

Introduction Study Guide for Servsafe Management :

According to Centers for Disease Control and Prevention (CDC), each year:

- Over 76 million people become sick due to foodborne illness
- Over 325,000 people are hospitalized
- Over 5,000 people die
- Each incident cost the food service industry an average of \$74,000

TCS - Time & Temperature Control for Safety

1. FAT TOM

i. Food

ii. Acid (4.6 - 7.0)

iii. Time (double every 20 min)

iv. Temperature

v. Oxygen

vi. Moisture (Aw) 0.8 - 1.0

2. 5 most common risk factors

- i. Improper hot/cold holding temperatures of TCS food.
- ii. Improper cooking temperatures of food.
- iii. Dirty and/or contaminated utensils and equipment.
- iv. Poor employee health and hygiene.
- v. Food from unsafe sources.

Cooking Temperature

- 1. 135F - fruits and veggies
- 2. 145F - Solid cuts of meat
- 3. 145F - Fish
- 4. 145F - Eggs for immediate consumption
- 5. 155F - Eggs for later consumption (buffet)
- 6. 155F - Ground beef or pork
- 7. 165F - Poultry (whole or ground)
- 8. 165F - Stuffed fish

Proper Personal Hygiene

- 1. Wear hair restraints (tuck in long hair)
- 2. FDA approved hand sanitizer (not a substitute)
- 3. HESSN - 6 highly infectious illness
 - i. Hepatitis A (Hand Washing)
 - ii. E Coli (Beef)
 - iii. Salmonella Typhoid (Fever)
 - iv. Shigella (Fecal)
 - v. Salmonella NT (Non-typhoical)
 - vi. Norovirus (Cruise ship)
- 4. Exclusion: call health dept, 24 hours medical clearance.
- 5. Restriction: avoid preparing food, working on other tasks instead.
- 6. Symptoms - vomiting, diarrhea, jaundice

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Contaminants to Food

- 1. SDS - require by OSHA, first-aid info
- 2. Chemical - Sanitizer, cleaning agents should be locked up, separated
 - i. Only Certified Pesticide Operator (CPO) can apply pesticide on premises.
 - ii. Copper, Brass, Tin (CBT) should not mix with acidic food.
 - iii. Clay pot should be free of lead (sweetness)
- 3. Physical Threats - visible, if you can see it
 - i. Bone, wood, plastic
- 4. Cross-Contamination - Meat to veggie (cutting board, towel)

Bacteria, Parasites, Viruses, Mold, Toxins

- 1. Bacteria - low temperature does not kill
 - i. E. Coli (Beef)
 - ii. Salmonella (Poultry)
 - iii. Clostridium Botulinum (Canned food)

- iv. Listeria (37F in refrigerator)
 - v. Shigella (Human feces, not washing hands)
 - vi. Staphylococcus (Sneezing, coughing, nose, skin)
 - 2. Viruses - spread by poor personal hygiene
 - i. Norovirus (Human intestinal tract)
 - ii. Hepatitis A (Poor hand washing)
 - 3. Parasites - Freeze at -4F for 7 days or cook well
 - i. Trichinella (Pork and wild game)
 - ii. Anisakis (Fish, sushi)
 - iii. Giardia (contaminated water)
 - 4. Mold - Aflatoxins
 - i. Corn, grains
 - ii. Peanuts
 - 5. Toxins - Seafood
 - i. Scombroid (Mahi-Mahi and tuna from time/temp abuse)
 - ii. Ciguatera (Algae that contain ciguatoxin)
- Purchasing, Receiving, Storing
- 1. Ice crystals - reject the shipment
 - 2. FIFO - First in first out
 - 3. Dairy - Grade A & Pasteurized
 - 4. Poultry - dark wing tips, soft, sticky flesh
 - 5. Fresh fish - Bright skin, red moist gills
 - 6. Fresh shellfish - Keep Shell-stock IF tags for 90 Days
 - 7. Refrigerated food receiving temperature - 41F
 - 8. Frozen food receiving temperature - 0F

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- 9. Milk, egg, shellfish receiving temperature - 45F
- 10. Storage safe food order
 - i. Poultry at bottom, ground meat above poultry, pork above ground beef
 - ii. Store RTE (Ready-to-eat) foods away from or above raw foods
 - iii. Prevent food overload
 - iv. Use lid to cover all food

Temperature Control

- 1. Holding with No Temperature Control:
 - i. Cold food start at 40F, not higher than 70F, max for 6 hours
 - ii. Hot food start at 135F, not lower than 70F, max for 4 hours
- 2. Thermometer = Thermocouple / Thermistor
- 3. Thermometer Calibration: +/-2F for Food, +/-3F for Air temperature
 - i. Cold method (best) - 32F with 50% ice & 50% water
 - ii. Hot Method - 212F with boiling water
- 4. 2 Stage Cooling - FDA Food Code
 - i. 130F to 70F within 2 hours
 - ii. 70F to 41F within 4 extra hours
- 5. Cooling foods - 3S's and 3I's
 - i. Small, Shallow, Stir
 - ii. Ice bath, Ice wand, Ice directly
- 6. Thawing methods - CROW
 - i. Cook, Refrigerate, Oven, Water (running)

Equipment & Facility

- 1. Cross connection - mixing of potable and non-potable water supply
 - i. Backflow - When pressure in the potable water supply drops below the non-potable water supply (siphon)
 - ii. Vacuum breaker - Prevent backsiphonage
 - ii. Airgap - Must be at least 1 inch or twice faucet diameter
- 2. Buffet Station
 - i. No re-use dirty plates

ii. UL or NSF (Approved by ANSI)

3. Floor Mounted

i. 6 inches from floor

4. Table-Top equipment

i. 4 inches from surface

Pest Control

1. Mice, rats, roaches

i. Mice & Rats have droppings like black pellets, oily brush marks

ii. Roaches lay brown egg cases, dropping like grains of black pepper

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Cleaning and Sanitizing

1. Cleaning - removal of food particles from surface in contact with food

i. Washing + Rinsing = Cleaning

2. Sanitizing - reduced number of pathogens on surfaces

3. Types of cleaners - 3DA

i. Detergent - general purpose, dirt and grime

ii. Delimers - mineral deposits

iii. Degreaser - fats, oils

iv. Abrasive - Baked on debris

4. 3 Types of sanitizers - ICQ

i. Iodine - 12.5ppm for 30 sec

ii. Chlorine - 50ppm (bleach) for 7 sec

iii. Quaternary ammonium (Quats) - 200ppm for 30 sec

5. 5 Steps to proper manual washing - SWRSA

i. Scrap / soak

ii. Wash

iii. Rinse

iv. Sanitize

v. Air dry

6. Machine dishwashers

i. High Temperature - 180F but not above 195F

ii. Low Temperature - 120F

7. Frequency - every 4 hours

Foodborne Illness and Allergies

1. High Risk Population Group

i. Young Children

ii. Elderly

iii. People with weak Immune system

2. Allergies - 8 major allergens (Avoid cross-contact)

i. Wheat

ii. Soy

iii. Egg

iv. Milk

v. Fish

vi. Shellfish

vii. Nut

viii. Treenut

3. HACCP - Hazard Analysis Critical Control Point

i. Prevention-base system develop by NASA

ii. 7 Steps - HA, CCP, CL, Monitor, CA, Verify, Record Keeping

iii. Procedures require HACCP - Packaged food, unpasteurized juice, undercook shellfish, live fish display, smoking BBQ, food additive, curing food.