

Food Handler's Manual

**A GUIDE TO SAFE & HEALTHY
FOOD HANDLING FOR
FOOD ESTABLISHMENTS**



**BOULDER COUNTY
PUBLIC HEALTH**
Opportunity for a healthy life.

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Proper food handling

Most common viruses and bacteria



SALMONELLA



E COLI



NOROVIRUS



LISTERIA



CAMPYLOBACTER



CLOSTRIDIUM PERFRINGENS

According to the Centers for Disease Control and Prevention (CDC) 1 in 6 people (48 million people) get sick, 128,000 are hospitalized and 3,000 people die from foodborne illnesses each year in the U.S. Foodborne illnesses cost the U.S. economy about \$8.1 billion every year.

In Boulder County, there are ongoing reports and investigations of foodborne illnesses. Viruses and bacteria account for 98% of all foodborne illness (viruses 80%; bacteria 18%), both of which can be controlled through proper food handling.

Potentially hazardous foods



ALL RAW MEATS



DAIRY PRODUCTS



CUT MELONS



SPROUTS



COOKED VEGETABLES



COOKED FOOD

Potentially hazardous food (PHF) is any food or food ingredient that is capable of supporting the rapid and progressive growth of infectious or toxigenic microorganisms. PHF can be any food that is moist, non-acidic (neutral pH) and a source for bacterial growth. PHF must be kept at 41°F or below or 135°F or higher.



Highly susceptible populations

Anyone can get sick from food when it is handled in an unsafe manner; however, highly susceptible populations, such as pregnant women, children younger than 5 years, people with compromised immune systems, and adults older than 65 years, get sick more frequently or have more serious illness.

Certain foods are more likely to cause foodborne illness for people in highly susceptible populations, such as undercooked meats, raw oysters, undercooked eggs, sprouts, and unpasteurized milk or juices.



PREGNANT WOMEN



ADULTS OLDER THAN 65 YEARS OF AGE



CHILDREN YOUNGER THAN 5 YEARS



PEOPLE WITH COMPROMISED IMMUNE SYSTEMS

Employee illness



**NO SYMPTOMS
FOR
24 HOURS**

Sick employees are more likely to contaminate food and utensils with bacteria or viruses. Therefore, they must be restricted or excluded from working with any food or food service equipment. Sick employees must be symptom-free for 24 hours before being allowed return to work.

Employees diagnosed with the following illnesses must report the illnesses to their supervisors:

- Salmonella
- Shigellosis
- E-coli 0157:H7
- Norovirus
- Other bacterial pathogens such as Campylobacter.

The person in charge must immediately report these illnesses to Boulder County Public Health at 303.441.1564



VOMITING



DIARRHEA



SEVERE ABDOMINAL CRAMPS



PERSISTENT COUGHING OR SNEEZING



LESIONS CONTAINING PUS



SORE THROAT WITH FEVER

Food worker policies



**EAT FOOD AND SMOKE
IN DESIGNATED AREAS ONLY**



**WEAR HAIR RESTRAINTS AND
CLEAN OUTER CLOTHING**



**KEEP FINGERNAILS TRIMMED
AND CLEAN**



**DO NOT USE CLOTH TOWELS OR
APRONS FOR WIPING HANDS**



**STORE DRINKS IN CLEAN, CLOSED
CONTAINERS THAT WILL NOT
CONTAMINATE HANDS (E.G. CUPS WITH
LIDS AND STRAWS OR HANDLES)**



**STORE DRINKS BELOW AND SEPARATE
FROM FOOD, PREP SURFACES,
UTENSILS, ETC.**



**REMOVE APRONS BEFORE ENTERING
THE RESTROOM OR LEAVING THE FOOD
PREP AREA**



**REMOVE ALL JEWELRY FROM HANDS
AND WRISTS; ONLY A SINGLE RING IS
PERMITTED**



**ALWAYS WASH YOUR HANDS
PROPERLY**

Proper handwashing



RUB HANDS VIGOROUSLY WITH SOAP AND WARM WATER FOR 15 SECONDS



RINSE WELL FOR 5 SECONDS



DRY HANDS THOROUGHLY USING A PAPER TOWEL



TURN OFF FAUCET HANDLES USING THE PAPER TOWEL

Handwashing and glove use

Proper handwashing is the single most effective way to stop the spread of disease. Always thoroughly wash hands. Gloves are NOT a substitute for good handwashing practices.



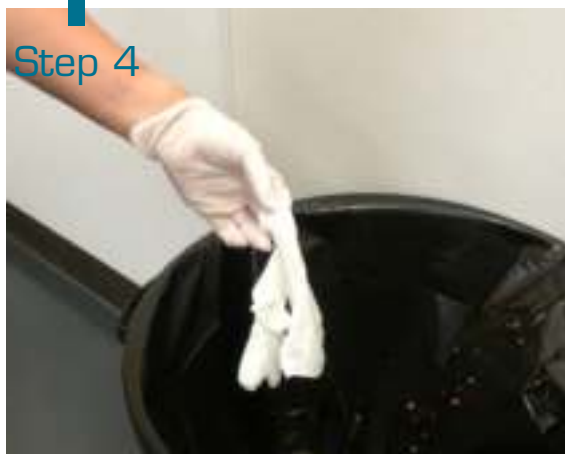
Step 1

WASH HANDS PROPERLY



Step 2

PUT ON CLEAN GLOVES



Step 4

DISCARD SOILED GLOVES AND GO BACK TO STEP 1



Step 3

USE GLOVES AS NEEDED

When using gloves, always wash your hands before putting on a new pair of gloves. Change your gloves and wash your hands whenever the gloves become contaminated, including:

- After handling raw meat, poultry, fish, or eggs
- After touching face with glove or sneezing/coughing into the glove
- After touching unclean dishes or trash
- When changing tasks



Gloves must be worn over any bandages, cuts, burns, or sores; gloves should be considered an extension of your hands.

Hand sinks

Hand sinks must be used for handwashing **ONLY** and must **ALWAYS** have hot running water, cold running water, hand soap, and paper towels.



HOT WATER



COLD WATER



HAND SOAP



PAPER TOWELS



Do not block handwashing sinks or use these sinks for any other purpose (e.g. dumping liquids, rinsing containers, filling sanitizer buckets, filling water pitchers, etc.).

Bare-hand contact

DO NOT touch ready-to-eat foods with bare hands. Avoid bare-hand contact by using single-use gloves, utensils, deli tissue, etc.



Ready-to-eat foods are foods that do not require further cooking or heating before being served. These foods are most at risk for transmitting fecal-oral diseases (e.g. E.coli, hepatitis A, and norovirus) that are spread from contaminated hands.

Preventing cross-contamination

Cross-contamination is when bacteria or viruses are spread from a contaminated source (e.g. raw chicken, meats, fish, eggs; soiled utensils, and equipment, etc.) to another food source.



Store raw meats, poultry, fish, and eggs on the bottom shelf of the refrigerator, below and separate from all other foods.



Use a drip pan under raw meat, poultry, fish or egg products.



Use separate cutting boards and utensils for raw meat and for produce and ready-to-eat food.



Food temperature control

Proper temperature controls and food handling practices prevents the growth of bacteria. The “danger zone” is the temperature range between 41°F and 135°F. Bacteria grow very rapidly within the danger zone



135° OR HIGHER



41° OR BELOW



Proper cooling, reheating, cold holding, hot holding and cooking temperatures should be carefully monitored. Potentially hazardous foods must be held outside of the danger zone at 41°F or below or at 135°F or above.

Calibrating thermometers

Daily thermometer calibration is recommended. Thermometers should also be recalibrated if they are dropped or exposed to very high or very low temperatures.



Check metal-stem thermometers for accuracy.

1. Place thermometer stem in a glass filled with ice and a little water.
2. Wait 15-20 seconds; if the thermometer does not read 32°F, it must be recalibrated.

Use temperature charts or logs to record and verify proper temperature.

1. Check and record temperatures every two hours.
2. Monitor food temperatures (including receiving temperatures) and food equipment thermometer readings.
3. Be sure to record corrective actions taken.

Temperature logs



Thawing foods

Frozen foods must be thawed using methods that maintain temperature control. Approved methods for thawing include refrigeration; placing covered, unpackaged food under cold running water; using a microwave; and conventional cooking.



REFRIGERATION (2-3 days before needed)



UNDER COLD RUNNING WATER, WITH THE FOOD UNPACKAGED BUT COVERED



MICROWAVE (IF USED IMMEDIATELY)



CONVENTIONAL COOKING

Reheating foods

After cooling, all leftovers and pre-made foods must be reheated to an internal minimum temperature of 165°F within 2 hours. Approved methods for reheating include the stovetop, oven, microwave or other rapid heating equipment, such as a grill. Most hot-hold equipment is not designed to reheat foods.



STOVETOP



OVEN



MICROWAVE (cover food when heating, stir, and wait two minutes before checking temperature and serving)



OTHER RAPID-HEATING EQUIPMENT

Proper rapid cooling

Potentially hazardous foods must be cooled as quickly as possible to prevent the growth of bacteria. Approved methods for rapid cooling include using a refrigerator or freezer, ice bath, ice paddles, or adding ice or cold water to liquid foods.



Place small containers of food into a refrigerator or freezer with space around each container to allow airflow. Leave food uncovered until it reaches 41°F.



Place food in a clean prep sink or larger container filled with ice water. Make sure the ice water and the food are at the same level. Stir regularly. Use bath along with refrigeration.



Use ice paddles to cool soups, gravies, and other thin foods. Stir regularly. Use paddles with the refrigeration or ice bath method.



Add ice or cold water to a fully cooked product. This works well for soups, stews, or recipes that include water as an ingredient.

Cleaning and sanitizing

Cleaning is the removal of dirt, soil, and debris.

Sanitizing is the removal of disease-causing microorganisms.

Cleaning

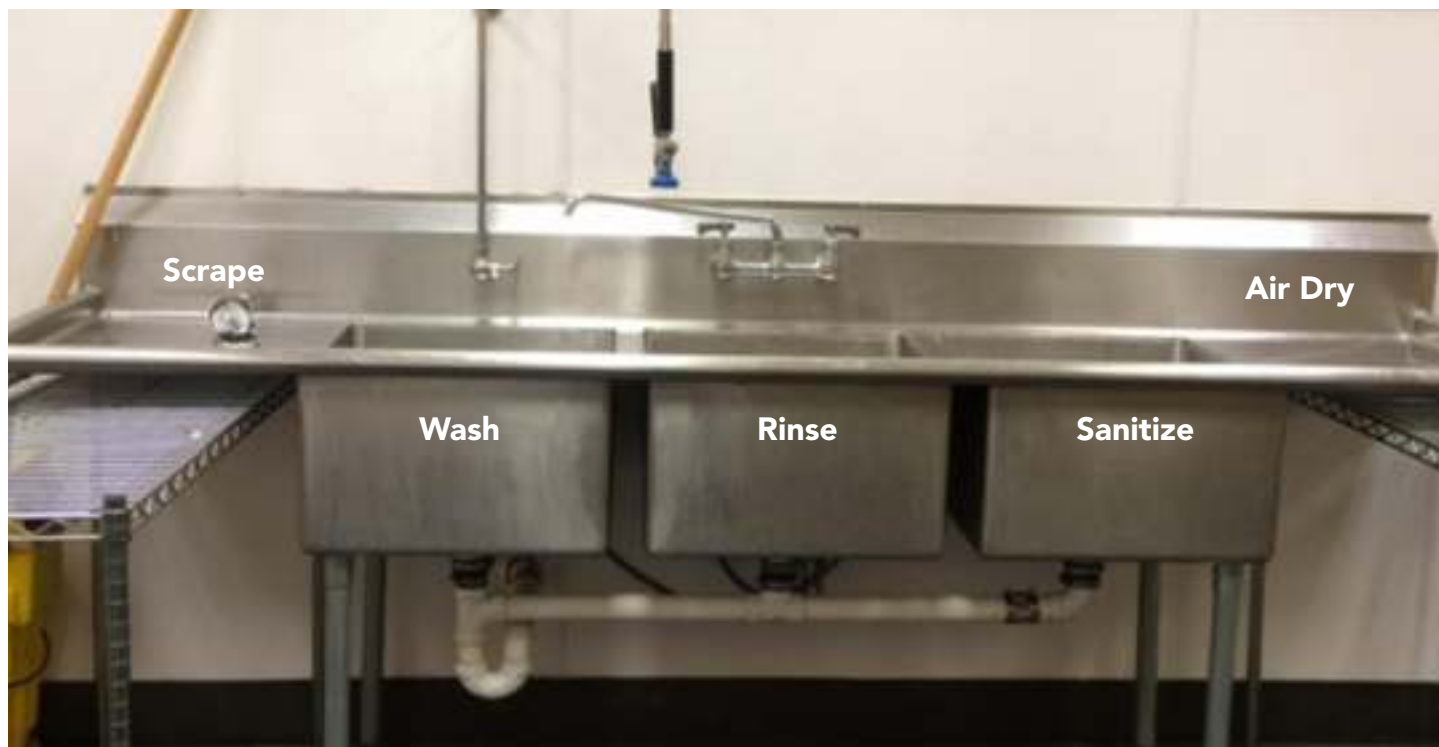


Sanitizing



Cleaning and sanitizing

ALL food service equipment, including utensils, prep tables, sinks, cutting boards, slicers, mixers, and anything else used to prepare food, must be washed, rinsed, and then sanitized.



Wash: Use hot water and detergent. | **Rinse:** Use clean water. | **Sanitize:** Use water and sanitizer.

Approved Concentrations of Sanitizers



CHLORINE (BLEACH)
50-200 PPM



QUATERNARY AMMONIUM
200 PPM, UNLESS OTHERWISE SPECIFIED
BY THE MANUFACTURER



IODINE
12.5-25 PPM

Storing chemicals

Chemical contamination of food can cause serious illness. Ensure that all chemicals are stored in a designated storage area, below and separate from food and food-contact surfaces, and in correctly labeled containers.



STORE CHEMICALS IN A DESIGNATED CHEMICAL STORAGE AREA



STORE CHEMICALS BELOW AND SEPARATE FROM FOOD AND FOOD CONTACT SURFACES



STORE CHEMICALS IN CORRECTLY LABELED CONTAINERS



DO NOT STORE CHEMICALS WITH FOOD

Wiping cloths



Wiping cloths that are in-use should be stored in a clean sanitizer solution between uses.

In-use utensils

Utensils in-use may be stored in the food; on clean, dry, and sanitized surface; in water that is hotter or colder than the danger zone; or in running cold water. **NEVER** store in-use utensils in sanitizer or in room-temperature water.



**STORE IN THE FOOD,
WITH THE HANDLE
UP AND OUT OF THE
FOOD**



**STORE ON A CLEAN,
DRY SURFACE THAT
IS CLEANED AND
SANITIZED EVERY 4
HOURS**



**STORE IN WATER
135°F OR HIGHER
OR 41°F OR BELOW**



**STORE IN RUNNING
WATER (ICE SCOOPS
ONLY)**

Approved sources

All food in food service establishments must be obtained from an approved source. Always verify the supplier's documentation to ensure that the supplier is an approved wholesale distributor.



PERISHABLE KEEP REFRIGERATED		Cert. # CD-116-85
ORIGINAL SHIPPER'S CERT. No. IF OTHER THAN ABOVE		WA-0458 55
HARVEST DATE: 22-Apr-17	SHIPPING DATE: 22-Apr-17	
HARVEST LOCATION: HOOD C'ANAL W		FARM RAISED
TYPE OF SHELLFISH: OYSTERS		
QUANTITY OF SHELLFISH:		
SUBSLS		COUNT 1 BAG
POUNDS		OTHER
THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS.		
TO:	RESHIPPER'S CERT. No.	DATE RESHIPED

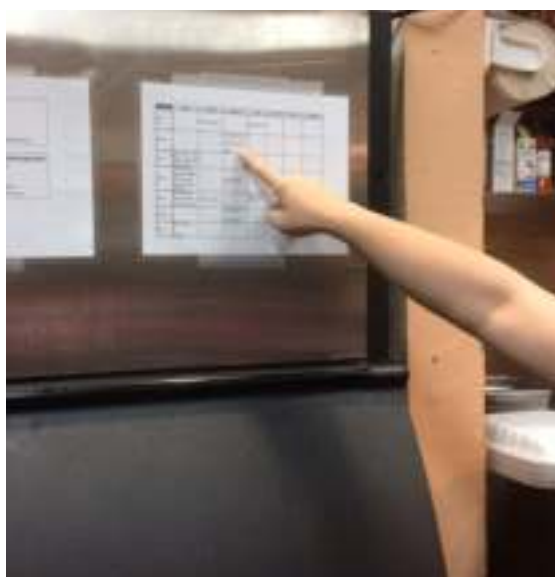
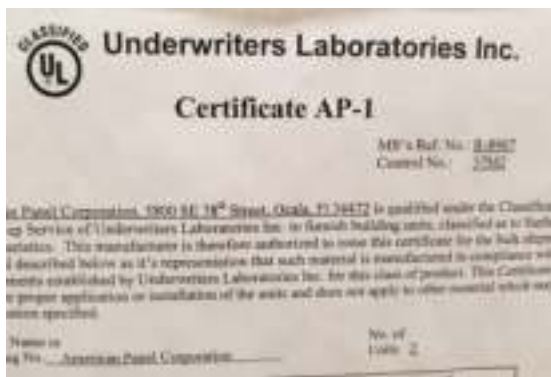


Shellfish: Verify that shellfish have complete, attached tags showing that they came from approved harvest sites. Retain shellfish tags for a minimum of 90 days. Discard shellfish if their shells do not close.

Raw Eggs: Do not use raw eggs in any ready-to-eat food items (e.g. Caesar salad dressing, hollandaise, meringue) unless the eggs are pasteurized. Eggs must come from a supplier inspected by the U.S. Food and Drug Administration (FDA) or Colorado Department of Agriculture.

Equipment and maintenance

All food service utensils and equipment must be approved for use in a retail food establishment. Look for the following symbols on utensils and equipment.



**MAINTAIN REGULAR
CLEANING SCHEDULES
FOR EQUIPMENT**

Pest control

Control pests in the food service establishment by using a professional exterminator, approved traps, screens, fly fans; sealing openings; and keeping the facility clean. NEVER apply household pesticides in a food service establishment.



USE A PROFESSIONAL EXTERMINATOR



USE APPROVED TRAPS



TIGHTLY SEAL OPENING



USE A SCREEN DOOR



USE FLY FANS



**KEEP EQUIPMENT AND THE
INTERIOR AND EXTERIOR OF THE
FACILITY CLEAN**

Emergencies

In the event of flood, fire, power outage, sewer backup, water shortage, or other emergency, potential health hazards may exist.



FIRE



WATER SHORTAGE



POWER OUTAGES



FLOOD OR SEWER BACKUP



If a facility experiences a large fire, a sudden water or power shortage, a flood, sewer backup, or any other similar incident, immediately call Boulder County Public Health at 303-441-1564.

Food safety self-inspection

Food safety self-inspections are a great tool for managers and employees to make sure their facility is following good practices. Self-inspections also help facilities prepare for regular inspections. For more information and a sample self-inspection form, visit BoulderCountyFood.org.



SELF-INSPECTION FORM



CALIBRATED METAL-STEM THERMOMETER



TEST STRIPS FOR SANITIZER



FLASHLIGHT

To conduct a self-inspection, you will need:

1. A self-inspection form, clipboard, and pen
2. A calibrated metal-stem thermometer
3. Test strips for sanitizer
4. A flashlight (for better viewing of dark corners, equipment interiors, etc.)

Food Handler Training

Boulder County Public Health offers classrooms food safety classes (i.e. Sanitation Training Assistance for Restaurateurs, or STAR), on-site training, online training and other resources.

**To learn more visit
BoulderCountyFood.org or call 303.441.1564**

References and Additional Resources

The Centers for Disease Control and Prevention (CDC) | [cdc.gov](https://www.cdc.gov)

U.S. Food and Drug Administration (FDA) | [fda.gov](https://www.fda.gov)

U.S. Department of Agriculture (USDA) | [usda.gov](https://www.usda.gov)

Food Safety Gateway | foodsafety.gov

Colorado Department of Public Health and Environment | colorado.gov/cdphe



NOTE: The information provided in this manual is based on the Colorado Retail Food Establishment Rules and Regulations, but it does not represent all requirements or established regulations. To download a copy of the Colorado Retail Food Establishment Rules and Regulations, visit BoulderCountyFood.org, or call 303-441-1564.