



Dorset
Council

Food Safety

**Food Safety (General Food Hygiene) Regulations 1995
Schedule 1 Chapter V**

**All food handlers must be supervised/instructed or
trained in food hygiene matters to a level appropriate to
their job**



Welcome to your Food Safety Module

If you need help or support please contact

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Food poisoning and the Law

- Did you know that food poisoning has increased dramatically over the last ten years.
- Since 1965 the cases of food-borne illness has increased from 20,000 to about 100,000.



Every one of us has to eat and drink to stay alive. That is why it is so important that our food does not harm us.

Together we have a legal obligation to prepare or serve food that does not harm the health of our visitors in any way and to keep food safe to eat.



- **Hygiene offences:**

Max. £5,000 per offence and/or 6 months in prison

- **Food Safety Offences:**

£20,000 per offence and/or 6 months in prison

- **Crown Court:**

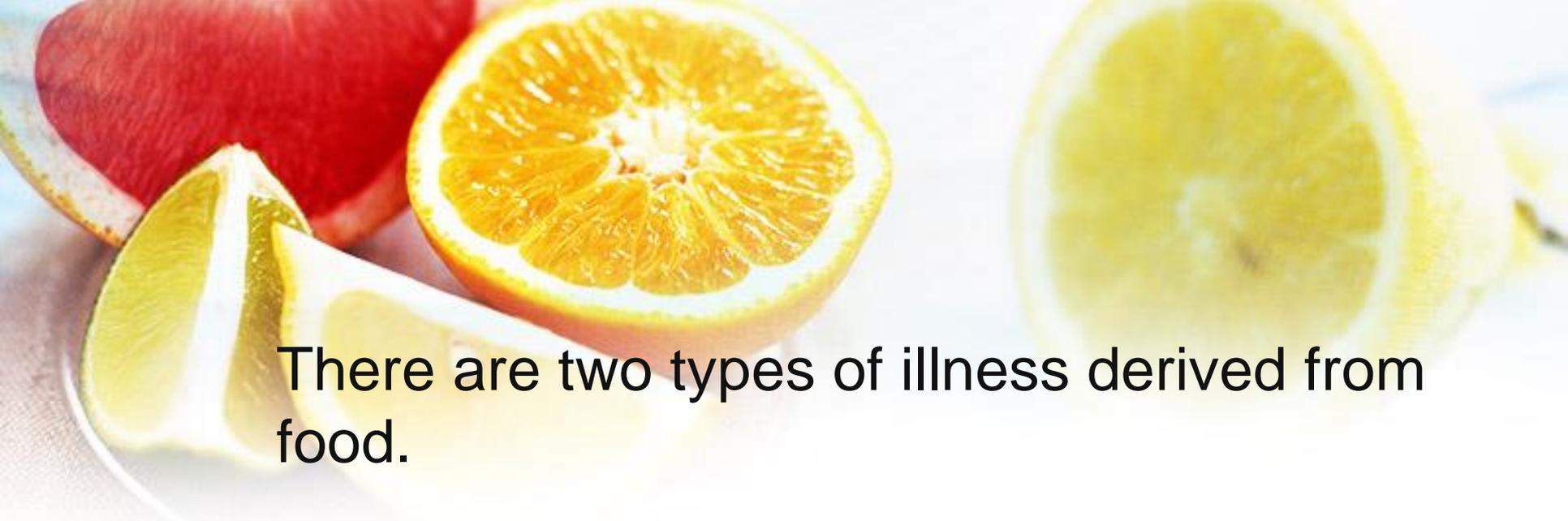
Unlimited fines and/or maximum of 2 years in prison

Food poisoning

Food poisoning is caused by eating food containing poisonous micro-organisms or substances. Let us look at the symptoms:

- Abdominal pain
- Diarrhoea
- Vomiting
- Nausea





There are two types of illness derived from food.

- **FOOD POISONING:-**

Caused by eating food contaminated by harmful substances/bacteria living on food

- **FOOD-BORNE DISEASE:**

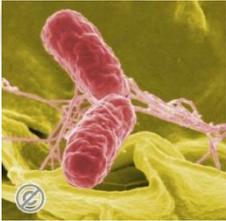
Is caused by consuming food or water carrying harmful micro-organisms



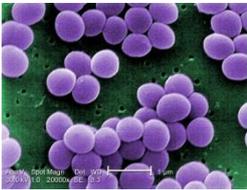
There are thousands of bacteria all around us that do no harm at all, but some, known as pathogenic bacteria, are harmful and can cause illness, even death, in vulnerable groups of people.



Such bacteria include:-



Salmonella



Staphylococcus aureus



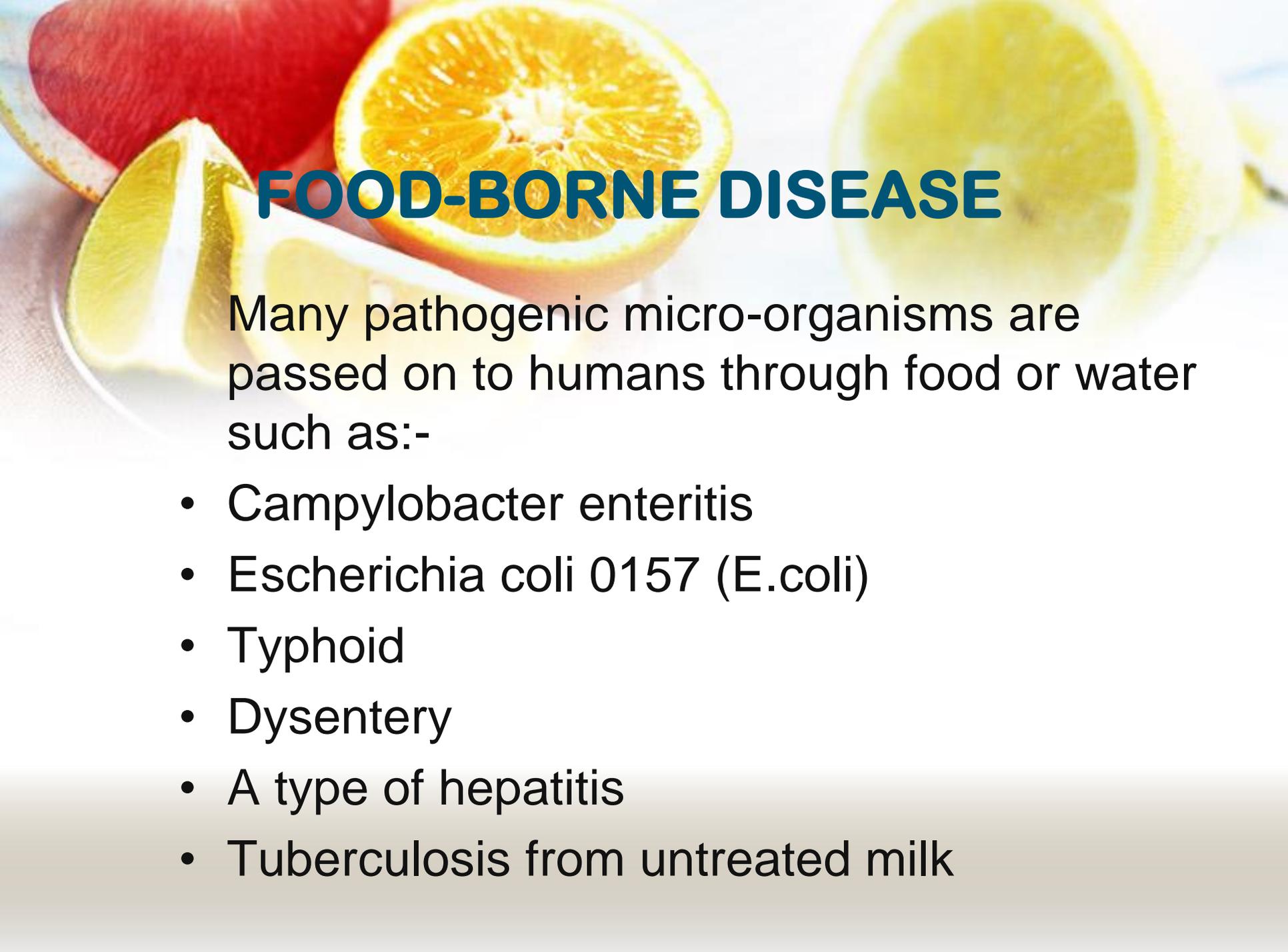
Clostridium perfringens



Food poisoning can also occur from chemicals and metal substances absorbed into food from unsuitable metal containers or from cleaning, industrial and agricultural chemicals used carelessly.

Never put a tin back in the fridge half used





FOOD-BORNE DISEASE

Many pathogenic micro-organisms are passed on to humans through food or water such as:-

- Campylobacter enteritis
- Escherichia coli 0157 (E.coli)
- Typhoid
- Dysentery
- A type of hepatitis
- Tuberculosis from untreated milk

A close-up photograph of a white plate containing several slices of citrus fruits. In the foreground, there are two bright yellow lemon wedges. Behind them, a thick slice of orange shows its characteristic segmented structure. To the left, a portion of a red grapefruit is visible. The background is a plain, light-colored surface.

Only a few of these micro-organisms are required to infect you.

Incubation period and duration of illness can be days, weeks or months and can invade the blood stream and induce long-term health problems.

The symptoms are similar to food poisoning and can include kidney failure or paralysis, which can lead to death.

Who are most at risk?

- The old and infirm
- The very young
- People who are ill, convalescing or have a weakened immune system
- Pregnant women or nursing mothers





Most types of bacteria are beneficial to humans and we would find it difficult to live without them.

- Helpful bacteria
- Spoilage bacteria



Spoilage bacteria



Useful bacteria





Spoilage bacteria will make food perish. Also known as rotting and decaying bacteria.



Helpful bacteria can be used to make blue cheese, penicillium with other types of organisms such as fungus used in bread and beer making (yeast)



Examples of contamination

Examples of causes of food poisoning	Pathogenic	Source	Typical Symptoms	Average onset time
Raw food, shell fish and vegetables	Salmonella	Raw poultry, eggs, raw meat, milk and animal	Abdominal pain, diarrhoea, vomiting and fever	12 to 36 hours
People, air and dust	Staphylococcus Aureus	Human body i.e. skin, nose, mouth, cuts and boils	Abdominal pain or abdominal cramp	1 to 6 hours
Dirt and food	Clostridium Perfringens	Animal and human excreta, soil, dust, insects and raw meat	Abdominal pain. Diarrhoea	12 to 18 hours



Other examples

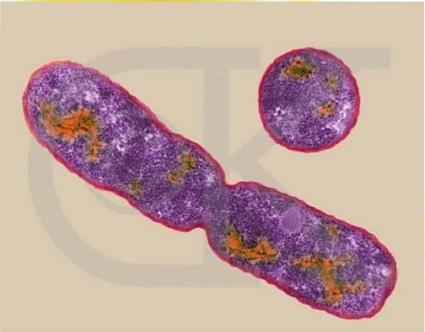
Pathogenic	Source	Typical symptoms	Duration
Campylobacter Jejuni	Raw poultry, raw meat, milk and animals including pets	Diarrhoea, often bloody. Abdominal pain, nausea. Fever	46-60 hours
Escherichia coli (<i>E.coli</i> 0157)	Human and animal gut, sewage, water and raw meat	Diarrhoea. Abdominal pain, nausea. Fever. Kidney damage or failure	12 to 24 hours or longer
Listeria	Soft cheese, cheese made from unpasteurised milk, salad, vegetables, pate	Symptoms like 'flu	1-70 days



How does bacteria make us ill?

Bacterial food poisoning occurs if food is:

- Eaten after it has been contaminated by pathogenic bacteria and conditions allow the bacteria to multiply to levels that cause illness
- If bacteria are not destroyed by adequate cooking



How does bacteria multiply?

Bacteria reproduces by dividing in to two by a process called “Binary fission”.

Bacteria needs only 10-20 minutes to multiply.

It is therefore possible for one bacteria to produce millions of bacteria in a matter of hours.

Why does bacteria make us ill?

Some bacteria, such as *Staphylococcus aureus* produce toxins in food even before we eat it.



Others make us ill by forming spores, a protective coating which allows the bacteria to survive very harsh conditions, such as high cooking temperatures, that would normally destroy them.





What does bacteria need to multiply?

Bacteria will not multiply in dried foods but as soon as liquid is added to food, such as milk and eggs, then you have ideal conditions.

However if enough sugar and salt is added to foods such as bacon, savoury biscuits and jam/confectionary, this will absorb the available moisture in the food so the bacteria cannot multiply easily.



Warmth and the “danger zone”

Most bacteria multiply at temperatures between 5°C and 63°C. Room temperature tends to be within this range.

The ideal temperature to multiply is 37°C.

Above or below the “danger zone” bacterial growth slows down or stops but resumes when conditions are more suitable.

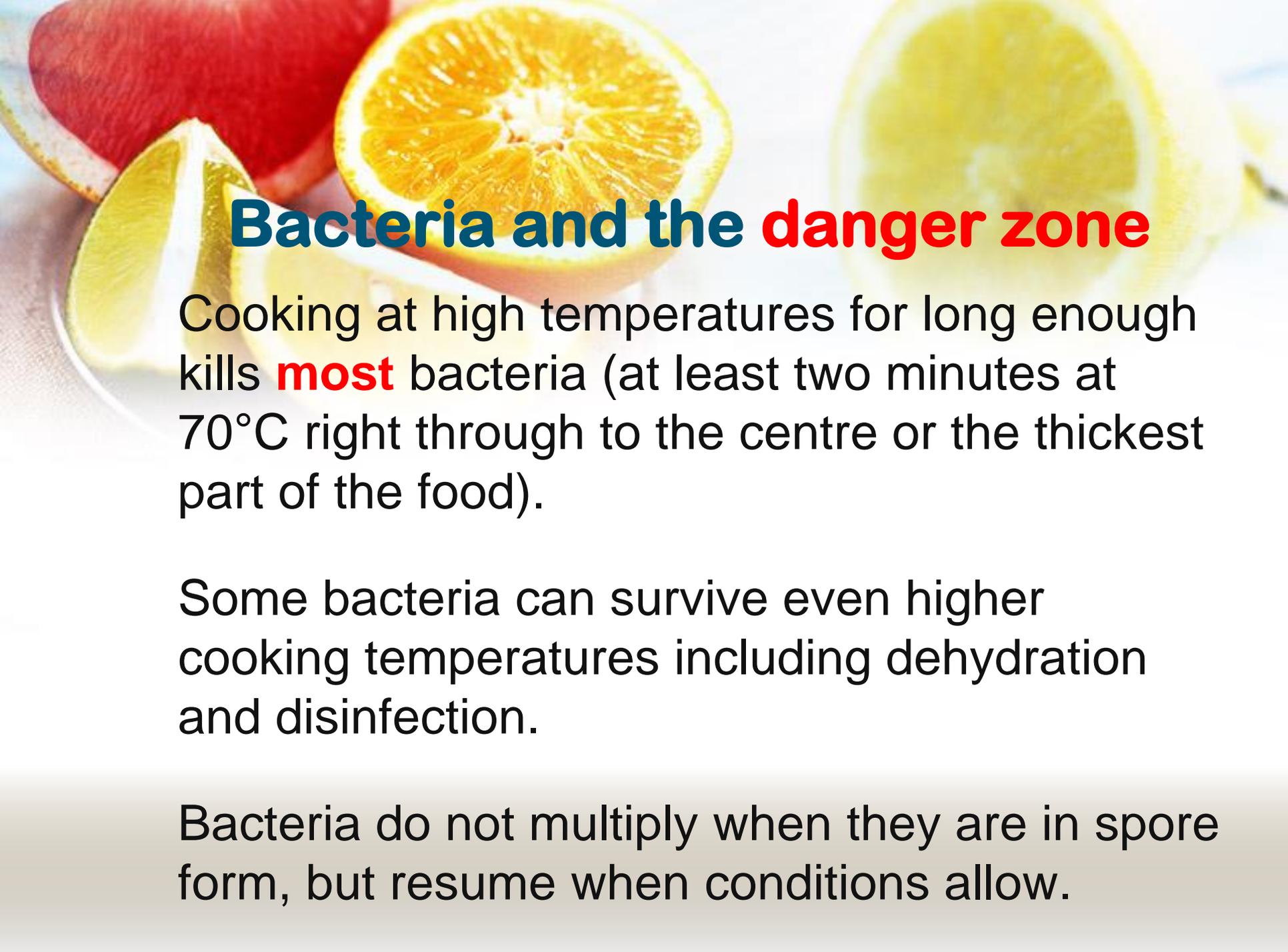
Freezing suspends bacteria. It never kills it.



Your role in temperature control

Basic rules of good practice are:-

- **Restrict the time that high-risk foods spend in the danger zone (5°C - 63°C degrees)**
- **Keep cold food really cold (5°C degrees or under)**
- **Keep hot food really hot (63°C degrees or over)**



Bacteria and the danger zone

Cooking at high temperatures for long enough kills **most** bacteria (at least two minutes at 70°C right through to the centre or the thickest part of the food).

Some bacteria can survive even higher cooking temperatures including dehydration and disinfection.

Bacteria do not multiply when they are in spore form, but resume when conditions allow.



Quick recap

How do bacteria multiply?

Have
babies

Lay eggs

Divide

What do bacteria need in order to multiply?

Warmth,
moisture,
time & food

Food,
moisture,
time, dirt

Time, food,
pests,
warmth

Between what temperature is the **danger zone**

70°C – 83°C

5°C - 63°C

-18°C - 5°C



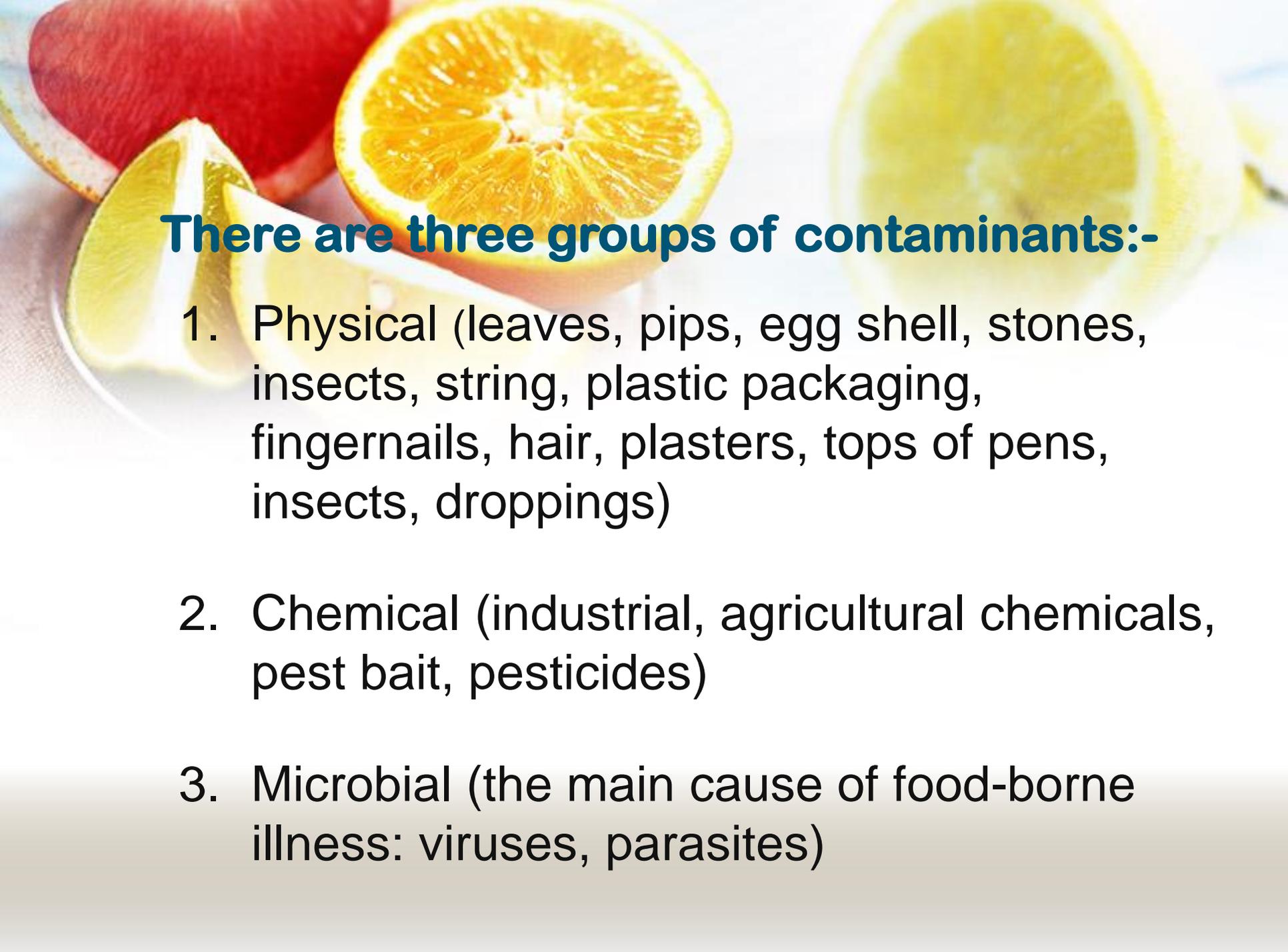
**Wrong. Sorry. Please have
another go**



Well done! Next question.



**Correct! Well done. On to
the next slide.**



There are three groups of contaminants:-

1. Physical (leaves, pips, egg shell, stones, insects, string, plastic packaging, fingernails, hair, plasters, tops of pens, insects, droppings)
2. Chemical (industrial, agricultural chemicals, pest bait, pesticides)
3. Microbial (the main cause of food-borne illness: viruses, parasites)



Sources of microbial contamination

At slaughter. Skin and flesh may be contaminated by pathogenic bacteria. When minced for burgers the bacteria can spread throughout the food.



Shellfish are filter feeders. If the water is polluted by incorrectly treated sewage the shellfish can absorb harmful bacteria and other micro-organisms or micro-virus particles.





People

Spread through hands, ears, hair, sneezing and coughing, cuts, boils and spots.

Poor personal hygiene, such as not washing your hands after using the toilet, can spread food-borne illness. (Know as faecal-oral route).





But bacteria needs to get to its source first.
This is via a 'vehicle of contamination' such as people, animals, equipment and utensils.

Hands, work surfaces, containers, cutlery and crockery, chopping boards and dish cloths and any food contact that has not been thoroughly cleaned between uses.





Which type of contamination would you class in this list as being?

String, plastic, egg shells, finger nails, sticking plasters, nuts and bolts, insects	Microbial	Physical	Chemical
Food poisoning bacteria, viruses, microscopic parasites	Physical	Microbial	Chemical
Industrial processing chemicals, agricultural and cleaning chemicals	Microbial	Chemical	Physical



**Sorry, not quite right. Please
have another go**



**Correct! Well done. Click to go
back to finish the recap.**



**Well done!
Right again.
Ready to move on or would you
like a break?**



Destroying micro-organisms

Pathogenic micro-organisms can be destroyed by chemicals or heat, or by combining the two.

Cooking at a temperature of 70°C or hotter for sufficient time kills most pathogenic bacteria although some bacterial spores can survive at higher temperatures.

Food must be cooked thoroughly right through to the thickest part.



Poor practices

Always remember that poor temperature control frequently leads to food poisoning usually caused by:-

Preparing/leaving out food too far ahead of serving to people and keeping it at ambient temperatures instead of refrigerating it;



Recap

What should the temperature be in the freezer?

-5°C or lower

-18°C or lower

-30°C or lower

When hot food is on display, at what temperature should it be kept?

63°C minimum

36°C minimum

72°C minimum

When food is reheated, what temperature should it reach for at least two minutes?

63°C or higher

30°C or higher

82°C or higher



**Good guess but not quite
right.
Please try again**



Correct!
Well done
Next question



Well done!

Ready to continue?

**Please take a break if you
wish before continuing.**



Spoilage

Starts from the moment the food is harvested or slaughtered.

Some foods spoil faster than others but the spread of deterioration can be controlled by preservation methods and safe food handling practices.

Food spoilage is accelerated by careless handling, inappropriate storage (temperature) and contamination (pests or chemicals).



Fungi

Fungi are used in food production such as blue cheese and soy sauce. Yeast is also a fungi and used for making bread, beer and vinegar.

But the mixture of unwanted yeast or mould, some of which can produce toxins, can spoil food, making it unfit for human consumption.

Recognising spoilt food

Sometimes this is easy to recognise.

The smell of mould is often unpleasant.

Texture and flavour of food changes including wrinkling/drying, softening and becoming pulpy.





Preventing spoilage

The bacteria, yeasts and moulds that cause spoilage also need food, moisture, warmth and time to reproduce.

The steps to prevent bacterial contamination and multiplication also apply to food spoilage.

Covering food, temperature and moisture level control, all play a part in delaying spoilage and keeping food safe and appetising to eat.



Date marks

Once preserved food has been opened, the contents must be stored and handled as if they were fresh.

Highly perishable packaged food is always labelled with a use by date indicating the period when the food is safe to eat.





Any food past the use by date is likely to be unfit to eat and could cause food-borne illness. It is against the law to sell or serve food that has passed the use by date.

Less perishable items such as frozen food, dried fruit, flour, cakes, cereals and canned food must carry a best before date. This indicates when food is in the best condition.



The aim of storage

All food businesses have to store food, even if that storage may be brief.

Correct storage is when food is kept in the right conditions, at the correct temperature for the appropriate period.





Stock rotation

Throwing away out of date food is expensive and unnecessary.

So bring stock (milk, cereals etc) with the shortest shelf life to the front to be used first.

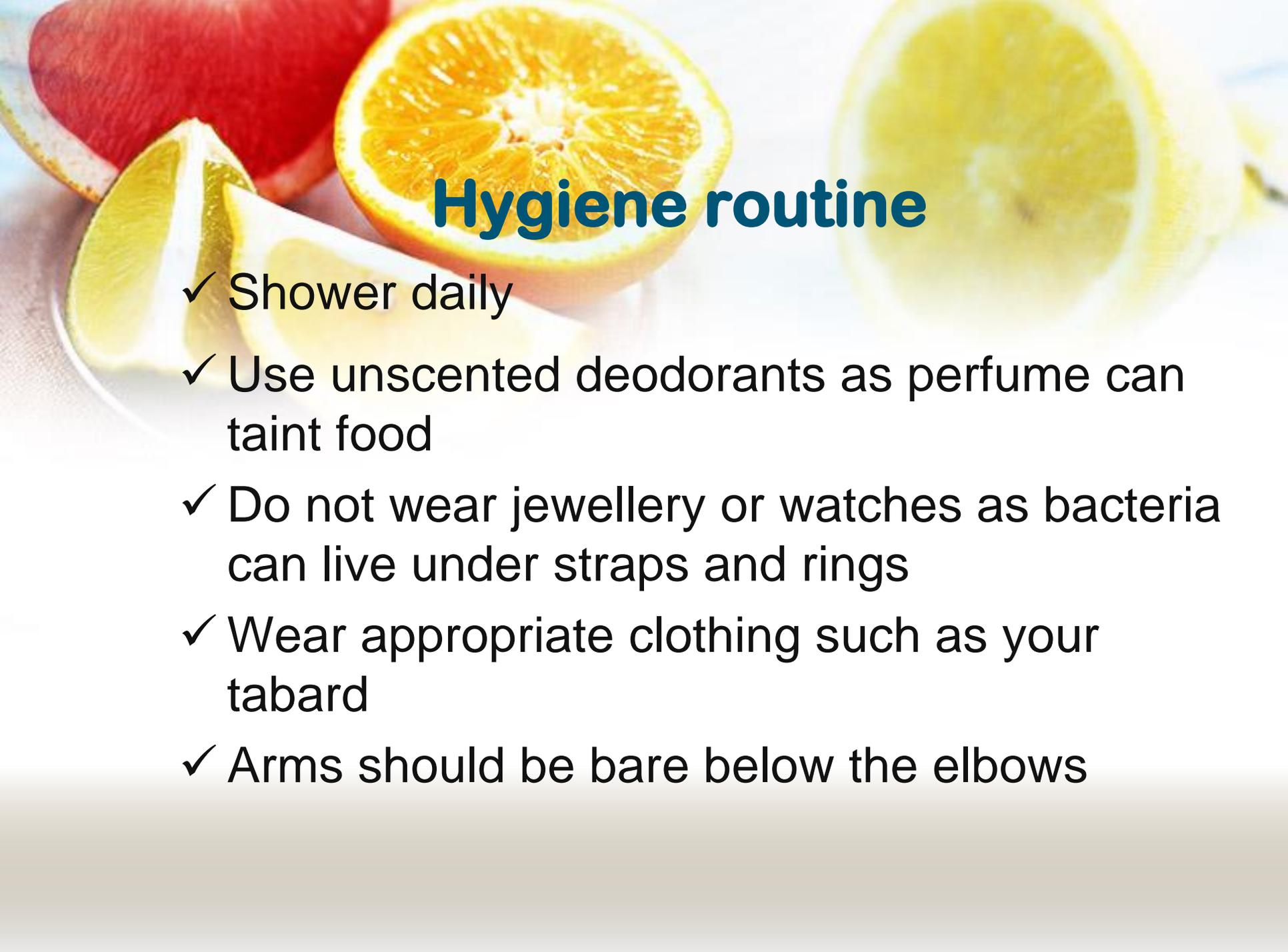
But still check the date mark, packaging and condition of the food before use.



Personal hygiene

People are a common source of pathogenic bacteria so everyone who works with food must have the highest possible standards of personal hygiene and personal habits to avoid contaminating food.

But also remember people also react to what they see.



Hygiene routine

- ✓ Shower daily
- ✓ Use unscented deodorants as perfume can taint food
- ✓ Do not wear jewellery or watches as bacteria can live under straps and rings
- ✓ Wear appropriate clothing such as your tabard
- ✓ Arms should be bare below the elbows



Essential hand hygiene

Even if you can avoid touching food by hand, you will still touch equipment, utensils and surfaces throughout the working day, so hands must be scrupulously clean at all times.

Wash your hands frequently throughout the day and especially in between serving food and customers.

A close-up photograph of fresh fruit on a white plate. In the foreground, there are several slices of lemons. Behind them, a whole orange is cut in half, showing its juicy segments. To the left, a portion of a red grapefruit is visible. The background is a plain, light-colored surface.

Washing up

The sterilizer in the kitchen provides an effective way of controlling potential microorganisms and protecting everyone.

If it is part of your role or you help in the kitchen, please wash all items in hot soapy water, rinse then sterilize.



Food pests

Pests are attracted to places where food is stored, prepared, sold, served or thrown away or to places where there is warmth and shelter.

They can enter buildings through open windows and doors, or through the tiniest cracks in walls and around windows and pipes.



A food pest is any creature that lives on or in human food causing damage or contamination, or both. Pests are sources of contamination.

The main ones are:

- Insects such as flies, moths, ants
- Cockroaches and wasps



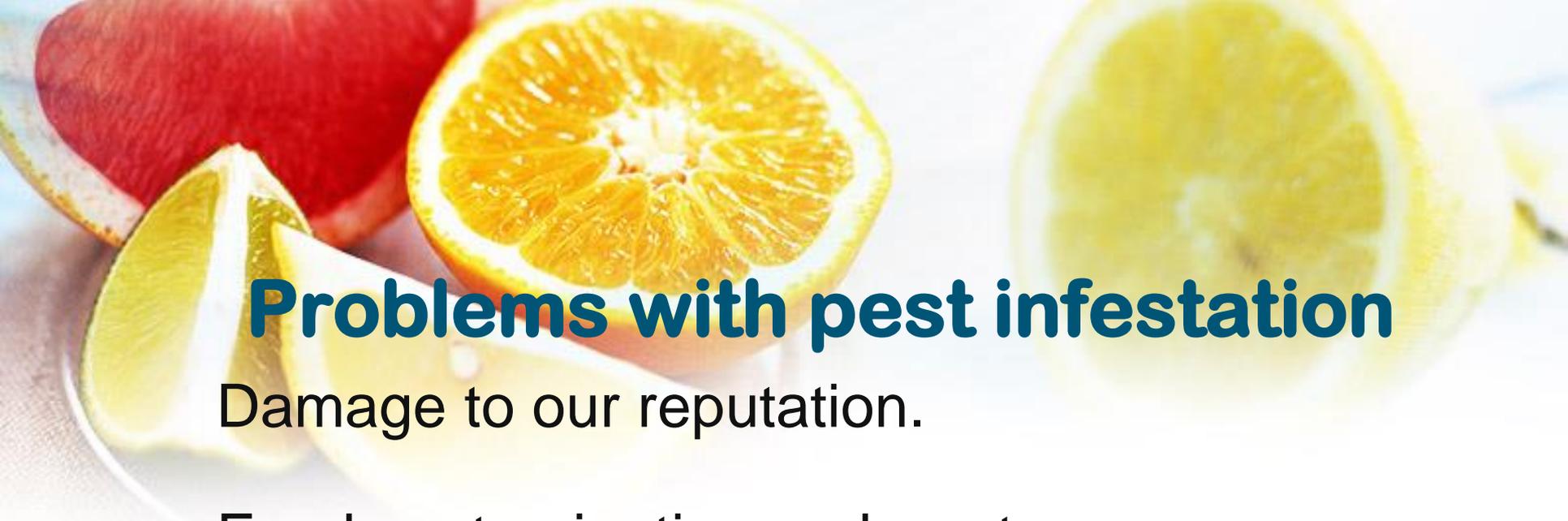


- Stored product pests, such as beetles, mites and weevils
- Rodents, rats and mice
- Birds, mainly feral pigeons, sparrows, starlings and seagulls

It is important to remember that food premises are attractive to pests because they contain everything most pests need to survive. Such as.....



- Food in storage, under preparation or as waste
- Moisture from condensation, cooking activities, dripping taps or from stored liquids
- Warmth from heating systems or from processing activities
- Shelter for sleeping or nesting in any undisturbed areas, such as under fridges that has not been regularly moved for cleaning



Problems with pest infestation

Damage to our reputation.

Food contamination and wastage.

Damage to buildings, equipment and electrical cables, creating a safety hazard.

Non-compliance with the law.

The spread of diseases, including food poisoning and food-borne disease.



Reporting problems

It is important that everyone who works or volunteers at our centre reports concerns at the earliest opportunity to any senior member of staff.



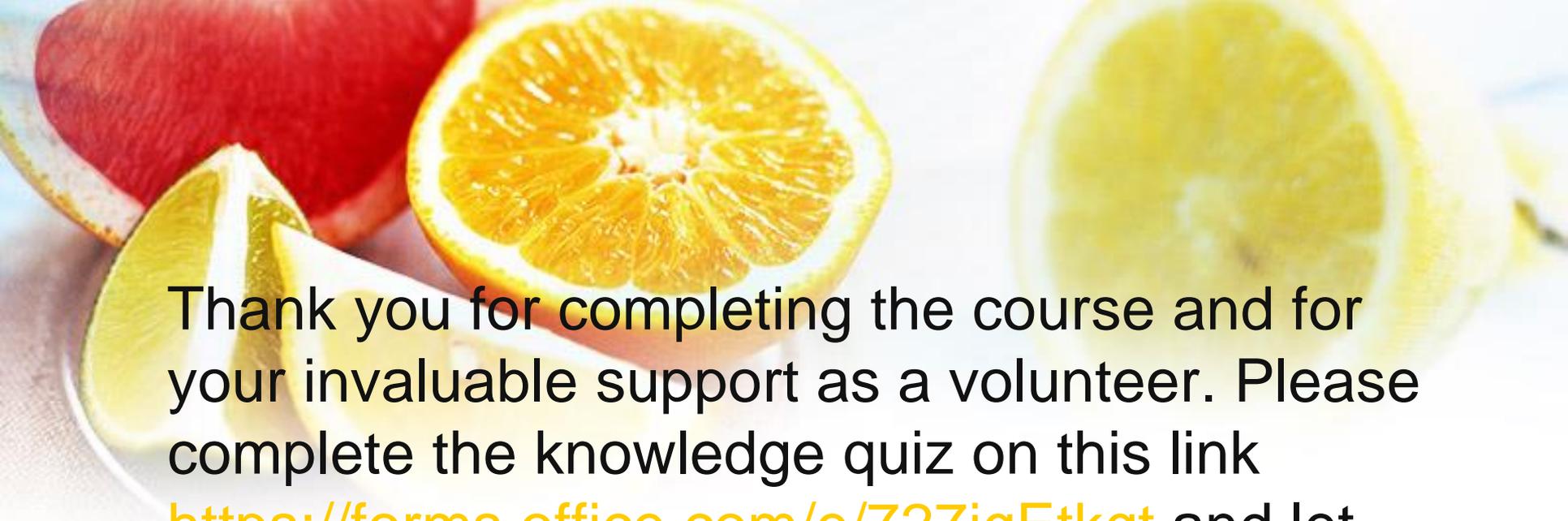
The law also says food handlers must not

- Do anything that would expose food to contamination
- Sell/serve food that is unfit for consumption
- Work with food if they have food poisoning or similar symptoms until their employer or doctor says it is safe to do so
- Sell/serve food with an expired date mark



Whatever your role, you will play an important part in food safety control by

- ✓ Following the kitchen guidelines
- ✓ Protecting food from contamination
- ✓ Following the basic rules of temperature control
- ✓ Looking out for any food hazards
- ✓ Reporting faults, problems or possible food hazards to staff



Thank you for completing the course and for your invaluable support as a volunteer. Please complete the knowledge quiz on this link <https://forms.office.com/e/727igEtkgt> and let the office know so your paper can be viewed promptly. atc@dorsetcouncil.gov.uk

We hope you will also find this information to be helpful in your personal life.