**Chapter 4**

Flow of Food: Th path food takes through your operations

* Begins when you buy food and ends when you serve it
* You are responsible for the safety of food at every point in the flow

Cross contamination

* Can happen at any point in the flow of food
* To prevent it in the most basic way keep raw food away from ready to eat food

Time temperature control

* Most foodborne illness happens because TCS food has been time temperature abused (between 41 and 135 F)
* Temperature abuse is the temperature danger zone
* Most pathogens grow much faster between 70 F and 125 F
* Temperature abused food occurs through cooking to the wrong internal temp, held at wrong temp, cooled or reheated incorrectly

Monitoring time and temp

* 3 types of thermometers
	+ Bimetallic stemmed thermometer
		- Check temps from 0 F to 220 F
		- Measures through metal stem
		- Must insert up to dimple to get accurate read
		- Better for thick food. Not as practical for thin food.
		- Adjust calibration nut to make it accurate
	+ Thermocouples and Thermistors
		- Measure through metal probe
		- Displayed digitally
		- Good for checking temps on thin and thick foods because you do not have to insert it as bar as a bimetallic stemmed thermometer
		- Comes with different types of probes such as immersion (used for liquids), surface (used for flat surface areas), penetration (internal temp of food), and air (used for inside coolers and ovens)
	+ Infrared (laser) thermometer
		- Measure temp of food and equipment surfaces
		- Quick and easy to use
		- Cannot measure air temp or internal temp of food
		- Hold it as close to food or equipment as possible without touching it
		- Remove any barriers between laser and item

Maximum registering thermometer indicates the highest temp reaches during use and is used where temp readings cannot be continuously observed. It works well for checking the final rinse of a dish machine.

Some devices monitor both time and temp via the time temp indicator. A color change appears so you know if an item has been time temp abused.

Clean and sanitize thermometers.

Calibrate thermometers after they have been bumped or dropped, after they have been exposed to extreme temp changes, before deliveries arrive, before each shift.

To calibrate a thermometer:

Boiling point method- involves adjusting to the temp at which water boils (212 F)

Ice point- adjusting temp at which water freezes (32 F) (easier and safer)

A thermometer used to measure temp must be accurate to +-2 F

Food can stay in the temp danger zone for up to 4 hours before having to be thrown out.