

# Food Handling and Sanitation

Quick primer for the CA Servesafe Food Handler's card

- <https://www.servesafe.com/access/ss/catalog/productdetail/ssect6ca>
- 9.99 for course
- Available in English, Spanish, Simplified Chinese, Korean and Vietnamese
- You can sign up and take the test on the same day from home, takes about 90 minutes
- If you want to manage or own your own place, highly recommend getting the National Servesafe Food Managers Certificate from the NRA (that's Restaurant, not Rifle)

## Requirements

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- Starting Jan. 1, 2024, [California law](#) requires that employers purchase food handler training and exams on behalf of their employees. Before making your purchase, please check with your employer on how they prefer to provide you with your food handler training and exam.

## Why should we care?

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US CDC (Centers of Disease Control and Prevention) estimates there are:

- 48 million cases
- 128,000 hospitalizations
- 3,000 deaths

In the US every year (to be fair, this statistics is over 12 years old, it may be higher now, but it may also be lower, point being, a lot of people get sick from something they ate every year)

## Who is most at risk?

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Guidelines are most important (and regulations will likely be strongest) when we are working with populations that are:

- Elderly
- Young
- Pregnant
- Immunocompromised

## Our purpose today

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- I am not here to scare you (my favorite food is raw oysters. . . .)
- Most food borne illnesses can be traced back to something the FOOD HANDLER did to the food
- Give some simple guidelines to make taking the test easier for you

## Caveats

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- The amount of food we work with in food service may be serving hundreds of people at a time
- The quantity of food we work with can not easily be cooled down by just putting it in the fridge, so we have to be *AWARE* of whatever is happening to the food we are working with
- Regulations are based on the national FDA Food Code, but laws differ from state to state (and often from county to county) so it is important to learn the local regulations wherever you go.
- A lot is common sense, a lot is just memorization, I made a 'cheat sheet' you can use that summarizes a lot of the course

## What makes food unsafe?

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- Contamination, which is defined as the presence of contaminants
  - Biological – bacteria, viruses, parasites, fungi
  - Chemical – bleach, ammonia, etc
  - Physical – bones, olive pits, toothpicks, glass, jewelry, etc

## Physical Contaminants

- The least common, but guidelines exist in every state in terms of how to keep physical contaminants out of food, for instance:
    - What lightbulbs can be used where
    - What jewelry can or can't be worn
    - How to restrain hair and/or nails
    - How to store food that could be exposed to physical hazards
- You most often hear about these in recalls from processed food (ie

## Chemical Hazards

- More likely to happen in the production and processing phases of our food supply but guidelines you will be asked about include:
  - Knowing what chemicals you are working with (chlorine, ammonia, soaps, degreasers, etc) and having access to proper information about them
  - How to properly label any containers you may use for cleaning or sanitizing
  - Why you shouldn't store food in containers that used to store chemicals (a great example of the "common sense" idea I mentioned earlier)

## Biological

- By far the most common, most hazardous and most deadly.
- Fortunately, we also have the most control over these
- Bacteria – Salmonella(s), E. coli, C. botulinum, Staph, etc
- Viruses – Hepatitis A
- Parasites – most commonly found in contaminated water supplies and items that come from water (ie raw fish or shellfish. Salt water is safer than fresh water, which is why you generally don't see freshwater fish sashimi)
- Funghi – some are good (mushrooms, yeasts, molds), some can produce toxins, general guideline is 'if there is mold there where there shouldn't be, don't eat it. . .)

## Before we go further. . . .

- NOT ALL BACTERIA ARE BAD
- Some bacteria (acidophilus, bifidus) molds and yeasts help us make fermented food products such as sauerkraut, kimchi, pickles, sourdough bread, kombucha, tempeh, beer, wine
- Some states allow you to ferment your own food in a restaurant, but the guidelines vary state to state and where you are allowed to, you generally have to demonstrate knowledge of how to do it properly, as well as have a rigorous monitoring plan in place so that you are more likely to grow the good stuff – all of which create environments where the bad stuff can't as easily compete
- Another rule of thumb – if something smells or looks fermented that shouldn't – don't use it

## Bacterial Spoilage

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- Some bacteria contribute to off smells and off tastes
- Spoilage Bacteria are generally are not pathogenic (in other words, they don't cause illness)
- You can eat totally delicious, fresh food and still get sick because pathogens such as Salmonella or E. coli can not be seen or smelled
- Conversely, some strongly smelling foods (again think of fermented foods) are perfectly safe to consume

## Five Ways Food Becomes Unsafe

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- Purchasing from unsafe sources
- Temperature Abuse
- Poor personal hygiene
- Cross Contamination
- Incorrect cleaning and sanitizing

## Purchasing

- Know your purveyors and their inspection status
- Check out their warehouses
- Inspect all food that is delivered to your restaurant, and deny or return any items that are unacceptable

What is  
unacceptable?

Protein delivered that is in the temperature danger zone (ie it is not refrigerated), smells or looks off, or is slimy

Frozen food that has signs of freezer burn or thawing and refreezing

Dry goods that are wet or look like they were wet

Cans that are rusted or dented

Food with no label





## LABEL AND DATE EVERYTHING



What it is



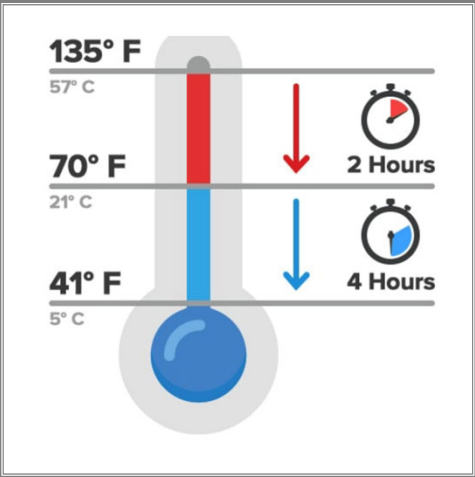
Date it was made



Date it needs to be used by



Most foods are given 7 days of safety in the fridge if held properly



## Time Temperature Abuse

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- General idea: food should stay out of the TEMPERATURE DANGER ZONE
- 41 F (5 c) – 135 F (57 c)

## Keep Hot Food Hot/Keep Cold Food Cold

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- Cold food should be kept **BELOW** 41 F for as long as possible
- Hot food should be kept **ABOVE** 135 F until consumed, or else cooled down properly and stored in the refrigerator or freezer
- The maximum amount of time food can sit in the danger zone is 4 hours – **CUMULATIVE** (the trick being, you don't know if the food was in the danger zone before it got to you. . . . Which will be brought up in Purchasing from Safe Sources) – with one exception (cooling properly)

## Numbers to Memorize (or keep cheat sheet handy)

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Safe cooking temperatures of food:

135 F – vegetables, grains, pastas, rice

145 F (for at least 15 seconds) – Steak or chops of meats, fish, shellfish, eggs which will be consumed immediately (such as an omelet)

145 F (and held for at least 4 minutes) – large Roasts of meat

155 F (for at least 17 seconds – I don't know why) – Ground meat or fish, and eggs that will be held for service (such as scrambled eggs on a buffet or a quiche to be served later)

165 (for at least 1 second) – Poultry and ground poultry

165 (and held for at least 2 minutes) – anything cooked in a microwave, or anything being reheated

## A note on cooking temperatures

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- In the real world, food is often not cooked to the proper temperature and that is often totally ok (sashimi, raw oysters, a rare steak, seared ahi tuna, etc)
- Where it is most important is when you are dealing with susceptible populations (from slide 5) – where there likely will be tougher regulations and more in depth inspections
- If you are NOT going to cook food to the temperature that will make them safe, the onus is on you to make sure you are following all the other steps even more carefully (in other words, don't thaw out a piece of salmon from last summer and use it for sushi. . . Or buy it at Safeway)

## You've probably seen this

- Often required by local health departments
- Is it a perfect solution? No, but we also live in a country where there are warnings not to eat paint. . .

**CONSUMER ADVISORY  
CONSUMING RAW OR  
UNDERCOOKED MEATS,  
POULTRY, SEAFOOD,  
SHELLFISH, OR EGGS  
MAY INCREASE  
RISK OF  
FOODBORNE ILLNESS  
ESPECIALLY IF YOU  
HAVE CERTAIN  
MEDICAL CONDITIONS**

Revised 10/2013 USDA www.ChoiceGrades.gov

## Proper Cooling

- Cool from 135 F to 70 F in at most 2 hours, then 70 F to 41 F within 4 hours?
- Why? Below 70 F bacterial growth is slow, so once you have **ACTIVELY** cooled something down to 70 F, you can put it in the fridge and your fridge will do the rest (if it doesn't, you need to fix your fridge)
- How? Reduce the size of the food, use ice water baths, ice wands or blast chillers (which are super expensive and not common in many kitchens)

## Poor Personal Hygiene

- Wash your hands! Wash your hands! Wash your hands!
- Wear gloves if you are touching food that will not be heated
- Put gloves on AFTER washing your hands
- Hand sanitizers are not a replacement for hand washing
- DO NOT WORK if you are sick, particularly if you have a sore throat, fever, vomiting, diarrhea or your eyes are yellow (jaundice, a sign of Hep A)

## Poor Personal Hygiene

- Hair must be kept back and away from food
- Nails can not be long, nor polished (it can chip into food)
- Press on nails are not allowed (they fall off into food)
- Jewelry, besides a plain metal band, is not allowed
- Clothes should be clean (file under common sense)

## Cross Contamination

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- Cross contamination is defined as a food that is contaminated contaminating another food – the best example is cutting chicken on a cutting board then using that same board to slice apples
- Common sense and AWARENESS
- Clean and sanitize all prep surfaces when going from one task to another, or after 4 hours of doing the same task (that 4 hour rule again)

## Storage

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6" FROM THE FLOOR AND WALL  
(OSTENSIBLY TO HELP PREVENT  
PESTS)



IN PROPER ORDER ACCORDING  
TO THE INTERNAL COOKING  
TEMPERATURES

TEXAS A&M  
AGRI LIFE  
EXTENSION

## Safe Refrigerator Storage for Retail Food Establishments

Fridge: 41°F / 5 °C

*When storing foods, place the food with the highest internal cooking temperature at the bottom of your fridge!*

Ready-to-eat foods, fully cooked foods, and produce	
Raw seafood, fish, and eggs	145 °F
Raw steak	145 °F
Raw pork	145 °F
Raw ground beef	155 °F
Raw poultry	165 °F

*Internal cooking temperature of the food.*

**Note!**  
**FRIDGE SPACE**  
If you're low on space, you can place:  
a) raw seafood, fish, eggs  
b) steak, and  
c) pork  
on the same shelf!

Adapted from: <https://www.dhs.state.tx.us/WorkArea/linked.aspx?linkIdentifier=12&ItemID=85999348>  
Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, religion, sex, national origin, age, disability, genetic information or veteran status.

## Cleaning and Sanitizing

- Cleaning – to remove visible dirt – you can SEE if something is clean
- Sanitizing – using heat or chemicals to remove as many microbes as possible
- (Sterilizing – killing all microorganisms, which is not possible – nor desirable – in real world situation and only really applies to operating rooms and silicon chip factories)

## Chemical Sanitizing

- Usually with a solution of ammonia or chlorine bleach
- NEVER combine ammonia or chlorine bleach
- Follow manufactures directions
- (demo our 3 compartment sink?)





## Heat Sanitizing

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- Not practical for handwashing because water must be hotter than 180 F
- For dishwashers, follow manufactures directions

## Pests

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- So many fun pest stories from having lived in NYC for 22 years
- But for purposes of the certification – CALL A PEST CONTROL OFFICER or your local Orkin guy
- You are not qualified to treat pest infestations but by following the above guidelines (particularly in regards to storage) you hopefully will be preventing them