Cross Contamination

- Always store raw meats below ready-to-eat foods in the refrigerator/freezer
- Wash/change cutting boards and utensils after preparing raw foods
- Wash hands before and after handling raw meat

Cooking When Ill

Never Handle Food When Ill with Any of the Following:

- Nausea
- Vomiting
- Diarrhea
- Abdominal Cramps
- Fever
- Jaundice
- Boil or Infected Wound

After recovering from an illness, some bacteria and viruses can be shed from the body for days or even weeks.

Take Away:

- Wash hands before preparing foods and whenever they become contaminated
- Never touch ready-to-eat foods with bare hands
- Do not thaw foods at room temperature
- Measure internal temperature from ***thickest*** portion of food when cooking
- Cool food quickly after cooking if it is to be used later
- Keep hot foods hot (140º+) and cold foods cold (45ºF-)
- Be mindful of cross contamination when storing and preparing food
- Do not handle food when ill

Additional food safety information and tips available at:

- https://www.foodsafety.gov/
- https://www.cdc.gov/foodsafety

Food Safety

Cooking for Yourself and Others

*CDC estimates that each year roughly **1 in 6** Americans (or 48 million people) become sick from a foodborne illness agent. Of those, 128,000 people are hospitalized and 3,000 die of foodborne diseases.*

Foodborne Illness Agents:

- Infectious Bacteria
- Toxin Producing Bacteria
- Spore Forming Bacteria
- Viruses
- Parasites
- Fungi
- Shellfish Toxins
- Metal Poisoning

Conditions Affecting Growth of Microorganisms

Food, **A**cidity, **T**emperature, **T**ime, **O**xygen and **M**oisture (FAT TOM)

- The types of food that microorganisms grow in include carbohydrates and proteins.
- Foods with a pH > 4.6 are conducive to bacterial growth/survival.
- Foodborne pathogens grow best in the "temperature danger zone" between 45˚F and 140˚F.
- Microorganisms can multiply to levels that will make someone sick in 4 hours if conditions are right.
- Aerobic bacteria require availability of O_2 for respiration and grow quickly. Anaerobic bacteria can grow in environments without O_2 but grow slower.
- Foodborne bacteria require the availability of water (>0.85 Aw) in food for growth/survival.

Proper Handwashing

- Good handwashing takes at least 20 seconds
- Use hand soap and warm water
- Make sure to wash underneath finger nails and between fingers
- Dry hands using a disposable or clean towel

NOTE - *Hand sanitizers are **not** a substitute for handwashing.*

When to Wash Hands

- Before starting work
- After using the restroom
- Touching any part of your body
- Sneezing, coughing or using a tissue
- After smoking, eating, drinking or chewing gum or tobacco
- After handling chemicals
- Taking out garbage
- Before and after handling raw meat, poultry or fish

Eliminating Barehand Contact

- Touching Ready-To-Eat (RTE) foods with bare hands transfers bacteria and viruses from hands onto that food
- **Only** foods that are to be subsequently cooked may be handled with bare hands.
- Use gloves, napkins or utensils (i.e. tongs or spatulas) to avoid touching food with bare hands

Thawing Food

- In refrigeration
- Under cold running water
- In a microwave
- As part of the cooking process (when small portions are used)

DO NOT THAW FOODS AT ROOM TEMPERATURE!!!

Cook Temperatures

Food	Internal Temperature
Poultry & Reheated Foods	165ºF
Ground Meat (other than poultry)	158ºF
Pork	150ºF
Eggs	145ºF
Preprocessed and Other Foods	140ºF
Rare Roast Beef and Beef Steaks	130ºF

Cooling Food

After cooking, cool foods quickly to prevent bacteria from growing. Food temperature needs to drop from 120ºF to 70ºF in 2 hours, and from 70ºF to 45ºF in 4 additional hours.

Methods of Cooling:

- Use metal pots/pans
- Keep food depth to less than 4 inches
- Leave items uncovered in refrigerator
- Divide into smaller portions
- Stir watery/viscous foods frequently
- Use an ice paddle/bath for rapid chilling

Holding Foods: Hot and Cold

- When hot holding foods (i.e. crockpot or steamtable), make sure coolest portion of food (the surface) is at or **above 140ºF**.
- When cold holding foods (i.e. refrigerator), make sure internal temperature is at or **below 45ºF**.