



FOOD SAFETY CONCEPTS

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OBJECTIVES

- ◆ IDENTIFY RISK FACTORS FOR
FOODBORNE ILLNESS
- ◆ IDENTIFY FOOD SAFETY HAZARDS
AND CONTROLS
- ◆ APPLY KNOWLEDGE TO DETERMINE
SAFETY OF FOOD PROGRAM

WHATS THE BIG DEAL?



Lamplugh Glacier, Glacier Bay, Alaska.

Photo by John Bortniak

NOAA Central Library

🙄 76 Million Cases of Foodborne Illness
Annually

🙄 340,000 Hospitalizations per year

🙄 5,000 Deaths per year



Risk Factors

- Food from Unsafe Sources
- Inadequate cooking
- Improper Holding Temperatures
- Contaminated Equipment
- Poor Personal Hygiene



Food Safety Hazards

-A biological, chemical, or physical property that may cause an unacceptable consumer health risk

Chemical Hazards

- ◆ Natural – mycotoxins, scombroid and ciguatera, mushrooms, shellfish, allergens
- ◆ Added – medicines, food additives, pesticides, cleaners



Physical Hazards

- ◆ Bones, wood, glass, metal fragments, plastic



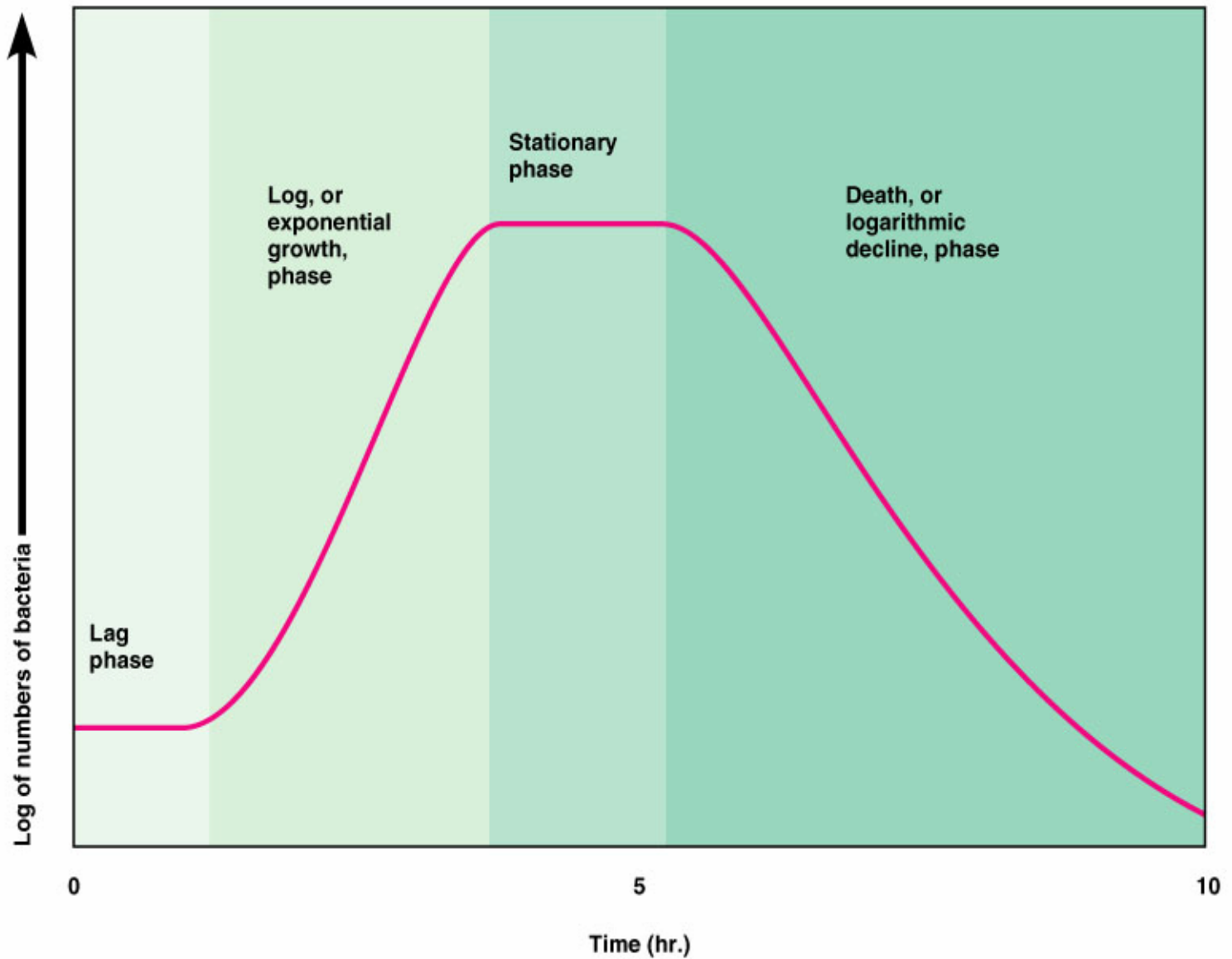
Biological Hazards

- ◆ Include bacterial, viral, and parasitic organisms



Key Factors that affect Bacterial Growth







PHF/TCS FOODS



- ◆ Animal Foods
- ◆ Heat Treated Plant Food
- ◆ Raw Seed Sprouts
- ◆ Cut Melons
- ◆ Garlic in Oil



BACTERIA

- ◆ Vegetative
- ◆ Spore Formers
- ◆ Staph



FOODBORNE VIRUSES

Noroviruses and Hepatitis A

Shed in human feces



Resistant to Heat

PARASITES

◆ Cyclospora

◆ Crypto

◆ Giardia

◆ Parasitic worms









MANAGING RETAIL FOOD SAFETY

WHAT CAN WE DO?



Risk Factors

- Food from Unsafe Sources
- Inadequate cooking
- Improper Holding Temperatures
- Contaminated Equipment
- Poor Personal Hygiene

HACCP

- ◆ A food safety management system based on Hazard Analysis and Critical Control Point principles.

HISTORY

- ◆ 1950's NASA and Pillsbury
- ◆ 1971 – presented at the first CFP
- ◆ 1973 – FDA and Low Acid Canned Foods
- ◆ 1996 – USDA and Raw Meat Production

HACCP principles

- *Principle 1.* Identify the potential hazards associated with food production at all stages
- *Principle 2.* Determine the points, procedures and operational steps that can be controlled to eliminate the hazards or minimize their likelihood of occurrence; these are the critical control points (CCPs)
- *Principle 3.* Establish critical limits
- *Principle 4.* Establish a system to monitor control of CCPs
- *Principle 5.* Establish the corrective action to be taken
- *Principle 6.* Establish procedures for verification
- *Principle 7.* Establish documentation

FOOD PREP FLOWCHARTS

◆ No Cook



◆ Cook and Serve



◆ Complex

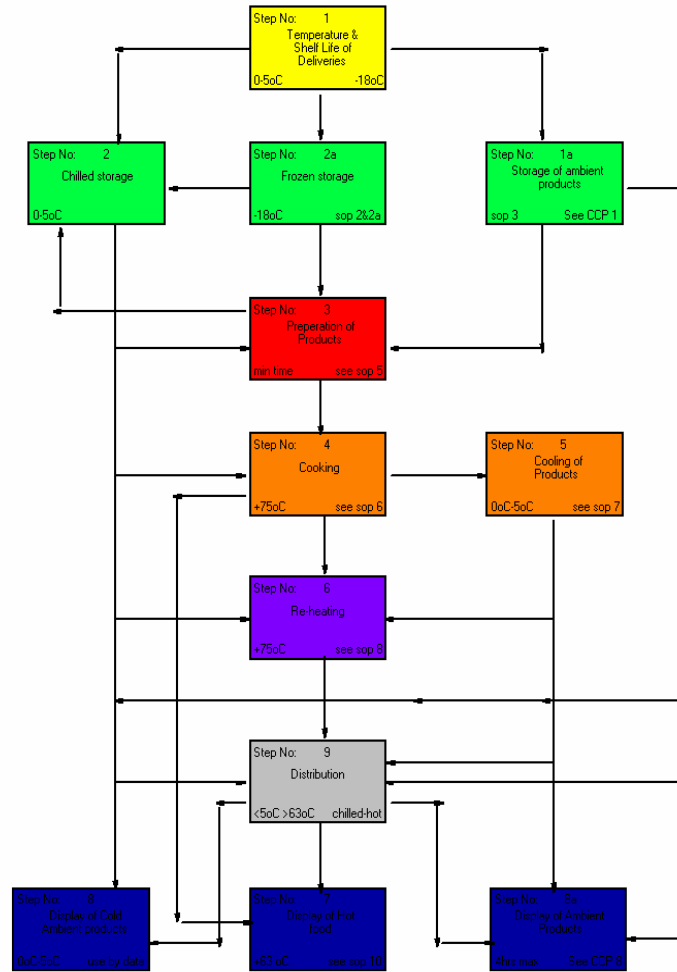


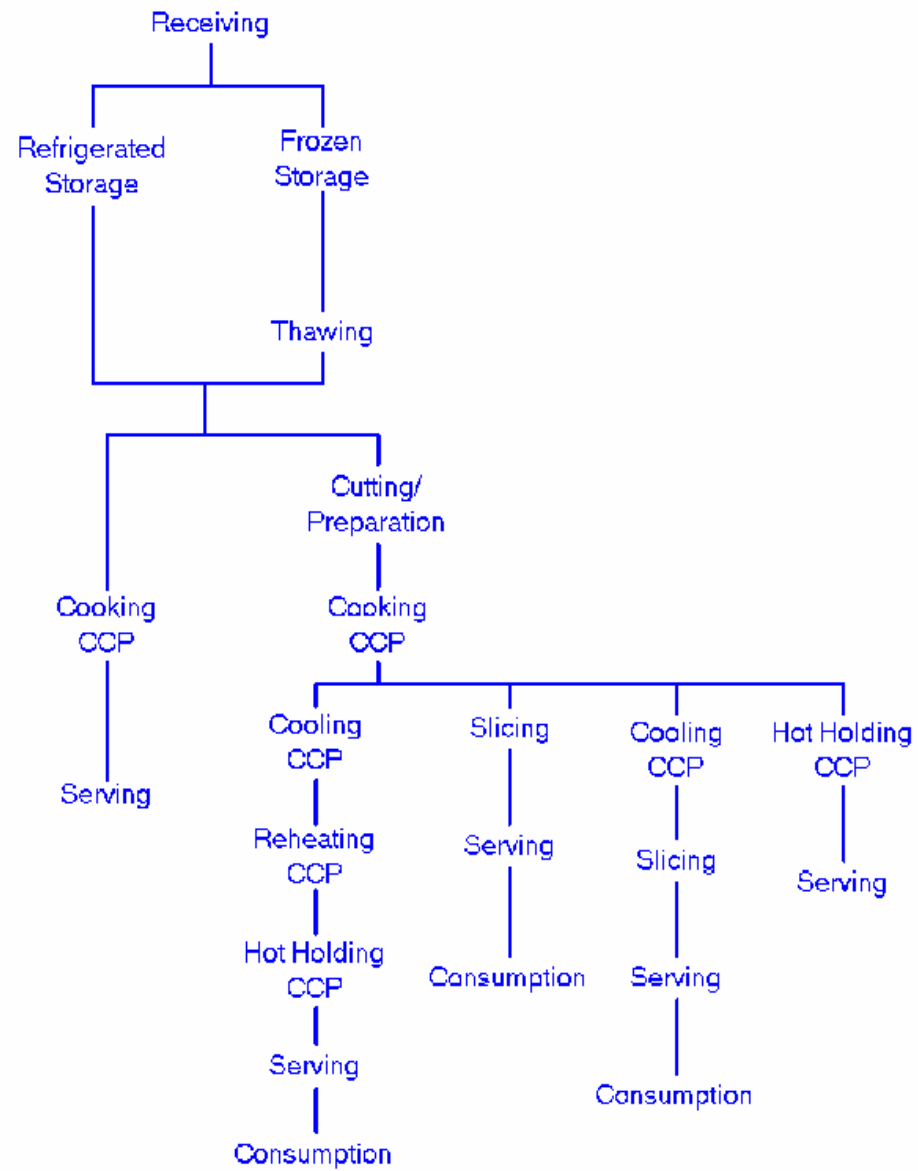
HACCP Now

Process Flow Diagram

Title

Kitchen Flow Chart





PREREQUISITE PROGRAMS

