


Risk Based Food Safety Inspection

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Introduction


How a Risk-Based focus can impact on Food Safety outcomes

Recognising Food Safety Hazards
Risk Based Inspection

- > Morning tea
- Risk Based Inspection cont.
- > Lunch

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If Only It Was This Easy



Thank God they don't have one of those at school!

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What is highest Risk Food?

Business Name:	WP & GN Sharkie	
Trading Name:	Mercury Fish Cafe	
ABN:	4213098	
Address:	22 Esplanade Desert Sands SA 5001	
Contact: Wallie & Gwenda	Ph 08 83679921 email sharkies@lineout.net.au	Mob 0498 857861

Business Sells
Hamburgers – Beef, chicken, onion, eggs, salad, beetroot, selection of sauces
Fish – grilled, battered or crumbed
Potato Chips – Golden Brown crispy “home” peeled and cooked
Yiros – Lamb and Chicken with Wallies own toppings
Home Packed Salads in Wallies special sauces and Mayonnaise and Garnishing
Frozen Foods, - Dim Sims, Chiko Rolls, Hash Browns, Cakes, Assorted Confectionery & Soft Drinks
Suppliers
All fresh seafood - purchased daily from the local fish market
Burger meat - purchased from the local butcher
Potatoes - home grown
Vegetables and eggs - purchased from the local Fresh Fruit & Veg supplier
Salads & Salad Dressings are prepared on site. Ingredients; raw eggs, olive oil, vinegar herbs and spices.
Specialising in Catering
Salads are available in Supermarkets throughout the district.

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Risk Identification Benefits


- > Risk Identification allows you to:
 - Assign the appropriate risk classification
 - Prioritise which businesses to inspect at a higher frequency due to their high risk product or processes;
 - Focus on the risk factors most likely to cause foodborne illness during the inspection .

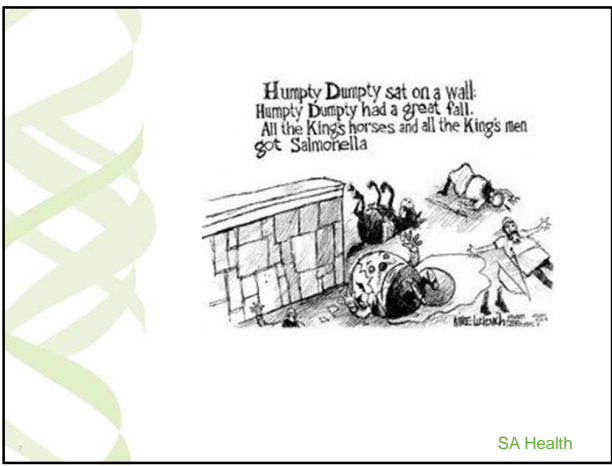
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A RISK BASED INSPECTION

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Recognising Food Safety Hazards


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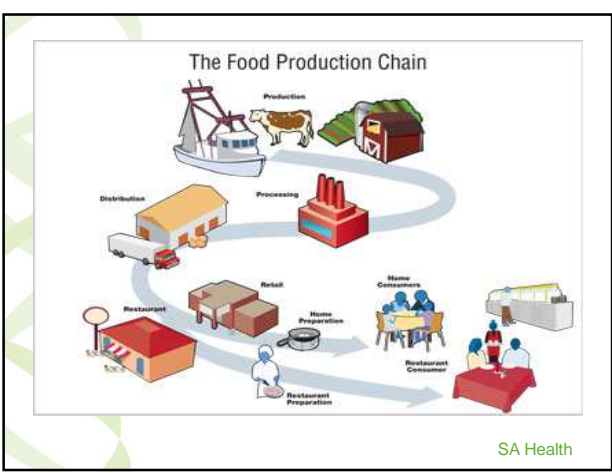


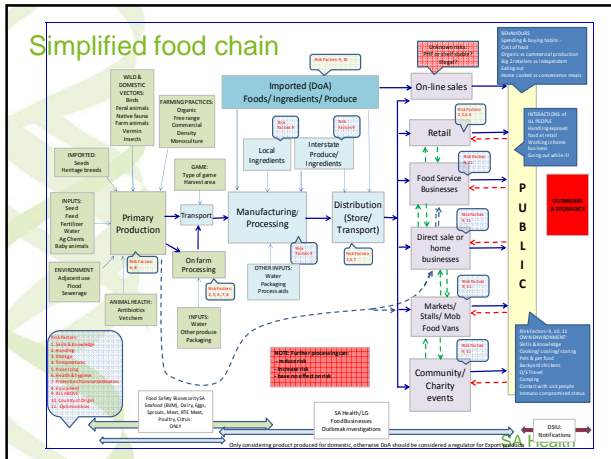
Recognising Food Safety Hazards

Issues to be aware of

- Where pathogens come from and their survival or spread through processing;
- Why some pathogens are more likely to occur in certain types of food;
- What to look for when matching foods/ processes to pathogens;
- How the hurdles applied affects the food safety outcome of a food;
- When you should set off your internal 'food safety alarm'.

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Hazard Associations

Refer to Process Limits Handout

- > Some primary produce has a higher association with certain pathogens:
 - Target M/O and Why
- > Some food has a higher association with certain pathogens due to processing and handling undertaken
 - Target M/O and Why
- > What process limits are required to make food safe.

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PRODUCE - EATEN RAW

Food	Associated Pathogen	Why
Rockmelon	Listeria Salmonella	Low acid and with a surface that allows for pathogens to 'hide'. Cutting through the fruit transfers the bacteria to the nutrient rich internals.
Lettuce, cucumber, fresh tomato	Salmonella, E coli, Listeria	The conditions under which these are grown, no cook step applied.
Sprouts	Salmonella, E coli	Seeds are sprouted under warm humid conditions, then eaten raw.
Nuts	Salmonella	Nuts are exposed to pre-harvest hazards such as wild reservoirs of Salmonella.
Frozen berries	Hep A	Handler health in developing countries where these products are sourced.

ANIMALS

Produce	Associated With	Why
Red meat	E coli, Salmonella, Listeria	WHERE & HOW it is grown – Grazing animals eating contaminated fodder, sick animals don't always LOOK sick, & can therefore spread the disease
Poultry	Salmonella, Campylobacter, E coli, Listeria	WHERE & HOW it is grown – Intensive farming practices allow for easy spread of disease Organic farming practices allow for higher interaction with wild vectors
Eggs	Salmonella, Campylobacter	WHERE & HOW it is grown – Intensive farming practices allow for easy spread of disease Organic farming practices allow for higher interaction with wild vectors. ALSO - there is only one hole....
Bivalve Molluscs	Norovirus, E coli, Salmonella	WHERE & HOW they are grown – Water contaminated with raw sewerage
Raw Milk	Salmonella, Campylobacter, E coli, Listeria	WHERE it comes from – The proximity of the udder to the animals waste...

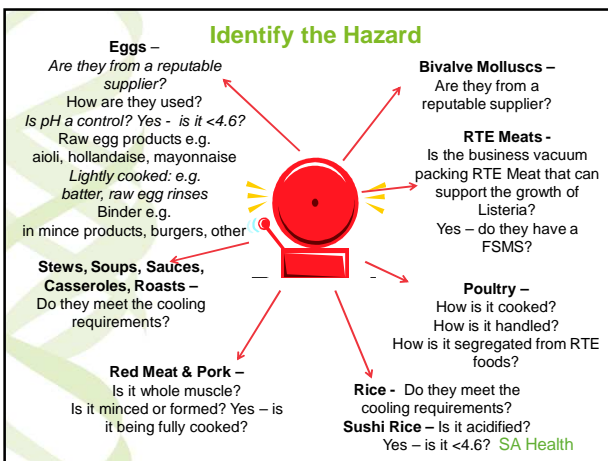
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Hazard Associations

US Statistics

- > **Top 9 outbreaks by mortality count**
 - <http://www.foodpoisonjournal.com/foodborne-illness-outbreaks/top-three-foodborne-illness-outbreaks-in-us-have-been-listeria/>
- > **Top pathogen-food combinations that cause illness**
 - Exec summary
 - http://www.rwif.org/content/dam/farm/reports/issue_briefs/2011/rwif70102
 - Full report
 - <http://www.epi.ufl.edu/sites/www.epi.ufl.edu/files/RankingTheRisksREPORT.pdf>

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Determine the Risk Factor

IS THE PRODUCT/PROCESS HIGH RISK?		
HIGH RISK FOOD	CONTROL MEASURE	SPECIFIC MICROORGANISM
Raw egg foods	Cooking temp or pH	Salmonella, Campylobacter
Raw chicken on site	Cooking (Temperature)	Campylobacter, Salmonella
Soups, stews, mashed or vitamised vegetables, rice, pasta	Cook Chill (Temperature) e.g. stews/ soups/ rice/ pasta	<i>C perfringens</i> , <i>B cereus</i>
Bivalve molluscs	Supplier and Cold Holding (Temperature)	Norovirus, Vibrio, Hep A,
Sushi	Acidification e.g. rice/ condiments (pH)	Salmonella, <i>B cereus</i> , <i>C perfringens</i>
RTE Foods	Vacuum packing RTE foods (Modified Atmosphere)	Listeria, Salmonella, <i>E coli</i> ,
Homemade flavoured oils or preserves	Vegetables in oil (pH)	<i>C botulinum</i>

MODERN MANUFACTURING TECHNIQUES

Sometimes we give the pathogen a home & extended distribution (time and geography) it may not have otherwise had:

Food	Associated Pathogen	Why
Vacuum packed RTE Meats	<i>Listeria monocytogenes</i> from cross contamination	After cooking, there will be no other hurdles to prevent growth. Listeria can grow under refrigeration, in low oxygen conditions & is salt tolerant (more salt tolerant under refrigerated conditions)
Heat & Serve Ready Meals – MAP/VAC pk	<i>Clostridium botulinum</i> from raw ingredients or cross contamination	Cook temp (90°C for 10 mins) and aseptic packaging required for >10 days life. Cb (non proteolytic) can grow in pH>5 products at > 5°C after 10 days.

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WHEN FOOD PROTECTS THE PATHOGEN

Salmonella outbreaks have occurred in association with foods that it should not be able to grow in e.g.

Low Aw: peanut butter, chocolate, ground pepper

Low pH: orange juice, aioli

	Optimal growth requirements	Peanut Butter	Chocolate	Dried Spices	Orange Juice
Aw	0.95	0.7	0.6	0.2 – 0.6	-
pH	6.5 – 7	-			3.5 – 4.5

Salmonella may not be able to GROW under highly acidic or low water activity, it can SURVIVE. It will also survive drying processes.

'Fatty' foods can protect the Salmonella, and low dose rates have been associated with outbreaks that involve peanut butter, chocolate & aioli.

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Food Process Hurdles

We combat pathogens with a variety of processes or hurdles:

- > Chilling
- > Freezing
- > Cooking
- > Pasteurising
- > Canning
- > Bottling
- > Sugar
- > Drying
- > Smoking
- > Salt Curing
- > Pickling
- > Fermenting
- > Acid Addition
- > Vac & Modified Atmosphere Packing
- > Artificial and Natural Preservatives

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Good Manufacturing/Hygiene Practices

- > Hand washing
- > Health of Handlers
- > Reputable Suppliers
- > Protection from Contamination
- > Cleaning and Sanitation
- > Waste Disposal
- > Pest Control

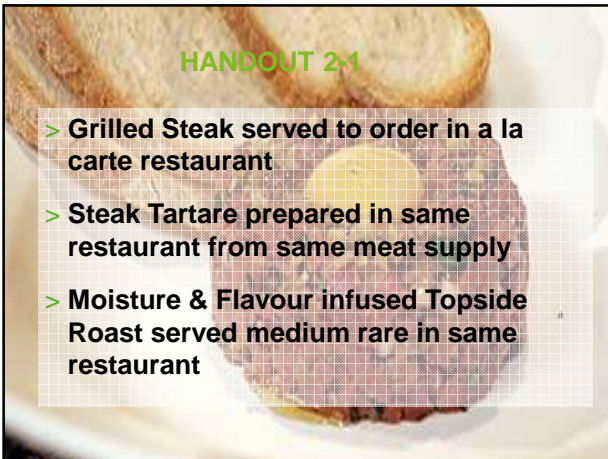
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Exercise 2

Consider the following methods of food preparation and presentation and how it alters the risk of the food.

- > Consider the control measures that influence the food safety risk.
- > Rank each food in order of risk

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HANDOUT 2-1

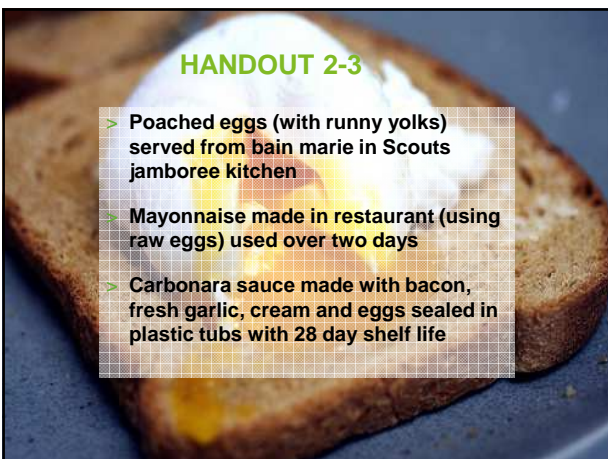
- > Grilled Steak served to order in a la carte restaurant
- > Steak Tartare prepared in same restaurant from same meat supply
- > Moisture & Flavour infused Topside Roast served medium rare in same restaurant



HANDOUT 2-2

Rogan Josh Lamb Curry served with rice

- > Served to order from a restaurant
- > Prepared in bulk the same restaurant, stored and distributed in bulk containers to be reheated and served individually from fast food outlets
- > Vacuum packaged in individual 400 gram packs for sale in supermarkets



HANDOUT 2-3


- > Poached eggs (with runny yolks) served from bain marie in Scouts jamboree kitchen
- > Mayonnaise made in restaurant (using raw eggs) used over two days
- > Carbonara sauce made with bacon, fresh garlic, cream and eggs sealed in plastic tubs with 28 day shelf life

DID YOU CONSIDER?

- > Food
 - What are the hazards associated with the food
- > Preparation
 - How is it processed / what hurdles
 - What is the likely target Micro organism
 - Are there critical limits or records of processing
 - Has the shelf life and storage conditions been validated
- > Storage, Display, Serving
 - Storage conditions
 - Shelf life
 - Handling

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The "Risk Based" Food Safety Inspection



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Understanding the Risk Factors

Covered in recognising food hazards

- > Identify the risk factors in the business:
 - Food
 - Process
 - Business sector
- > Determine what controls are required for those risks

THEN

- > Inspect the business against the risks being controlled by:
 - **Observe** (are operators taking temperatures)
 - Ask **open questions** (what temperature are you looking for?)
 - **Confirm** by taking your own measurements (use your own clean & sanitised probe)
 - **Records** are available and accurate

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Risk Based Inspection

- > Inspection Principles
- > Preparing for Inspection
- > Conducting Inspection
- > Review Findings
- > Corrective Action
- > Follow Up

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Inspection Principles



Inspection Principles - ISFR

Implementation Subcommittee for Food Regulation

- A **risk-based approach** should underpin all aspects of the food premises inspection.
- The nature and frequency of inspections are determined based on the **food safety risk associated with the food business**.
 - A combination of the risk classification and the outcomes of compliance assessments for the food business should be used to determine the ongoing frequency of inspections.
- An understanding of the **foods handled** by the food business, the **processes involved** and the **timing of these processes** will enable the inspection to be scheduled so that the authorised officer can **observe and assess these processes**.
- **Elements** of a food business considered to be **high risk** should be **assessed at each inspection** (e.g. temp control).
- Inspections **focus on potential risk of food handling processes** and operations rather than compliance with prescriptive structural standards.
- The food safety practices in place to manage risks for particular foods that require **specific controls** (e.g. egg products) should be assessed.

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Inspection Principles

From the SA Health/LGA Food Act MOU Work Plan

- > Risk Based
 - Inspection activities are based on the food safety risk associated with the food business
 - *The Risk Classification System* will be used to determine the food safety risks associated with each business.
- > Scope
 - An assessment of a food business' ability to manage food safety and comply with food safety standards;
 - A focus on food handling processes and operations.
- > Approach
 - Inspections focus on food handling processes and operations rather than compliance with prescriptive structural standards.

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Preparing for Inspection



Set the Priorities

- > Inspection time – when do you go?
- > Operational Steps: Know the products and the processes conducted at the business:
 - Receipt
 - Storage / thawing
 - Food Preparation & Handling
 - Cooking and Reheating
 - Cooling
 - Transport (offsite)
 - Service and delivery
- > High Risk Foods
 - Use the Menu or Product List for Review
- > Previous Compliance
 - Inspection reports, complaints, recalls, testing

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Review Previous Inspection Report

Inspection		Inspected		Inspector	
No.	Description	Compliance	Priority	Date	Signature
1	Provide food contamination control				
2	Sanitation/health of food				
3	Temperature control of hot food				
4	Provide food contamination control				
5	Appropriate environmental conditions				
6	Temperature control of hot food				
7	Safe and suitable food				
8	Provide food contamination control				
9	Appropriate environmental conditions				
10	Sanitation of hot food				
11	Temperature control of hot food				
12	Appropriate environmental conditions				
13	Temperature control of hot food				
14	Provide food contamination control				
15	Appropriate environmental conditions				
16	Temperature control of hot food				
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32	Provide food contamination control				
33	Appropriate environmental conditions				
34	Temperature control of hot food				
35	Provide food contamination control				
36	Appropriate environmental conditions				
37	Temperature control of hot food				
38	Provide food contamination control				
39	Appropriate environmental conditions				
40	Temperature control of hot food				

What does this inspection of a Caterer (Priority 1) tell you about:

- Inadequate cooking temp/time
- Improper Holding/ Time and Temperature
- Poor Personal Hygiene
- Contaminated Equipment/ Protection from Contamination

COMMENTS TO BE MADE
 - Provide paper towel and soap at hand wash
 - Paper towel along side wall outside
 - Separate mouth tissue and wipe up paper
 - Separate to food on bridge at table so not
 covered up by all each table
 - Use mouthwash items separate from food
 Follow up next routine

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Arrive at the Business

- On arrival advise the senior business staff member/proprietor of your identity and your intentions.
- Observe all security, workplace health and safety, and food safety policies in operation on the site.
- Establish an open dialogue with the person in charge:
 - Identify if there has been any changes to management, key personnel, menu items, processes, suppliers etc.;
 - Identify key personnel;
 - Address any issues requiring follow up from last visit
 - Identify processes that are occurring at the time of the visit – be prepared to change your plan based on the activities occurring;
 - Identify hazardous foods and processes on site during the visit.

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Conducting the Inspection



Inspection Dilemma

- > It is important to recognise that there is a trade off between interviewing during peak times of the day where observation of practice is more likely, but ability to participate is lower; and
- > Interviewing during quieter periods where practice is less likely to be observed, but participation is more likely.


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Inspection Priorities - The 4 P's

1. Products
 - Ingredients, Additives, End product, Intended use
2. Processes
 - Equipment, Preservation method, Packaging
3. People
 - Personal hygiene, Protective clothing, Working with illness, Skills & knowledge
4. Plant
 - Cleaning & Sanitising, Maintenance, Pest Control, Layout

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Exercise 3

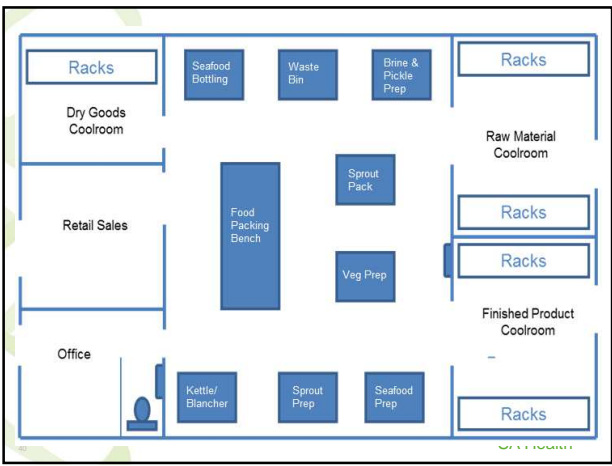
You are asked to conduct a review of a food business that manufactures the following foods.

- > Pickled/acidified seafood, presented in glass jars (squid, octopus, garfish, tommy ruff, mussels and scallops, vinegar salt, pepper and spices. With a 6 month shelf life.
- > Sushi, fresh presented on trays for distribution to fast food outlets. (rice, fresh tuna, cooked chicken, prawns, octopus, dried seaweed, cucumber, lettuce, mayonnaise, wasabi sauce, soy sauce, vinegar. Shelf Life 2 days
- > Vacuum packaged sprouts, bean sprouts, alfalfa, mustard sprouts, Shelf life 6 days.

All these products are made within the one facility.

1. Please conduct an assessment of the food safety hazards associated with manufacture and sale of these foods. Diagram attached.
2. Suggest control measures or actions that the business could adopt to minimize food safety risks.

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Confirm the Priorities

- > High Risk Foods
 - Focus on HR food processes
- > Operational Steps: What activities are conducted at the business e.g.
 - Receipt
 - Storage / thawing
 - Food Preparation & Handling
 - Cooking and reheating
 - Cooling
 - Specific process controls i.e. pH, shelf life
- > Structural and GMP

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Activity Review

WHAT –

- > would be the most hazardous foods/processes to focus on?
- > controls do you expect the business to have in place

WHERE

- > are the controls expected to be in the process

WHEN

- > will the business use the controls

HOW

- > will the business monitor the controls

WHO

- > needs to know

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Skills & Knowledge

What functions are they responsible for

Key Staff may include:

- > Owner/ Proprietor
- > Cook/ Chef
- > Assistant/ Apprentice
- > Wait Staff
- > Scullery Attendant

- Receiving/ Suppliers
- Cooking Temperature
- Cooling Temperature
- Hot/ Cold Holding
- Personal Hygiene
- Hazardous Foods
- Protection from Contamination
- Cleaning & Sanitising

Confirm the extent of their role!

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Types of Questions


- > Food receipt
 - How do you receive your foods supplies
 - Do you do any checks on the food
 - Show me how you take a food temperature
- > Cooking/cooling/reheating
 - How do you know the food is cooked or cooled correctly. Do you measure the temp, show me.
 - Do you store the food hot, what temp is the food in the bain marie
- > Cleaning & Sanitising
 - How do you sanitise the benches/equipment.
 - Show me the chemical and the process
 - How do you sanitise slicers/vitamisers

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Typical Techniques

- > START AT THE BEGINNING – Walk, Watch, Ask, Listen
 - Larger businesses with potential for cross contamination, should ask you to move from clean to dirty (in reverse)
- > Knowledge (questions) vs Practice (obs)
 - Knowledge not generally translated into practice
- > Assess with:
 - Open questions: WHO, WHERE, WHY, WHAT, HOW;
 - OBSERVATIONS of staff movements & behaviours, products or suppliers
 - CONFIRM: Show me (temperatures, pH etc.)


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Evidence and Observation

- > Inspections should be performed when food handling activities are being undertaken.
- > Ensure any handling and processing being performed is observed to assist with determining compliance.
- > Where you may not be able to observe a process to assess food safety - ask staff to explain the process.
- > Evidence used to make decisions should be documented.


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Assessment Difficulties

- > Language barriers
- > Food handlers trained to say the right things, but not understanding
- > Inspection during preparation of HR foods
- > Weekend operations
- > Open questioning techniques
- > Food technology knowledge
- > No records kept
- > Limited cost effective training options

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Morning Tea

Exercise 4

You have commenced a Food Premises Inspection

- > You have been provided with a 4 Scenario's
- > Identify
 - Foods that you consider to be high risk and provide your reasons
 - Which food you consider to be the **Highest Risk** and would be the priority to focus on during the inspection.

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Review Inspection Findings

On-site Judgements

- > Public health risks (critical)
 - Intended to achieve immediate correction of an out of control risk factor that poses immediate harm to the consumer.
 - These will usually be operational and can be addressed immediately.
 - Decisions about immediate risk and remedial action
 - Is onsite corrective action an option
 - If so what?
 - When is 'reheating' as an onsite corrective action suitable?
- > Non compliances (major & minor)
 - Short term or long term remedial action

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On-site Judgements

What would you need to consider

- > Refrigerators not below 5°C
 - What is the product temp
 - What time of day
 - What products are stored in fridge
- > Cream filled products not under temperature control
 - What type of cream;
 - mock, imitation, fresh
 - Any additional hurdles
 - How long out of temp control

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On-site Judgements

Some questions to ask yourself:

- > Will the food permit survival of pathogens &/or toxin production before or during preparation?
- > Has the food been subjected to any hurdles? e.g. pH, reduced water activity
- > Is this food associated with outbreaks?
- > Has the business demonstrated control of:
 - Personal hygiene
 - Temperature control
 - Cross contamination/ protection from contamination

IDENTIFY THE HAZARD AND THEN STOP THE OUT OF CONTROL RISK FACTOR IMMEDIATELY

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Corrective Action & Follow Up



Concluding the Inspection

- > Negotiating
 - Communication with the owner/manager is vital
 - Discuss positives and negatives
 - Explain risks and consequences
 - Seek commitment to take corrective action
- > Reporting
 - Record only issues that can be substantiated
 - Consider that your evidence is sound
 - Prioritise issues
 - Immediate food safety risk – has unsafe food been prepared/sold? Will a situation result in likelihood of unsafe food? - immediate action
 - May become a risk – there is no evidence that food is unsafe but conditions exist – Short timeframe for resolution.
 - Not likely to affect food safety – Make observations not recommendations


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Concluding the Inspection

- > Enforcement Actions
 - Based on issues identified make decisions on appropriate enforcement tools
 - Graduated & proportionate approach
- > Follow-up
 - Within agreed timeframes
 - Timely and in proportion to the non-compliance.
 - Consider follow up vs full inspection
- > Education
 - What if the business doesn't fundamentally understand what they have done wrong
 - Helps identify hazards and understand why controlling the hazards is important;
 - Contributes to the business improving skills & knowledge.

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Exercise 5

You have commenced your next routine food premises inspection at the same businesses as Exercise 4

- > According to the frequency assigned, it is now time to undertake another routine Food Premises Inspection. You have been on site and note that a new menu has been prepared and has been in use for a period of time.
- > Considering the previous inspection outcomes, identify
 - Any menu/process changes and how these changes might impact on the risk focus.
 - Which food you consider to be the **Highest Risk** and would be the priority to focus on during the inspection.

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Real Life Examples – Factors to Consider

- > **Change in process at a VP facility:**
 - Moved from hot set custard to cold set custard – no risk assessment performed. Listeria found in custard.
- > **Business capacity:**
 - Large scale event, but facility too small to cope. Evidence of cross contamination at Salmonella outbreak investigation.
- > **Time allocation:**
 - Businesses under pressure to get food out on time – undercooked food responsible for Salmonella and Campylobacter
- > **False record keeping:**
 - Cooling temperatures 'recorded' – they are the same temperature at the same time for each batch. Food doesn't work like that!

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Summary

- > Understanding of
 - Risk identification and how to use it
 - How to apply risk identification to undertake a risk based inspection
 - Importance of process controls and underpinning Food Technology
 - Risk based enforcement considerations

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Questions



Thank You

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