

Rinse completely

Wash Your Hands!

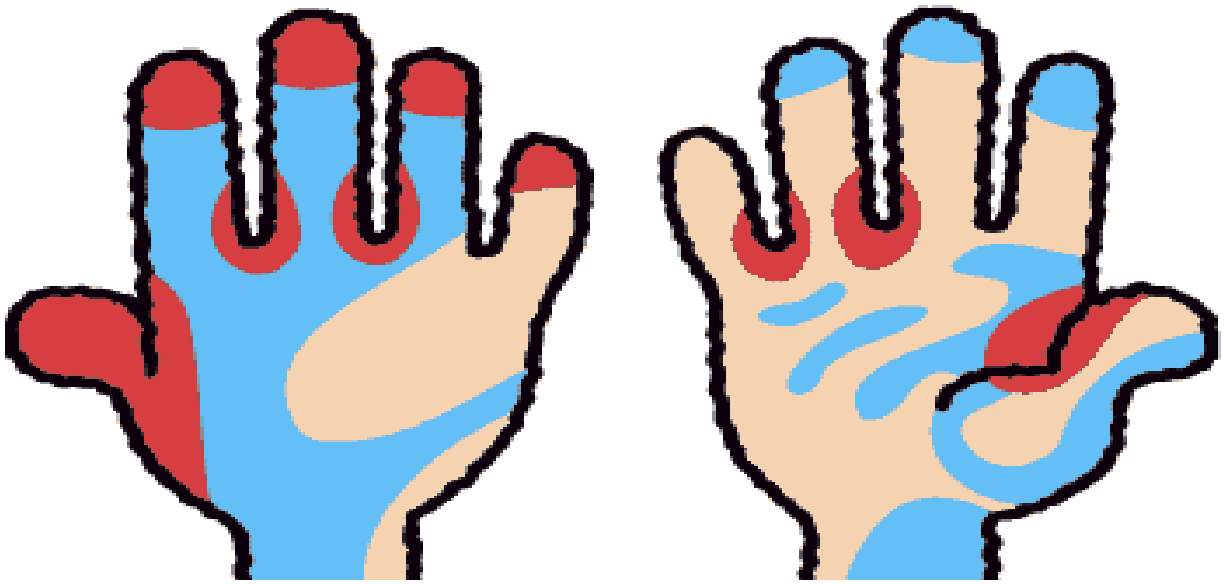
Dry hands and arms with single-use towels.

Use towel to shut off water and open the bathroom door.

Double Hand Wash

- After using a restroom, all employees should:
  - Wash their hands in the restroom
  - Wash their hands before handling food

Missed a spot?



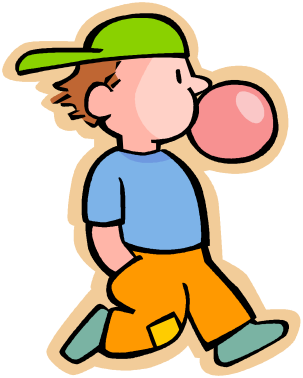
Areas most frequently missed during hand washing

Less frequently missed

Not missed

(Adapted from Taylor L (1978), An evaluation of hand washing techniques - I, Nursing Times, 12 January, pp 54-55)

Hand Contamination Occurs



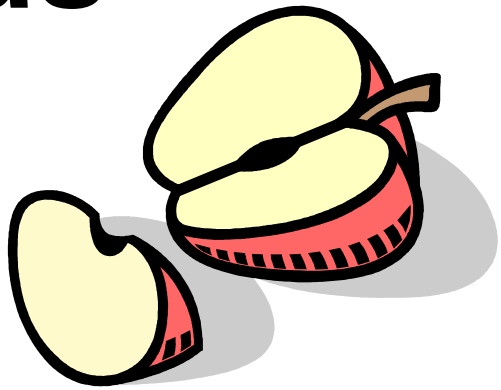
AFTER:

- Using the bathroom
- Touching head, hair, mouth, wounds or sores
- Sneezing, blowing nose
- Breaks, smoking, eating, drinking
- Touching raw meats, poultry or fish

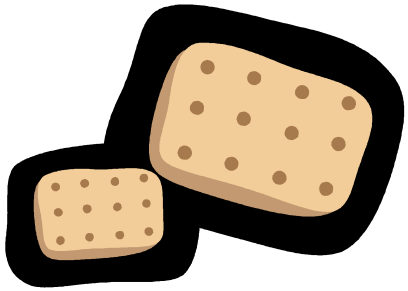
Hand Contamination Occurs… Continued

- Touching trash, floors, soiled linens
- Touching dirty dishes, equipment, and utensils
- Using chemicals
- Food preparation

Ready-To-Eat-Foods



- Foods that are already cooked
- Fresh produce – lettuce, salad, cut fruits and vegetables
- Sandwich toppings
- Breads, pastries
- Crackers, cookies, pretzels



No Bare-Hand Contact with Ready-To-Eat food

Viruses and parasites are **NOT** easily washed from the hands.

Exception: Washing fruits and vegetables in accordance to the law

Minimize Bare-Hand Contact

- Deli tissues
- Spatulas
- Tongs
- Forks
- Dispensing equipment
- Ice scoops
- Single-use gloves

Handling Cups & Utensils

- Never handle the mouth surface of eating utensils
- Never handle the rim of cups
- Handle plates from the bottom
- Store away from dirty dishes

Eating and Drinking

- Keep snacks, drinks, and lunches away from food preparation areas
  - All personal beverage containers must have a cover and a straw or handle

Tobacco Use

- It is permissible to smoke outdoors at a minimum of **25 feet** from entrances, exits, and open windows
  - Follow specific company policies
  - Includes E-cigarettes

- "No Smoking" signs at all entrances
  - Cigarette smoke significantly increases the probability of long term health problems, including cancer

Cross-Contamination

Transfer of harmful substances to food from:

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- Equipment
- Utensils
- Hands
  - Gloves
- Other foods
  - Example: raw meat and vegetables on cutting board
  - Example: reusing mixing bowl without washing and sanitizing

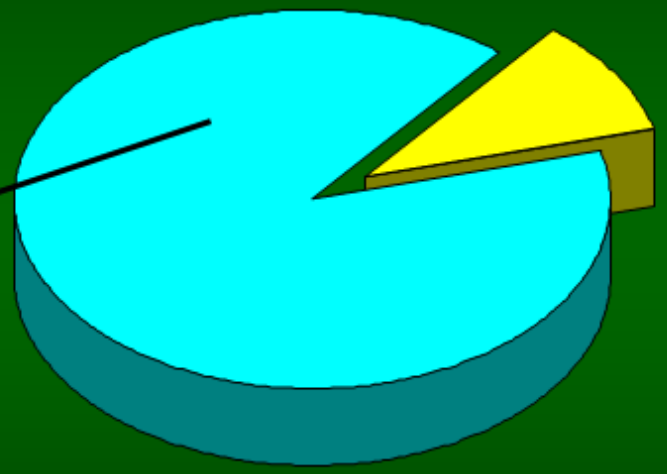
Food Allergies

Major Food Allergens

- Eight Most Common
- Others

90% of Food Allergens

Peanuts
Tree Nuts
Milk
Egg
Soybeans
Fish
Crustacean Shellfish
Wheat



Source: FDA

Food Allergies

Prevalence of True Food Allergies

Infants/young children 6-8%

Adults 2-4%

Estimates:

- 11 million Americans with food allergies
- 150-200 deaths per year in U.S.
- 90% of deaths caused by peanuts & tree nuts

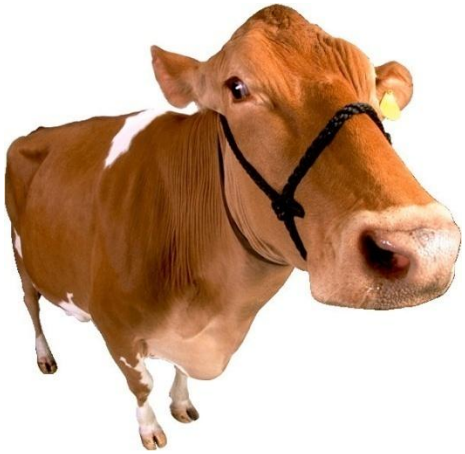
Source: FDA

KEEP FOOD SAFE

- Look for expiration dates on all packaged food
- Buy only pasteurized juice & milk
- Only re-serve individually packaged items (e.g. crackers)
  - Food like chips and salsa, baked potatoes, and uneaten shrimp **cannot** be re-served

Restricted Foods for Highly Susceptible Populations

- Unpasteurized milk or juice
- Raw or undercooked meats
- Foods with uncooked or undercooked shell eggs:
  - Homemade ice cream
  - Cookie dough



Receiving Food

- All foods must come from an approved (commercial) source
- Inspect all incoming food for defects
  - Dented, bulging, rusted or damaged cans must be set aside and either discarded or returned to vendor
- Ensure Potentially Hazardous Food (TCS):
  - Cool foods at 41°F or below
  - Raw eggs at 45°F or below
  - Hot foods at 135°F or above

Approved Food Sources

- Must comply with the law
- All packaged food must be labeled
- DO NOT serve food prepared at home (unless you are an in-home provider)

Potentially Hazardous Food (PHF) Temperature Controls for Safety (TCS)

Any food capable of supporting the rapid growth of germs and require temperature controls

Meat/meat products
Eggs
Dairy

Baked potatoes
Rice
Cooked/chopped produce
Cooked noodles

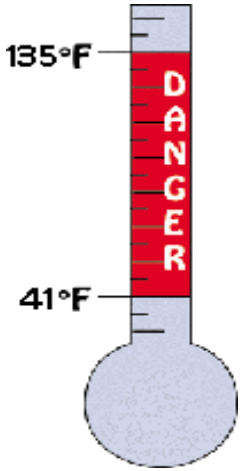
Sprouts
Garlic-in-oil
Melons

Hold Potentially Hazardous Foods at Proper Temperatures

Hot foods 135ºF or higher

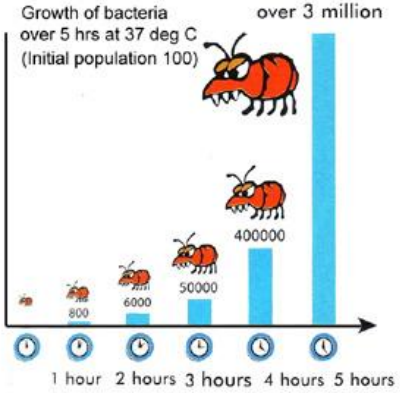
Cold foods 41ºF or lower

Conditions for Germ Growth



- Bacteria require food, moisture and the danger zone temperature for growth
- The DANGER ZONE for foods marked as **PHF** and **TCS** is **41ºF to 135ºF**

- **Time as a public health control:**
  -Time in the danger zone **must not exceed 4 hours** including:
    - Preparing, cooling, and reheating
  - Otherwise, food **cannot** be served
  - Eating food that is not properly cooled/refrigerated or heated/reheated can cause people to become sick or even die



Critical Temperatures

- Cook poultry & stuffed meats to **165ºF**
- Cook eggs, ground beef & ground pork to **155ºF**
- Cook eggs, fish, steak & pork products to **145ºF**
- Reheat leftover foods to **165ºF** within 2 hours

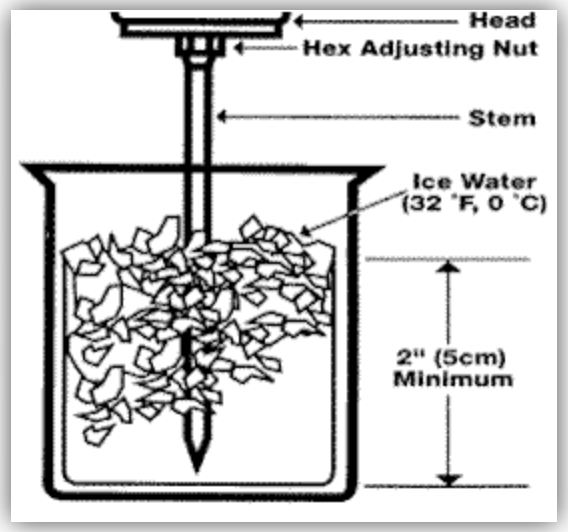
Maintain temperatures for 15 seconds

Whole Meat Roasts

Temperature °C (°F)	Time in Minutes	Temperature °C (°F)	Time in Seconds
54.4 (130)	112	63.9 (147)	134
55.0 (131)	89	65.0 (149)	85
56.1 (133)	56	66.1 (151)	54
57.2 (135)	36	67.2 (153)	34
57.8 (136)	28	68.3 (155)	22
58.9 (138)	18	69.4 (157)	14
60.0 (140)	12	70.0 (158)	0
61.1 (142)	8		
62.2 (144)	5		
62.8 (145)	4		

- Lower cook temperatures require longer cooking times
- Must be held at the given temperature for the stated amount of time

Monitor Potentially Hazardous Food Temperatures



Calibrate thermometers each day!

Before checking temperature of food – wash and sanitize the thermometer

Date and Time Marking

- Ready-to-eat PHF/TCS foods
- After opening the original container
- If prepared onsite & held in fridge for more than 24 hours
- Must maintain cold holding temperature 41°F

Must use or discard within 7 days; cannot exceed manufacturer's use by date

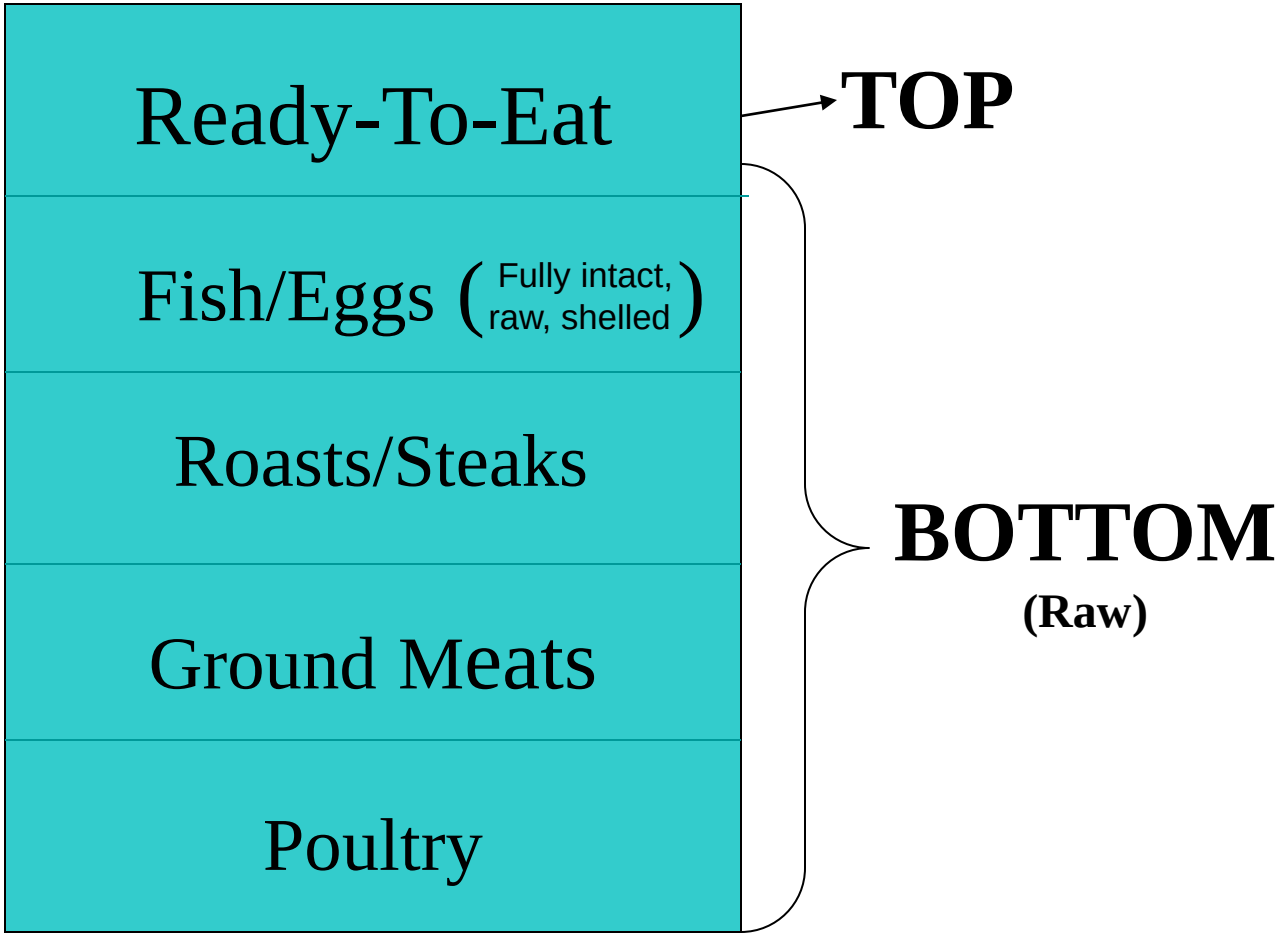
Food and Equipment Storage

- Clean, dry location
- Protect from contamination
- Store items 6” above floor
- Food must be covered or stored in a closed container
- Rotated first-in first-out

Refrigerator Storage

Refrigerator Temperature: Must be at 41°F or cooler

Refrigerators cool food better if air is allowed to flow freely around the food



What is the reason foods are stored in this order?

Freezer Storage

- Separate raw meats from ready-to-eat foods in the freezer
- Frozen foods must stay frozen (below 32°F)

Four Ways to Thaw Food Safely

Refrigerator

Cold, running water (70°F or less)

Cooking process

Microwave

Never Thaw Food at Room Temperature!

Two-Stage Cooling Method

Stage 1: 135ºF - 70ºF
in first 2 hours (critical!)

Stage 2: 70ºF - 41ºF
in next 4 hours

Total time must be less than <u>6 hours</u>

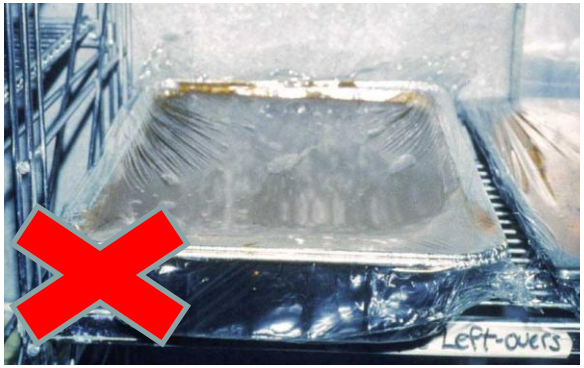
Proper Ways to Cool Food

- Shallow pans
- Smaller portions
  - -Whole roast or ham
- Ice bath
- Freezer sticks
- Uncovered while cooling

Wrong Ways To Cool Food

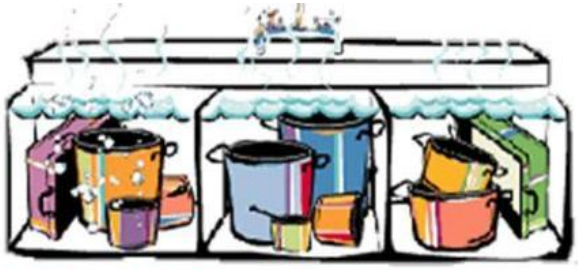
- Large and/or deep containers
- On counter – room temperature
- Covering while hot

- Any food not cooled or refrigerated properly must be removed from service!



Cleaning, Sanitizing, and Drying

- Cleaning
  - Removal of food and other types of soil from a surface
- Sanitizing
  - Using heat or chemical to reduce the amount of harmful bacteria to safe levels on cleaned surfaces
- Machine Wash
  - Follow manufacturer instructions for temperatures and chemicals
  - Requires routine cleaning
  - Must have a supply of hot water



WASH, RINSE and SANITIZE pots, pans, glasses, dishes and utensils.

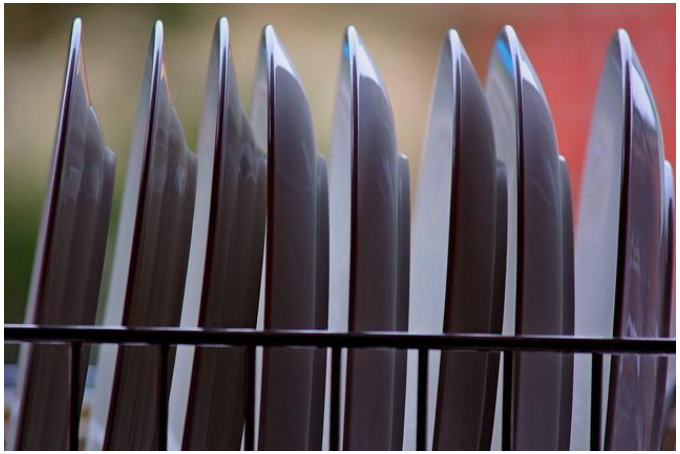
Cleaning, Sanitizing, and Drying

- Manual Wash
  - Three Compartment Sink
    - Scrape or spray
    - Wash
      - Hot and soapy water
    - Rinse
    - Sanitize
    - Air Dry

Cleaning

Storing Dishes and Utensils

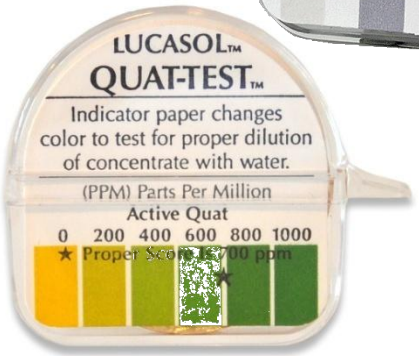
- Clean, dry location
- Protected from splash, dust, or other contamination
- At least 6 inches above the floor
- Self-draining position that allows air drying
- Covered or inverted



Surfaces Should be Cleaned and Sanitized…

- After preparing raw foods
- When changing tasks
- Every 4 hours or as necessary
- To prevent cross-contamination

Sanitizing



- Proper concentration of cleaning/sanitizing solutions:
  - Chlorine
  - Quaternary Ammonium (Quat)
  - Iodine
  - Other solutions/methods, such as hot water, must be used in accordance with EPA guidelines
- Concentration should be checked by test strips
- Use the correct test kit when checking
- Change solution when it starts to get dirty

Concentrations of Sanitizers

- Follow the directions on the labels
- Chlorine
  - Bleach
- Quaternary Ammonium
  - Min Temp of 75ºF and concentration according to manufacturer's recommendation
- Iodine
  - Min Temp of 68ºF and pH of 5.0 or less
  - Concentration: 12.5 – 25 MG/L – follow manufacturer's directions

Wiping Cloths

- Do not use the same cloth for raw and ready-to-eat foods
- Store in sanitizing solution between uses

- Wiping cloths must be clean
  - New cloth each day
- Do not use a cloth on a dirty surface and then on a food/clean surface (Cross Contamination)
- Dry cloths are used for wiping food spills – not for drying dishes

Toxic Materials

Chemicals must be:

- Properly labeled
- Stored properly, securely and separately

  Only use approved pesticides, cleaning chemicals, and other toxic items according to manufacturer's recommendations

Garbage and Waste

- Storing Garbage
  - Clean containers and garbage area frequently
  - Remove regularly
  - Dumpster must remain covered
- Mop Water
  - Must be dumped in a mop sink or curbed utility sink

Insect & Rodent Control

- Protect openings to the outside
- Keep the kitchen clean
- Eliminate storage of unneeded equipment
- Exterminate regularly (With an approved company)

Questions?