Food Safety

Foodborne illnesses (Food poisoning)

* Causes
  + Caused by the consumption of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food
  + Caused by improper handling, preparation, or food storage
  + Caused by chemicals (i.e. pesticides, medicines)
  + Caused by bacteria (i.e. Campylobacter jejuni, Salmonella, E. coli)
* Preventions
  + Hygiene
  + Surveying
    1. Traceability (know the origin of all the ingredients)
    2. Enforcement of hygiene procedures
       - HACCP ~ Hazard Analysis Critical Control Point
       - Cold chain ~ a temperature-controlled supply chain, ensures the extended shelf life of agricultural produce, frozen food, etc
    3. Power of control and of law enforcement of veterinarians
  + Cooking thoroughly
  + Eating it quickly (not letting it sit on the shelf for too long)
  + Refrigerating effectively
* Food hygiene
  + Principles
    1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
    2. Separate raw and cooked foods to prevent contaminating the cooked foods.
    3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
    4. Store food at the proper temperature.
    5. Use safe water and raw materials.
  + Guidelines
    1. WASHING HANDS; A proper hand-washing technique suggested is using soap and warm water, washing vigorously for 10-20 seconds, making sure to reach all surfaces of the hands including the wrists, between the fingers, and under the fingernails, rinsing well, drying hands with a paper towel, and using a paper towel to turn off the water. Wash hands before/after eating, after using restroom, coughing/sneezing, touching cuts/skin infections, handling raw meat, and touching pets/animals. 50% of the cases of food poisoning could be prevented by better hand-washing by food handlers. Hand sanitizer ~ useful, but not a replacement for washing.
    2. FOOD SELECTION; some foods should not be eaten because they contain bacteria (i.e. raw milk, unpasteurized dairy products, unpasteurized juices, fresh apple cider, raw meat, and raw cookie dough (SORRY GRACE))
    3. FOOD STORING; if foods have been stored at room temperature for two or more hours, bacteria might have already started to grow. The safe temperature for foods in refrigerators is between 35 degrees Fahrenheit and 45 degrees Fahrenheit. Freezers should be kept at 0 degrees Fahrenheit or below.
    4. MEAT THAWING; letting meat thaw on the counter allows germs on the raw meat to grow and thrive. It is safer to thaw the meat under running water (at 70 degrees Fahrenheit or below) for less than two hours, placing the meat in the refrigerator to thaw, or thawing the food in the microwave as part of the cooking process.
    5. FOOD COOKING; make sure that raw meat is cooked to the appropriate internal temperature before eating. Poultry should be cooked at 165 degrees Fahrenheit; ground beef should be at 155 degrees Fahrenheit; fish and pork at 145 degrees Fahrenheit. Also, just looking at the meat is not appropriate to judge the doneness of the meat; one must use a meat thermometer.
    6. CLEANING; cross contamination occurs when a person handles raw meat, eggs, fish, or foods containing harmful bacteria and touches utensils, boards, surfaces, other people, etc. This can be avoided by washing hands after touching raw foods, washing everything that touches raw foods, and disinfecting counter surfaces frequently.
    7. LEFTOVER STORING; store in shallow containers (2 inches tall or less) so cooling process is faster and harmful bacteria can’t grow.

Codex Alimentarius

* A collection of internationally recognized standards, codes of practice, guidelines, and other recommendations relating to food, food production, and food safety.
* Food labeling
  + Enclosing/protectin products for distribution, storage, sale, and use
  + For physical protection, barrier protection, containment, information transmission, marketing, security, convenience, portion control, etc.
* Food additives
  + Substances added to food to preserve flavor or enhance its taste and appearance
  + Pickling, salting, using sulfur dioxide
  + Acids, acidity regulators, anticaking agents, antifoaming agents, antioxidants, bulking agents, food coloring, color retention agents, emulsifiers, flavors, flavor enhancers, flour treatment agents, glazing agents, humectants, tracer gas, preservative, stabilizers, sweeteners, thickeners, etc.
* Contaminants in food
* Pesticide
* Risk assessment
* Food hygiene