

# Food and Health Safety

## Part II

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# Chemical Hazards

- Examples of chemical hazards:
  - “Traditional” chemicals (i.e.: antibiotics, sanitizers, cleaning agents, pesticides, fertilizers, natural toxins)
  - Food additives over allowable limits
  - Heavy metals (i.e.: lead, mercury)



# Physical Hazards

- May cause illness or injury (including trauma)
- Account for about 20% of complaints
- Examples of physical hazards:
  - Extraneous matter or foreign objects (physical items not normally found in food)
  - Unwanted portions of food (bones, pits, shells)

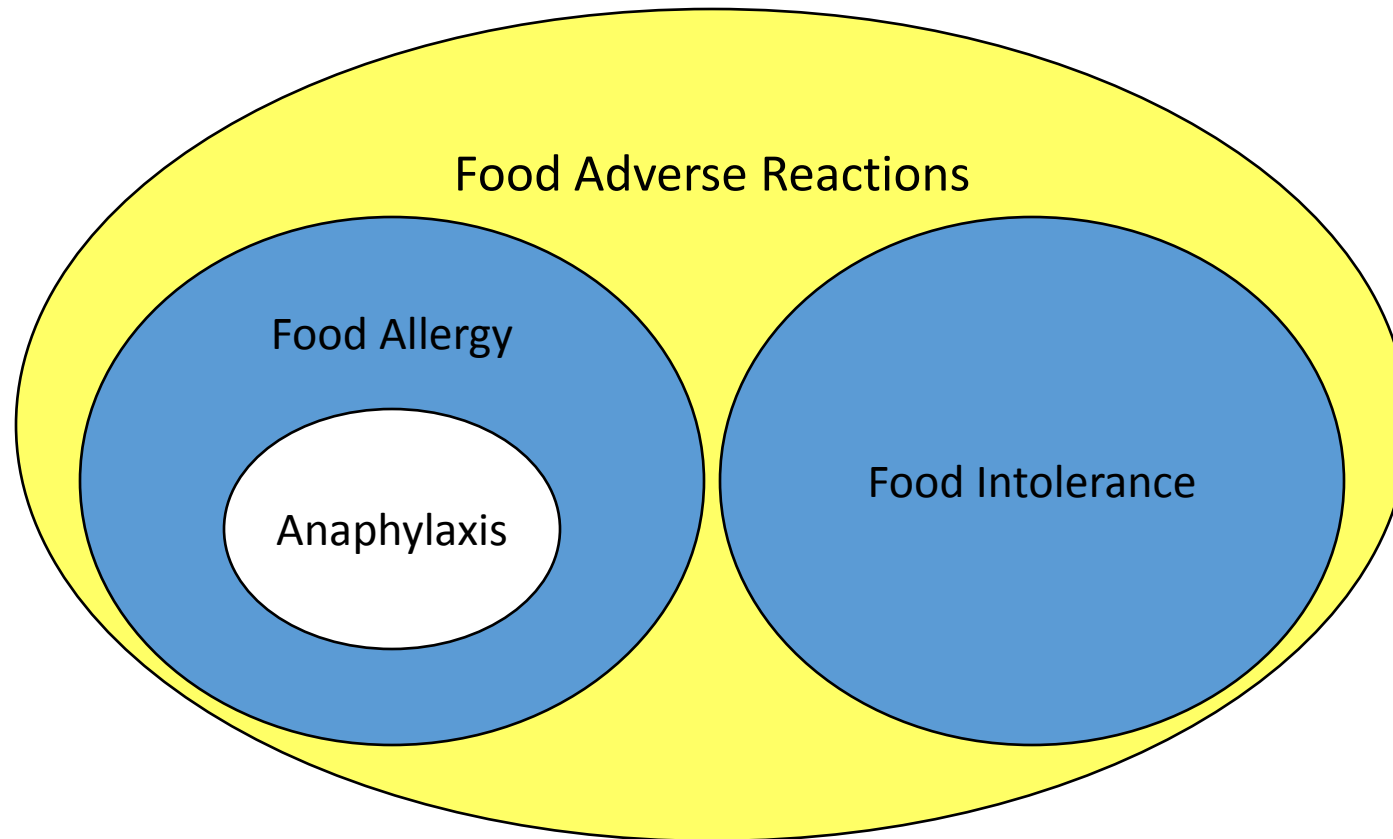


# Physical Hazards Continued

- Glass
- Stones
- Pits, bone, shells
- Metal
- Hair
- Toothpicks
- Wood
- Bandages
- Jewelry
- Chips from plates and cups
- Plastic Bread Tags



# Allergies and Intolerances



# Anaphylaxis

- Immune system response
- Life-threatening
- Can involve many organs and parts of the body, including:
  - Respiratory system
  - Cardiovascular system
  - Central nervous system
- 1/1000<sup>th</sup> of a peanut can cause death in an individual with a sensitivity to peanuts



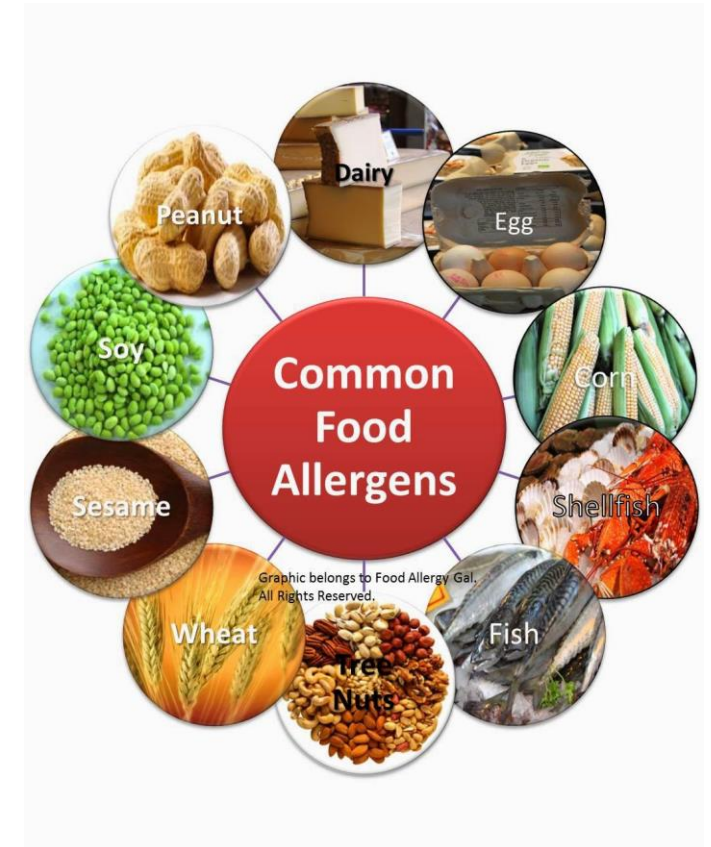
# Allergens

- Allergic reactions:
  - Affect 1-2% of adults and 4-6% of children
  - May occur within minutes or take 1-2 hours
  - Can range from mild to severe and may be life-threatening
  - Can become more severe with repeated exposure
- Nearly 50% of recalls are allergen-related



# Sources of Food Allergens

- Food ingredients
- Mixing leftovers from different recipes
- Improper clean-up
- Cross-contamination by dust or pieces of the allergen (equipment or utensils)
- Incorrect information give to consumer



# Health Canada / CFIA Allergen List

- Peanuts
- Tree nuts
- Sesame seeds
- Milk
- Eggs
- Fish
- Crustaceans and shellfish
- Soy
- Wheat
- Sulphites



# CFIA's Allergy Aware Program

- Provide ingredient information:
  - Food Allergy Chart for at least three main menu items, or
  - Complete ingredient information on at least three main menu items, or
  - Complete ingredient information on at least three special meals

| <i>Snack Ideas for kids with a Peanut Allergy</i>                                                                                                                                                                                                                                                                                                                                                                     | <i>Snack Ideas for kids with a Gluten Allergy</i>                                                                                                                                                                                                                                                                                                                                                                                                                              | <i>Snack Ideas for kids with a Egg and Dairy Allergy</i>                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>1. Pretzels</li><li>2. Animal Crackers</li><li>3. Popcorn</li><li>4. Goldfish</li><li>5. Cheese Sticks</li><li>6. Granola</li><li>7. Corn Chips</li><li>8. Vanilla Wafers</li><li>9. Cheese Its</li><li>10. Pudding</li><li>11. Yogurt / Go Gurt</li><li>12. Rice Krispy Treats</li><li>13. Tootsie Rolls</li><li>14. Triscuits</li><li>15. Go-Go Squeeze Apple Sauce</li></ol> | <ol style="list-style-type: none"><li>1. Veggie Straw Puffs</li><li>2. Yogurt</li><li>3. Mandarin Oranges</li><li>4. Grapes / Bananas</li><li>5. Rice Cakes</li><li>6. Apple Sauce</li><li>7. Hummus &amp; Gluten Free Pretzels</li><li>8. Gluten Free Pepperoni</li><li>9. 100% Juice popsicles</li><li>10. Dehydrated Fruit (Apples)</li><li>11. Gummy Candies</li><li>12. Almond Joy Candy Bars</li><li>13. String Cheese</li><li>14. Raisins</li><li>15. Pickles</li></ol> | <ol style="list-style-type: none"><li>1. Cheerios</li><li>2. Apple Sauce</li><li>3. Raisins / Craisins</li><li>4. Rice Chex</li><li>5. Fig Newton's</li><li>6. Potato Sticks</li><li>7. Pretzels</li><li>8. Oreos</li><li>9. Fruit Cups</li><li>10. Marshmallows</li><li>11. Popcorn</li><li>12. Teddy Grahams</li><li>13. Fruit Snacks</li><li>14. Corn Chips</li><li>15. Animal Crackers</li></ol> |

\* I'm not a doctor or an expert, I'm just a mom sharing my advice. I would highly recommend any questions, doubts, or concerns be directed to a school nurse or medical professional. The information and reference materials contained here are intended solely for the general information of the reader. We encourage your own research to better familiarize yourself with the individuals needs.

The Realistic Mama

# CRFA's Allergy Aware Program

- Menu or printed list
- Allergy Chart (displayed, not distributed)
- Recipe binder
  - Ingredient information from suppliers
  - Controlled by senior kitchen manager
- Designated employee
- Banquet concerns
  - Inquire about allergies
  - Add a clause to the contract



# CFIA's Allergy Aware Program

- Review recipes and identify problem foods
- Establish a policy emphasizing accuracy of information
- Train employees
- Inform customers
- If in doubt, **find out**, or **don't serve**
- Establish emergency procedures



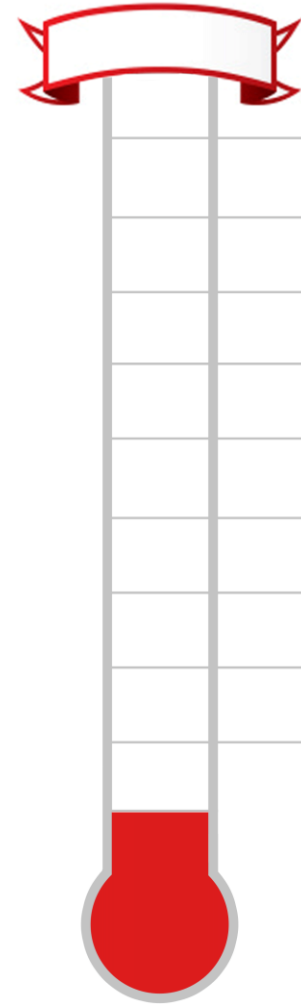
# What is “Allergen Clean?”

- All food contact surfaces are visibly clean – **NO** visible build-up or residue remains or is allowed to re-contaminate
- Areas around or above the product zones must be free of allergen-containing product or dust (i.e.: ledges, overhead pipes, etc.)



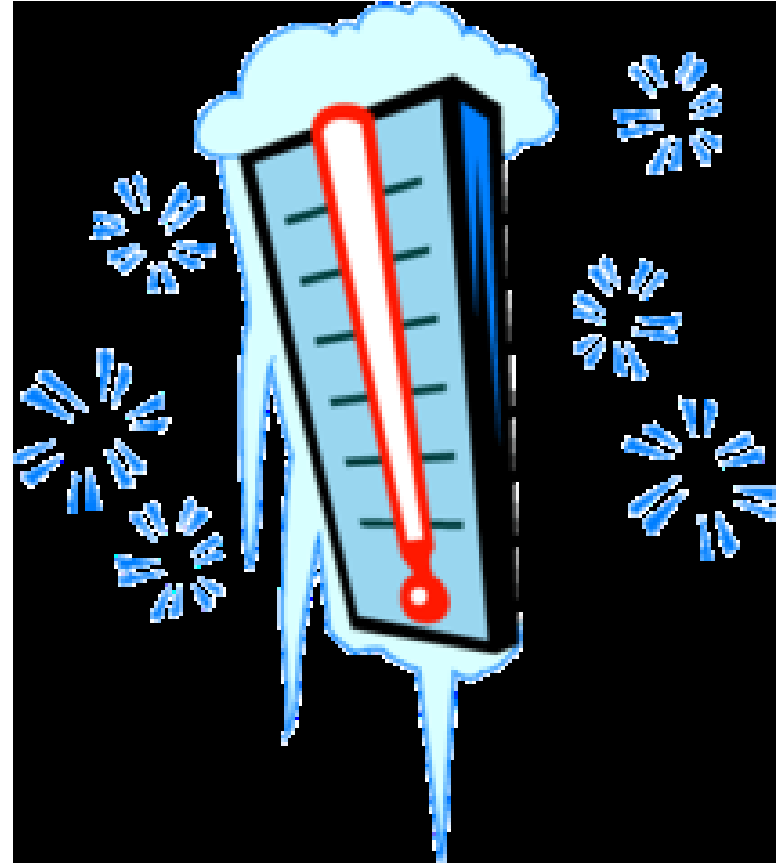
# Frozen Storage

- Food must be stored at  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ) or lower
- Check unit operation daily
- Measure air temperature daily
- Use FIFO
- Check for 'freezer burn'
- Use stock within 3 months
- Keep doors closed
- Defrost regularly



# Freezing Foods

- $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ )
- Pathogens are dormant, not dead
- Do not refreeze raw potentially hazardous food
- Freeze fish to kill parasites
- Freeze pork to prevent trichinosis



# Dry Storage

- 10°C to 21°C (50 °F to 70°F)
- Humidity 50 to 55%
- Foods 15 cm (6 inches) off the floor
- Away from direct sunlight or heat
- Store in original packages until open
- Transfer to labelled airtight containers
- Label with delivery date – use FIFO
- Discard if past 'best before' date



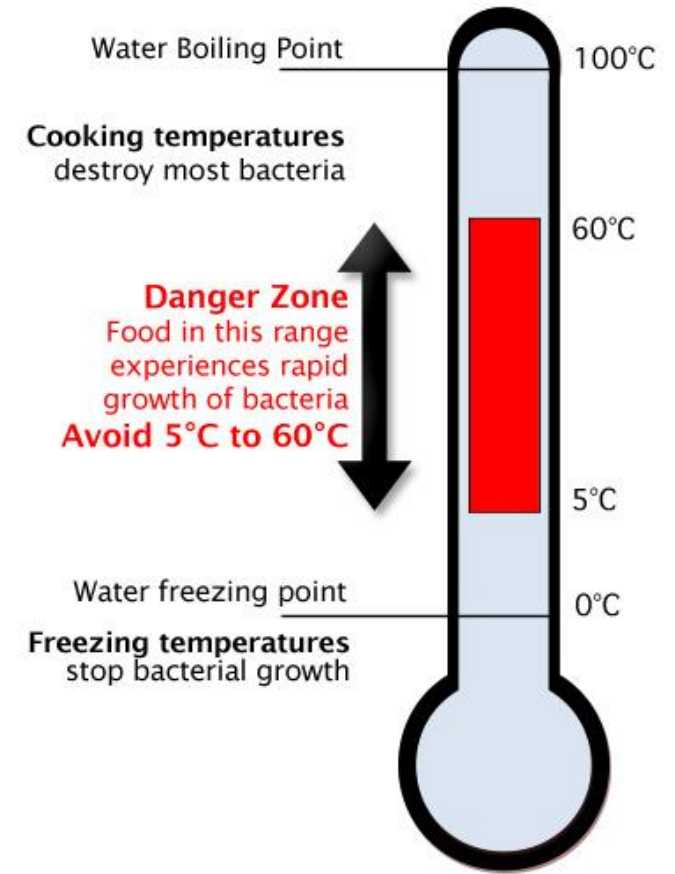
# Chemical Storage

- Chemical storage areas should be:
  - Located in dry, well-lit, monitored areas
  - Separate from food and food contact surfaces
- Chemicals should be:
  - Kept in original packaging with instructions
  - Kept well-covered after initial use to prevent contamination



# Food Preparation

- Dangers:
  - Temperature danger zone
  - Contamination from food handlers
  - Contamination from equipment and environment
  - Contamination from other foods (allergens, potentially hazardous raw foods)
- How do you control or prevent these dangers?



# Thawing

- Under refrigeration
- Under cold, running water
- As part of cooking process
- Using a microwave



# Cooking

- Must reach a minimum temperature for a specified period of time
  - Dependent on type of food, fat content and moisture content
- All parts of the food must reach the required temperature

| USDA Recommended Safe Minimum Internal Temperatures                                 |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Beef, Veal, Lamb Steaks & Roasts                                                    | Fish                                                                                | Pork                                                                                | Beef, Veal, Lamb Ground                                                              | Egg Dishes                                                                            | Turkey, Chicken & Duck Whole, Pieces & Ground                                         |
| 145 °F                                                                              | 145 °F                                                                              | 160 °F                                                                              | 160 °F                                                                               | 160 °F                                                                                | 165 °F                                                                                |

145 F = 62 C

160 F = 71 C

165 F = 74 C

# Ensuring Thorough Cooking

- Thorough cooking is aided by:
  - Cooking in small batches
  - Stirring frequently
  - Cooking in a continuous process
  - Handling dressing separately



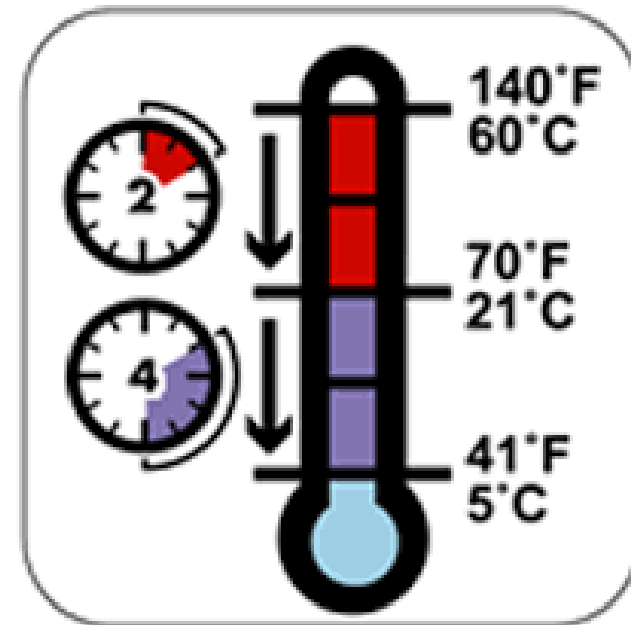
# Microwave Cooking



- Microwaved food can have “cold spots”
- Rapid heating may not allow enough time to kill microbacteria
- Ovens lose power over time

# Cooling

- After cooking:
  - From 60°C (140°F) to 20°C (68°F) within two hours, then
  - To 4°C (40°F) within four hours
- From room temperature:
  - To 4°C (40°F) within four hours
- Always cover, label & date foods:
  - Do not use cloths



# Reheating

- For hot holding:
  - Reheat to an internal temperature of 74°C (165°F); and
  - Reheat quickly



# Thermometer Use

- Used to check temperatures of food throughout the process of cooking and using
- Clean & sanitize after each use
- Insert into the thickest/centre of food
- Calibrate



# Self-Serve and Display

- Provide serving utensils for each item for a meal or on a food bar
- Label each item on the food bar
- Maintain proper holding temperatures
- There should be sneeze guards to protect food
- Never mix new food with old food
- Provide people with clean plates and silverware



# Re-Serving Foods

- Never re-use ice
- Never re-serve bulk condiments (i.e. cream/sugar)
- Bread leftover from a customer must not be served to another customer
- Liners for bread baskets must be changed between guests
- Discard single service items such as plastic cutlery after its use
- Sealed condiments (i.e. creamers and sugar packets) can be re-served



# Injury

- Cuts can be a source of *Staphylococcus aureus* which produces a heat-stable toxin
- How to handle an injury in the workplace:
  - Clean and sanitize contaminated area
  - Destroy any food contacted
  - Bandage wound and cover with a disposable, waterproof plastic glove



# Good Employee Hygiene

- Proper Attire
- Hair Restraint
- Avoid behaviours that contaminate food
- Practice proper handwashing
- Use gloves properly



# Proper Attire

- Clean outer clothing, aprons and cleaning cloths
- Uniform cleaned daily
- Uniforms, aprons and cloth changed when contaminated
- Uniform put on and worn only at work
- Clean, non-slip shoes worn only at work



# Good Employee Hygiene

- Hair and face have millions of bacteria
- Hair and beard restraints prevent hair from contaminating food or food contact surfaces
- Help prevent touching hair and beards
- All hair should be covered with restraint



# Behaviour

## ■ Prohibited behaviour during food preparation, service and cleaning:

- No eating
- No drinking
- No smoking
- No chewing gum
- No spitting
- No coughing or sneezing
- No nail polish or false nails
- Bath daily



# Good Employee Hygiene

- No Jewelry Policy
  - Jewelry harbours bacteria
  - Jewelry can be a physical hazard
  - Jewelry can be caught on equipment
  - Medic Alert bracelets and necklaces are accepted
  - Also, no nail polish



# Handwashing



- Why?
- When?
- How?

# Professional Handwashing Practice

- Use a small amount of fluorescent lotion
- Rub thoroughly on hands and wrists
- Look under a black light (UV lamp) to see any contamination
- Wash hands and check under UV light again



# Handwashing Reality

- Never use anti-bacterial soap
- The action of the water alone forces the bacteria off the hand
- Use plain clean soap
- Wash thoroughly and dry with a clean cloth including under fingernails
- Do not touch anything other than the food
- Wash frequently during food prep.



# Use of Gloves

- Wash hands before putting on gloves
- Disposable gloves should be changed or washed when hands would be washed:
  - Consider nitrile gloves to avoid latex allergies
  - Discard after four hours of use
  - Discard if torn or damaged
- Reusable gloves should be washed as if they were hands



# Visitors

- Wear clean protective clothing provided by foodservice operator
- No contact with food or food contact surfaces



# Vinegar

- The great non-toxic cleaner and preservative
- White vinegar - acetic acid PH 2.4
- Apple cider vinegar PH 2.4 - 3.4
- Lemon Juice PH 2.5



# Wooden Cutting Boards

- Stainless Steel surfaces are generally recommended – home counter tops must be solid and not prone to cracks and crevices
- Plastic must be thoroughly cleaned (in dishwasher is best)
- Glass cutting boards are easiest to clean (but noisy)
- Wooden cutting boards – nature's miracle
- Bacteria inoculated into wood was absorbed by the wood and reduced by 98%
- More importantly, overtime bacteria did not grow on wood – it did on plastic
- Be careful of cross contamination



# The Next Time You Buy A Product

- Think about how they are preserving it:
- Are they using chemical preservatives
- Are they using an acid??
- No Air?
- It is dry?
- It is held stable by a vacuum?
- Think about this for cosmetics as well



# Health and Food Safety Certificate

- NFSTP – National Food Safety Training Program
- Do it online – need to find a proctor for exam – there is a way to do this online as well
- Online Program Cost - \$43.95 plus tax
- Certificate Exam – 27.75 plus tax



<http://learn.nfstp.ca/>