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FOOD ADVISORY CONSULTANCY & TRAINING

Welcome to your Level 3 Award in Supervising Food Safety

Wayne Beasley

Housekeeping

Fire Arrangements

Toilets

Breaks

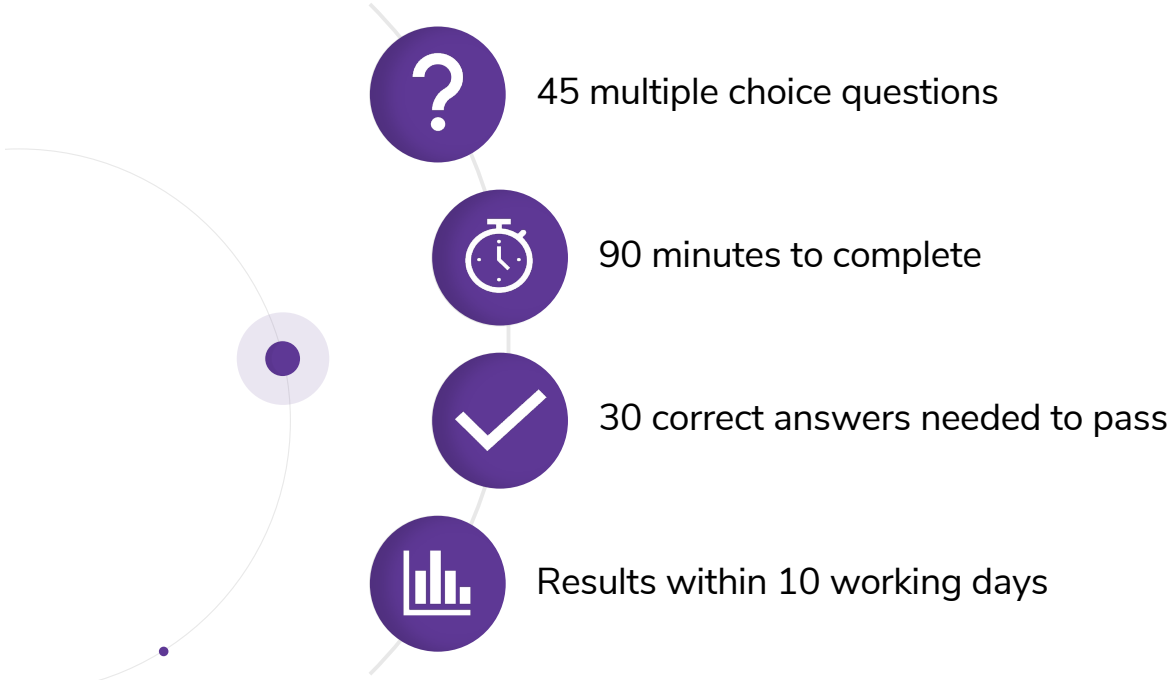
Mobile Phones/ Electronic devices

Smoking/ Vaping

Course Objectives & Outcomes

1. To help supervisors and managers of food businesses effectively manage food safety and comply with food safety legislations
2. Improve the standards and safety of their operation
3. Establish and maintain prerequisite programs
4. Apply the basic principles of HACCP
5. Confidently deal with enforcement officers

Course Objectives & Outcomes



45 multiple choice questions

90 minutes to complete

30 correct answers needed to pass

Results within 10 working days

What are the definitions?

A	Contamination	1	An acute illness, caused by the consumption of contaminated or poisonous food
B	Control Measures	2	The measure and conditions necessary to control hazards and to ensure food is fit for human consumption, i.e. safe to eat
C	Cross-Contamination	3	A disease-causing organism
D	Food Hygiene/safety	4	The transfer of bacteria from a contaminated source, usually raw food to ready-to-eat food
E	Food Poisoning	5	Something with potential to cause harm
F	Food safety hazard	6	The presence or introduction of something harmful (a hazard) or objectionable in food
G	Pathogen	7	Food that is free of contamination and will not cause harm, injury or illness
H	Safe Food	8	Actions to prevent a food safety hazard

What are the definitions?

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The most common faults that result in food poisoning

- Preparation too far in advance and storage at room temperature
- Slow cooling
- Inadequate reheating/cooking
- Contaminated food
  (cross-contamination or raw)
- Inadequate thawing prior to cooking
- Food handlers
  (infected/bad personal hygiene)

What are the benefits of good hygiene?

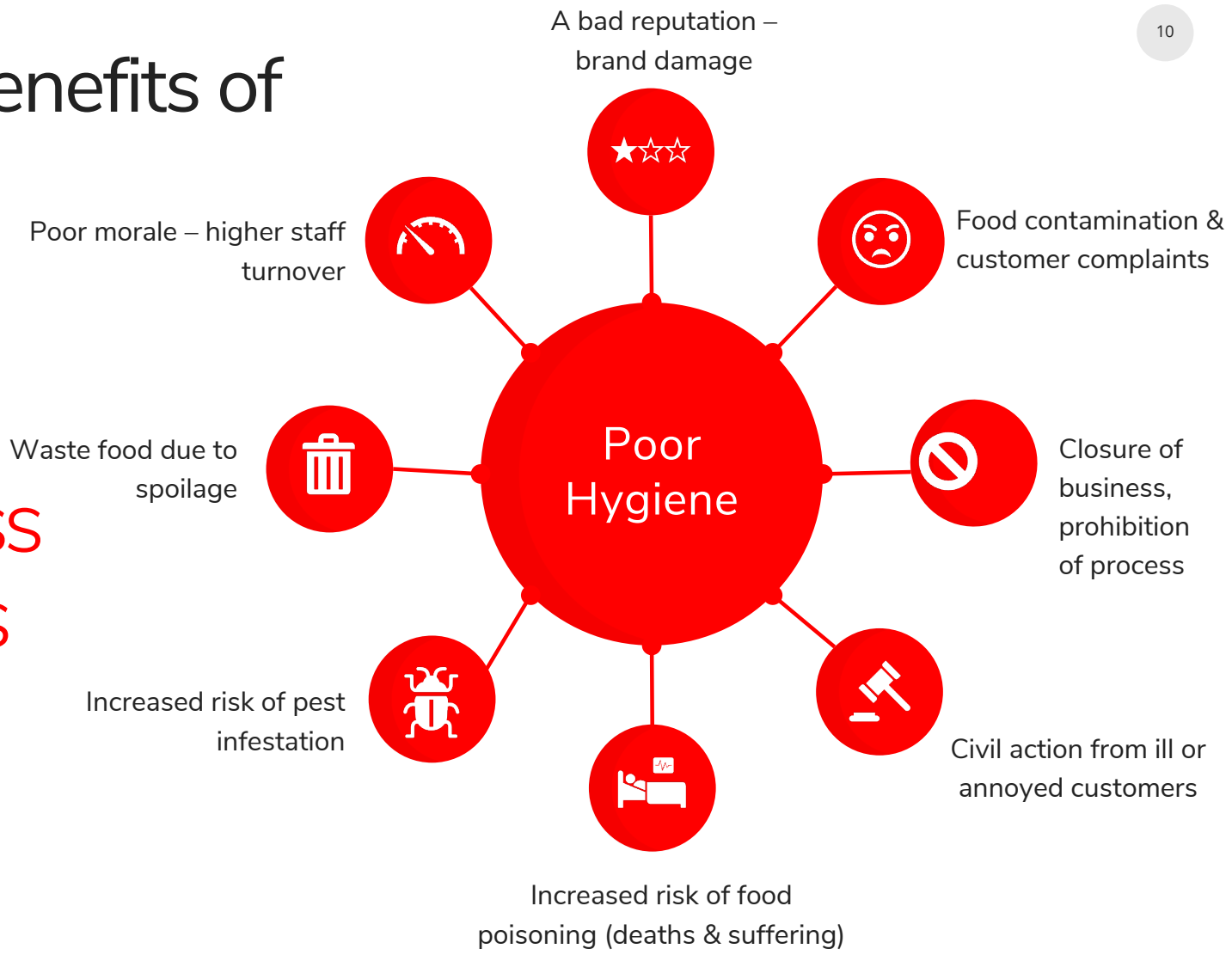
MORE BUSINESS

HIGHER PROFITS

What are the benefits of poor hygiene?

LOSS OF BUSINESS

LOWER PROFITS



Quiz

Prawn Cocktail

Breakfast cereals

Margarine

Vacuum-packed ham

Digestive Biscuits

Rice Pudding

Baked potato in foil

Oysters

Raw egg products

Gravy

Wine

Dried prunes

Gravy Granules

Raw milk

Toast

Bag of sugar 2 years old

Pickled onions

Which of the following best describes food hygiene?

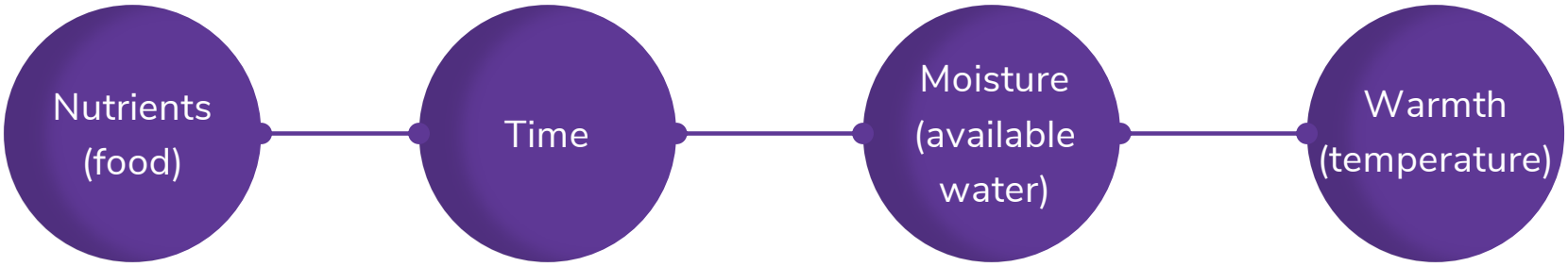
- Keeping food at the correct temperature from delivery to service
- Developing food safety management documentation
- Ensuring the food room is kept clean to prevent contamination
- Taking practical measures to ensure food is safe to eat ✓

Microbiology Multiplication and Survival Hazards

Bacteria

- Mostly harmless
- Some essential
- A few cause illness (pathogens)
- Some cause spoilage
- Found everywhere
- Microscopic

Requirements for bacterial multiplication



Oxygen

pH **4.5 to 7.5**

1-4°C prevents growth of most food poisoning bacteria

Food Types

Ready-to-eat

Common food vehicles in food poisoning, usually protein, ready-to-eat, stored under refrigeration, no further processing occurs.

Raw foods

Main source of food poisoning organisms.

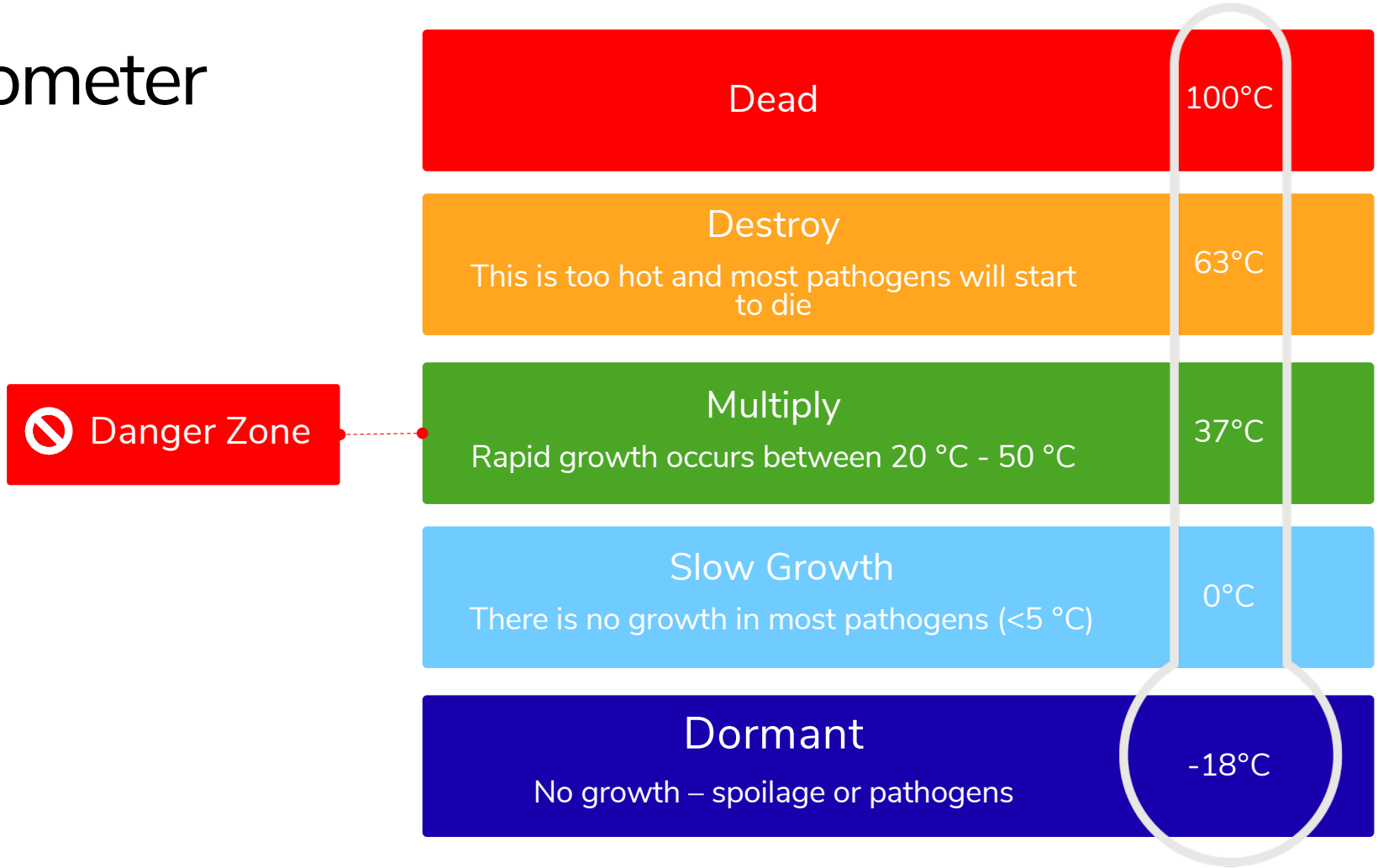
Low-risk Foods

- Acid foods pH 4.5
- High sugar/salt/fat
- Dry products (low aw)
- Preserved foods not requiring refrigeration
- Ambient storage

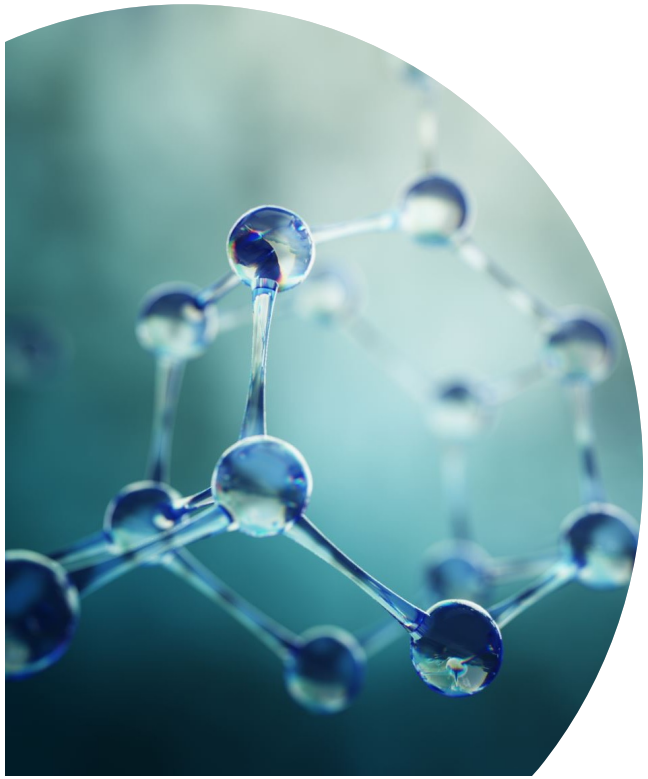
Ready-to-eat Raw foods

Fruit salad vegetables should be thoroughly washed before consumption to minimize the risk from low-dose pathogens

Germometer


Dead
100°C
Destroy
This is too hot and most pathogens will start to die
63°C
Multiply
Rapid growth occurs between 20 °C - 50 °C
37°C
Slow Growth
There is no growth in most pathogens (<5 °C)
0°C
Dormant
No growth – spoilage or pathogens
-18°C
Danger Zone

Oxygen requirements of bacteria



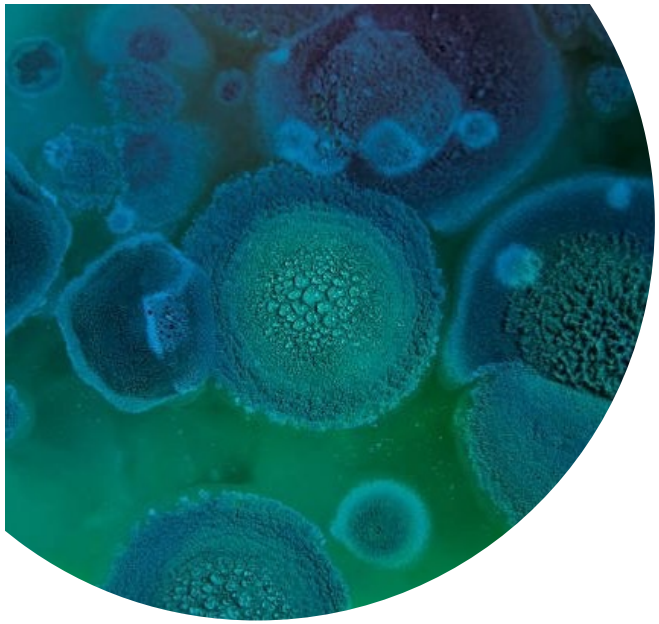
- Anaerobes grow only in the absence of oxygen
- Aerobes require oxygen for growth
- Most pathogens grow with or without oxygen

Preventing the multiplication of bacteria and food poisoning

- **Time** – Minimize time at room temperature
- High temperature
- Low temperature
- Moisture reduction (dehydration)
- Salt or sugar
- Vacuum packing
- Smoking

Destruction of bacteria in food

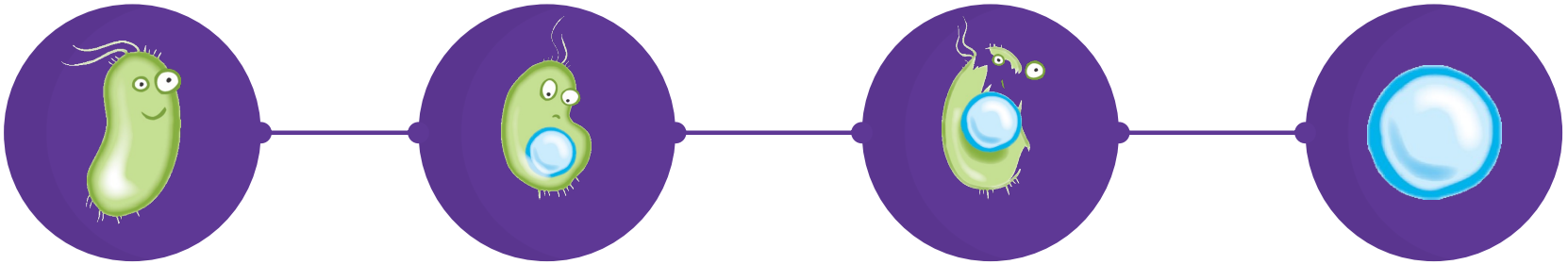
- Effective cooking
  (centre temperature at least 75°C)
- Pasteurisation
  (destroys pathogens and some spoilage bacteria)
- Sterilisation
  (destroys all bacteria, spores & toxins)
- UHT (Ultra Heat Treated)
- Canning (commercially sterile)
- Chlorine (water)/irradiation
- UV Light



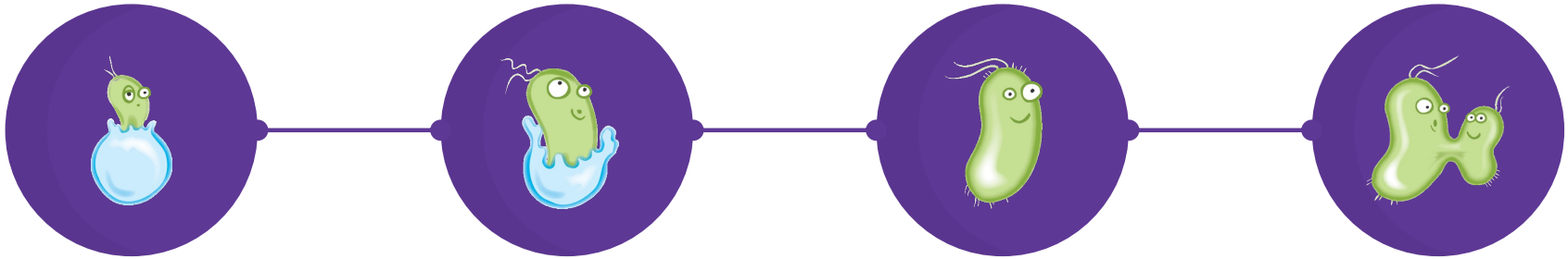
Spores

- Can survive chemicals (disinfectants)
- Can survive dehydration (some for many years)
- Can survive high temperatures e.g. boiling for up to 5 hours
- Do not multiply
- Resistant resting phase – protects bacteria against adverse conditions
- Unaffected by freezing or refrigeration

Bacterial spores
unsuitable conditions



Bacterial spores
suitable conditions



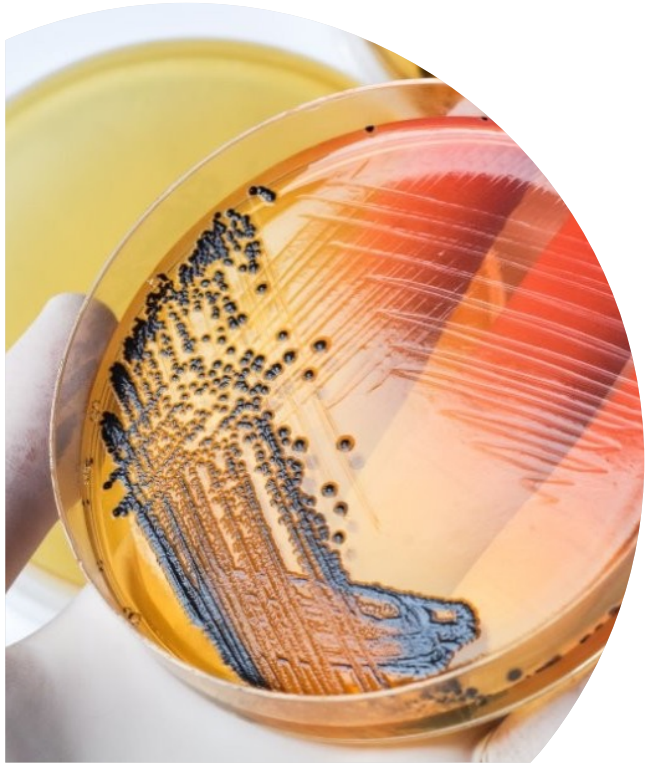
Spore germinates

Cell produced and multiplies

Toxin may be released in intestine or in food

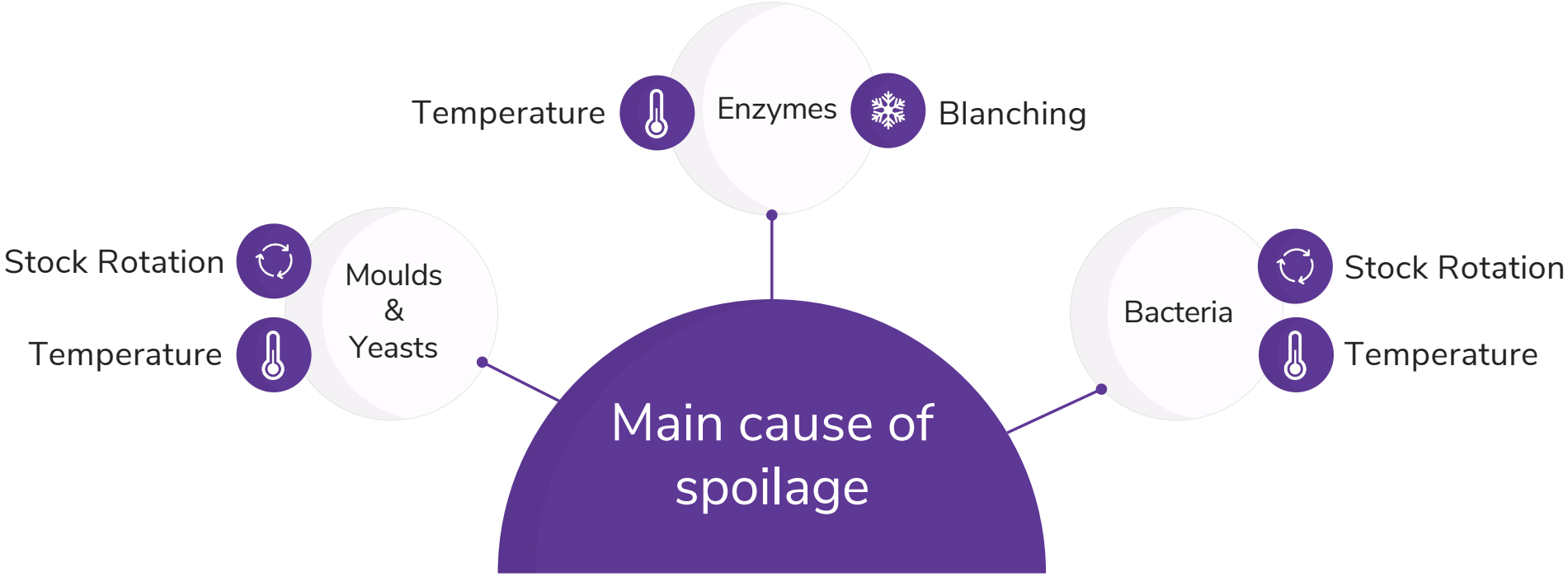
Cool food rapidly to stop germination

Toxins
(poison produced by bacteria)



- Some produced when bacteria grow in food
- Short incubation period
- Many heat resistant and unaffected by freezing
- Also produced when bacteria die, or spores are formed

Toxins
(poison produced by bacteria)



Food Spoilage

- Taste deterioration
- Pest evidence
- Rancidity
- Blown cans or packages
- The production of gas
- Off odours
- Discolouration
- Texture change
- Slime/stickiness
- Mould

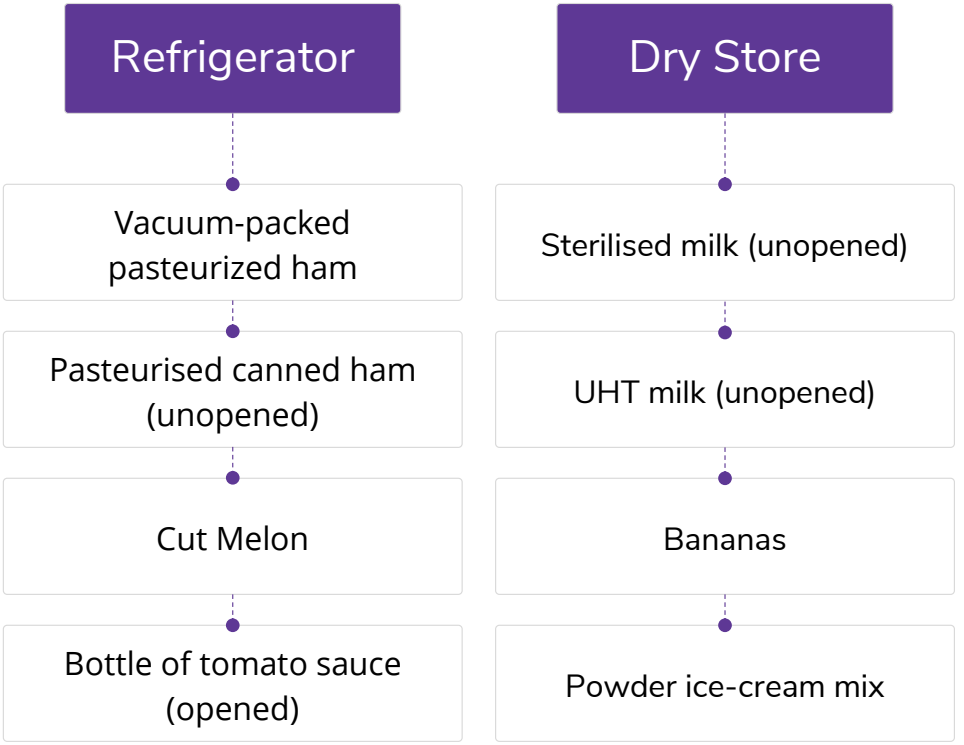
Where should I store it?

Refrigerator

Dry Store

Sterilised milk (unopened)	Vacuum-packed pasteurized ham
Pasteurised canned ham (unopened)	UHT milk (unopened)
Bananas	Cut Melon
Powder ice-cream mix	Bottle of tomato sauce (opened)

Where should I store it?

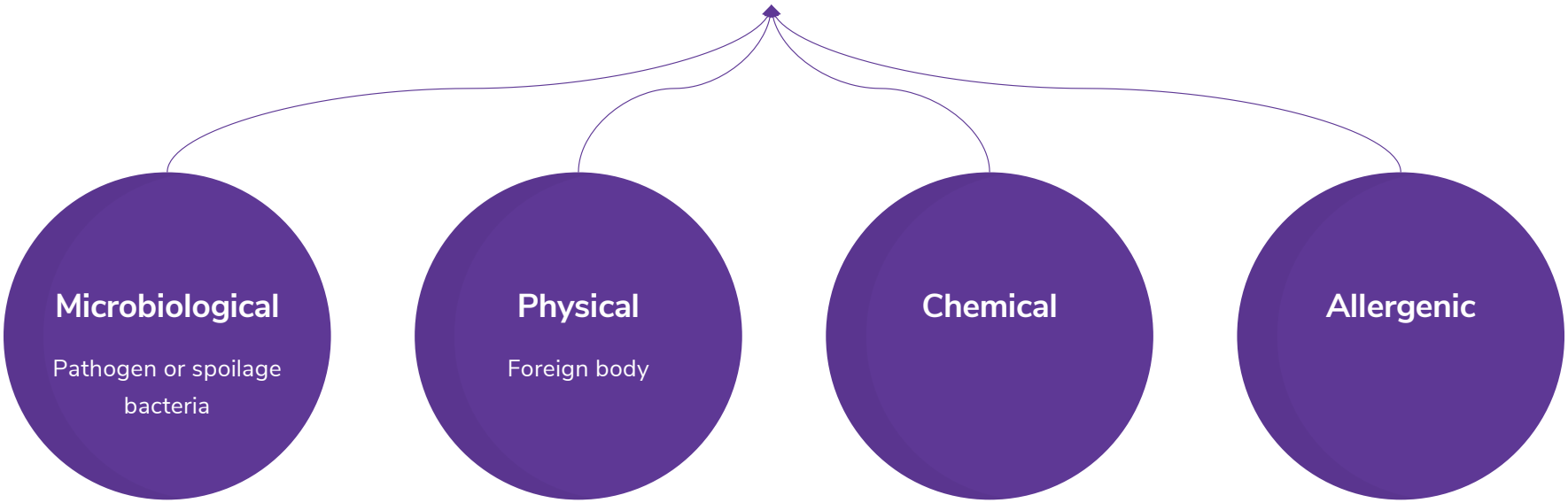


Contamination hazards and controls

Types of contamination
hazard

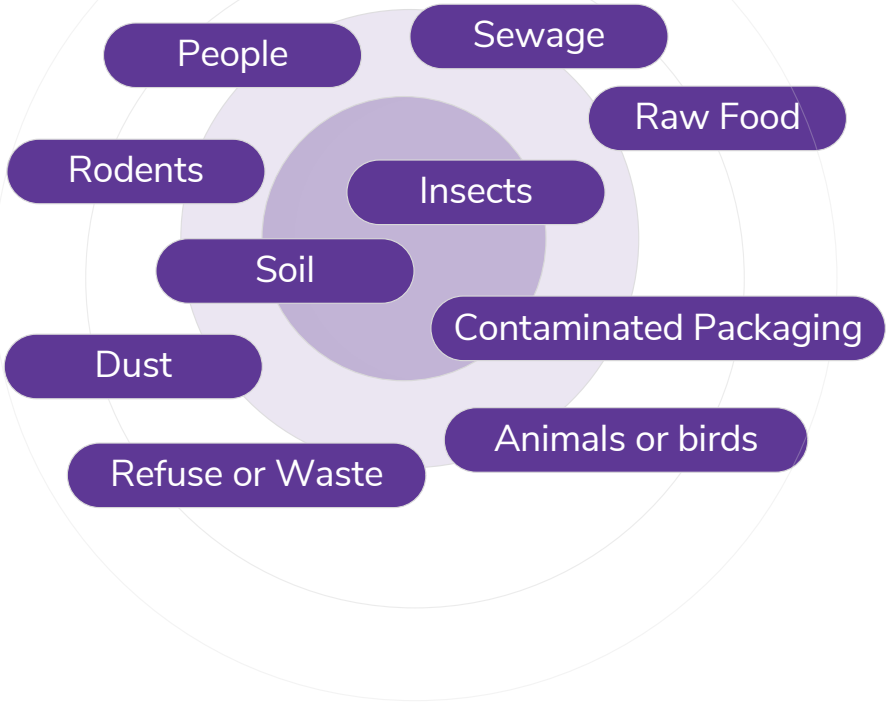
Contamination

something objectionable or harmful in food



May be present in raw materials or introduced (delivery >> service)

What are the sources of food poisoning bacteria?



Sources, vehicles and routes of microbiological contamination

Sources

Origins of pathogens that bring them into food premises

Vehicles

Transfer bacteria from sources to ready-to-eat food.

Hands, cloths, food-and-hand-contact surfaces.

Route

The path taken by bacteria from sources to ready-to-eat food.

Cross Contamination

Direct

Indirect

Drip Direct

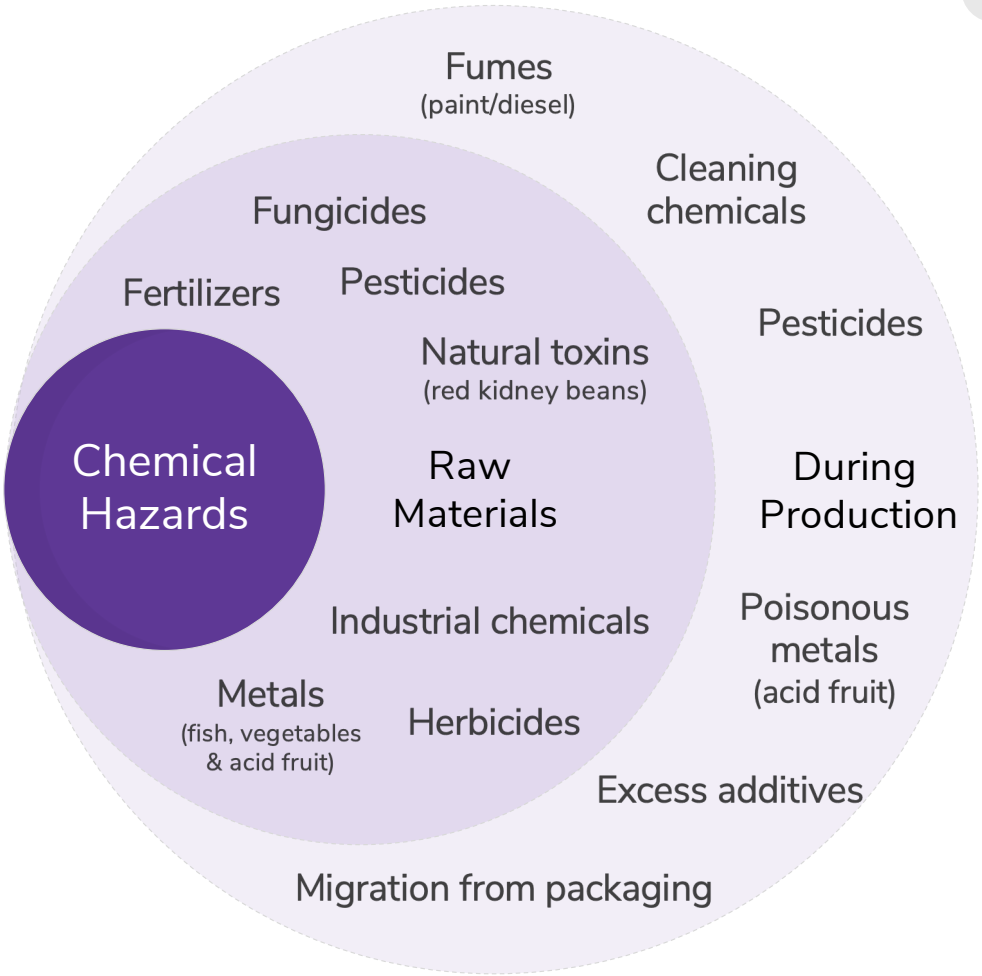
What are the control measures for microbiological contamination hazards?

- Purchase food from reputable suppliers
- Check delivery vehicles
- Inspect food on arrival
- Immediate storage
- Integrated pest management
- Good personal hygiene (exclusion policy)
- Visitor policy
- Training

What are the control measures for microbiological contamination hazards?

- Effective instruction, supervision and training
- Good design of premises and equipment
- Good hygiene practices
- Protect Food
- Minimise handling
- Segregate ready-to-eat and raw food (colour coding)
- Effective cooling and defrosting systems
- Discard unfit food immediately or segregate fit and unfit
- Cleaning schedules/systematic cleaning/disinfection
- Satisfactory waste management

What are the sources of chemical hazards?



What are the control measures for chemical hazards?

- Reputable suppliers
- Training of cleaners
- Separation of chemicals from food
- Don’t store food in old chemical containers
- Don’t store chemicals in unmarked containers
- Follow correct dilution procedures
- Rinsing following chemical cleaning
- Protect food – cleaning and pest control
- Don’t clean above open food
- Use approved food-grade chemicals

Examples of contamination

Broken glass or chipped serving dish

Wood or soil

Glass in baked pie

Notice board

Examples of food hazards

A mouse in a baked loaf

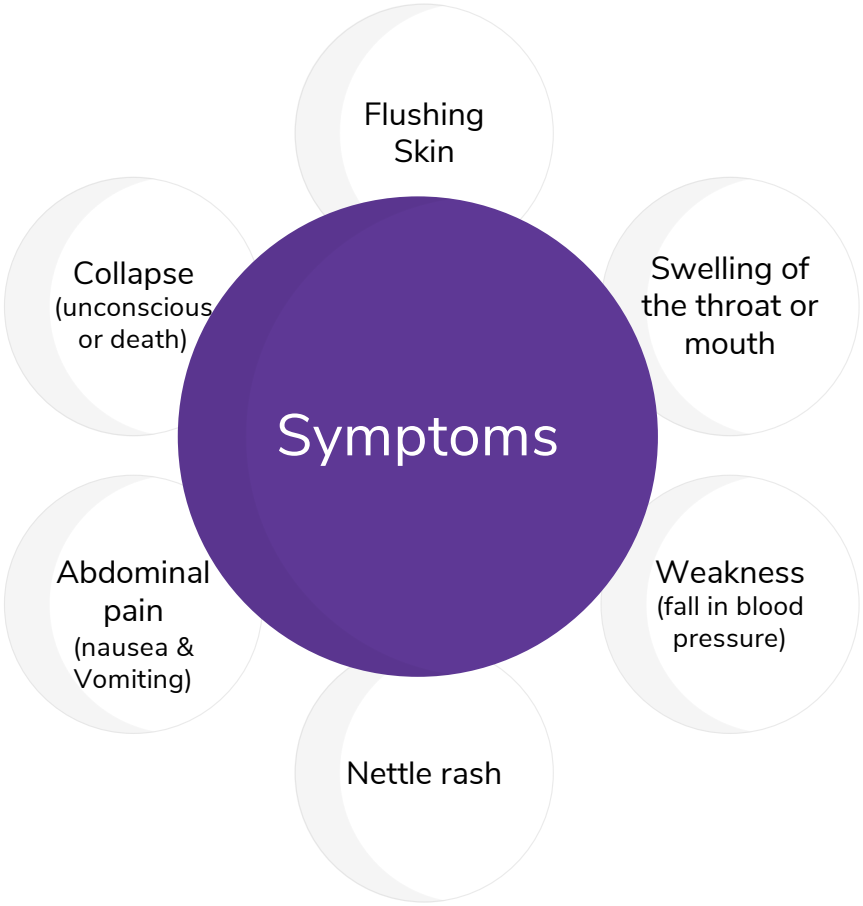
Fly contamination

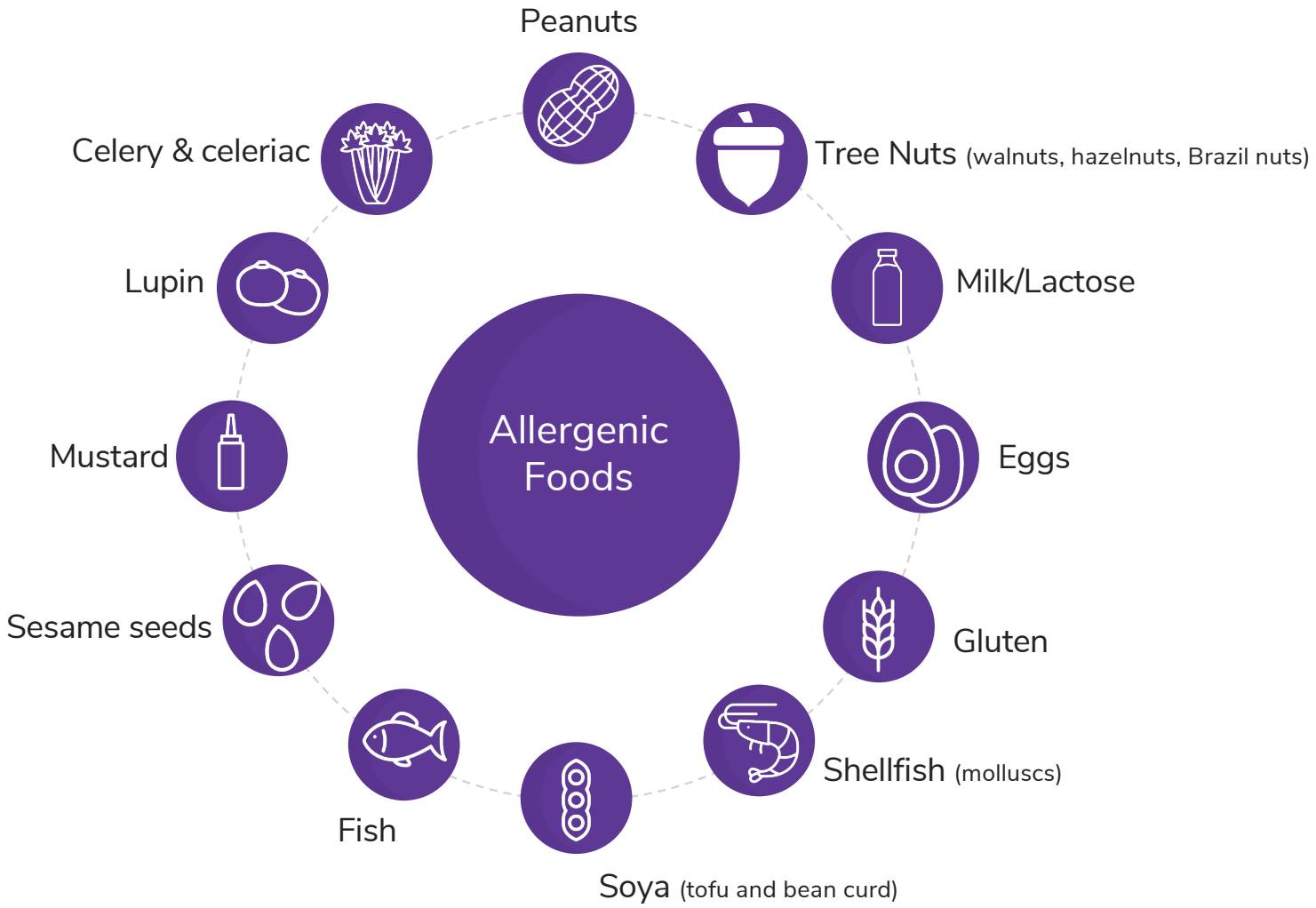
Allergenic Hazards

Allergies are an increasing problem and occur due to an immune system response.

Anaphylaxis is a result of a susceptible person eating food which contains an allergen.

This can occur in a matter or minutes or hours.




Allergenic Foods
Peanuts
Tree Nuts (walnuts, hazelnuts, Brazil nuts)
Milk/Lactose
Eggs
Gluten
Shellfish (molluscs)
Soya (tofu and bean curd)
Fish
Sesame seeds
Mustard
Lupin
Celery & celeriac

What are the control measures for allergen contamination?

- Application of good practices and HACCP
- Avoid contamination
- Segregation
- Separate utensils and cloths
- Colour coding
- Clear labelling
- Effective cleaning
- Staff:
  - Handwashing before preparation
  - Communication
  - Symptoms
  - Response

The likelihood of physical contamination of food can be reduced by ensuring food handlers:

- Sanitise their hands regularly
- Only prepare small quantities of food at once
- Use the correct colour-coded equipment
- Follow procedures regarding wearing protective clothing ✓

Controlling temperatures throughout the preparation of food helps to prevent:

- Toxins surviving
- Bacteria Multiplying ✓
- Allergens forming
- Contamination of spores

Which of the following is most important to reduce the risk of microbiological contamination from a food mixing machine?

- Ensure the mixer blades are not damaged
- Use good grade lubricant when maintaining the machine
- Carry out frequent and effective cleaning and disinfection ✓
- Mix recipes with allergenic ingredients after making recipes that are allergen-free

In which of these circumstances are bacteria most likely to multiple rapidly?

- In a low salt content, at room temperature and at a low pH
- In high-acid food, at low temperatures and in water
- At ambient temperatures, in protein-based foods and in low-acid foods ✓
- In acidic food, water and preservatives

From a food safety point of view, why should food rooms be kept clean?

- Make them look good
- Avoid risk of injury from slips and trips
- Prevent pests getting in
- Remove food for the bacteria ✓

Which of these is a common vehicle of contamination in a food preparation area?

- Plates cleaned in a dishwasher
- Chopping boards ✓
- Overflowing waste containers
- Cooked ham stored at 12°C

Which of the following is most important to prevent the microbiological contamination of high-risk food during storage?

- Maintaining the refrigerator’s temperature below 8°C
- Separating it from raw food ✓
- Using colour-coded labels for each type of high-risk food
- Keeping the refrigerator's doors closed

Which of the following could be implemented as an effective control for most allergens?

- Only purchasing food that does not have nuts as an ingredient
- Cooking food to a core temperature of at least 75°C
- Effective, planned cleaning programmes ✓
- Excluding staff who have an allergy to particular foods

Which of the following is most likely to result in chemical hazard?

- Using a clean spoon for tasting foods
- Cooking food to a core temperature of at least 75°C
- Cooking high-acid food in a copper saucepan ✓
- Covering a pan with a lid when not sitrring

Which of the following statements are correct?

- Damaged equipment is difficult to clean and may result in physical contamination ✓
- A linear workflow increases the risk of cross-contamination
- To work most effectively fridges should be tightly packed
- External waste bins do not require cleaning as they are outside the food unit

What must food handlers do before preparing meals for allergy suffers?

- Check staff training records to ensure they have all received allergen awareness training
- Thoroughly disinfect all areas of the kitchen
- Was all raw foods before cooking them
- Check the ingredient labels of the products they are using ✓

Which of the following is most important to prevent pathogens from contaminating high-risk food?

- Ensuring food is maintained above 63°C
- Storing food in a refrigerator
- Disinfecting chopping boards used only for raw meat
- Washing hands before food preparation ✓

Which of the following will best control physical hazards in food deliveries?

- Specifying the delivery times to ensure checking
- Using reputable suppliers and delivery systems ✓
- Disinfecting vehicles immediately prior to delivery
- Transferring chilled food to refrigerated storage within 4 hours

Food Poisoning and Foodborne Disease

Vocabulary

A	High-risk Food	1	An acute illness caused by the consumption of contaminated or poisonous food
B	Food Poisoning	2	The bacteria, toxin or poison that contaminates the food and causes illness
C	Causative Agent	3	The food consumed that contained the causative agent
D	Food Vehicle	4	Ready-to-eat foods which, under favourable conditions, support the multiplication of pathogenic bacteria and are intended to be eaten without treatment which would destroy such organisms
E	Incubation Period	5	The period between infection (or ingestion of contaminated food) and the first sign of illness
F	Source	6	People who show no symptoms but excrete food poisoning organisms or carry them on their body.
G	Carriers	7	The point from which the causative agent first entered the food chain or what brought the causative agent into the food premises

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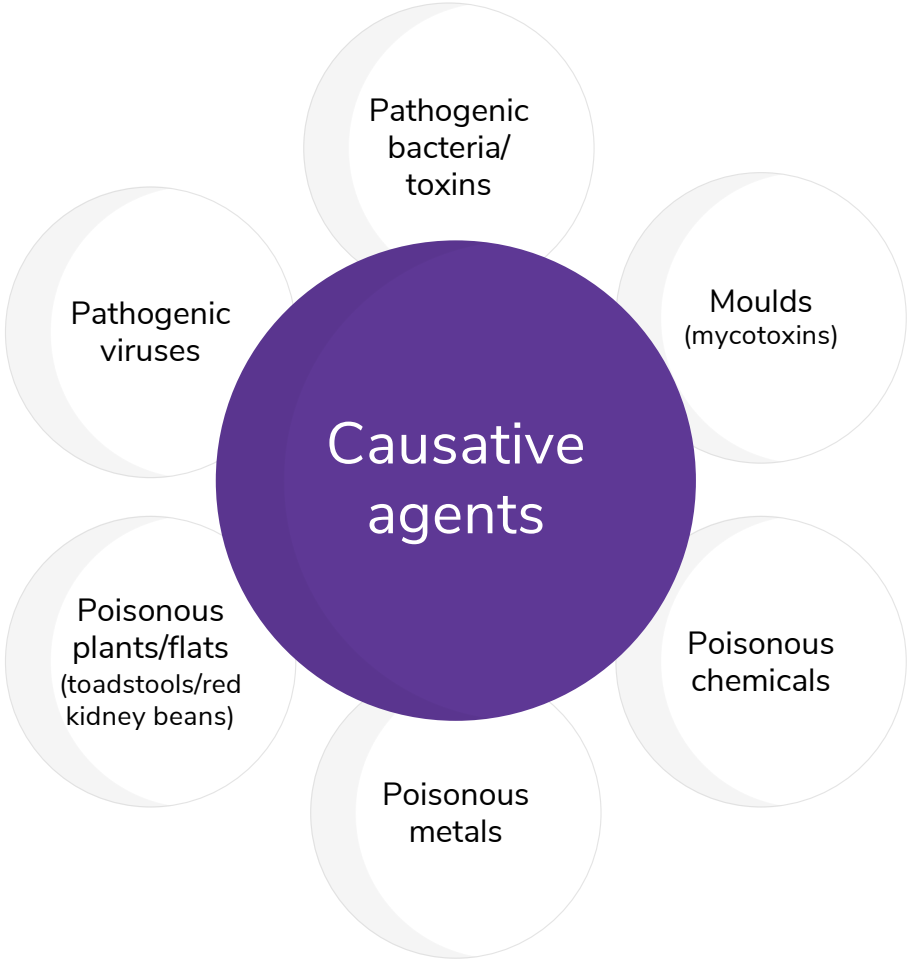
People who are most at risk of food poisoning

- Elderly
- Very young children and babies
- Pregnant women and unborn babies
- Immunocompromised
- People who are unwell

Causative agents of food poisoning



Common food vehicles

- Poultry
- Shellfish & fish
- Desserts
- Milk & milk products
- Cooked meat
- Egg products & eggs
- Salads, vegetables & fruit (low-dose organisms)
- Meat products

General characteristics of food poisoning

Many bacteria needed to cause illness

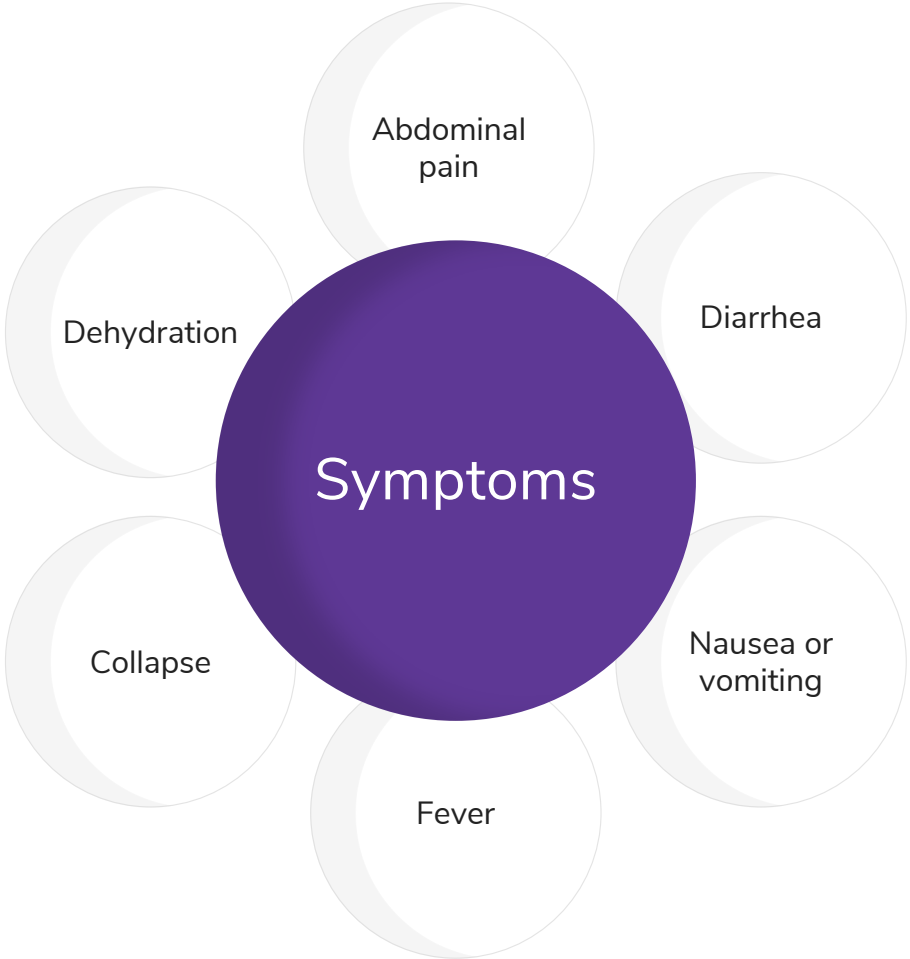
Duration

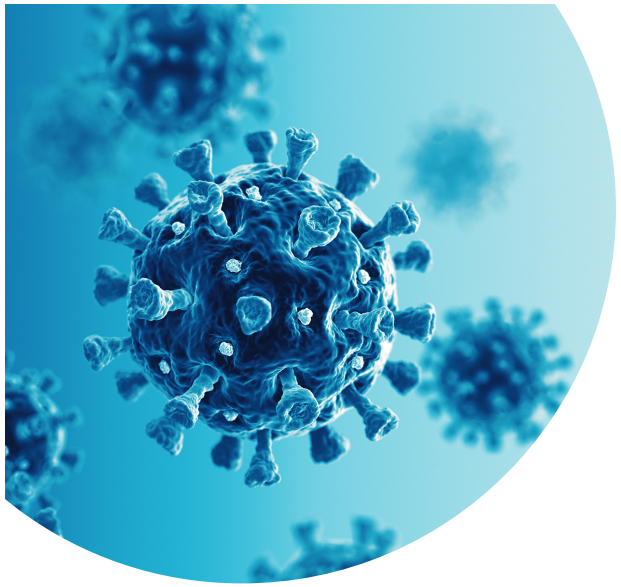
1 – 7 days

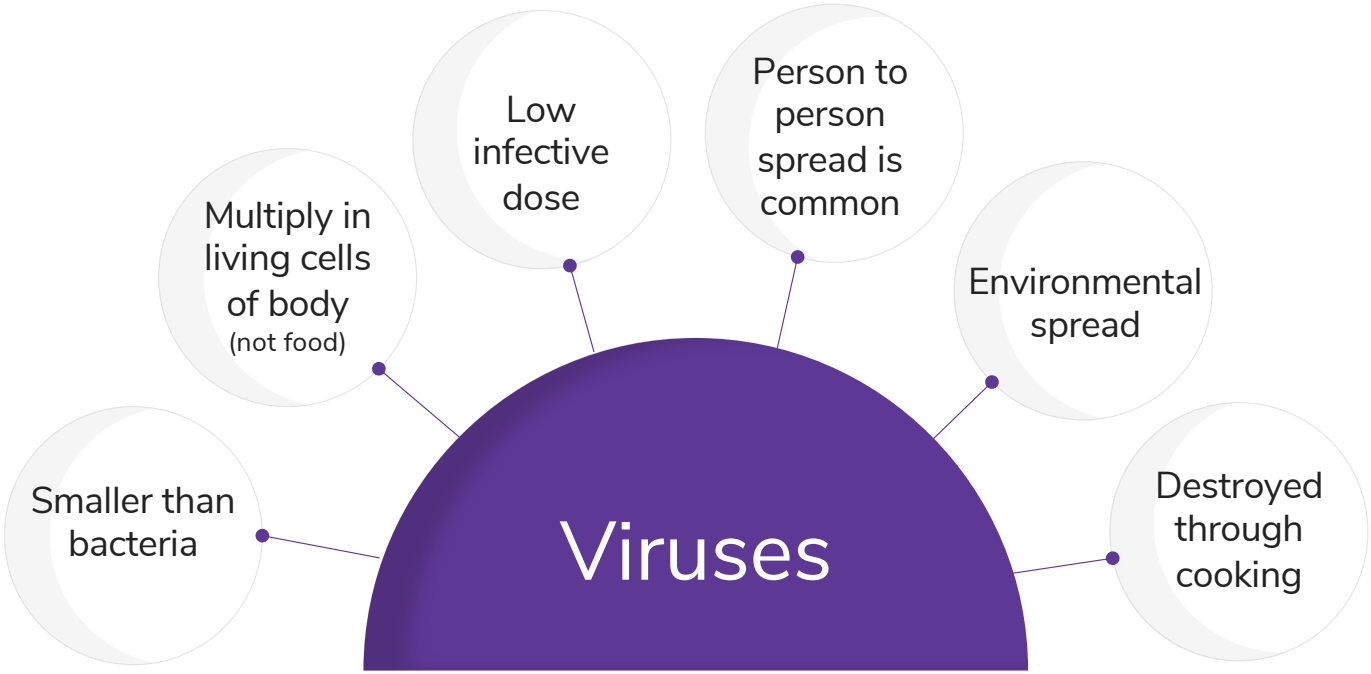
Incubation period

1- 36 hours

What are the symptoms of food poisoning






Viruses
Low infective dose
Person to person spread is common
Multiply in living cells of body (not food)
Environmental spread
Smaller than bacteria
Destroyed through cooking

Non-bacterial food poisoning

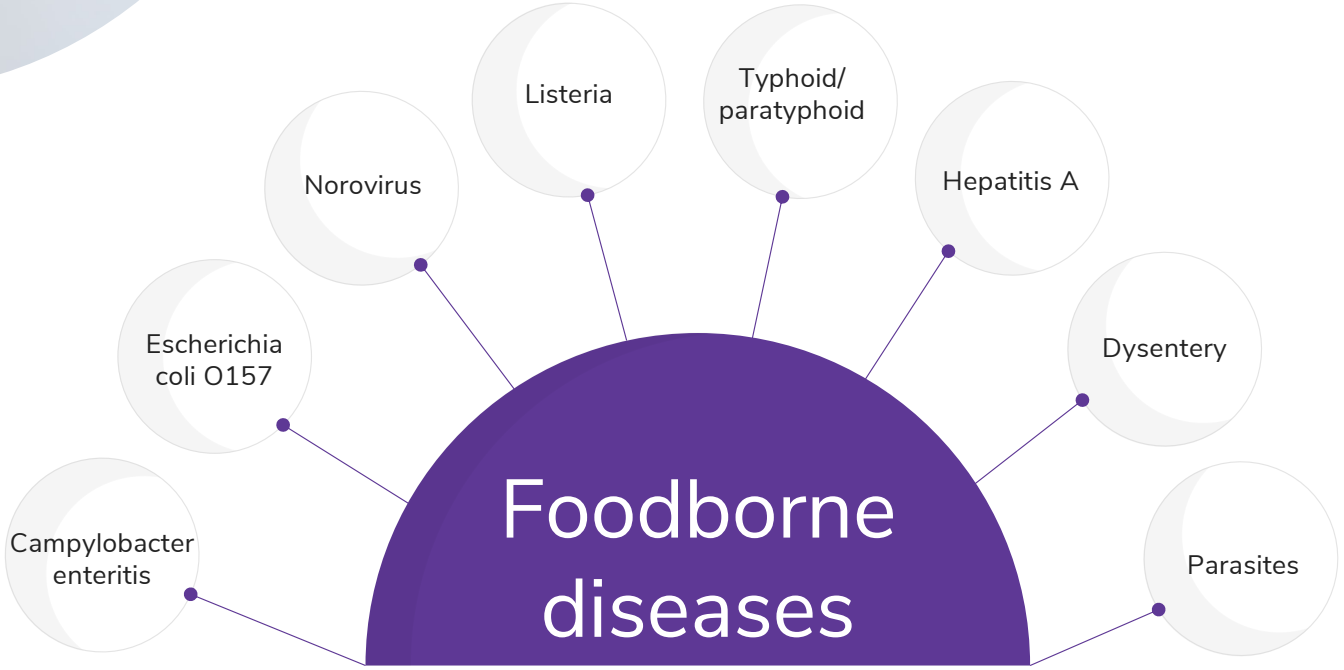
Poisonous Chemicals
Fungicides
Weedkillers
Pesticides
Cleaning chemicals
Additives

Poisonous metals
Antimony
Cadmium
Copper
Iron
Lead
Mercury
Tin
Zinc

Poisonous plants
Deadly nightshade
Death cap
Daffodil bulbs
Toadstools
Rhubarb leaves
Red Kidney Beans

Fish/Shellfish
Scombrotoxin
Paralytic shellfish poisoning

Moulds (mycotoxin)
Peanuts
Cloudy apple juice


Foodborne diseases
Norovirus
Listeria
Typhoid/ paratyphoid
Hepatitis A
Escherichia coli O157
Dysentery
Campylobacter enteritis
Parasites

Food poisoning investigation

What is the role of the supervisor?

- Advise manager
- Suspend sales
- Remove & isolate
- Exclude staff
- Take specimens from ill staff
- Dealing with complaints
- Answer any questions
- Provide records for an audit
- Take specimens from foods implicated
- Carry out sampling
- Clean & disinfect
- Arrange for a restock

Record Keeping

Records may be required by an EHP/EHO when investigating an alleged food poisoning outbreak.

The following records are required.

Food handlers can most effectively reduce the risk of food poisoning by?

- Using appropriate cooking and cooling methods ✓
- Implementing a quality management system
- Using local suppliers to reduce delivery times for sacks of dry rice
- Training all new staff on how to control pests

What is the first thing you should do if a member of staff reports that they have diarrhoea?

- Ensure they wash their hands thoroughly before work
- Exclude them from work for 24 hours
- Exclude them from handling any food ✓
- Inform the local environmental health department

In the event of a confirmed food poisoning outbreak associated with their premises, the role of management and supervisors will be to:

- Determine the source and cause of the outbreak
- Take faecal specimens from all food handlers who have prepared the suspect food
- Obtain all monitoring records relevant to the outbreak ✓
- Destroy any food left on the premises

What effect do pathogenic bacteria usually have on cooked fish?

They may multiply but will have no visible effect ✓

The toxins produce gases causing it to smell unusual

They may produce allergens which reduce its shelf life

As the pathogens multiply the bacteria make it taste unusual

Which of the following statements is true?

All foodborne illnesses are caused by bacteria

Large numbers of micro-organisms are always necessary to cause foodborne illness

Viral illnesses are never spread from person to person

Thoroughly cooking food will reduce the risk of foodborne illness ✓

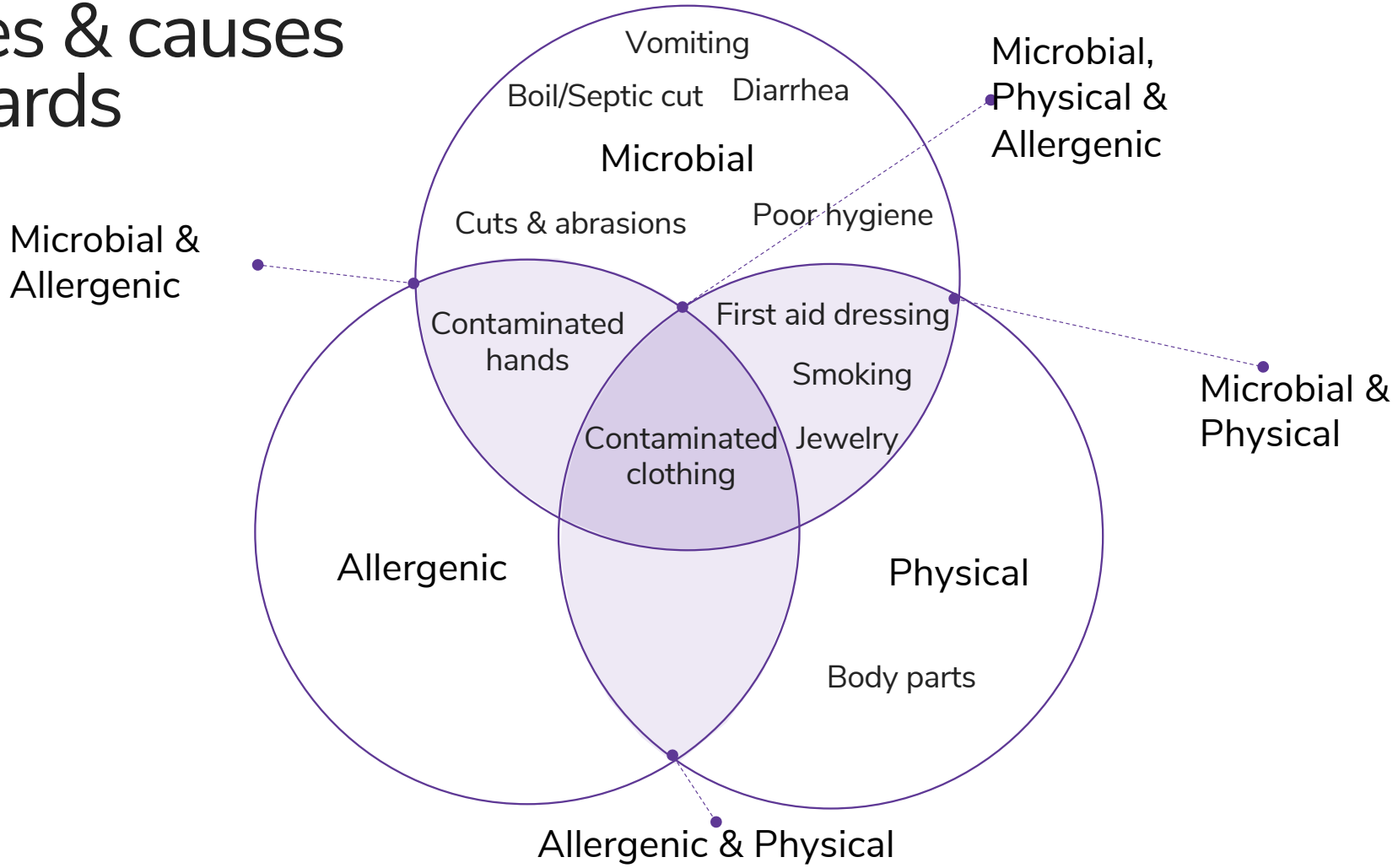
Personal Hygiene

The Law relating to food handlers

Food handlers must:

- Have high standards of personal hygiene
- Wear clean protective clothing
- Not work if ill (food contamination)
- Report to a supervisor as soon as they start to feel unwell

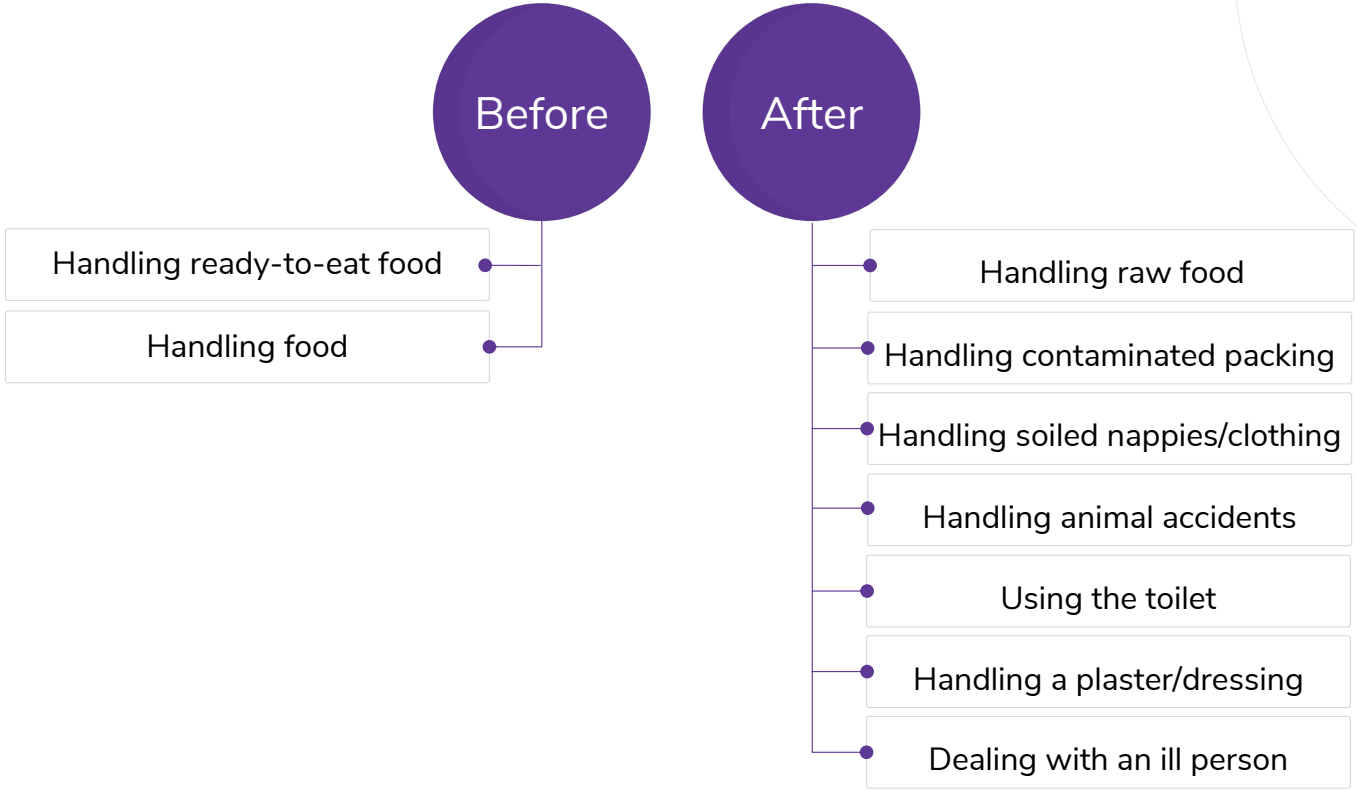
Food Handlers
Sources & causes of hazards



Handwashing facilities requirements

- Clean hand washbasin
- Not used for food or equipment
- Sinks for food or equipment are not used for hands
- Non-hand operated taps recommended
- Hot and cold running water (mixed 40/45)
- Liquid soap (disposable cartridge)
- Soft, heat-resistant, clean nailbrush
- Hygienic hand-drying facilities, preferable paper towels

When is it critical to wash hands?



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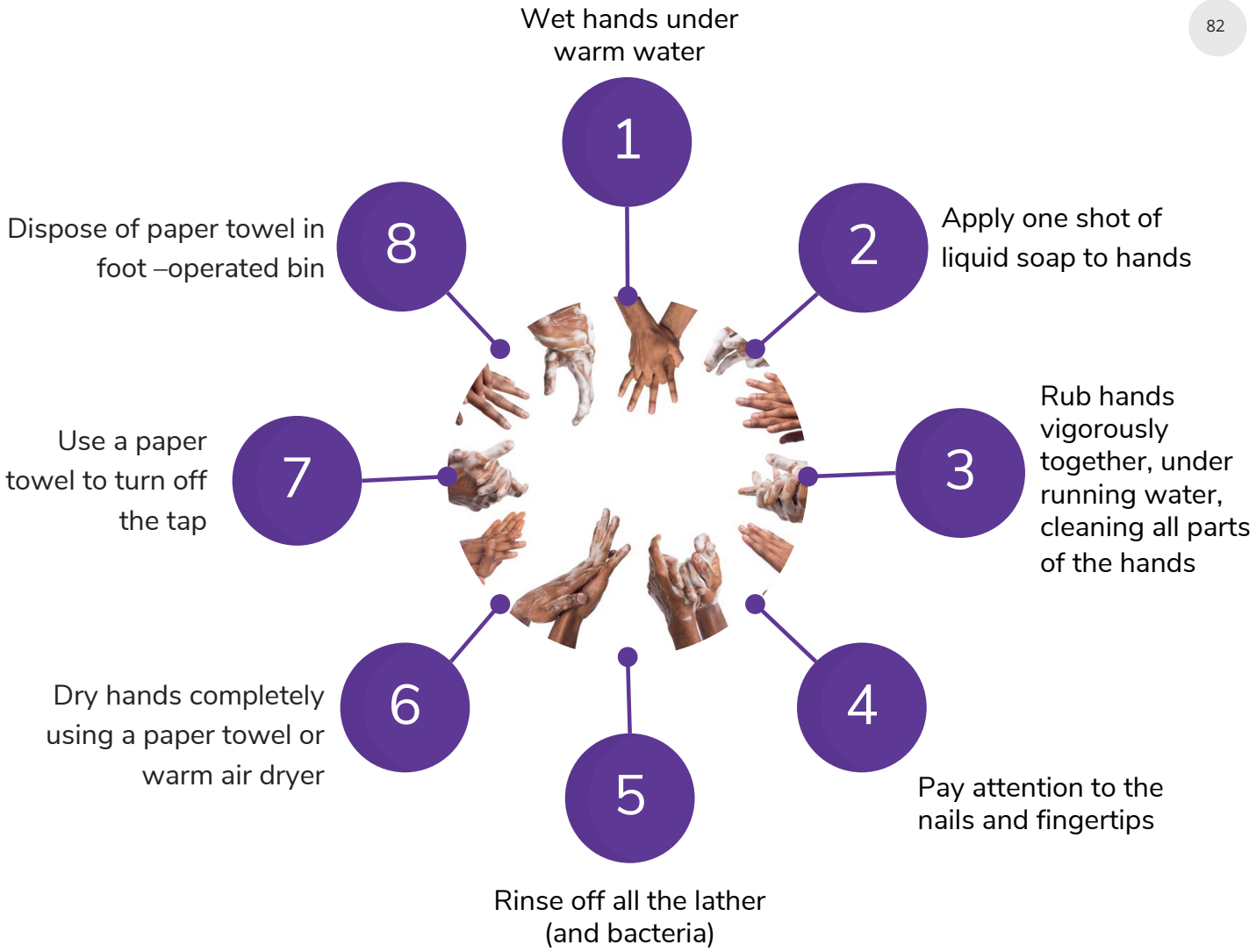
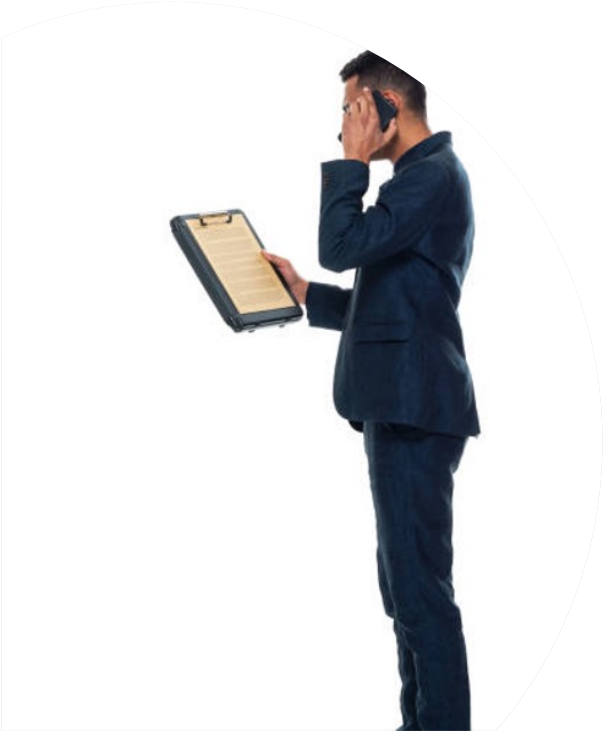
Effective handwashing using a nailbrush

1. Wet hands and nailbrush under warm water
2. Apply one shot of liquid soap to the nailbrush
3. Brush and lather the fingertips and the fingernails under running water
4. Continue brushing until there is no more lather (and bacteria)
5. Store nailbrush with bristles up

Effective handwashing

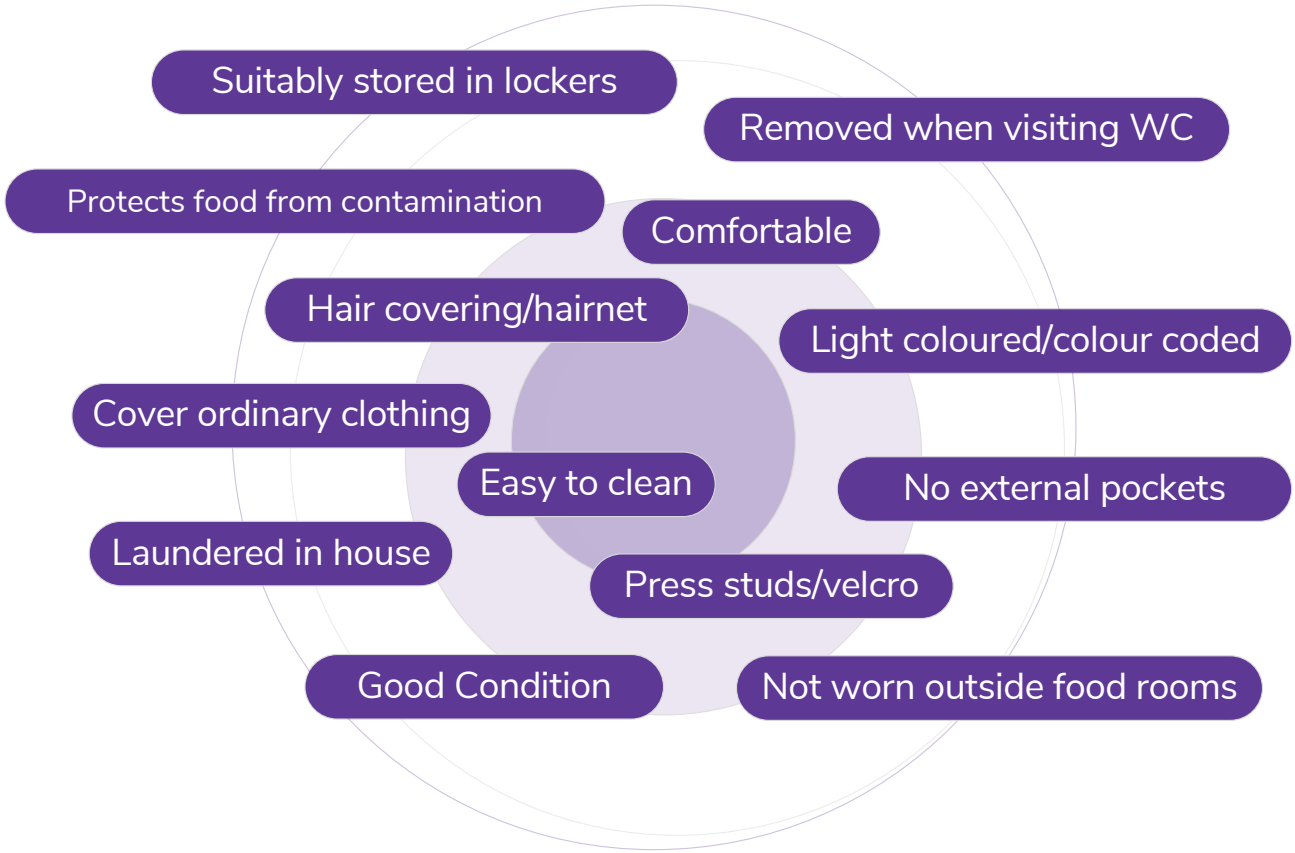


The role of the supervisor to ensure effective handwashing



- Train, instruct, motivate
- Lead by example/demonstration
- Ensure facilities:
  - Have running warm water
  - Are clean and satisfactory
- Evaluate controls
- Monitor staff:
  - Visual checks
  - Glo-germ
  - Hand swabbing
- Take corrective action
  - Retrain
  - Warn
  - Dismiss

What are the properties of protective clothing?



Which of the following illnesses or conditions must be reported to the supervisor to prevent food safety issues?

- Eaten suspect food
- Septic cuts/boils
- Sprained ankle
- Discharge from eyes, nose or ears
- In-growing toenail
- Unwell while abroad
- Sun burnt while abroad
- Moles
- Skin infection
- Black eye
- Diarrhea, vomiting or food poisoning
- Serious cold or flu
- Close family contact has diarrhea, vomiting or food poisoning

According to the law, what facilities must be provided for handwashing?

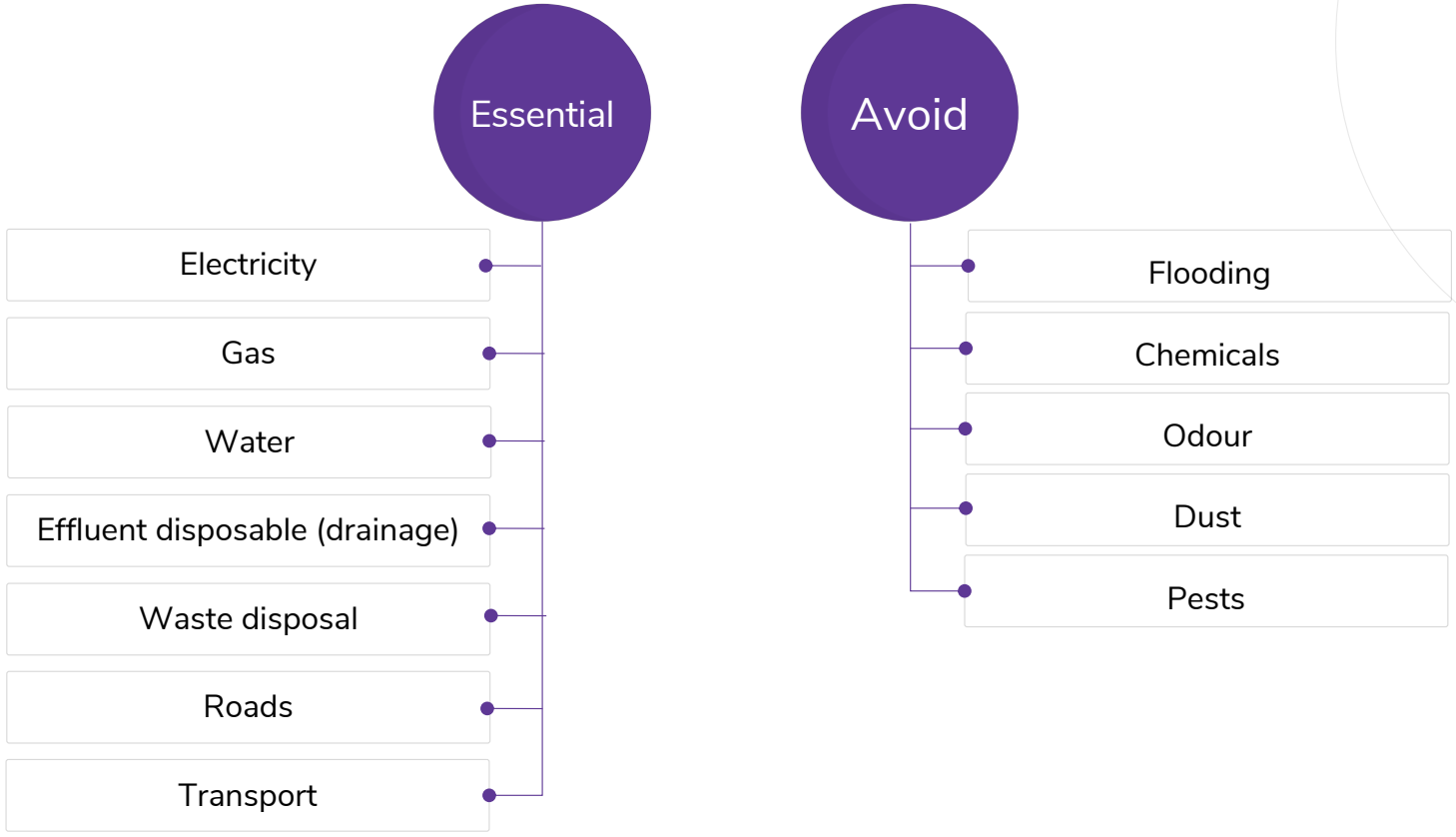
- A washbasin, hot and cold water and hand drying facilities ✓
- A nailbrush, soap and hand drying facilities
- Antibacterial gel, hot and cold water and hot-air drier
- Paper towels, hot and cold water and alcohol wipes

On which of these occasions is it least important for a person handling raw and cooked food to wash their hands?

- When entering the food room
- After handling raw food
- After handling cooked food ✓
- After using the toilet

Design and use of food premises and equipment

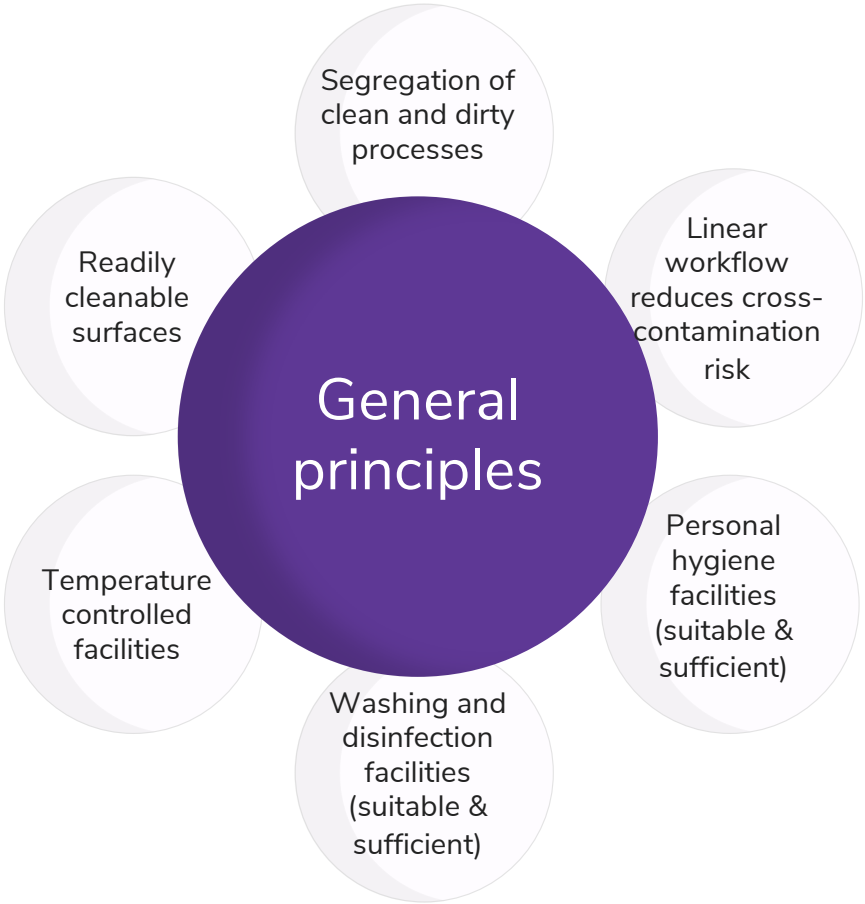
Site selection



The Law relating to food premises

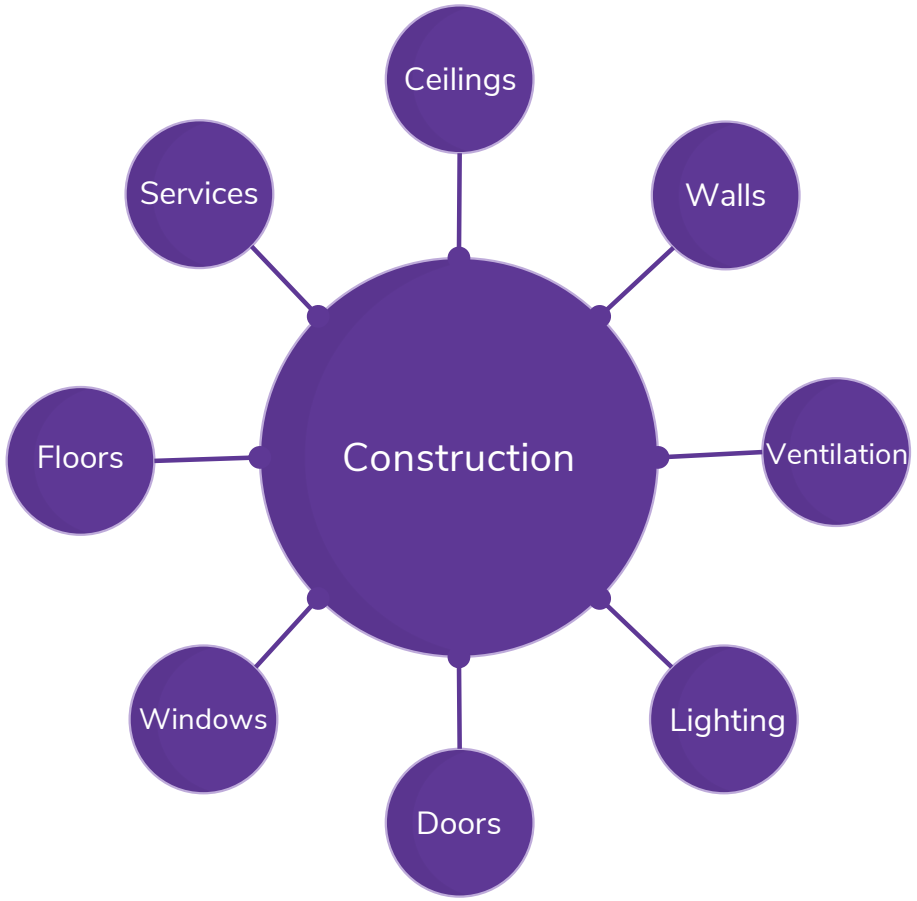
- Clean and in good repair and condition
- Good design, layout and construction
- Permit cleaning and disinfection
- Protect against contamination
- Permit good food hygiene practice, especially pest control
- Provide suitable temperature-controlled conditions

Design of food premises to reduce risk of contamination

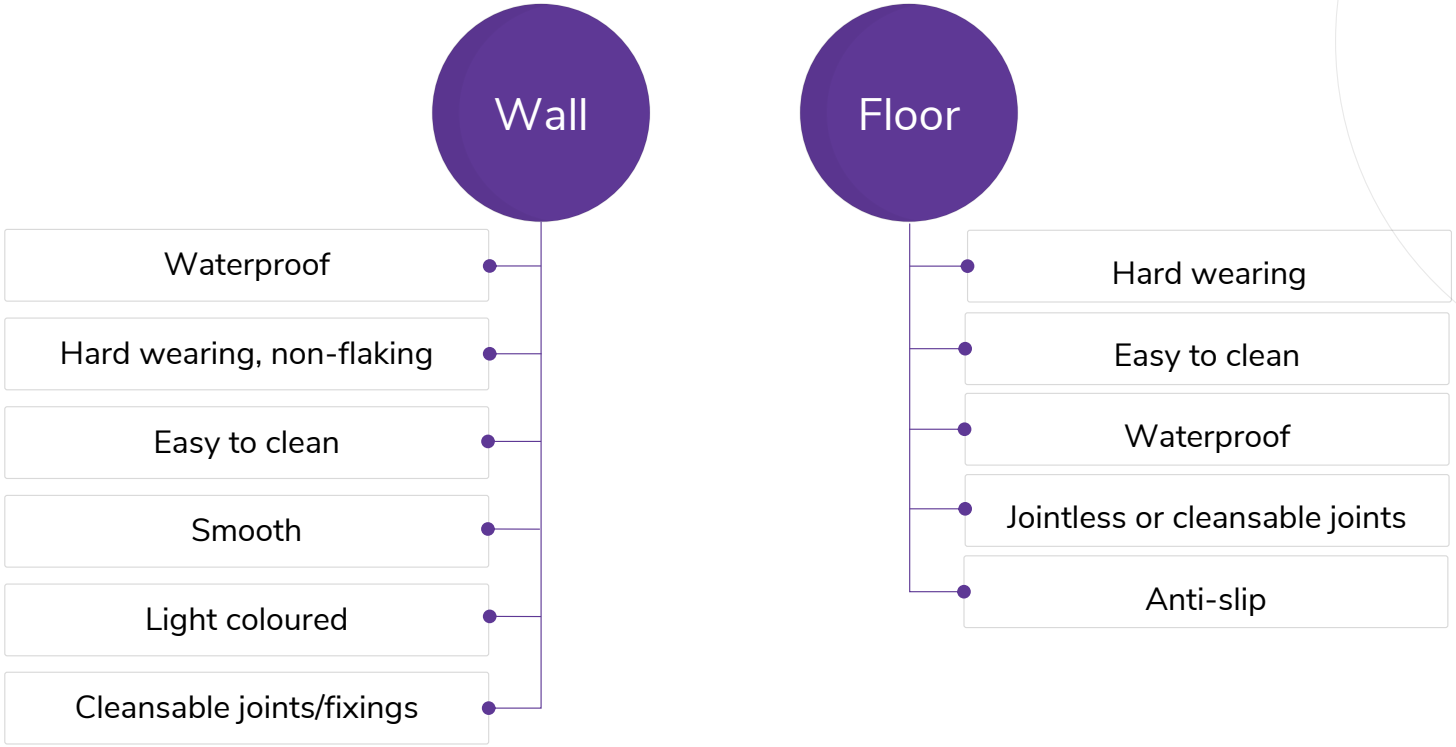


Design of food premises

Construction of food premises



Properties of surfaces



Why replace chipped or damaged surfaces?

- Difficult to clean or disinfect
- Risk of physical contamination
- Legal requirement
- Build up of dirt or grease
- Harborage for insects or bacteria

What washing, waste and welfare facilities should be provided?

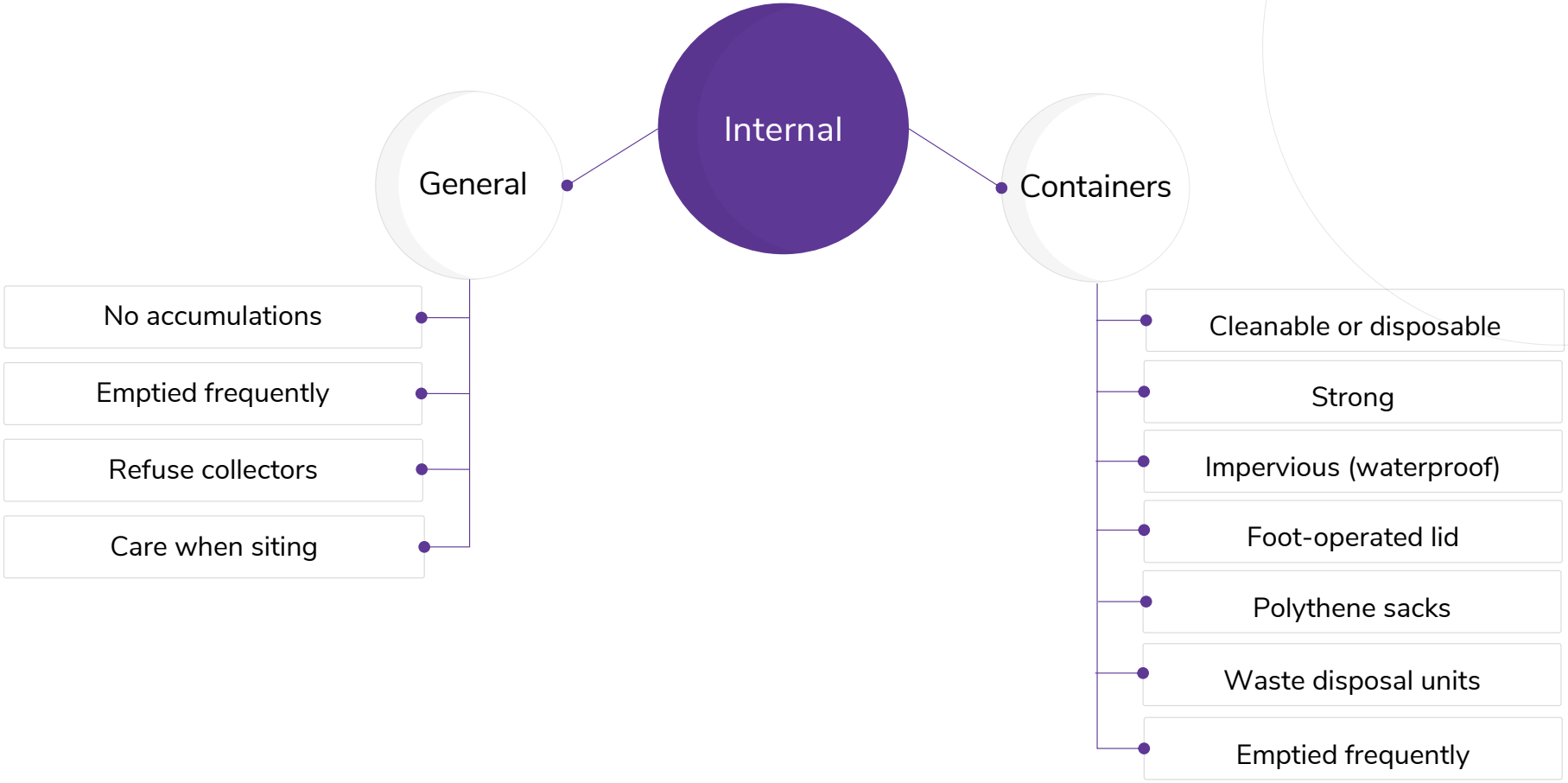
- Personal hygiene facilities
- Food washing facilities
- Cleaning and disinfection facilities
- Cloakrooms and lockers
- Toilets
- Waste disposal (internal & external
- Drainage

The Law
Relating to waste

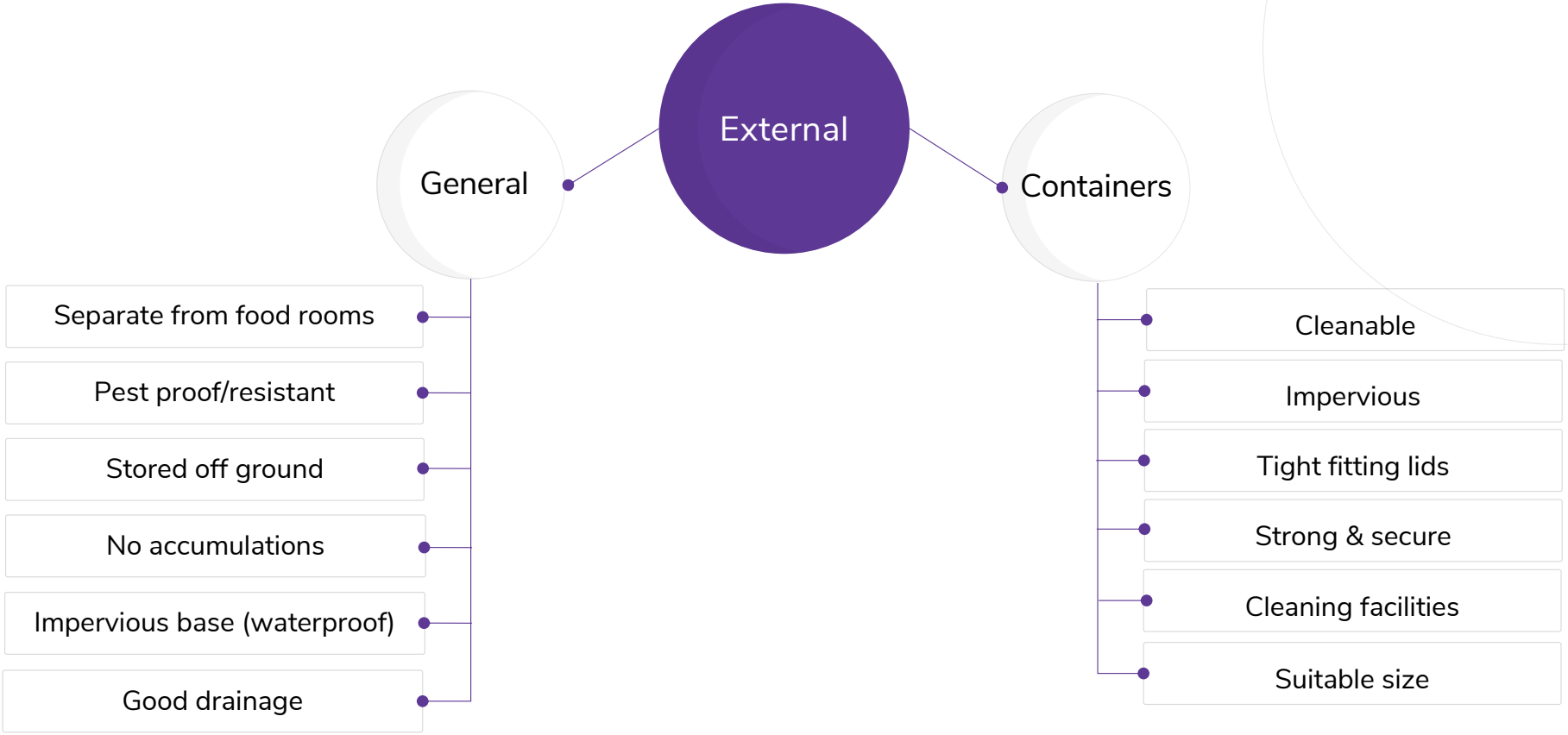
Waste must be deposited in **closable** containers

Waste must **not** accumulate in food rooms

Storage and disposal of waste



Storage and disposal of waste



The Law
relating to food equipment

- Clean, in good repair and condition
- Minimise risk of contamination
- Enable thorough cleaning and, where necessary, disinfection
- Be installed to allow cleaning of surrounding areas

Recommended standards for food equipment

- Easy to clean and disinfect
- Smooth/jointless
- Impervious (waterproof)
- Durable (hard wearing)
- Non-toxic
- Non-tainting
- Non-flaking
- Corrosion resistant
- No crevices/recesses

Examples of poor cleaning

Seal of refrigerator door

Meat slicer

Cupboard

Which of the following would be the best way to reduce the room temperature of a restaurant kitchen?

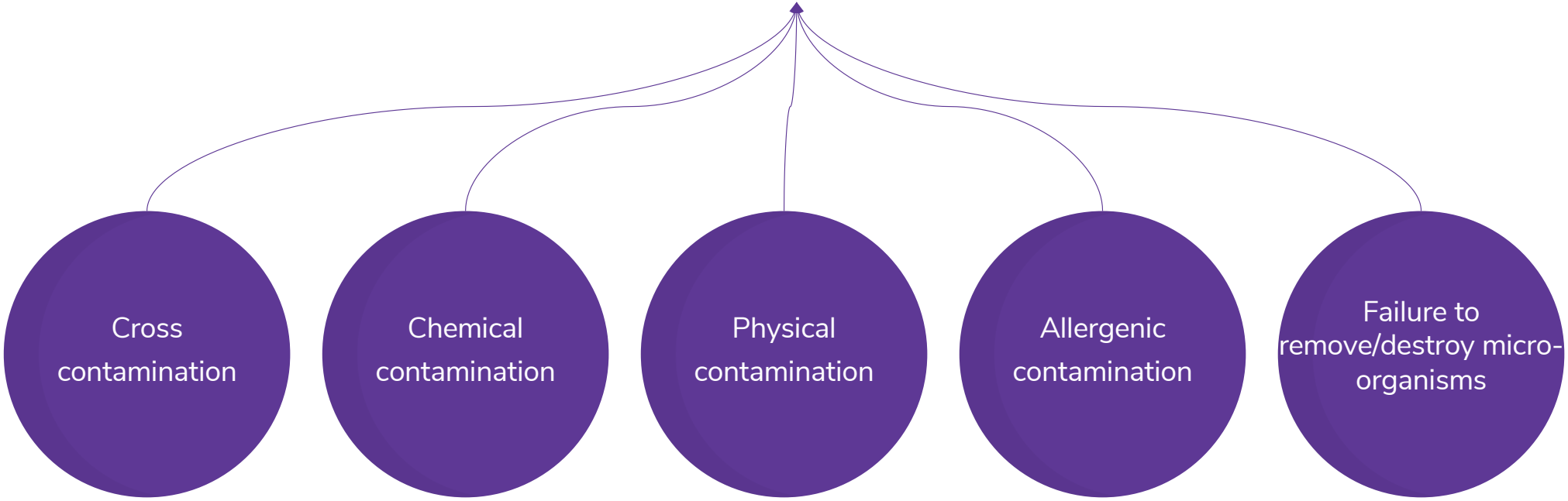
- Maintained ovens and air conditioning
- Stainless steel wall surfaces and air conditioning
- An effective ventilation system and an extraction canopy ✓
- Natural ventilation from open windows

Cleaning and Disinfection

Hazards from poor cleaning

Cleaning

"the systematic application of energy to a surface or substance with the intention of removing dirt"



Clear and clean as you go

What are the definitions?

A	Bactericide	1	The process of destroying all micro-organisms and their spores
B	Disinfectant	2	A substance capable of being decomposed by bacteria or other living organisms
C	Biodegradable	3	The application of energy to a surface to remove dirt and grease
D	Detergent	4	A chemical used to remove grease, dirt and food particles. Does NOT kill bacteria
E	Cleaning	5	A substance which destroys bacteria
F	Sanitiser	6	A combined detergent and disinfectant
G	Sterilising	7	A chemical used to reduce micro-organisms to a safe level

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Benefits of cleaning

- Reduces the risk of food poisoning
- Removes the bacteria’s food supply
- Allows disinfecting
- Removes material which encourages pests
- Removes “foreign matter” contamination
- Removes dirt & grease
- Promotes a favourable image
- Complies with the law
- Will reduce customer complaints
- Provides safe and pleasant environment for staff

Energies in cleaning

Available as:
- Powders
- Liquids
- Gels
- Foams

Chemical
Detergents remove grease & other soiling

Thermal
Hot water

Kinetic
- Physical – scrubbing/brushing
- Mechanical – machines
- Turbulence – running water

Disinfection

Hot Water

- 82°C for 30 seconds
- Steam

Chemicals

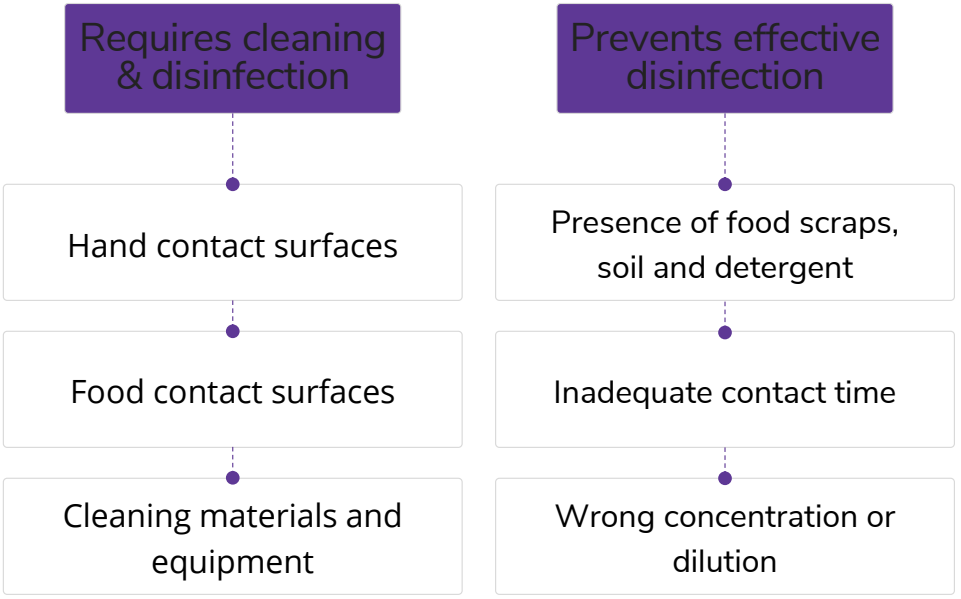
- Bleach (hypochlorite)
- Quaternary Ammonium
- Compounds (QACs)
- Alcohols
- Sterilisation

Dishwasher

Cloths

- Laundered at 65°C

Cleaning & disinfection



What needs to be cleaned & disinfected?

- Knives & forks
- Inside a refrigerator
- Inside of an oven
- Chopping board
- Kitchen or store floors
- Hand washbasin
- Drawer handle
- Sweeping brush
- Protective clothing
- Ceiling tiles
- Shelves of display chillers
- Pans for use in cooking
- Cheese grater
- Cleaning cloths
- Brushes used for wet cleaning
- Shelves used for packaged dry goods
- Buckets used for cleaning floors
- Windows

How can you tell if a surface has been effectively disinfected?

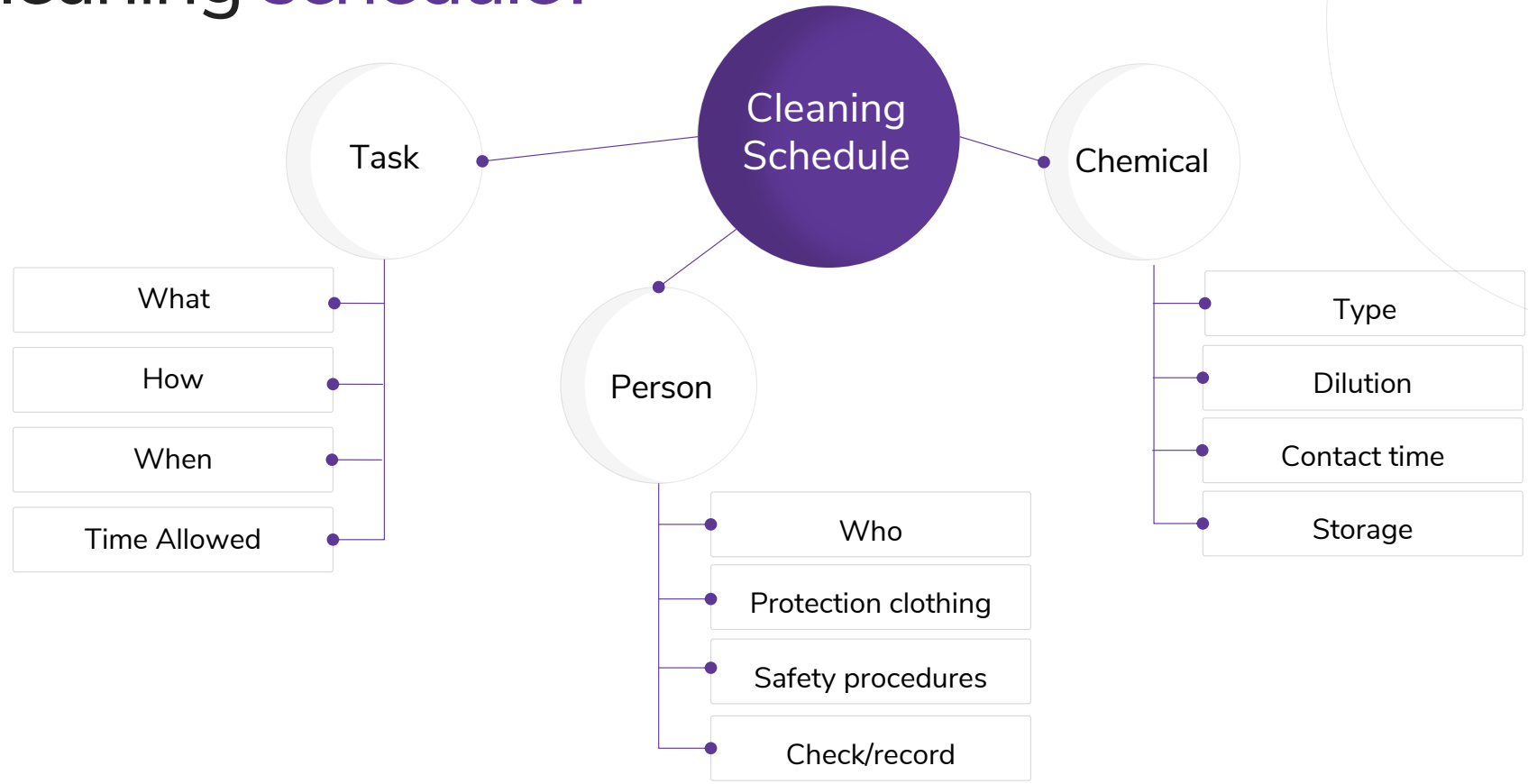
Effectiveness of disinfection is determined by bacteriological monitoring (swabbing) and ATP, not by visual inspections.

How to clean


Steps
1
Pre-clean
2
Main clean
3
Rinse
4
Disinfect
5
Final Rinse
6
Air Dry

How to sanitise

What should be included on a cleaning schedule?



What is the role of a supervisor in monitoring satisfactory cleaning?

How can a supervisor ensure cleaning procedures are satisfactory?

Provide clear instruction, suitable training (to ensure competent staff), provide/check cleaning schedule, suitable materials, equipment and time, motivate, then observing and monitoring staff undertaking the cleaning activities

How can a supervisor monitor standards of cleanliness?

Daily visual checks or white paper tissue or ATP

How can a supervisor verify effective disinfection (safe cleaning)?

Microbiological swabbing

When cleaning a food room, which area would you clean first?

- Raw meat preparation area
- Toilets and washrooms
- Vegetable wash and peeling area
- High-risk food preparation area ✓

A disinfectant is a chemical that:

- Is less effective than a sanitiser
- Reduces bacteria to a safe level ✓
- Removes dirt and grease
- Only kills spoilage organisms

Which of the following statements are untrue?

- The effectiveness of disinfection is determined by swabbing
- Detergents need to be rinsed off before using a chemical disinfectant
- ATP can be used to determine if a surface is clean
- Any concentration of disinfectant will destroy 90% of pathogens ✓

With a dishwasher in a catering business which of the following statements is untrue?

- It uses higher temperatures than manual dishwashing
- Can reduce the amount of steam and condensation
- The cleanliness and temperature remain the same throughout the day ✓
- It uses milder detergents and disinfectants

With a dishwasher in a catering business which of the following statements is untrue?

- Random auditing/external inspection
- Surfaces physically clean
- Absence of dirt/grease
- A white disposable towel wiped over food preparation areas should be clean ✓

Which chemical reduces pathogenic bacteria on a work surface?

- Disinfectant ✓
- Detergent
- Sanitiser
- Steriliser

Which is the odd one out when using disinfectant?

- Concentration
- Contact-time
- Presence of soil
- Colour ✓

Which is the odd one out?

- Detergent ✓
- Sanitiser
- Disinfectant
- Sterilant

Which chemical cleans and disinfects at the same time?

- Sanitiser ✓
- Detergent
- Disinfectant
- Steriliser

Which of the following is the odd one out regarding a cleaning programme?

- Ensures you comply with the law
- Provides a safe and pleasant environment
- Reduces the risk of food poisoing
- Reduces cleaning costs significantly ✓

Which of the following is not a heading on a cleaning schedule?

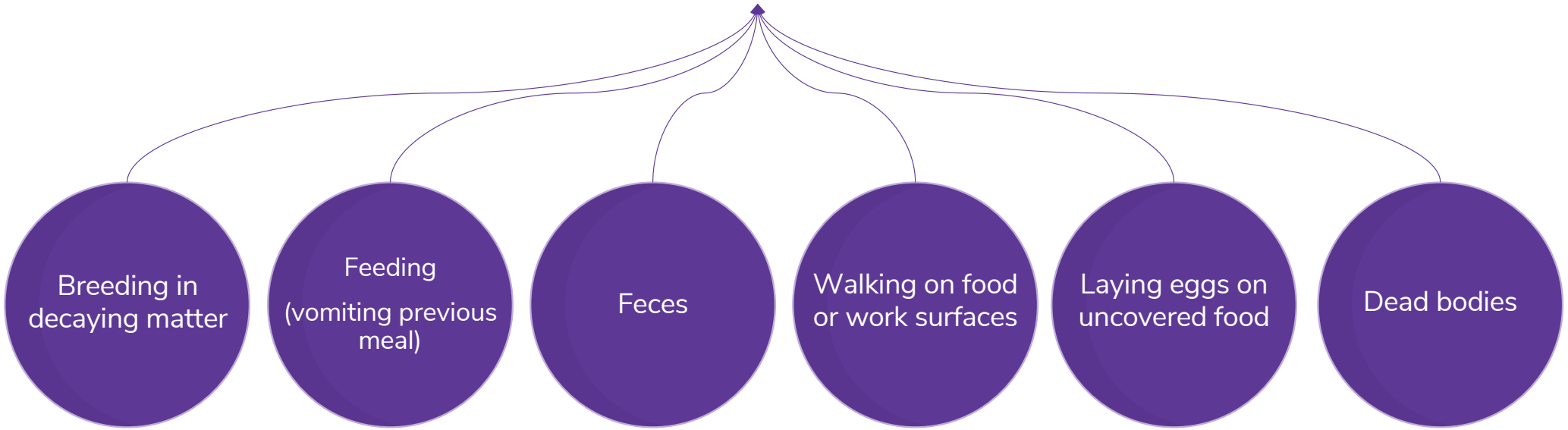
- What should be cleaned?
- How should it be cleaned?
- Why should it be cleaned? ✓
- Who should clean it?

Pest Management

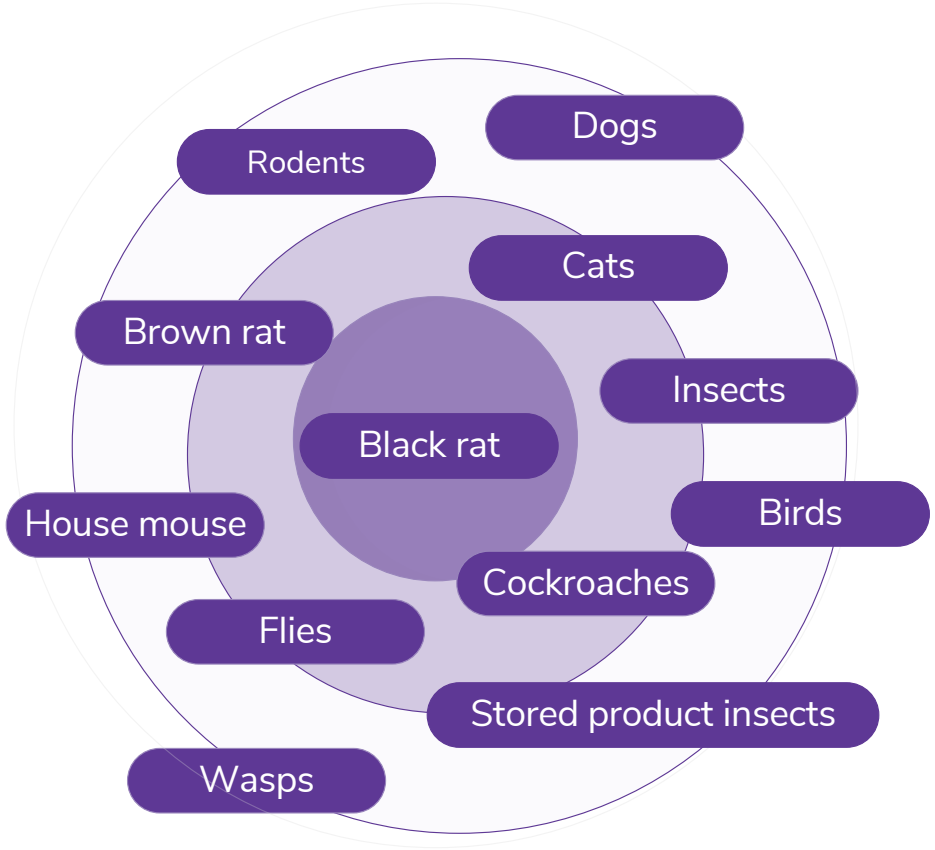
What is a food pest?

‘An animal, insect or bird which lives in or on our food. It contaminates food and is noxious, destructive or troublesome’

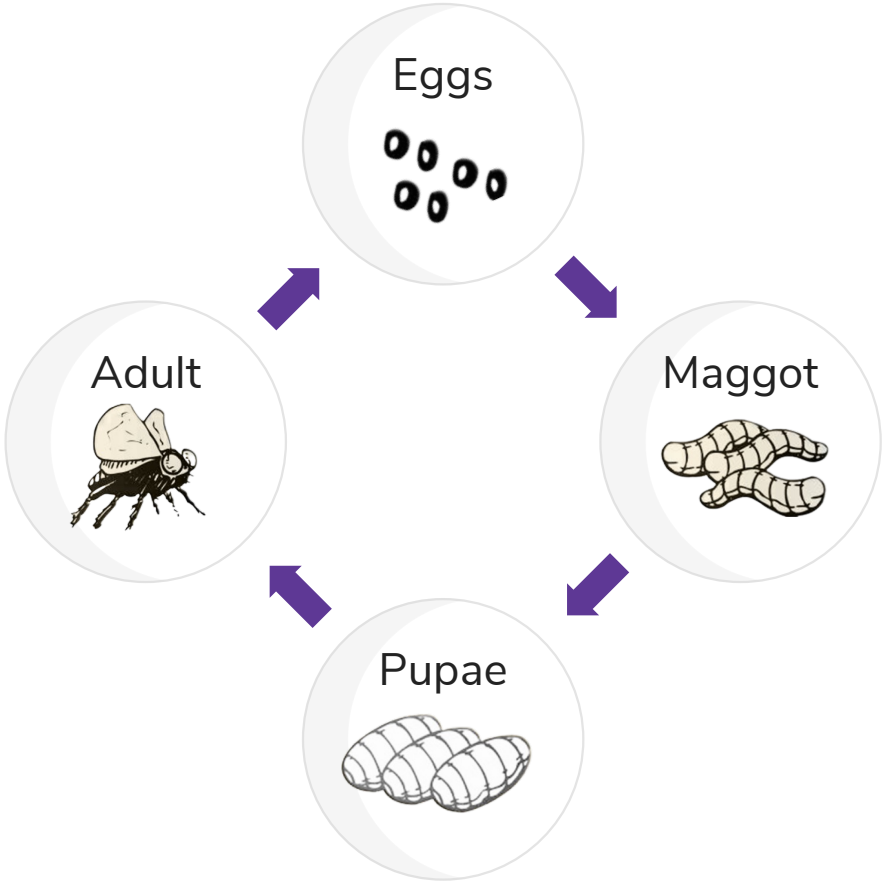
How do pests contaminate food?



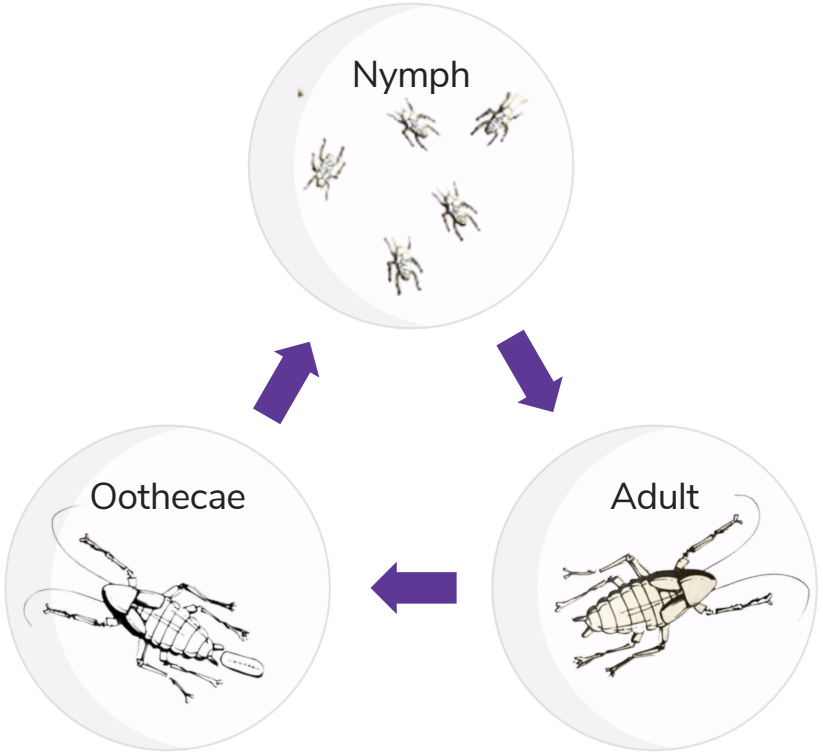
Food pests


Dogs
Rodents
Cats
Brown rat
Insects
Black rat
House mouse
Birds
Cockroaches
Flies
Stored product insects
Wasps

Life cycle of a fly



Life cycle
of a cockroaches



Food Pests

Fly Maggots

Fly Eggs

What are the signs of rodent infestation

- Bodies
- Droppings
- Smears
- Footprints/tail marks
- Runs
- Bait takes
- Holes
- Chewed packaging
- Chewed food/paper
- Gnawing Damage
- Nest
- Noise
- Hair/fur

Examples of pest damage

Chew damage to plug

Damaged packaging

Droppings in packaging

What are the signs of rodent infestation

- Bodies/nymphs
- Larvae/Pupae
- Eggs
- Egg casings
- Holes in food e.g. biscuits
- Frass (dust piles)
- Webbing
- Noise

The Law relating to pest control

- Food must be protected from contamination and from pests

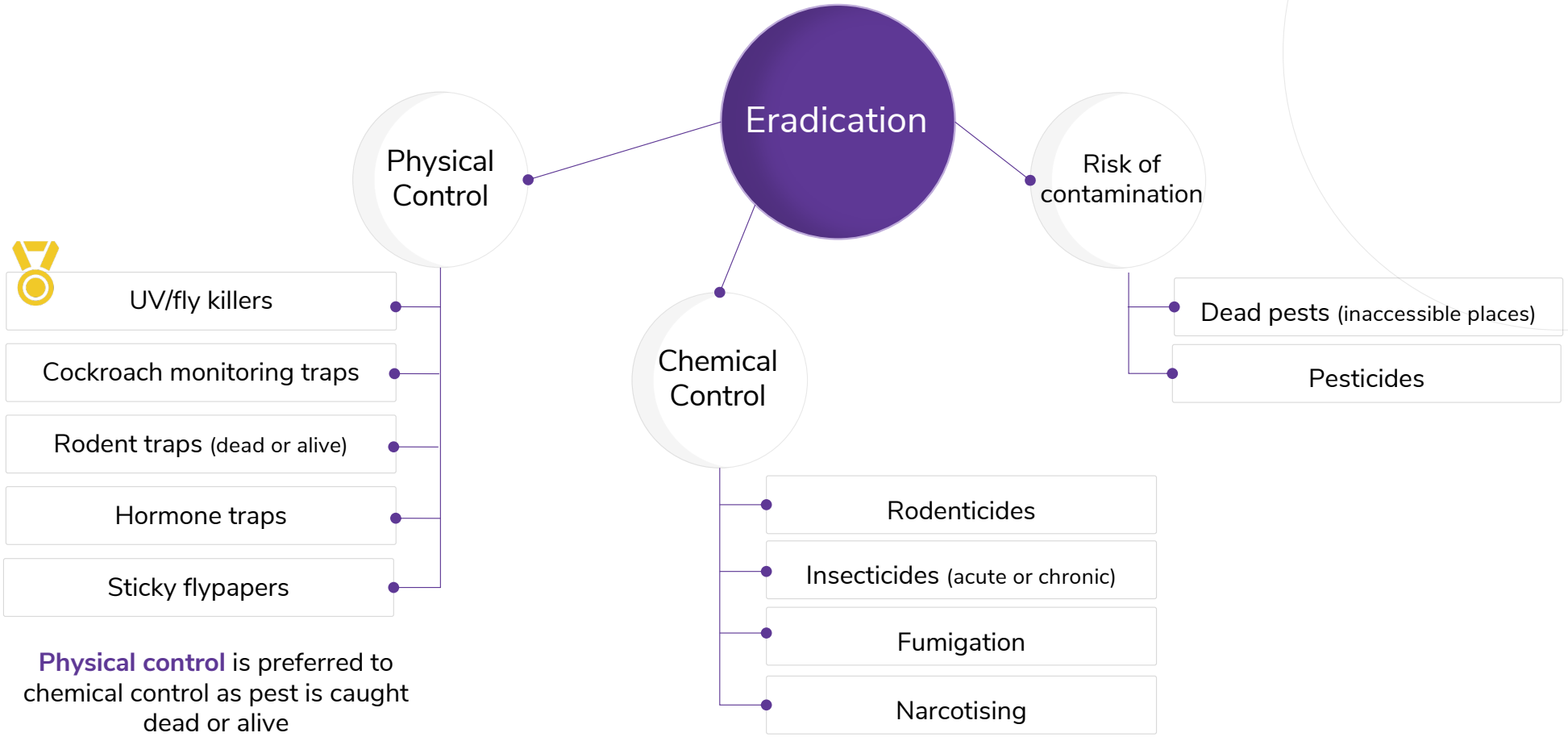
What are the reasons for pest control?

- Bacterial & physical contamination of food/surfaces
- Disease including food poisoning
- Wastage
- Damage
- Lost custom
- Complaints
- Staff losses

How can you avoid attracting pests?

Environmental control to prevent infestation

Eradication

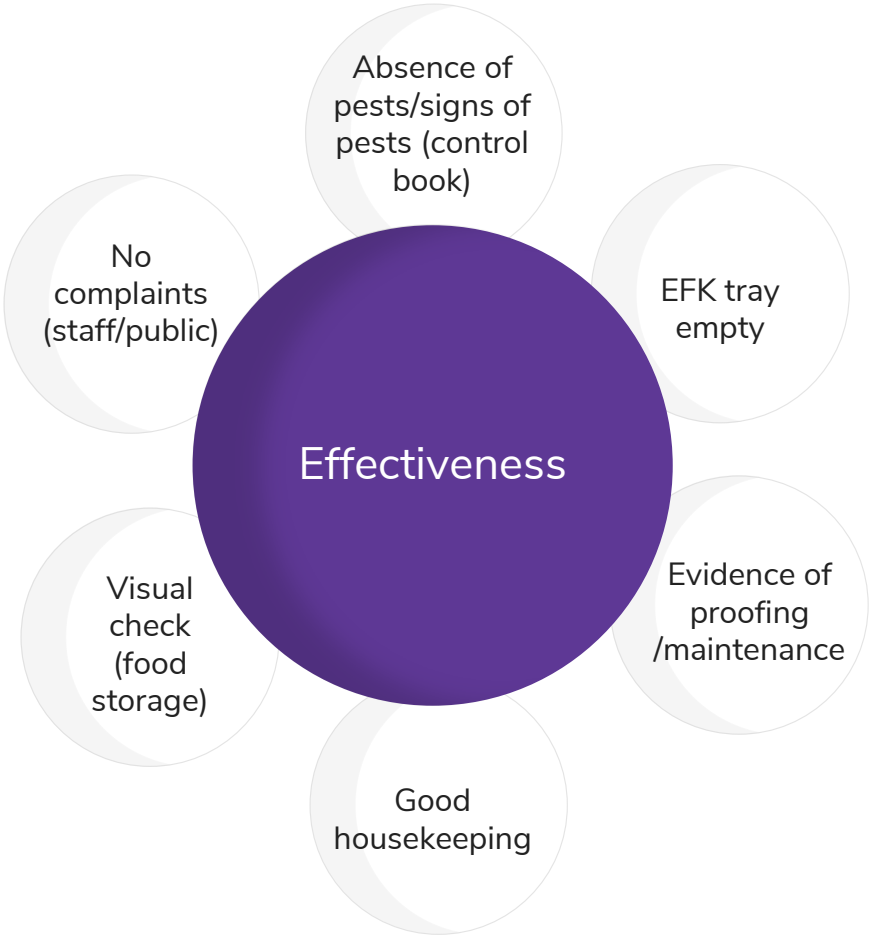


Physical control is preferred to chemical control as pest is caught dead or alive

The role of the supervisor to monitor pest control

- Proactive pest management
- Inspect vulnerable areas
- Signs (advise and instruct staff)
- Ensure staff report signs of pests
- Ensure deliveries checked
- Report defects
- Accompany contractor
- Record bait box positions
- Ensure contractor’s visiting records are maintained
- Notify contractor if evidence of infestation
- Ensure contractor does not contaminate food
- Ensure deliveries checked
- Maintain high standards of hygiene
- Deal with bait/dead pests
- Check bait boxes regularly
- Follow contractor’s recommendations
- Ensure necessary cleaning undertaken following contractor’s visit

How can you evaluate the effectiveness of pest control?



What should a supervisor do if they find evidence of mice in a food room?

- Stop any food being sold and isolate any contaminated food so there is no risk to other food (may need to immediately dispose of food)
- Call contractor
- Ensure area is thoroughly cleaned and disinfected
- Act on recommendations of the contractor, especially regarding proofing

Which of the following is the most effective way of preventing rodents getting into a food premises?

- Removing food spillages
- Proofing the building ✓
- Providing internal bait points
- Employing a pest-control contractor to lay bait traps

The most important aspect of day-to-day pest management is to:

- Ensure staff report signs of pest infestation ✓
- Train food handlers to poison pests
- Be able to maintain electric fly killers
- Train food handlers to inspect rodent traps

Which of the following is correct?

Chemical controls are better than physical controls such as traps

Cockroaches are the only insect to carry pathogenic bacteria

All insects are a potential source of physical contamination in a food room ✓

Stored product insects carry harmful toxins that are a major cause of food poisoning outbreaks

Pest Control Quiz

Which of the following are common food pests?

- Wasps
- Red Squirrels
- Rats ✓
- Mice ✓
- Flies ✓
- Cockroaches ✓

Which of the following are signs of rodent infestations?

- Smears ✓
- Eggs
- Dead/Live bodies ✓
- Larvae
- Droppings ✓
- Damage to packaging ✓

Which of the following are examples of physical methods for eradicating pests?

- Insecticides
- Rodenticides
- Rodent traps ✓
- UV fly killers ✓
- Stick fly papers ✓
- Fumigation

Why are physical control methods preferred to chemical methods?

- There is no risk of chemical concentration
- The dead pest may end up in an inaccessible place
- There is less damage to property
- The pest is caught dead or alive ✓

Which of the following are most effective at preventing rodent infestations?

- Kick plates
- Lids on internal waste bins ✓
- Filling up holes ✓
- Disinfecting drains ✓
- Good housekeeping ✓
- Inspecting deliveries ✓

HACCP and Food Safety Management Systems

What are the definitions?

A	Prerequisite programmes	1	Collecting information on hazards to determine which are significant for food safety (identifies critical steps)
B	Flow Diagram	2	Observations or measurements to confirm that the process is under control and the critical (safe) limits are not breached
C	Hazard Analysis	3	Action taken where a CCP is out of control
D	Control Measures	4	A pictorial representation of the steps involved in a particular process
E	Critical Control Point (CCP)	5	A reassessment of the HACCP system to ensure its continued validity
F	Critical (safe) limits	6	A step where control is essential to prevent a food safety hazard
G	Monitoring	7	A proven safe limit that ensure food can be eaten safely. (Codex: separates the acceptable/safe from the unacceptable/unsafe)
H	Corrective Action	8	The good hygiene practices a business must have in place before implementing HACCP
I	Verification	9	Actions or activities required to prevent or eliminate a food safety hazard or reduce it to an acceptable level
J	Review	10	The methods, procedures, tests and other evaluations, in addition to monitoring, to establish if the HACCP system is functioning as planned

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What are HACCP and food safety management systems?

A food safety management system which identifies and controls hazards which are significant for food safety

The policies, practices and documentation that ensure the food sold is safe to eat

What are prerequisite programmes?

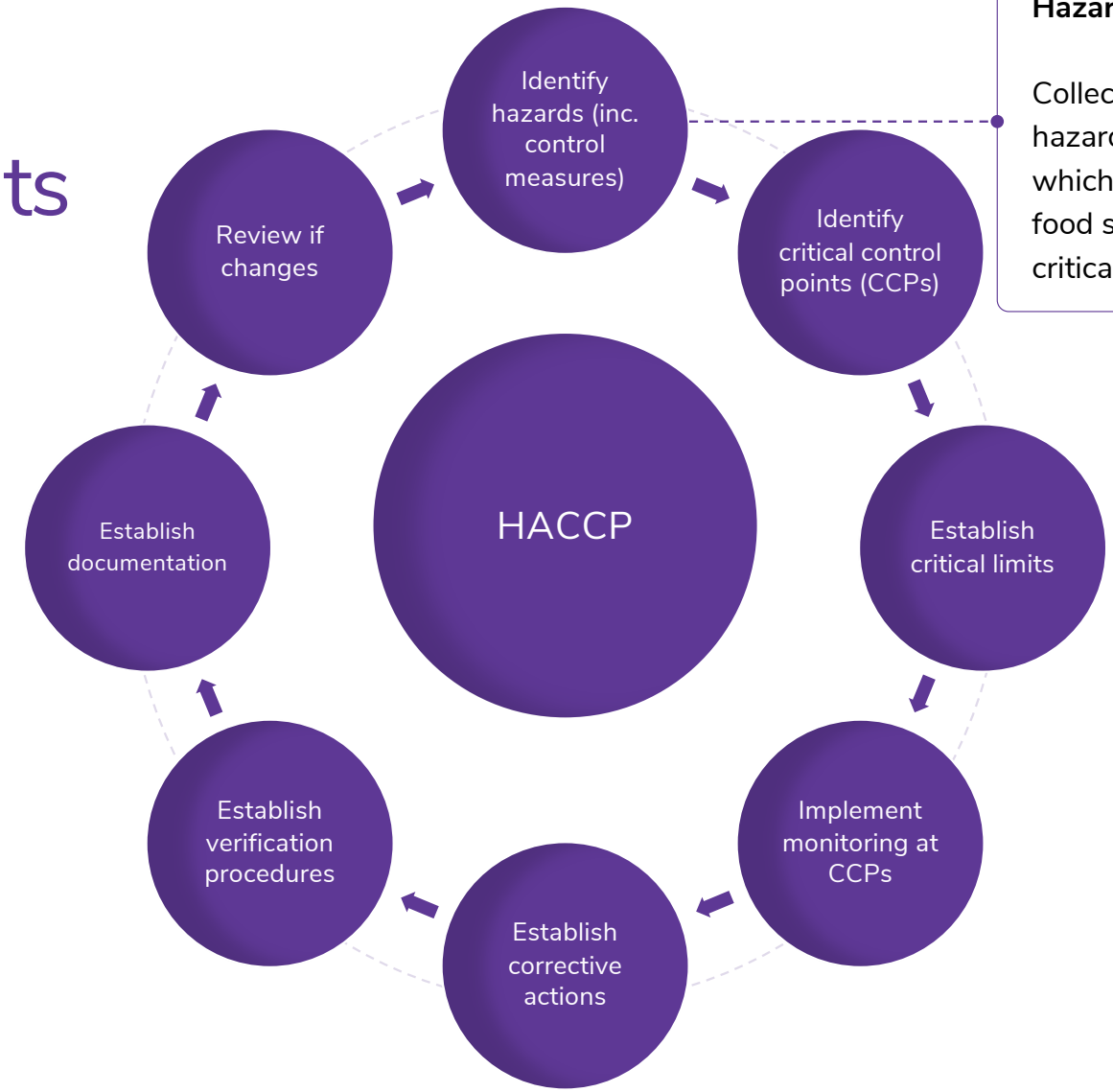
Prerequisite programmes ensure the HACCP plan concentrates on the most significant hazards

Are the good hygiene practices a business must have in place before implementing HACCP

What are the prerequisites for HACCP?

- Prerequisite programmes
- Approved suppliers
- Good design
- Equipment calibration
- Preventative maintenance
- Personal hygiene/competency
- Stock rotation
- Cleaning and disinfection
- Pest management
- Good housekeeping
- Waste management
- Labelling and traceability
- Contingency plans

Legal requirements for HACCP



Hazard Analysis

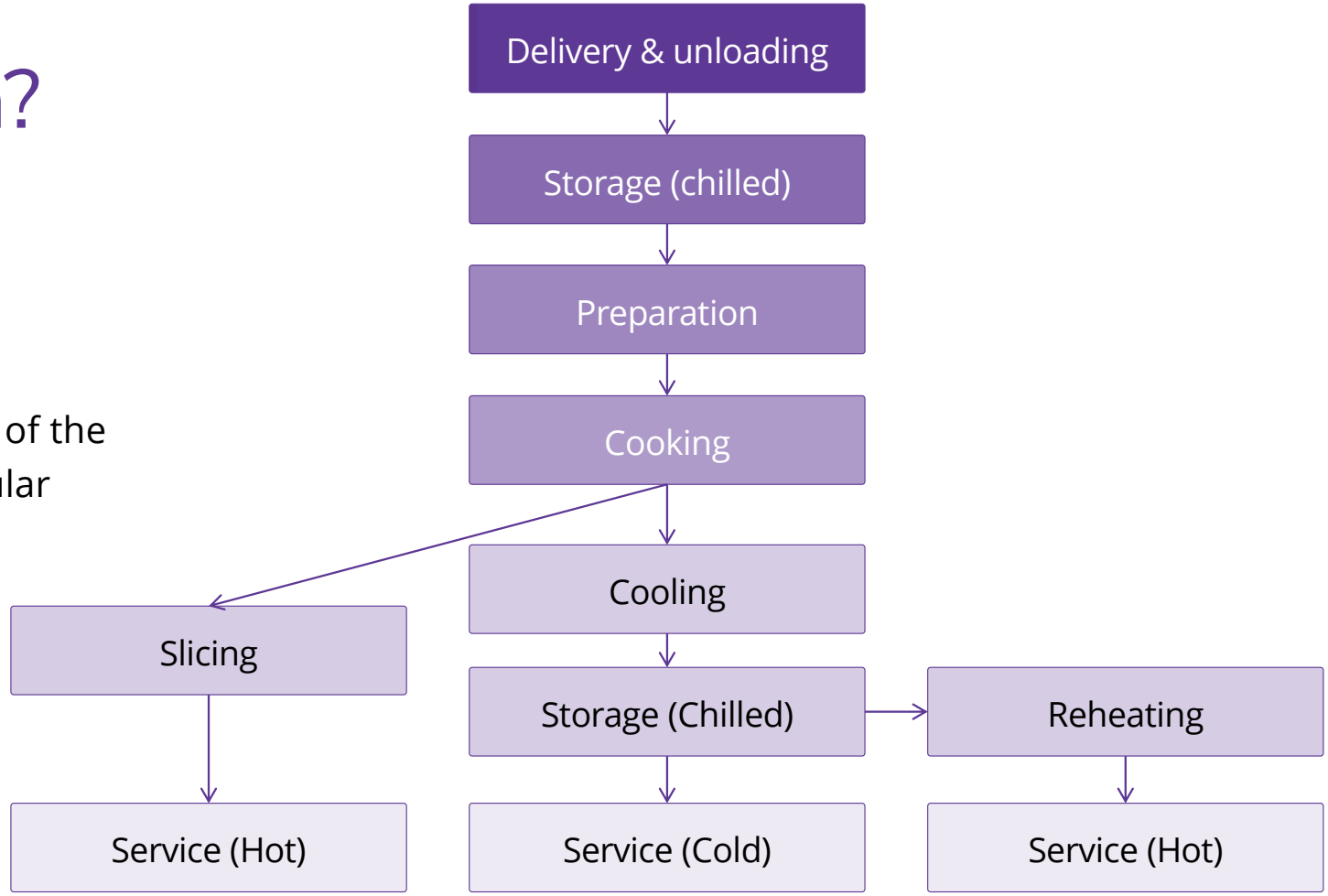
Collecting information on hazards to determine which are significant for food safety (identifies critical steps)

Benefits of HACCP

- Reduces the risk of food poisoning and food complaints (ensure safety of food)
- Compliance with law (due-diligence defense)
- Resources concentrated at critical points
- Reduced costs, e.g. waste/recall
- Generates a food safety culture/all staff involved
- Proactive not reactive
- Safety introduced in product development
- Demonstrates management commitment
- More effective than end-product testing (rarely used in catering)

What is a flow diagram?

A pictorial representation of the steps involved in a particular process



Identify the hazards (Principle 1)

Hazard
Anything with the potential to cause harm

Risk
The likelihood of the hazard occurring

(Micro)biological (CMS)

Foodborne illness
e.g. Salmonella

Chemical (C)

Food poisoning, chronic illness
e.g. Cleaning chemicals, pesticides, weedkillers, additives, poisonous foods

Physical (C)

Cuts to mouth, choking, broken teeth, internal injury, burning
e.g. Glass, nails/bolts, string, jewelry

Allergenic (C)

Immune reaction, anaphylactic shock
e.g. Peanuts, milk, eggs, shellfish, gluten, soy, sesame seeds

C
Contamination

M
Multiplication

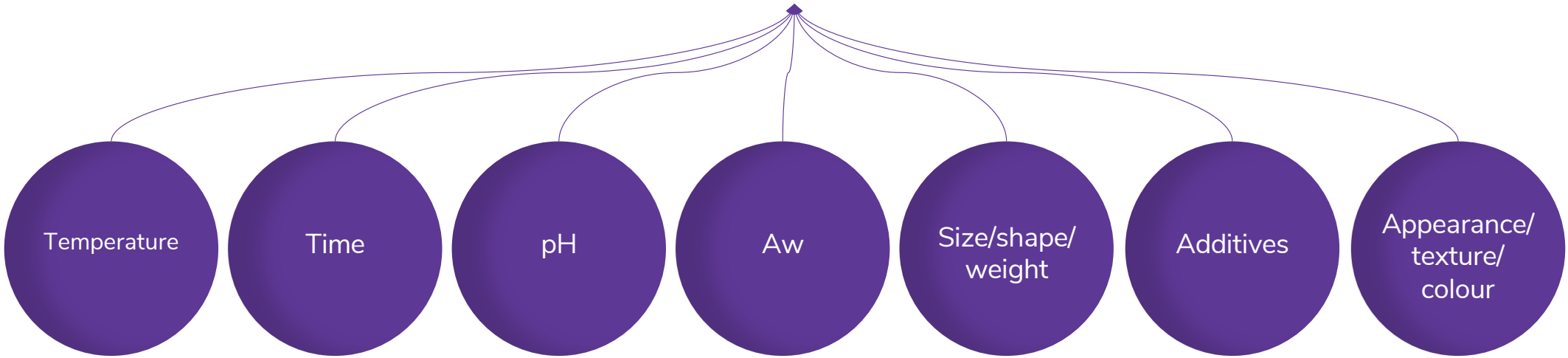
S
Survival

What are control measures

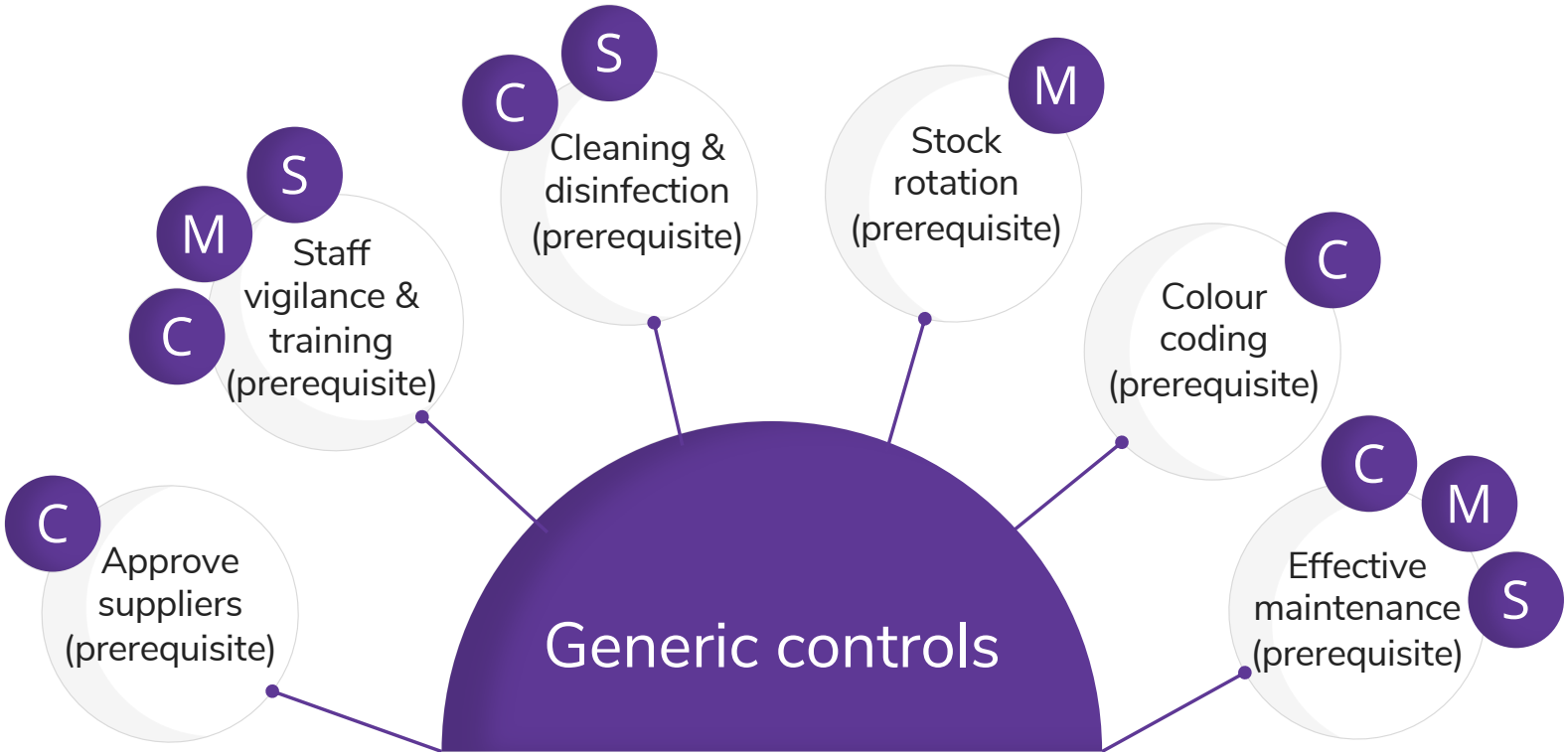
Control measures

‘Actions required to prevent or eliminate a food safety hazard or reduce it to an acceptable level’

Controls can be applied to:



What are the hazards being controlled by these generic controls?



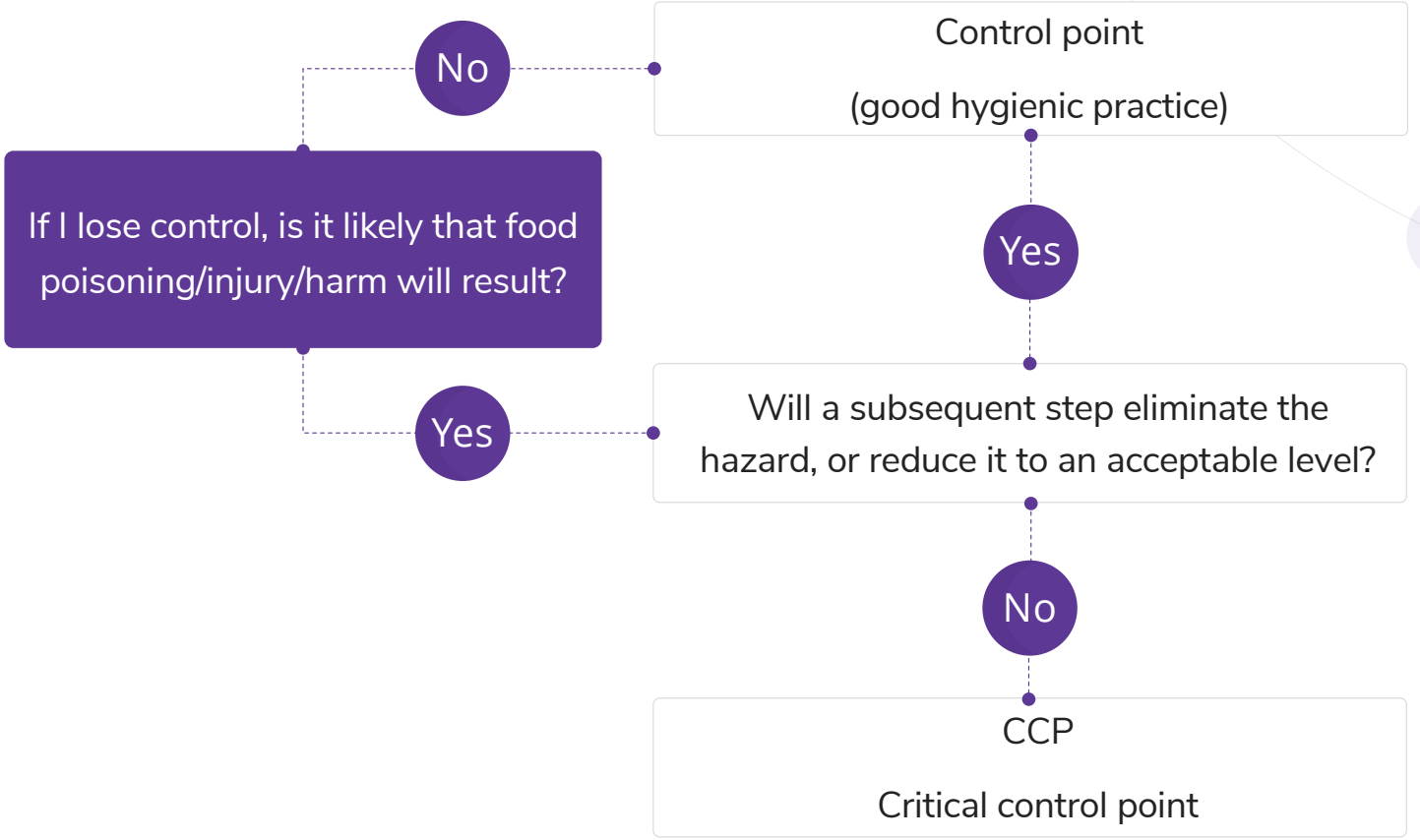
What is a Critical Control Point ? (Principle 2)

2

- ‘A step in a process where control is essential to prevent or eliminate a food safety hazard, or reduce it to an acceptable level’

- Effective control procedures must be provided at all CCPs

Simplified decision tree



What are critical limits and target levels (Principle 3)?

Critical Limits	Target levels
'Values of monitored actions which separate the acceptable from the unacceptable	'control criteria that are more stringent than the critical limits'

- Critical limits must be unambiguous and measurable

	Critical Limit	Target
Refrigerator	8°C	5°C
Cooking Temperature	75°C	78°C

What is the monitoring of controls (Principle 4)

4

- ‘The planned observations and measurements of control parameters to confirm the process is under control and critical limits are not exceeded’

- Rapid detection and correction, automatic or manual

Types of monitoring

- Measuring
  - Temp
  - Weight
  - Volume
- Observation/Supervision
- Visual inspection of premises, vehicles or practices
- Competency testing
- Organoleptic
- Daily checking of controls/records (date codes)

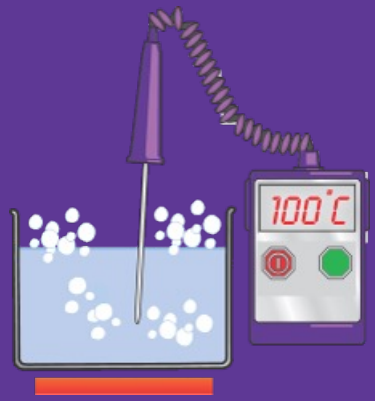
Calibration of thermometers

Cold

Melting ice

-1°C to 1 ° C

Hot



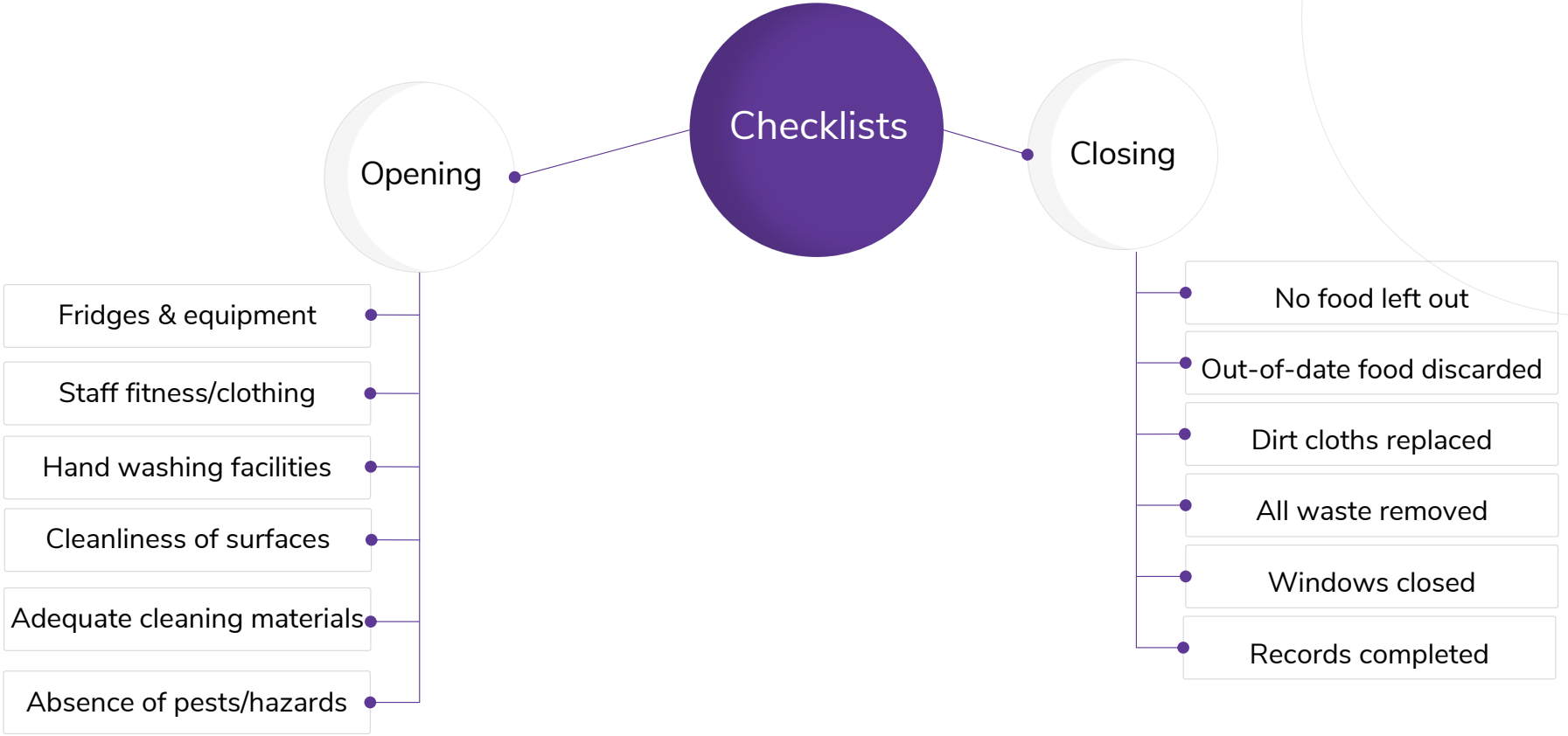
Boiling water

99 ° C to 101 ° C

What mistakes can be made when using a probe thermometer

- Not calibrated
- Not in centre (warmest/coolest place)
- Not cleaned or disinfected
- Not allowing sufficient time
- Touching bone/ container

Opening & Closing Checks



What is corrective action (Principle 5)

5

- The action to be taken when a critical limit is breached.
- Remedial action should be taken before a critical limit is breached
- Corrective action should bring the CCP under control and deal with any affected product

Product outside critical limit

- Correct action should specify the treatment of affected product (quarantine, testing, reprocessing, disposal and recall)
- Continue process, e.g., extend cooking time
- Change shelf life, e.g., use immediately
- Release after examination/sampling/testing
- Use for a different purpose
- Release
- Destroy

What is validation & verification?

Validation

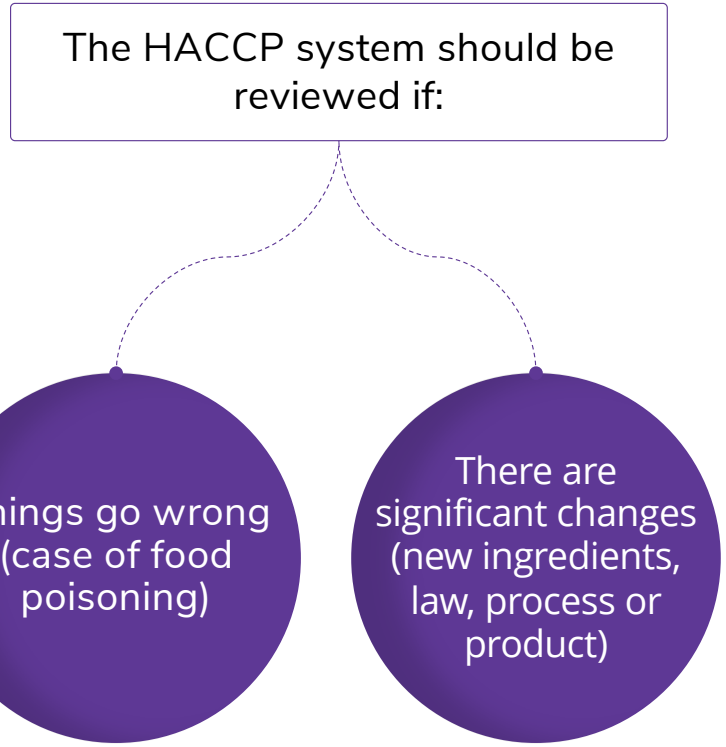
Obtaining evidence that elements of the HACCP plan are effective, especially the critical control points and critical limits

Verification

The methods, procedures, tests, and other evaluations, in addition to monitoring, to establish if the HACCP system is function as planned.

Review

A reassessment of the HACCP system to ensure its continued validity



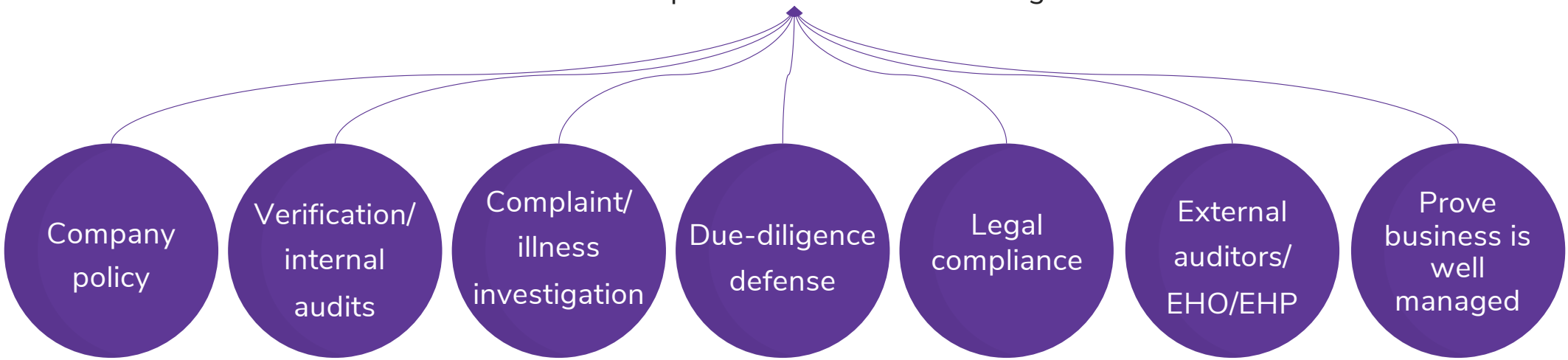
Why is documentation required?

Documentation

Essential to the application of the HACCP system

Appropriate to the size and nature of the business

Demonstrates importance of CCP monitoring to staff

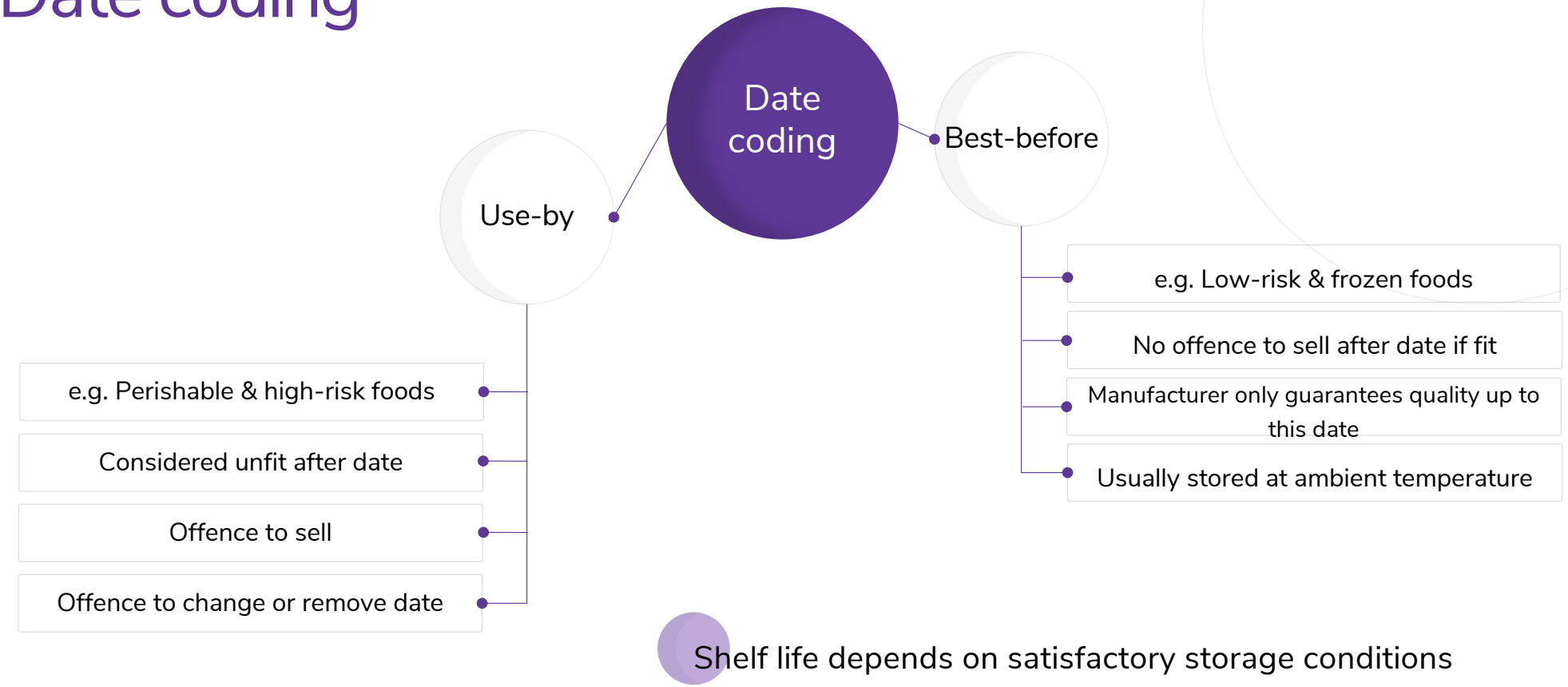


HACCP Records

All monitoring records are to be signed, countersigned and dated

- CCP monitoring activities (only CCPs to minimise excessive paperwork)
- Deviations, corrective actions and recalls
- Modifications to the HACCP system
- Audit reports
- Customer complaints/investigation results
- Calibration of instruments
- Prerequisite programme records

Stock rotation
Date coding



Shelf life depends on satisfactory storage conditions

What would you do if chicken in the freezer was at -2℃?

- Continue controlled thawing, cook and treat as fresh.
- If the food had already thawed, it should be discarded and maintenance called.

Food
Contamination

At ambient temperature

High-risk food at ambient temperature and unprotected

Which of the following are all monitoring activities?

- Throwing away food, auditing and observation
- Checking temperatures, throwing away food and auditing
- Checking date codes, checking records and rejecting supplies
- Checking records, observation and checking date codes ✓

Which of the following is the most likely reason for reviewing the HACCP system?

- The qualifications of the chef is over 3 years old
- A member of staff leaves and is replaced
- Several customers complain of food poisoning ✓
- It is a month since the last review

According to legislation, which is the maximum amount of time that high-risk hot food maybe displayed if it is cooler then 63°C?

- 1 Hour
- 2 Hours ✓
- 3 Hours
- 4 Hours

Verification involves:

- Amending documentation to improve compliance
- Training food handlers in food safety and HACCP
- Ensuring the HACCP system has been implemented effectively ✓
- Answering complaints about food safety issues promptly

Which of the following would not be included in the prerequisite programmes?

- Effective cleaning and disinfection
- Integrated pest management
- Approved reputable suppliers
- Food temperature monitoring ✓

HACCP was developed to:

- Make it easier for the food inspector to inspect
- Maintain the health of employees
- Ensure safe food is produced ✓
- Reduce the costs of food production

Which of the following is included in the 7 principles of HACCP?

- Determine critical control points ✓
- Provide staff with suitable protective clothing
- Provide effective cleaning schedules
- Identify the intended consumer

Which of the following best defines a critical limit?

- A value that separates the acceptable from the unacceptable ✓
- A target level to be aimed at
- The actions that reduce a food safety hazard to an acceptable level
- The values that provide evidence the HACCP system is effective

One benefit of HACCP is that it:

- Reduces the need for supervision
- Helps to improve a food safety culture ✓
- Removes the need for auditing
- Only requires a few staff to be involved

Which of the following would be an example of a good critical limit?

- Food handlers showering daily
- Reputable suppliers being used
- Cooking food to a minimum core temperature of 75°C ✓
- Food cooled within 8 hours of cooking

What are the observations at critical control points called?

- Monitoring ✓
- Hazards
- Risks
- Control measures

Control measures must:

- Be approved by environmental health practitioners/officers
- Only be implemented before food is cooked
- Eliminate hazards or reduce them to a safe level ✓
- Always be recorded

Which of the following systems is correct for the rotation of stock?

- Last in first out
- First in last out
- Using old stock first ✓
- Using new stock first

Which of the following is a common monitoring procedure in catering?

- Training food handlers in food safety procedures
- Measuring the temperature of refrigerators ✓
- Throwing away potentially contaminated food
- Cooling food rapidly after cooking

Supervisory Management

The role of the supervisor in securing food safety

- The best way to check hygiene standards is to implement a systematic monitoring programme
- The supervisor is the best person to communicate hygiene standards and requirements to staff

What is the purpose of a food safety policy?

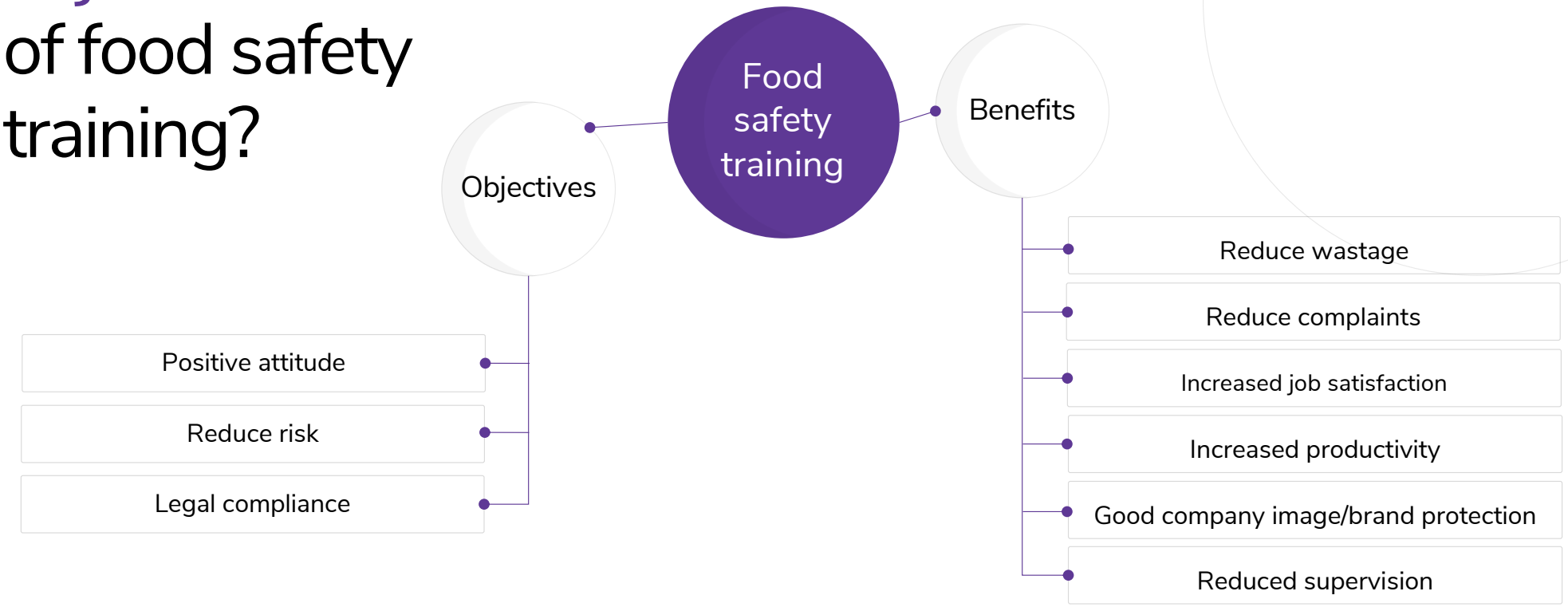
- To ensure legal compliance including a commitment to maintain appropriate records (due diligence)
- To set company policies and provide a framework for a food safety culture
- To outline management responsibilities
- To demonstrate a commitment to produce safe food
- May be used in training
- To demonstrate a commitment to produce safe food
- To communicate standards

Legal requirement for hygiene training

Food business operators are responsible for:

- Supervision and instruction and/or hygiene training commensurate with their work activities
- Different people within a food business require different training. Training is commensurate to the role

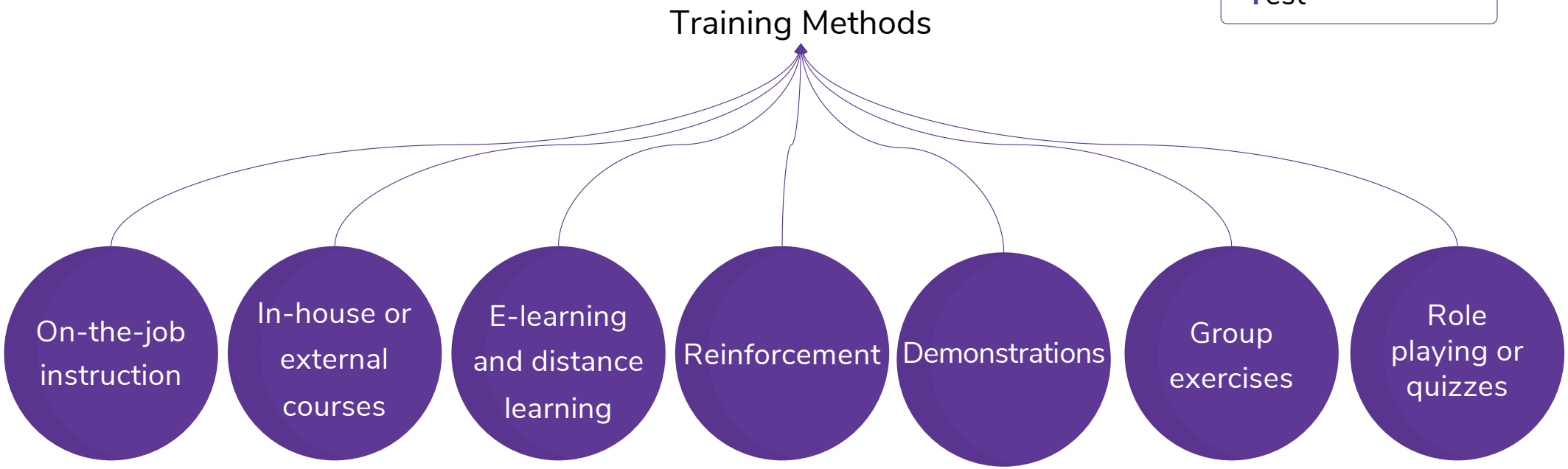
What are the objectives & benefits of food safety training?



Why are training records important?

To provide evidence that staff have been effectively trained and for use in a due-diligence defense

Explain
Demonstrate
Involve
Test



Which of the following statements is correct regarding food handlers?

If they have symptoms of food poisoning, they may return to work as soon as they are symptom-free

It is a legal requirement for all food handlers to have food safety qualification

Different levels of training are required depending on their job ✓

If a handler has had symptoms of vomiting and diarrhoea they should not return to work until they have been symptom-free for at least 6 hours

Food safety Legislation and Enforcement

Food Safety Legislation

Acts:

Principles of legislation

EU Directives:

Member state issue regulations

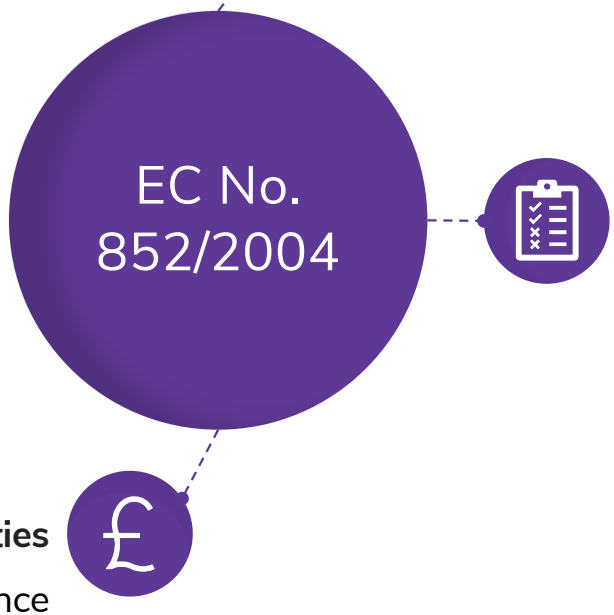
Regulations:

Subordinate legislation to enforce requirements of Acts and directives and to facilitate the enforcement of the EU regulations

EU Regulations:

Apply to all member states directly

Regulation EC No. 852/2004 on the hygiene of foodstuffs



General Hygiene Principles

Compliance is the responsibility of food business operators

Responsibility of food business operators. Requirements relating to:

- HACCP
- Personnel – training/instruction
- Premises – kept clean (register within 28 days)
- Equipment – kept clean/prevent contamination
- Food – prevent contamination
- Waste

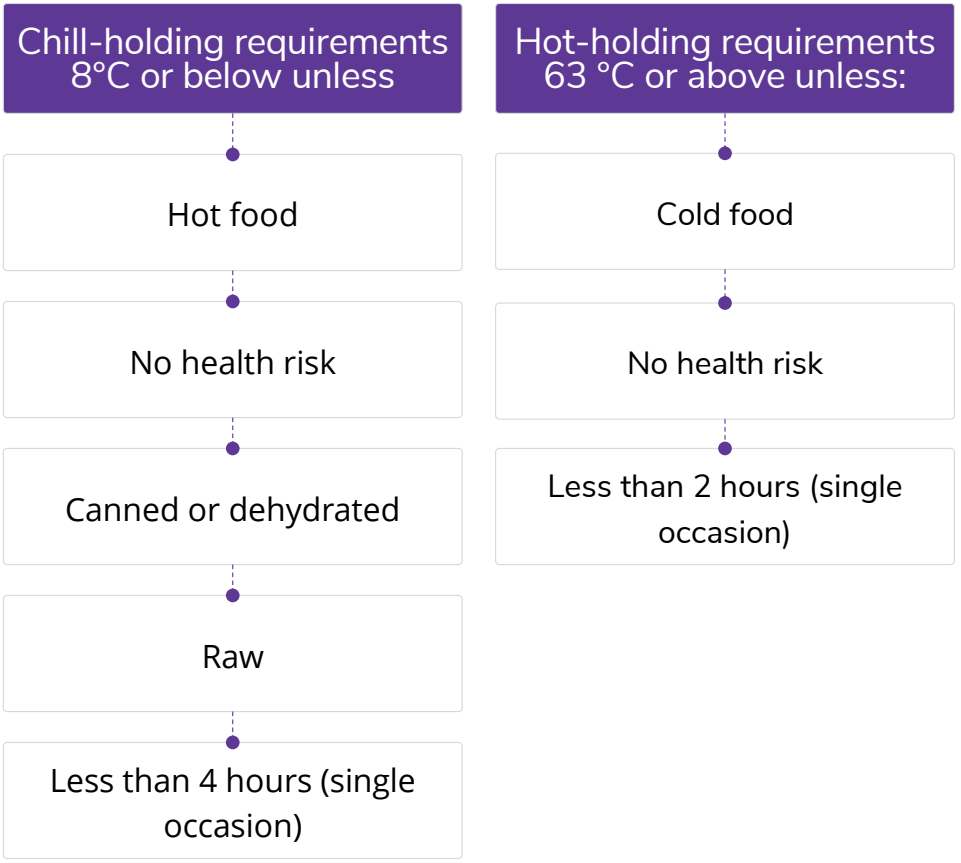
Penalties

£5,000 each offence (magistrates court)

Unlimited fine/2 years' imprisonment (Crown Court)

The Food Hygiene (England) Regulations 2006

Temperature control



Use of notices or orders

Hygiene improvement notice (min. time 14 days)

Structural or hygiene contravention that does not need action within 14 days, due to NOT cleaning.
Information includes name, address, reason for non-compliance, contravention and measures required to comply

Hygiene emergency prohibition notice (closure)

Imminent risk to health, e.g. pest infection/sewage contamination/no water/accumulations.
Must apply to court for *Order* within 3 days

Hygiene prohibition order

Prohibits the owner/manager from working in food business

Due Diligence Defence

- It is a defence to prove that a business took all reasonable precautions and did everything reasonably practicable to prevent the offence, i.e. exercised all due diligence

- Use of accurate written records helps, e.g. temperature control (food poisoning), pest control book showing action taken (infestation) cleaning schedules)dirty premises) and staff training (everything)

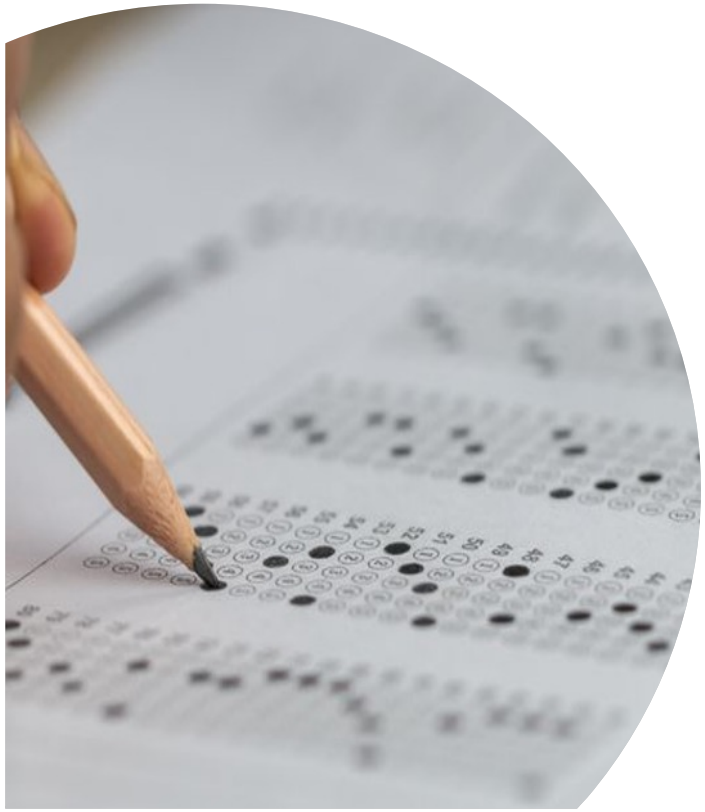
What are the powers of the EHP/EHO

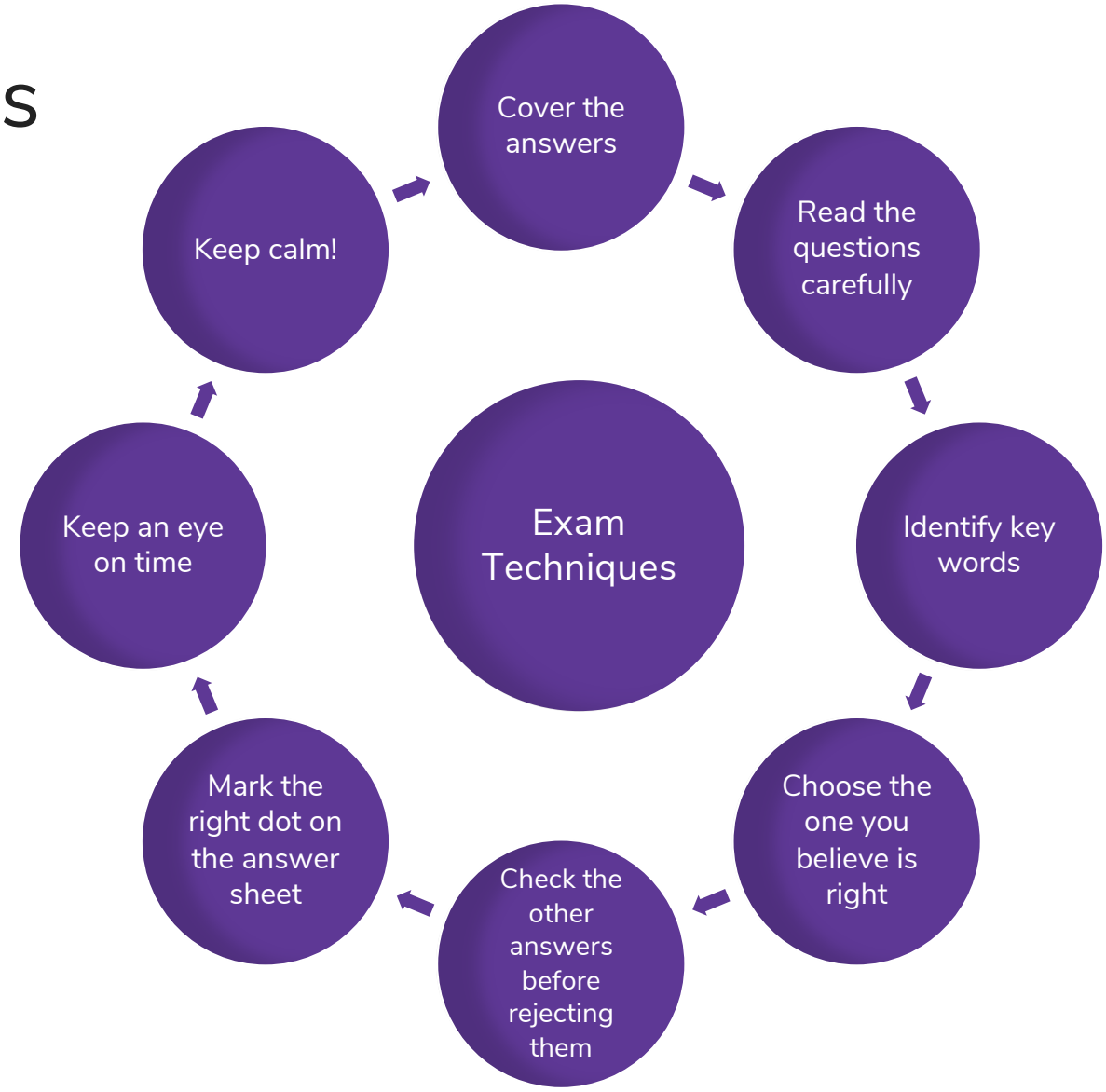
- Power of entry to inspect food/premises (at any reasonable time)
- Informal action
- Provide advice/training/letters/leaflets
- Formal action
- Serve notices
- Power to close premises
- Power to seize/detain food
- Instigate prosecution
- Power to seize records

What will an EHP/EHO look for during an inspection?

- Contraventions of the law/bad hygiene practices
- Competency of staff/manager
- Satisfactory documentation/records
- HACCP system
- Stock rotation/date codes
- Cleanliness
- Presence of pests
- Temperature abuse
- Cross-contamination
- Maintenance/repair

Exam Techniques





Session Evaluation

Scan the QR code to provide your feedback on today's session.