

Our mission...

Environmental Health is

dedicated to improving the quality of life
for Orange County residents and visitors

through the promotion of good

environmental health practices.





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The Truth About Food Safety

Many people do not think about food safety until they get food poisoning, also known as foodborne illness. Fortunately, our country's food supply is one of the safest in the world. Still, foodborne illnesses are fairly common. Each year in the U.S., foodborne illnesses afflict 76 million people, more than 300,000 of those people are hospitalized, and 5,000 people die.*

Who is at Risk?

Healthy adults normally recover from foodborne illnesses in a couple of days to a couple of weeks. Vulnerable populations are at an increased risk for complications resulting from foodborne illness. Examples of vulnerable populations are:

- Children (5 and under)
- Elderly (65 and over)
- Pregnant Women
- Immune Compromised
 Individuals (such as those on immune suppressing drugs
 and chemo-therapy patients)



* http://www.cdc.gov/foodsafety/

What Causes a Foodborne Illness?

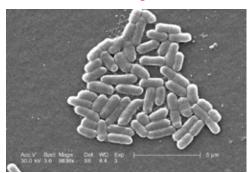
Foodborne illnesses are caused when food becomes contaminated with disease causing bacteria or viruses. When left unchecked, they reproduce quickly to levels that can cause illness in people. A person can become sick when they eat food containing disease causing bacteria, viruses or toxins.

How Does Bacteria Get in Our Food in the First Place?

Food may become contaminated in a number of ways:

when bacteria is transferred to the food by unclean hands, dirty utensils, or when the food has come into contact with a surface

E. coli O157:H7 magnified 6836 times



National Escherichia, Shigella, Vibrio Reference Unit at CDC

that is dirty and unsanitary that may be harboring bacteria.

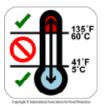
- Food becomes contaminated when it comes into contact with a utensil or surface that has raw meat juices on it.
- Raw meat contains naturally occurring bacteria and must be thoroughly cooked in order to kill all the disease causing bacteria.



Risk Factors for Foodborne Illness

According to the United States Centers for Disease Control (CDC), investigations of foodborne illness disease outbreaks often identify the following five risk factors that result in foodborne illness:

• Improper Hot and Cold Holding of Foods



Inadequate Cooking of Foods



Dirty and/or Contaminated Equipment



- Poor Employee Health & Personal Hygiene
- Food From Unsafe Sources





To prevent a foodborne illness from happening in your food facility, it is very important that you control and eliminate these risk factors. It is equally important to keep your facility clean, in good repair, and free of vermin such as rodents, cockroaches, or flies.

Potentially Hazardous Food (PHF)

Some foods require temperature control because thev capable of supporting the growth of harmful microorganisms. These foods are called potentially hazardous foods or PHFs. PHFs include food of animal origin (such as meat and dairy products), cooked fruits and vegetables, cooked starches (such as rice, potatoes, and pasta), soy products (such as tofu and soy milk), as well as raw seed sprouts, cut melons, and garlic-in-oil mixtures.



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PHF does not include any of the following:

- Dry foods (with water activity of 0.85 or less)
- Acidic foods (pH at or below 4.6)
- Shell egg (intact) that is not hard boiled, but has been pasteurized.
- Food in an unopened
 hermetically sealed
 container that has been
 commercially processed.

If PHFs have to be removed from temperature control, they shall be returned to temperature control as soon as possible.

Risk Factor #1 Improper Hot and Cold Holding of Foods

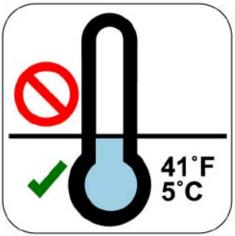
Holding PHF at the proper temperature is important in order to limit the growth of bacteria. PHF stored between 41°F and 135°F may allow bacteria to grow and reproduce enough to cause an illness. This range is called the danger zone.



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Make sure to keep **cold** foods **cold** at a temperature of 41°F or below.

Make sure to keep **hot** foods **hot** at a temperature of 135°F or above.



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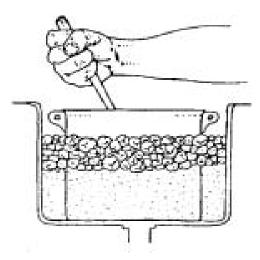


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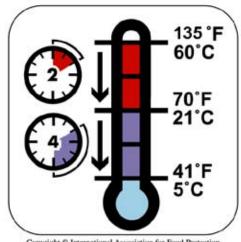
Risk Factor #1 Continued

Rapid Cooling of Foods

Rapid cooling of potentially hazardous foods is important in order to limit the amount of time that food is in the danger zone. This is to limit the amount of bacterial growth during cooling. Food must be rapidly cooled from 135°F to 71°F within two hours, and then from 70°F to 41°F within four more hours.



Properly set up ice bath



Some possible rapid cooling methods include:

- Using an ice bath while stirring
- In shallow pans inside a refrigerator
- Divided into small portions while inside a refrigerator
- Use of ice wands
- Blast chillers
- Adding ice as an ingredient

Risk Factor #2 Improper Cooking Temperatures

By cooking raw meats and animal products to the proper temperatures, we ensure that any disease causing bacteria are killed before the food is eaten. That is why it is important to make sure that all foods are thoroughly cooked.

TEMPERATURE GUIDE 165 F 145 F 42 134 F 41 F 41 F

Illustration by Elaine Yan

Required Minimum Cooking Temperatures

165°F – Poultry, stuffed fish, stuffed meat, stuffed poultry, and stuffed pasta.

155°F – Ground or comminuted meat, raw eggs and foods containing raw eggs.

145°F – Raw shell eggs cooked to order, fish, and single pieces of meat including beef, veal, lamb, or pork.

135°F – Fruits and vegetables that are cooked for hot holding.

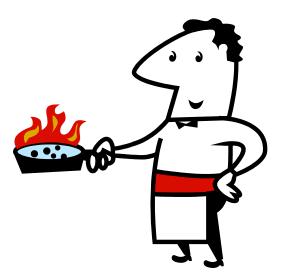
All cooking temperatures must be achieved and held for 15 seconds.

Any foods cooked in a microwave oven must be cooked to 165°F.

Risk Factor #2 Continued

Rapid Reheating of Foods

Rapid reheating of foods is just as important as rapid cooling of foods. Rapidly reheating foods ensures that the food spends as little time in the danger zone as possible. This limits bacterial growth during reheating. PHF must be rapidly reheated to 165°F within 2 hours before it can be hot held at 135°F.



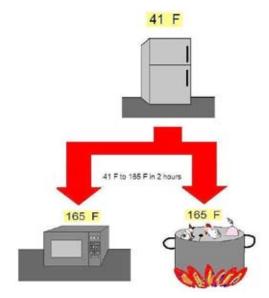


Illustration by Elaine Yan

Foods can be reheated rapidly in the following ways:

- On a stove
- In a microwave oven
- In a conventional oven

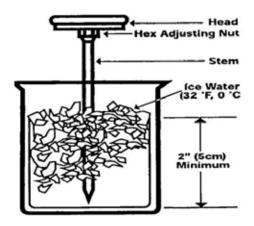
*Steam tables, Bain-Maries, and other kinds of warmers are intended for hot holding and may **not** be used for rapid reheating.

Calibrating a Food Thermometer

When using a food thermometer, make sure the temperature it reads is accurate. An easy way to do this is to use ice and water.

An accurate thermometer is critical to food safety.

- Pack a cup almost to the top with crushed ice, then fill the cup with water.
- Put the thermometer at least 2 inches into the ice slurry. After 60 seconds, read the dial. It should read 32°F.
- If it does not read 32°F do the following:
 - While the thermometer is still in the ice water, use pliers or a wrench to turn the nut on the back of the thermometer until the needle reads 32°F.
 - 2. Wait 30 seconds and check the temperature again. Keep repeating these steps until the thermometer reads 32°F.



Calibrate the food thermometer every day and whenever it is bumped or dropped.

This will ensure that it is displaying the correct temperature.

Risk Factor #3 <u>Dirty or Contaminated Equipment</u>

When utensils, equipment, or food contact surfaces become dirty or contaminated, it is necessary to clean and sanitize them. Frequent cleaning of utensils, equipment, and food contact surfaces is necessary in order to remove dirt and debris. A sanitizer must also be used after cleaning in order to eliminate any remaining bacteria.





Proper cleaning of utensils is a 3 step process:



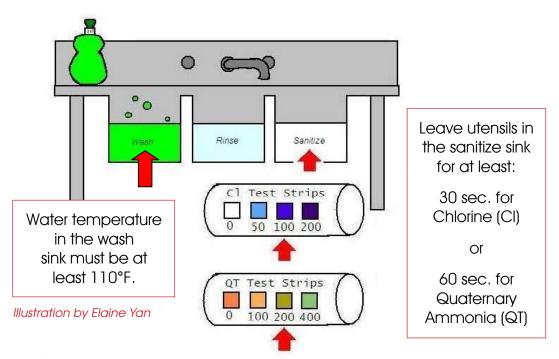
Sanitizing of Utensils

When using the following sanitizers, make sure that the chemical concentration is correct:

- A. Chlorine (bleach) 100 200 ppm*
- B. Quaternary Ammonia -200 – 400 ppm*
- C. Heat (dishmachine) 180°F from the manifold and 160°F at the plate level.

Risk Factor #3 Continued

Proper wash, rinse and sanitize set-up for a 3-compartment sink



Wiping Cloth Sanitation

Dirty wiping cloths can harbor disease causing bacteria.

Reusing these wiping cloths can spread the bacteria all over your kitchen. You may either:

- Use a clean cloth once then launder it.
- Hold wiping cloths in a sanitizer bucket.

Maintain the sanitizer solution at the same levels used for sanitizing utensils. Change the solution when it becomes dirty or the concentration drops below the minimum levels.



Risk Factor #3 Continued

Cross Contamination

Food can become contaminated with disease causing bacteria through careless handling. Cross contamination occurs when food comes into contact with animal products such as raw chicken or raw beef. Keep ready-to-eat foods separate from raw foods and their juices. Food can be contaminated by dirty cutting

boards, utensils, preparation tables, or an employee's hands.

To prevent cross-contamination:

- Use separate cutting boards.
- Store raw meats on the bottom shelves below other foods.
- Wash and sanitize utensils and food contact surfaces.
- Wash hands when appropriate.







Contamination can also occur before the food is delivered to the facility. It is important therefore, to properly wash produce prior to cutting, cooking, preparing, or serving it.



Risk Factor #4 Poor Employee Health & Hygiene

The health of your employees is important because they can affect the health of customers. It is the responsibility of the person in charge (PIC) to make sure all of the employees who are working are healthy. The PIC is to **restrict** employees from working around food, utensils, equipment, or linens if they have diarrhea, vomiting, fever, or sneezing and coughing that cannot be helped The PIC is to by medicine. **exclude** an employee from the restaurant if they are diagnosed with a reportable illness. It is also the responsibility of the PIC to notify Environmental Health

if any employees have been diagnosed with a reportable illness.



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Reportable Illnesses Include:

- Salmonella typhi.
- Salmonella spp.
- Shigella spp.
- Entamoeba histolytica.
- Escherichia coli.
- Hepatitis A virus.
- Norovirus

Remember: Employees can spread their illnesses to customers!

Risk Factor #4 Continued

Proper Hand Washing



Proper hand washing is critical in preventing foodborne illness. Employees working with food, utensils, or clean equipment must wash their hands periodically throughout the day, as well as after every time they:

- Use the restroom
- Handle raw meats
- Touch their face or hair
- Eat, drink, or smoke
- Perform any activities that would contaminate the hands such as take out the trash or wash dishes.

Make sure to wash your hands thoroughly with soap and warm water (minimum 100°F) including between your fingers and under your fingernails. Hands must be washed for a minimum of 10-15 seconds. Dry hands with a disposable paper towel.



Adapted from Taylor L (1976), An evelual funding Times, 12 January, pp 54-55

Hand sanitizers are good when used in addition to hand washing, but should never be a substitute for proper hand washing. If using gloves, be sure to change them as often as you would wash your hands if you weren't wearing gloves.

Risk Factor #5 Food from Unsafe Sources

All food served from a food facility must be obtained from an approved source.

NEVER serve, or use as an ingredient, food that was prepared in a private home.

NEVER serve, or use as an ingredient, food that has already been served to a customer.

ALWAYS know where your food comes from and how it was handled before you get it.



Q: What is an approved source?

A: An approved source is one that has a valid permit and is periodically inspected by either a federal, state, or local enforcement agency.



Oysters, clams, and mussels shall be obtained from approved sources. All shellfish tags must be kept with the original container that the shellfish came in. Once the container is empty, the tags must be saved for a minimum of 90 days.

Risk Factor #5 Continued

Tips to ensure that food received is safe and from an approved food source:

- Only purchase and receive foods from approved sources.
- Check product received for any signs of tampering, spoilage, contamination, discoloration, and temperature abuse.
- Do not receive an unattended delivery.
- Have written procedures for receiving of foods.
- Maintain copies of invoices for tracking of all purchases.
- Confirm that suppliers have a food safety and security plan.



Occasionally the FDA will issue a recall for specific foods due to contamination and the potential for causing foodborne illness. In case of a recall, immediately remove all of the implicated products from sale or service and store them in a separate location away from the rest of your food. In the event of a recall, contact your Environmental Health Specialist or their supervisor for more detailed information.

Immediate Health Hazards

Immediate health hazards present an imminent threat to the health and safety of the public. If violations that are immediate health hazards are observed in a facility, the health permit is subject to suspension and the facility may be temporarily closed.



The following is a **partial** list of the more common immediate health hazards that may result in a health permit suspension.

Sewage System Failure

A sewage system failure may cause sewage to back up into the facility through the floor sinks, floor drains, or other plumbing fixtures. It may also happen when the grease interceptor fails and sewage backs up spilling outside the facility and runs off site.



this happens, immediately discontinue any food preparation and service and stop using any water. Contain the spill as much as possible to prevent it from reaching the storm drains, repair the interceptor grease or plumbing in professional manner, and ensure that all affected surfaces are cleaned and sanitized.

Immediate Health Hazards Continued

Power Outage

When the electricity goes out in a food facility, the operator loses the ability to maintain proper holding temperatures for food. Food service should be discontinued until power is restored.

Lack of Warm/Potable Water



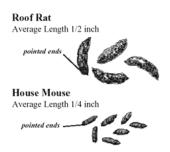
If either potable water or warm water (100°F and above) are no longer available in the food facility, food service must be discontinued. Potable hot water of at least 120°F must be available throughout the food facility.

If these hazards occur inside of a food facility, it is the food facility operator's obligation to the public to discontinue all food preparation and service. after the violation(s) have been corrected, and the health hazard has been abated, can food If a facility's service resume. health permit has been suspended by an Environmental Health Specialist, the operator call must and request reinspection. If the imminent health hazard warranting closure has been abated, the Environmental Health Specialist will provide written permission to the operator that their health permit is reinstated and that they may resume service to the public.

Vermin Infestations

Rodent Infestation

A health permit suspension is warranted when evidence of rodent activity is observed in any area of the food facility where food and food contact items are stored, food is prepared, or food is served. Evidence may include live or dead rodents, fresh droppings, urine stains, rub marks, or gnaw marks on food packaging.



Rodents spread disease by dropping feces or urinating on food, utensils, equipment, or food contact surfaces.



To help prevent rodent problems follow these simple steps:

- Maintain a clean facility to eliminate any possible food and water sources.
- Seal any gaps or holes
 outside the building and
 inside the kitchen. (Rodents
 can squeeze through gaps
 as small as ¼ of an inch.)



Vermin Infestations Continued

Cockroach Infestation

A health permit suspension is warranted when evidence of cockroach activity is observed in any area of the food facility where food and food contact items are stored, food is prepared, or food is served. Evidence may include live or dead cockroaches, cockroach spotting, and egg casings.



Cockroaches contaminate food, utensils, equipment, and food contact surfaces by crawling over them after crawling over garbage or other unsanitary surfaces.

To prevent cockroach problems follow these simple steps:

- Thoroughly clean the facility to eliminate any sources of food.
- Seal any gaps, cracks, or crevices that may provide shelter for cockroaches.



- Check all deliveries to ensure that cockroaches are not brought in from an infested warehouse.
- Remove excess cardboard and other clutter from the facility.

Good Manufacturing Practices (GMPs)

Good housekeeping is good business because good food comes from clean kitchens.

- Write out a detailed cleaning schedule and assign specific duties to employees.
- Clean the facility, especially the kitchen, thoroughly and regularly.
- Clean and sanitize utensils, food contact surfaces, and equipment at least once every 4 hours or as needed.
- Store food and utensils
 where they won't become
 dirty or contaminated.

Contact the Environmental
 Health Specialist prior to
 doing any kind of remodel
 in the facility, even if only
 the wall, floor, or ceiling
 finishes are being changed.



 Utensils and equipment in a food facility must be ANSI approved or equivalent.



 Store all food and utensils at least 6 inches off the floor.

The Ocean Begins at Your Front Door



Food facilities have been found to be a major source of fats, oils and grease (FOG) that enter the sewer system. FOG enters the sewer system when it dumped down sinks and floor drains. Sewer lines can become blocked causing a sewage overflow. The overflow then flows down the street to the storm drain and eventually ends up dumping into the ocean at the beaches as untreated sewage. What you do as a food facility operator, both inside and outside your facility, can impact the sewer system and ultimately the beaches. There are some things that you can do to prevent sewage overflows.

- Install drain screens on all kitchen sinks, floor drains, and floor sinks.
- Collect and recycle all cooking grease. Do not dump it down drains.
- Transport and store grease and oils carefully so that they do not spill.
- Soak up grease spills. Do not flush them down the drain.
- Maintain your grease interceptor or grease trap at least every 90 days by a licensed grease hauler.
- Maintain records of service and grease pick-ups.
- Train all new employees on GMPs and proper grease disposal.
- Wash floor mats in an approved manner. Do not hose off mats outside the facility.
- Remove any garbage disposals from your facility.

Public Notification System

The Orange County Food Protection Program notifies the public of inspection results in four different ways:

- 1) The most recent food facility inspection report is required to be maintained at the facility and available for public review.
- 2) Inspection notification seals provide the date of the last inspection and the name of the Environmental Health Specialist. indicate The seals that the facility has met minimum food safety and sanitation standards, requires a follow-up inspection to verify a return to compliance,

or that the facility has been closed.

3) The Award of Excellence is earned by food facilities that maintain the highest food safety and sanitation standards.



4) The Food Protection Program web site www.ocfoodinfo.com posts inspection report information on every food facility in the county. It displays a two year history of any major or minor violations, as well as a PDF file of the entire inspection report. Enforcement actions taken are posted as well.

Food Safety Certification

Facilities that prepare, handle, or serve open potentially hazardous food must have an owner or employee who has successfully completed an approved and accredited food safety certification examination. The original certificate is required to be maintained on site at the facility. Copies, faxes, and wallet cards are not acceptable. Certificates are valid for 5 years from the date of issue. If a certified food handler leaves a food facility, or if the food facility has recently opened or changed ownership, the new owner has 60 days to provide a new food safety certificate. It is the responsibility of the certified food handler to ensure that all employees have adequate knowledge of and are properly trained in food safety as it relates to their assigned duties.

The California Health and Safety Code currently approves the following food safety certification examinations:

1. The ServSafe Serving Safe Food Certification Examination

National Restaurant Association (800) 765-2122 www.nraef.org

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California Restaurant Association

(800) 765-4842 www.calrest.org

2. Thomson Prometric

(800) 624-2736 http://www.prometric.com/foodsafety

3. Professional Testing, Inc.

(800) 446-0257 www.nrfsp.com

4. Dietary Manager's Assoc.

(630) 587-6336 www.dmaonline.org

Time as a Public Health Control (TPHC)

Some foods prepared in restaurants and markets are made and served traditionally at room temperature. These foods can be potentially hazardous and allow disease causing bacteria to grow rapidly at 41°F temperatures between and 135°F. Some examples of these foods include hollandaise sauce, pizza, ham and cheese croissants, and many traditional ethnic foods. To prevent bacteria from growing to unsafe numbers in these foods, time, instead of temperature, is used as a public health control.

Facilities wishing to use TPHC must meet the following minimum requirements:

- Foods must be clearly
 marked or identified to
 indicate when it has been
 four hours since the food
 was removed from
 temperature control.
- Within 4 hours of being removed from temperature control, the foods must be served, cooked and served, or destroyed.
- A written TPHC plan must be maintained at the food facility.



Contact your
Environmental Health Specialist
for additional information
regarding the use of a TPHC plan.



Grease Control Device Maintenance Record

Facility Name:	Address:	
Type of Device (circle one):	Grease Trap	Grease Interceptor
Service Company Used:		

Date	Cleaned By	Witnessed By	Gallons Pumped	Grease Disposal Site	Comments

Food Temperature Log

Initials	Date	Time	Food	Location	Temperature	Corrective Action

- Check holding temperatures approximately every 4 hours.
- Cold holding temperatures must be 41°F and below.
- Hot holding temperatures must be 135°F and above.
- Spot check cooking temperatures (i.e. chicken) throughout the day.

Cleaning Schedule

Date	Area to be Cleaned	Cleaning Method	Employee Responsible	Manager Verification

- Assign cleaning duty based on specific areas such as the store room, prep line, bar, utensil washing area, etc.
- List specific equipment that needs to be cleaned.
- Use past audits and health inspection reports to target areas that need more attention.



Food Facility Self-Inspection Form

Hot and Cold Holding Cold foods held at 41°F and below?	>-	z	n/a	Employee Hygiene Are any employees sick, or have any open cuts, sores,	>	Z	Ç
Hot foods held at 135°F and above?	>	z	n/a	20.00.00	_	2	<u> </u>
Foods rapidly coaled using approved methods?	>	z	n/a	All nand wasn sinks are accessible, nave not and cold running water, paper towels, and soap available for use?	>	z	n/a
Proper Cooking Temperatures Raw animal products cooked to proper temperatures?	>	z	n/a	Employees have been trained and are using correct hand washing procedures?	>	z	n/a
Foods rapidly reheated to 165°F within 2 hours?	>	z	n/a	Food Sources Produce is weeked prior to preparedion or services	>	Z	Ç
A probe thermometer accurate to (+/-) $2^{\circ}F$ available?	>	z	n/a		- >	2 2	<u> </u>
Utensils and Equipment I tensils are soranged of expess food washed rinsed				All 100d comes from an approved source? Shallfish tack are maintained property.	> >	z z	D 0
sanitized, and air dried?	>	z	n/a		-	<u> </u>	<u> </u>
Sanitizer concentration is at proper levels? (100 ppm C1, 200 ppm Quat, or 25 ppm I)	>-	z	n/α	General Facility Hot water of at least 1.20°F is available throughout the entire facility?	>	z	n/a
Dish machine is sanitizing properly?	>	z	۵/۵	Grease trap and plumbing functioning properly?	>-	z	n/a
Test strips present to measure sonitizer concentrations?	- >	z z)	Any signs of vermin activity or vermin harborage?	>	z	n/a
lead winitial cloths are placed in a bucket with proper		:	5	Equipment is commercial grade and in good condition?	>	z	n/a
sanitizer levels or in a hamper?	>	z	n/a	Food, utensils, and equipment maintained 6 inches above the floor?	>	z	n/a
Food is prepared so as to not cross-contaminate raw foods with ready-to-eat foods?	>	z	n/a	All food preparation surfaces and equipment cleaned	>	Z	
Food is properly covered and stored so as to prevent					-	2	<u> </u>
	>-	z	n/a	Walls, floors, and ceilings in a clean and sanitary state?	>	z	n/a

Notes



Contact Numbers



California Board of Barbering and Cosmetology (800) 952 – 5210
California Department of Alcoholic Beverage Control (714) 558 – 4101
California Department of Consumer Affairs(800) 952 – 5210
California Department of Food and Agriculture(916) 654 – 0462
California Department of Housing and Community Development (916) 445 – 4782
California Department of Public Health Food and Drug Branch (916) 650 – 6500
California Division of Occupational Safety and Health (800) 963 – 9424
County of Orange Animal Care Services(714) 935 – 6848
County of Orange Public Works Department(714) 834 – 2300
EmergencyDial 911
Environmental Health Food Protection Program Hotline (714) 433 – 6000
Fair Housing and Equal Opportunity(202) 708 – 1112
Integrated Waste Management Department (IWMD) (714) 834 – 4000
Integrated Waste Management Department (IWMD) (714) 834 – 4000 Orange County Code Enforcement (949) 587 – 5867
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Orange County Code Enforcement
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