

FOOD HANDLING SAFETY

COURSE OUTLINE

- **The food supply in the United States is considered to be one of the safest in the world.**
 - Yet according to the Centers for Disease Control millions of Americans still experience foodborne illnesses every year.
- **Businesses that market, prepare or serve foods to the consumer are required to ensure that their food is safe to eat.**
 - The employees who perform food handling duties play a vital role in preventing contamination and the spread of foodborne illnesses.
- **More than 250 different foodborne diseases have been found in food that has been contaminated by microscopic organisms such as bacteria, viruses and parasites.**
 - These organisms are called "pathogens", and most of them are too small to see without a microscope.
 - But they can cause big health problems.
- **People with weak immune systems, such as children and the elderly, are especially vulnerable to foodborne illness.**
 - Symptoms typically include nausea, vomiting, stomach cramps and diarrhea.
 - In some cases these pathogens can cause more serious, long-term problems, and even be fatal.
- **So federal, state and local regulations require that companies and their employees follow safe work practices in bringing food through the supply chain from producer to consumer.**
 - But in spite of these laws, outbreaks of foodborne illness still occur.
- **You may have heard of some of the food contaminating pathogens that have been involved in the news. They include hazardous bacteria such as:**
 - E. coli, which can contaminate water supplies, ground meats, salad greens and raw vegetables.
 - Salmonella, which has been found in meats, eggs, peanut butter, cucumbers and romaine lettuce.
 - Listeria, which can infect seafood, deli meats, bean sprouts, and even cantaloupes.

- **Foodborne viruses include hepatitis A and norovirus, which can contaminate shellfish, salad greens and fruits.**
- **Parasites that can cause foodborne illnesses include:**
 - *Trichinella spiralis*, a roundworm that is found in uncooked meats, which can invade the intestines and cause abdominal pain, vomiting and diarrhea.
 - *Cryptosporidium*, which can also affect the intestines with similar unpleasant results.
- **Small amounts of pathogens exist naturally in many types of food, and our immune systems can usually handle them safely.**
 - But given enough time in the right conditions, microorganisms can multiply very quickly, and cause serious health problems.
- **Pathogens generally thrive at temperatures between 41 degrees and 135 degrees Fahrenheit.**
 - So this is the "danger zone", where they can grow and reproduce best.
- **To prevent foodborne illnesses, you need to keep food out of this temperature range.**
 - Chilling food can slow and almost stop the activity of most pathogens.
 - Raising the temperature out of the danger zone by cooking food can kill them.
- **However, the illnesses caused by some pathogens result from toxins that they produce when they are living in the food.**
 - So even if you kill the bacteria, the toxin can still be hazardous to anyone who ingests it.
 - Which makes these types of pathogens even more dangerous.
- **About one in four outbreaks of foodborne illnesses can be traced back to the personal hygiene of the employees who prepared the food.**
 - So as a food handler you need to make good personal hygiene a priority, and not just during working hours.
- **Your lifestyle needs to include keeping your clothes clean, regular bathing and washing your hair.**
 - You should trim your fingernails short, so they are easy to keep clean as well.

- **When preparing for work, remember that rings, bracelets and wristwatches can give germs a great place to hide.**
 - Earrings can fall into food without you even being aware of it.
- **If you need to wear a medical alert bracelet, you should put it around your ankle rather than on your wrist.**
- **When you arrive at work you should put a clean apron or chef's coat on over your street clothes or uniform if you wear one.**
- **Your hair can contaminate food directly by falling into it, or indirectly if you touch it with your hands.**
 - So pull your hair back and put it inside a hat or a hairnet.
 - Cover any facial hair with a "beard restraint" as well.
- **Before you enter the food preparation area, wash your hands.**
 - Always use soap and water.
 - Lather and scrub for at least 20 seconds.
 - Then rinse and dry thoroughly.
- **To avoid re-contaminating your hands, you should turn off the faucet with a towel.**
- **If you have a cut, wound or open sore on your hands, cover it with a tight-fitting, waterproof bandage and put a glove on over that.**
- **If you are required to wear disposable gloves on the job, wash your hands before putting them on.**
 - Throw them away when you're done.
 - Never re-use them.
- **When you're performing your food handling tasks:**
 - Avoid touching your nose, mouth, hair or skin.
 - Do not cough or sneeze into your hands, or onto food or equipment (if a tissue is not available, try to sneeze into your bent elbow).
- **Smoking, eating, drinking, or chewing gum or tobacco is usually prohibited in a food prep area.**
 - Regulations may allow you to drink beverages through a straw from a covered container.
 - Check with your supervisor about this first.

- **If you're feeling sick, you should never perform food-handling tasks.**
 - There's just too much risk of spreading germs.
- **If you just have a minor head cold, you can ask your supervisor if there is work that you could do outside of the food prep area.**
 - If your symptoms include sore throat, fever, nausea, vomiting, diarrhea or jaundice, you should stay home.
- **If you are ever diagnosed with a salmonella, hepatitis or shigella infection, you should notify your employer immediately.**
- **Washing our hands is something we have done all of our lives.**
 - But for food handlers, thorough handwashing is more than a good habit.
 - It's a professional and sanitary requirement.
- **To prevent the spread of foodborne illnesses, you need to know how to wash your hands, and when.**
- **Let's start with the "how".**
 - First, you should roll up your sleeves and remove any wristwatches, bracelets or rings that you're wearing.
 - Anything that you have on your hands or wrists prevents effective cleaning, by giving microorganisms a place to hide.
- **To ensure a thorough cleaning, you should scrub for at least 20 seconds.**
 - A convenient way to time yourself is to sing the "Happy Birthday" song twice in your head while you're doing it.
- **Turn on warm water and wet your hands all over.**
 - Then add liquid soap.
 - This combination does a good job of dissolving natural skin oils and lifting dirt.
- **Lather and rub your hands together.**
 - First palm-to-palm.
 - Then using the palm of each hand to scrub the back of the other one, including the fingers.
 - Interlace your fingers to scrub between them.

- **Clean each thumb by gripping it with the other hand and rotating.**
 - Do the same for each fingertip, scrubbing thoroughly around your fingernails.
- **Lather and scrub your wrists and lower forearms.**
 - Then rinse off under the running water, keeping your fingers pointed down (this helps suds and soils to drain off).
- **Wet hands can carry up to a thousand times more germs than dry ones, so dry yours thoroughly with a single-use paper towel, or a hot air blower.**
- **You should also use a towel to turn off the faucet.**
 - That way you don't re-contaminate your clean hands!
- **A food handler not only needs to wash their hands thoroughly, but they also need to wash them often. You should wash yours...**
 - Before entering a food preparation area, putting on gloves or handling anything that has been cleaned and sanitized.
 - Between each of the food prep tasks that you perform that involves different types of food.
 - After you clean equipment or scrub the floor, take out the trash or handle dirty dishes, linens or clothing.
 - After you take a break for a snack, a phone call or a smoke.
 - After you cough or sneeze, touch your hair
 - or your face, use a tissue or handkerchief, or visit the restroom.
- **To prevent the spread of foodborne diseases, a food preparation area and all of the equipment and utensils that are used in it, need to be both clean and sanitary.**
 - Because "clean" and "sanitary" are two different things.
- **As a food handler, you need to understand how they are different and how you should use them to prevent food contamination in your workplace.**
- **The "cleaning" process removes dirt, grease, food particles and other substances from any food prep surfaces where they have collected.**
 - It uses soap or detergent mixed with warm water to loosen and dissolve these materials, as well as some physical force, like scrubbing, to strip them from the surface.

- **For example, when you are cleaning prep tables and equipment, containers or shelving in a walk-in you should use a bucket or spray bottle full of warm, soapy water, with a clean towel for scrubbing.**
 - After cleaning, you should rinse the surface with warm, fresh water and wipe it clean with a towel.
 - Eventually, you may notice food particles in your bucket of soapy water.
 - That's when it's time to replace it.
 - Get a clean cloth, sponge or scrubbing pad to use with every fresh batch.
- **"Sanitizing" does something else.**
 - It kills microscopic organisms that may exist on the surfaces that could come into contact with food.
 - It requires time for the disinfectants to work, because pathogens aren't always easy to kill.
- **Once a surface has been cleaned, it's ready to be sanitized.**
 - Your employer will have their own preferred disinfectants, as well as standard procedures for mixing them into a sanitizing solution.
 - Check with your supervisor if you have any questions about the materials or practices you should use.
- **Don't mix any cleaning materials with your sanitizers.**
 - At best, adding soap and water to a sanitizer will only make it less effective.
 - Sometimes mixing these types of substances can produce gases that can be dangerous to breathe.
- **Using a bucket and clean cloth, or a spray bottle, apply the sanitizer to a surface... then wait.**
 - Give the disinfectant time to work.
- **How long you should wait, and whether you need to rinse the surface afterward, depends on the type of sanitizer that you're using.**
 - Ask your supervisor about proper procedures before you begin, because improper sanitizing won't kill germs.
- **Remember, cleaning removes substances that you can see, while sanitizing kills germs that you can't.**
 - It's a two-step process, and both steps are necessary to prevent foodborne diseases.

- **While some machines such as dishwashers can combine the cleaning and sanitizing steps in a single cycle, as a food handler you will usually perform them separately, by hand.**
- **Outbreaks of foodborne illness occur when people eat foods that have been contaminated by bacteria, viruses or parasites.**
- **Fortunately, most contamination can be prevented by following safe food handling practices.**
 - One type of food contamination in particular, "cross-contamination", can require special attention.
- **In cross-contamination active pathogens move from one type of food to another type of food where they are not usually found.**
- **For example, the consequences can be serious if raw meat, poultry, seafood and eggs are not kept separate from...**
 - Each other.
 - Fresh fruits and vegetables.
 - Foods that have already been cooked.
- **Unfortunately, cross-contamination can happen all too easily during food prep and storage.**
 - For example, frozen hamburger patties that have been left to thaw on a middle shelf of a refrigerator can drip liquid that contains active pathogens onto vegetables that have been stored on a shelf below.
- **When the patties are cooked, the high temperature will kill any bacteria in the meat.**
 - On the ready-to-eat vegetables, the pathogens are passed directly to the consumer, without further treatment.
 - So the salmonella bacteria from raw meat in the kitchen could cross-contaminate a self-serve buffet.
- **To prevent this, raw foods should always be stored as close to the floor as possible, with ready-to-eat foods placed above them.**
- **The utensils that are used in food preparation can cause cross-contamination as well.**
 - For example, after using a cutting board and knife to slice raw fish, you should not use the same board and knife to chop fresh salad greens.

- **The salad greens could be cross-contaminated by an active pathogen that originated in the fish, such as listeria.**
 - So make sure you use a fresh, clean cutting board and knife for each type of food you prepare.
 - All serving utensils as well as storage containers that will come into contact with ready-to-eat foods should be thoroughly cleaned and sanitized before use.
- **Cross-contamination can occur on a crowded grill or other cooking surface too.**
 - A pork chop that's already done could pick up a live pathogen from an uncooked chicken breast that's put down right next to it.
- **You should never place cooked food back onto the same plate that held it when it was raw.**
- **When you're changing out of a dirty apron, either put it into the laundry or hang it up.**
 - Never put it down on a food prep counter.
 - That could cross-contaminate the surface, which in turn could cross-contaminate any equipment, utensils or foods that are placed there.
- **Meat, poultry, fish, dairy products, eggs... these are all foods that will "go bad" if you leave them out at room temperature.**
 - More than half of foodborne illnesses result from people eating "perishable" foods like these, that have been stored, cooked or held after cooking at the wrong temperatures.
- **So one of the things that safe food handling depends on is "temperature control".**
 - It has a direct effect on any microorganisms that are living on or in the food.
- **Food pathogens tend to live and reproduce best at temperatures between 41 and 135 degrees Fahrenheit.**
 - But you can slow and even stop their activity by forcing them out of their "comfort zone".
- **For example, cooking food can raise its temperature enough to kill any pathogens it may contain.**
 - Raw meat and poultry must be cooked to a minimum internal temperature of 165 degrees Fahrenheit for this to occur.

- **You shouldn't rely on the outside color of the meat to tell you when it's hot enough.**
 - The temperature that matters is on the inside.
 - So use a clean food thermometer to get an accurate reading.
 - Remember to place the probe in the thickest part of the food.
- **While cooking food to proper temperatures can certainly help to keep it safe, it's important to understand that if food has been mishandled before cooking, even high temperatures might not help.**
- **Some pathogens, such as the botulinus bacterium, release toxins into the food they live in.**
 - Even if you kill the bacteria later by cooking, these toxins can still make people sick.
- **And immediately cooking foods is not always desirable or convenient in a busy kitchen.**
 - In that case you can reduce the activity of any pathogens in foods by cooling them below 41 degrees Fahrenheit.
 - Foods at this temperature can be stored safely for some time.
 - Foods that are kept frozen, below 32 degrees Fahrenheit, can be stored almost indefinitely.
- **Remember, each refrigerator or walk-in should be equipped with a thermometer, so everyone can make sure the temperature inside is staying at the desired setting.**
- **While chilling pathogens or putting them on ice can help to "deactivate" them, it doesn't kill them.**
 - As soon as the food warms up the germs wake up and become active again.
 - So you should never leave frozen foods to defrost at room temperature.
- **If there's time, defrost them gradually on the bottom shelf of a refrigerator.**
 - If you're in a hurry, you can thaw frozen foods in a microwave, but be sure to cook them immediately afterward.
- **Cooked and ready-to-eat foods that are being held or served in salad bars, buffets or cafeterias should be kept out of the temperature danger zone as well.**
 - As a rule of thumb, that means keeping hot foods hot, above 135 degrees Fahrenheit, and cold foods cold, below 41 degrees.

- **As we've seen, there are many ways that food can be contaminated by pathogens which can make people sick.**
 - But when food handlers use the right equipment and follow safe work practices, foodborne illnesses can be prevented.

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- **Outbreaks of foodborne illness occur when people eat foods that have been contaminated by pathogens such as bacteria, viruses and parasites.**
- **As a food handler, you need to maintain good personal hygiene habits, including thorough hand washing, both at home and at work.**
- **Cleaning and sanitizing is a two-step process. You should know how to accomplish both in a food prep environment.**
- **You need to understand how cross-contamination can occur, and how to prevent it.**
- **You should understand how controlling the temperature of food can reduce or even eliminate the pathogens in it.**
- **Now that you are aware of how pathogens can cause foodborne illnesses, and what you can do to fight them, you can help ensure that the food you prepare is safe for everyone who eats it!**