

Food Borne Illnesses- Hazards & Prevention

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Food hazards

- Anything that could cause harm
- Physical – jewellery, plasters, hair, machinery
- Chemical – cleaning products, pesticides, poisonous plants, rat poison
- Microbial – bacteria, viruses, moulds
- Allergenic – nuts, dairy, shellfish

Preventing cuts...



Use equipment with blades carefully, such as slicers, blenders, choppers, and grinders. Employees under the age of 18 cannot operate these in restaurants or grocery stores.



Practice safety when using cutting strips on plastic wrap, waxed paper, and foil products.



Edges of tin or aluminum cans can be very sharp after opening. Use care when using utility knives to open boxes or crates.

Sweep up large pieces of broken glass and discard in clearly marked containers. Use a wet paper towel to wipe up counters and floors to pick up the smallest fragments of glass **BEFORE** using your dishcloth.

Knife safety...



Sharp knives are safer than dull ones; you exert less force.

Use a 'claw hold' when chopping or dicing, keeping the tips of the fingers tucked back and slightly under.



Wash knives separately; do not let them 'hide' while soaking in soapy water; pass the knife to another person by laying it down on a sanitized surface and allowing them to pick it up; carry a knife with the point down and slightly away from the body; only use knives for their intended purpose; step out of the way of a falling knife, not attempting to catch it.



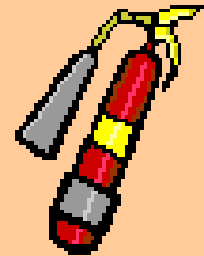
Fire hazards...

Smoke detectors must be placed where they have a flow of air past them, not in dead spaces such as at end of hallways or between ceiling beams. Heat detectors are activated by significant increases in temperature.

There are 3 classes of fire hazards in a kitchen or restaurant environment:
Class A includes wood, paper, cloth, or cardboards;

Class B includes flammable liquids, gases, or grease;

Class C includes electrical equipment and circuits. Portable fire extinguishers are marked A, B, C, or a combination.



To put out a fire: remove the fire's fuel supply; deny it oxygen; cool the fire's point below its combustion point (throw on salt; flour will burn), or disrupt the flame's chain reaction with a fire extinguisher.

Avoid burns...



In order to serve food while it is hot, it may be served on heated plates or in skillets. Warn your guests about hot dishes or hot fillings in food, or about extremely hot liquids.



Avoid steam burns on hands & arms.



Use potholders. Do not substitute dishcloths that may be damp or towels that hand down.

Chemical hazards...

Chemicals sometimes pose physical hazards because they are flammable, explosive, highly reactive to air or water, or stored under pressure that could cause damage to property and burns.

. Ammonia, brass and silver cleaners, chlorine bleach, coffee pot cleaners, degreasing agents, disinfectants, drain cleaners, floor cleaners, dishwashing detergent, propane, butane, and pesticides are all examples.



Chemicals sometimes pose health hazards because they can cause long- or short-term injuries or illnesses. They may be toxic (poisonous), carcinogenic (cause cancer), or corrosive (cause a material to be eaten away or dissolved).



**METAL AND
ACIDIC
FOODS
DON'T MIX!**

Aluminum foil may corrode if used to store acidic foods such as tomato sauce. It will get little holes in it and leave an unpleasant, but not harmful metallic taste in the food.



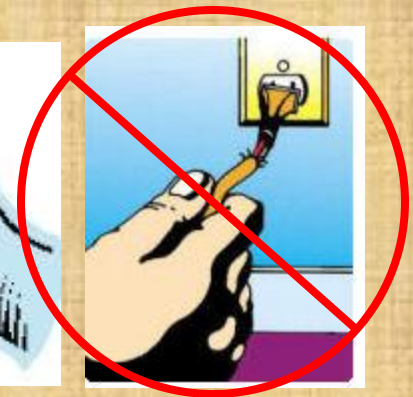
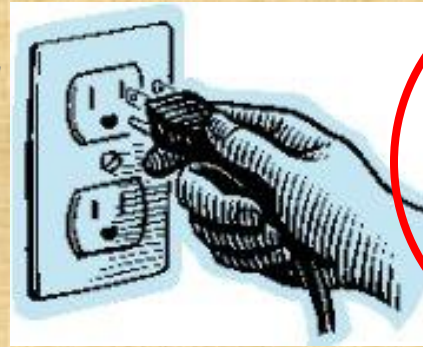
De-tinning is a dark discoloration of a can lid or lining. It is simply a non-harmful chemical reaction of acid, metal, and oxygen.



Use equipment safely...



Always unplug the mixer **BEFORE** inserting or ejecting beaters. Use care to keep spoons, rubber spatulas, long hair strands, or fingers away from moving beaters.



When plugging in or unplugging an electrical appliance, grasp the plug end, **NOT** the cord.



Use sturdy stepstools for climbing. Do not store heavy equipment over your head.

Tie back long hair; do not wear loose clothing.

Electricity and water do not mix!

Avoid the use of extension cords. Do not overload electric circuits.



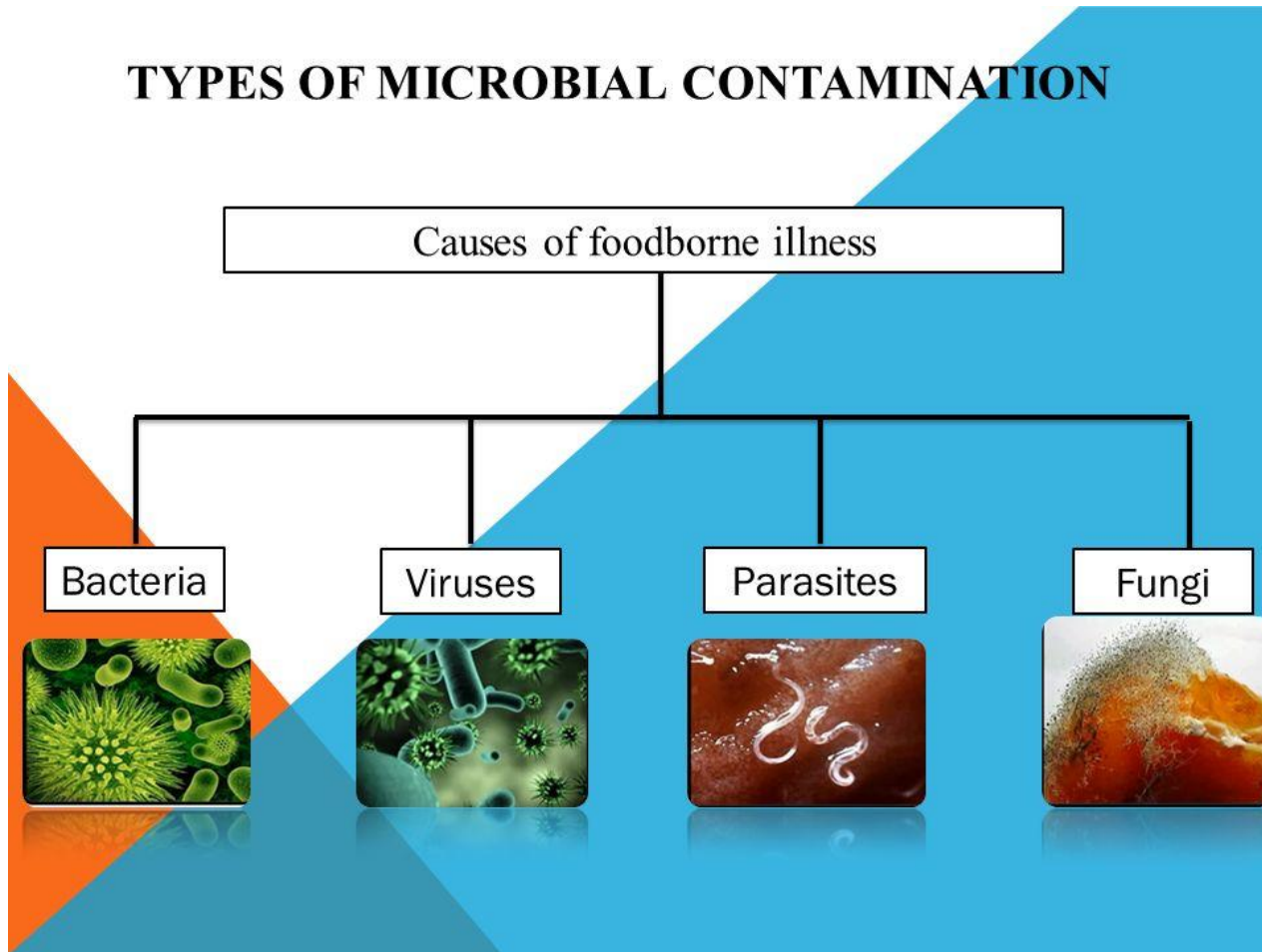
Microbial contamination

- Bacteria are everywhere
- Most are harmless
- Some used to produce food like yoghurt and cheese
- Pathogenic – cause food poisoning
- Bacteria are very small and you cannot tell if food is contaminated



Types

TYPES OF MICROBIAL CONTAMINATION



Where are Microbes found?

- Raw food – esp. meat, fish, shellfish, eggs, fruit& veg.
- People – esp. skin, ears, nose, throat, hair
- Air and dust and soil
- Equipment if not cleaned properly
- Pests – animals, birds, insects
- Untreated water
- Food waste

How do microbes multiply?

- Binary fission – doubling
- Time – double every 10-20 mins
- Warmth – 5-63°C danger zone (quickest growth 37°C body temp)
- Moisture - water (so less likely on dried foods)
- Nutrients – quickest growth on high protein food – meat, eggs, fish, milk

Common bacteria

- Salmonella – chicken, eggs
- Staphylococcus Aureus – human skin, nose, mouth, cuts
- Clostridium Perfringens – animals, soil
- Clostridium Botulinum – soil
- Bacillus Cereus – cooked rice

Food Borne Illness

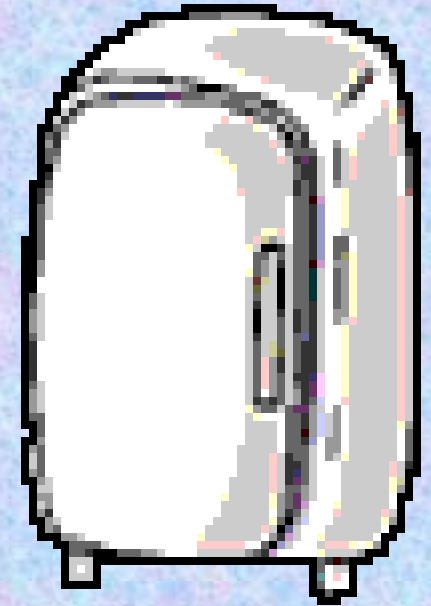
- A foodborne illness is a disease that is transmitted to humans by food.
- Food-borne disease caused by an pathogenic micro-organism that enters the body through ingestion of food.
- They don't multiply in food, but in the person who eats it
- Campylobacter enteritis – raw meat
- E Coli – beef
- Listeria – soft cheese, pate
- Norovirus – shellfish, raw veg.
- S.Typhii– Untreated water

Food poisoning/Intoxication

- Food Intoxication – a chemical or natural toxin (often a by product of the bacteria present in food) causes your symptoms or illness.
- Food poisoning caused by large quantities of pathogenic bacteria
- Symptoms – stomach pain, diarrhoea, nausea, vomiting.
- Most at risk – very young, very old, ill people, pregnant mothers

Food poisoning...

The #1 cause of food poisoning is the improper cooking and storage of food. Poor hygiene comes in second.



The people at the highest risk of dying from food poisoning are very young children and the elderly.

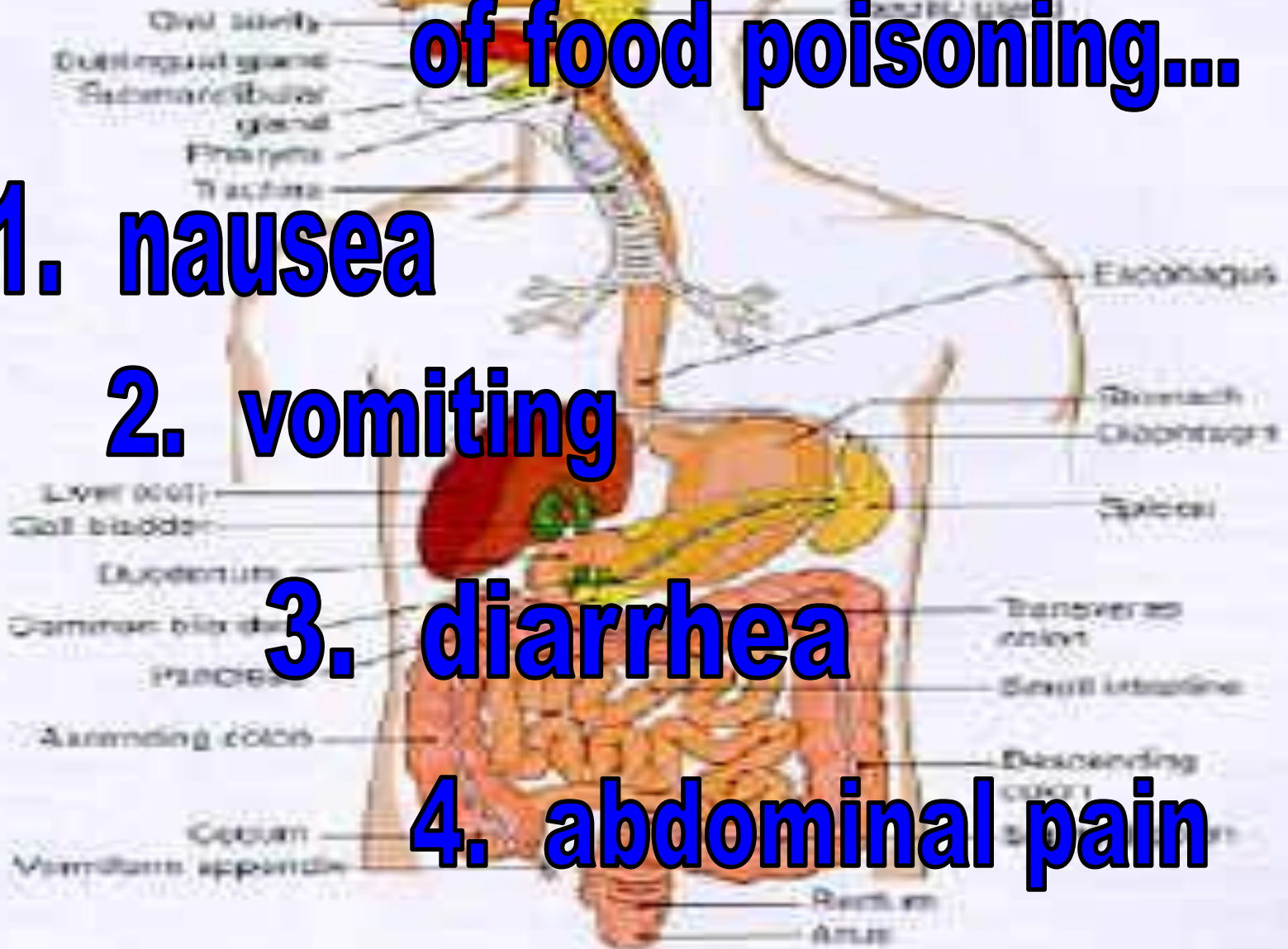
Gastro-intestinal symptoms of food poisoning...

1. nausea

2. vomiting

3. diarrhea

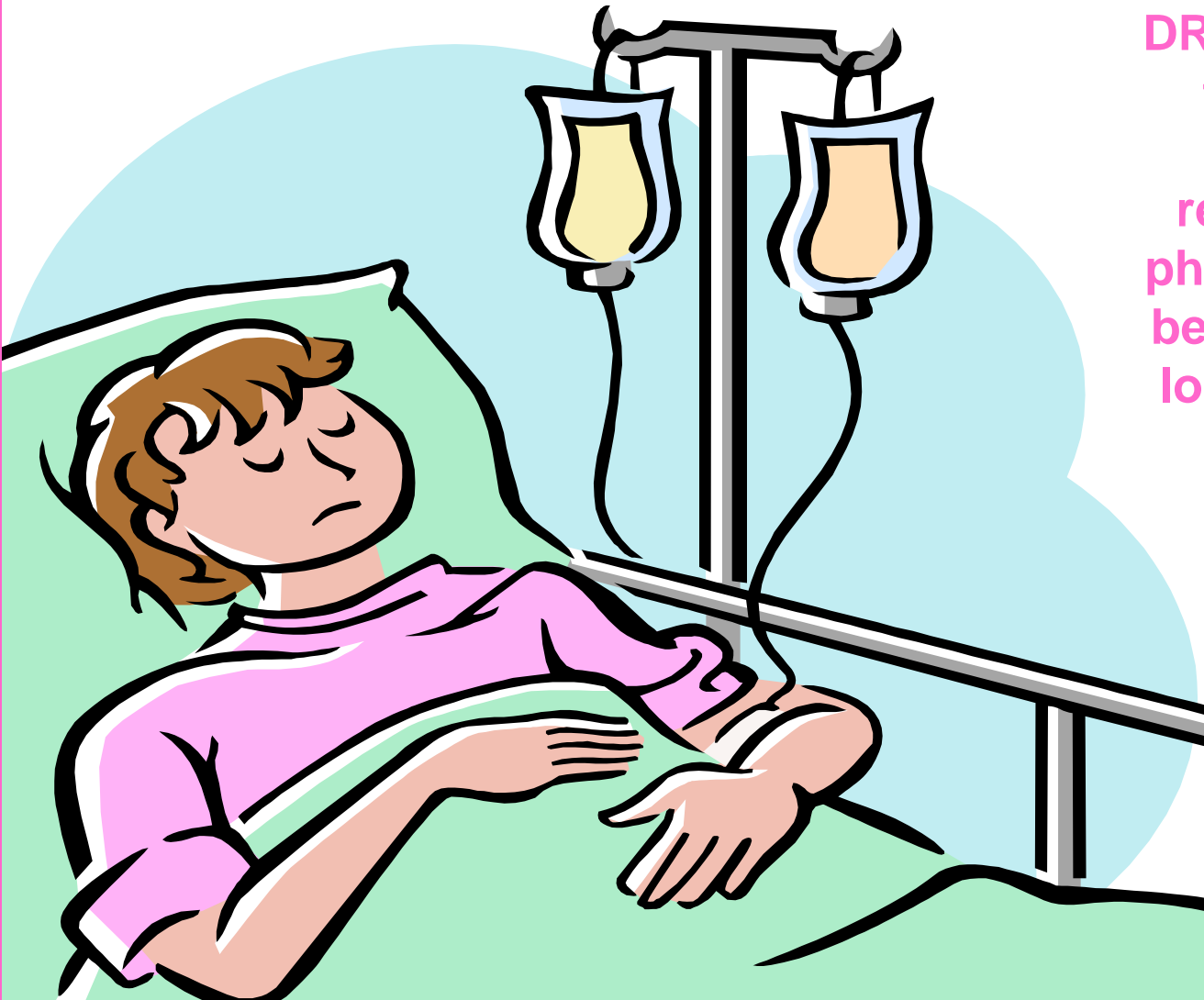
4. abdominal pain



There is NO CURE for food poisoning!

DRINK FLUIDS. That is the first and most important step to recovery. Consult a physician if symptoms become severe or last longer than 12 hours.

Doctors can only help treat the symptoms. Do not induce vomiting. By the time you actually feel sick, the poisoning is past the stomach.



Botulism...

food poisoning caused by spore-forming bacteria.

The most common source of botulism is in low-acid canned foods.

1. NEVER USE FOODS FROM BULGING CANS
2. AVOID DEEPLY DENTED CANS, ESPECIALLY AT THE SEAM OF THE CAN
3. DISCARD FOOD THAT EXPLODES FROM A CAN WHEN OPENED
4. DON'T TASTE FOODS YOU SUSPECT MAY BE SPOILED



When in doubt,
throw it out!

E.Coli food poisoning...



IF the e.coli organism is living in the intestines of a animals, and...**IF** the fecal matter inside these intestines touches the meat during the butchering process, and...**IF** you eat this meat without thoroughly cooking if first...

...then you can get e.coli poisoning.

Thorough cooking of the meat, until there is no pink remaining, kills the e.coli organism. Hamburger is the most common source of a large outbreak.

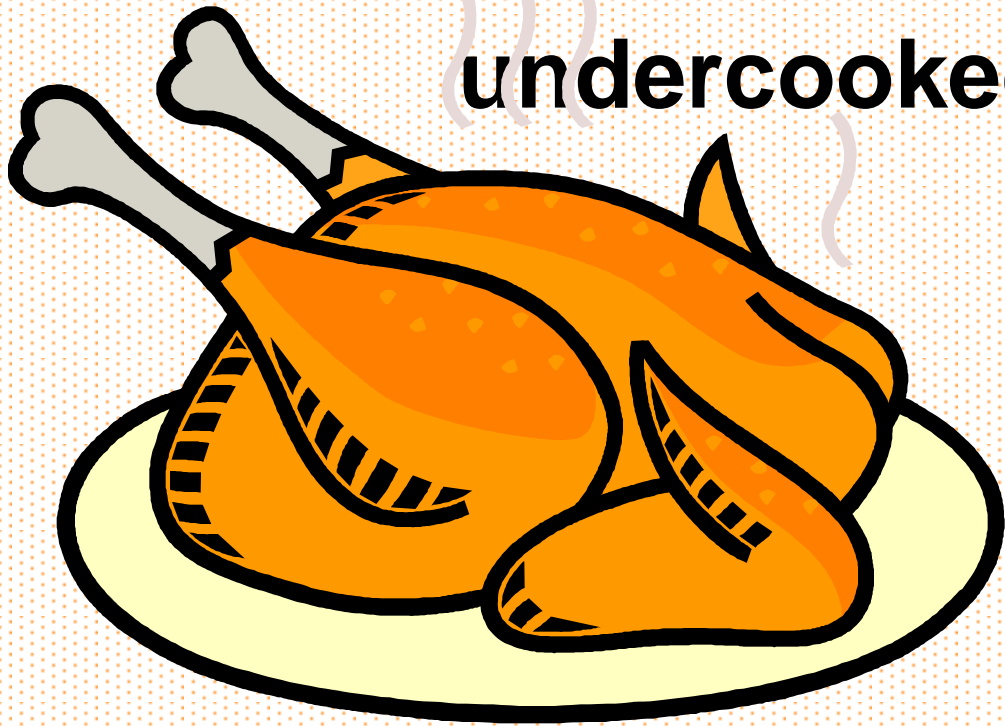
Meat is not the only source. Any food or liquid can become contaminated if it comes in contact with the infected fecal matter. Even sewage-contaminated flood waters can pose a threat.

Campylobacter...

(kam'pi-lō-bak'ter)

The leading cause of food poisoning.

Source: eating, or coming in contact with raw or undercooked chicken.



Washing hands and work surfaces is the best preventative for cross-contamination.

Use hot water and soap, or better yet, a diluted bleach solution.

Salmonella...



The second leading cause of food poisoning, salmonella is most often associated with eating raw or undercooked eggs.

Even eating raw cookie dough and cake batter can place you at risk, because they contain uncooked eggs.

Cooking destroys this bacteria, so cook eggs 'til yolk is firm to eliminate all risk.

Staphylococcus Aureus...

(better known as "staph")

Good hygiene of the food handler limits the spread of this food poisoning. This bacteria can be transferred from the skin, nose, and mouth to the food.



FOOD SAFETY



Food safety

1

- Food safety is defined as **protection of consumer from adverse health effects of food under the responsibility and control of legislation**

- In terms of food safety, legislations are responsible to
 - **Control of food hygiene** during production and distribution
 - **Limit the levels of food additives**
 - **Limit the levels of food contaminants** which can be naturally found or occurred as a result of heat treatment
 - **Approve new unit operations**
 - **Determine specifications for packaging materials**

Food Safety and Safe food practices



Five steps to safer food

1. Keep Clean

**2. Separate raw
and
cooked foods**

**3. Cook
thoroughly**

**4. Keep food
at safe
temperature**

**5. Use clean
water and
wholesome
foods**

Download
Food Safety Standard App



Dos and Don'ts while handling food

Follow Us On

What is cross contamination?

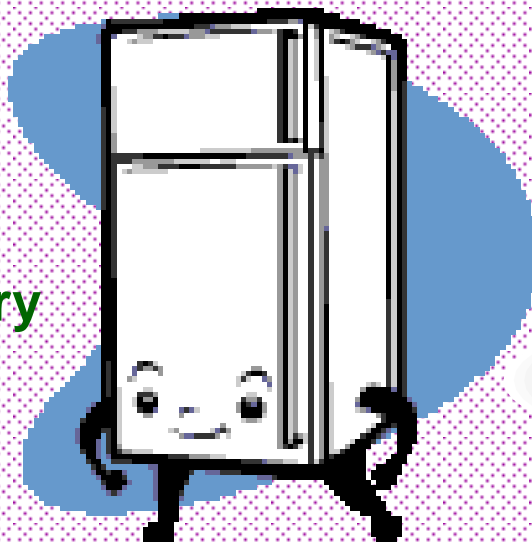
- Bacteria transferred from one thing to another
- Raw food touching ready to eat food
- Knives/boards used for raw food not washed properly before using on ready to eat food
- Hands and hand contact surfaces like door handles, switches, taps
- These are called vehicles for contamination transferring bacteria from one place to another

FOOD SAFETY TIPS...



Keep the inside of your refrigerator very cold... the lowest shelves being the coldest!

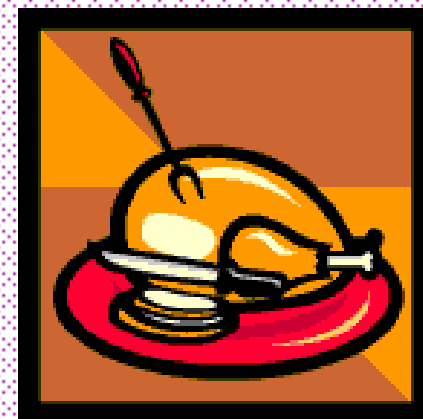
After thawing foods, you must cook them before refreezing.



Any food containing mayonnaise must be kept cold at all times!



Wash all fruits and vegetables before eating them!

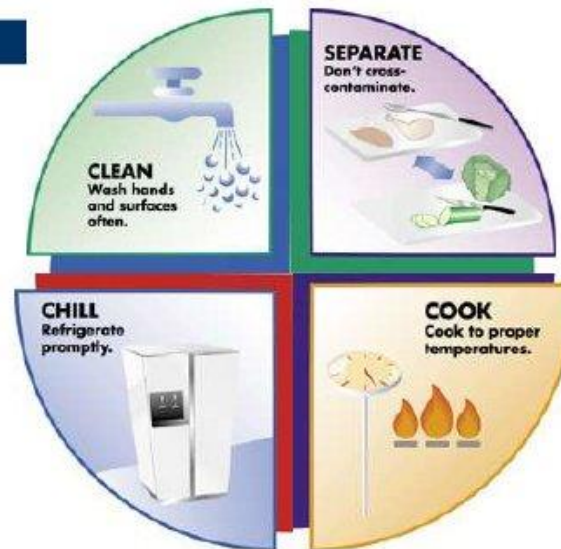


How to prevent cross contamination

- Colour coded boards and knives
- Keep raw and cooked food separate
- Keep food covered in storage
- Clean and disinfect surfaces
- Use disposable cloths or paper towels
- Wash hands regularly
- Good personal hygiene
- Good food waste disposal

To help prevent cross contamination:

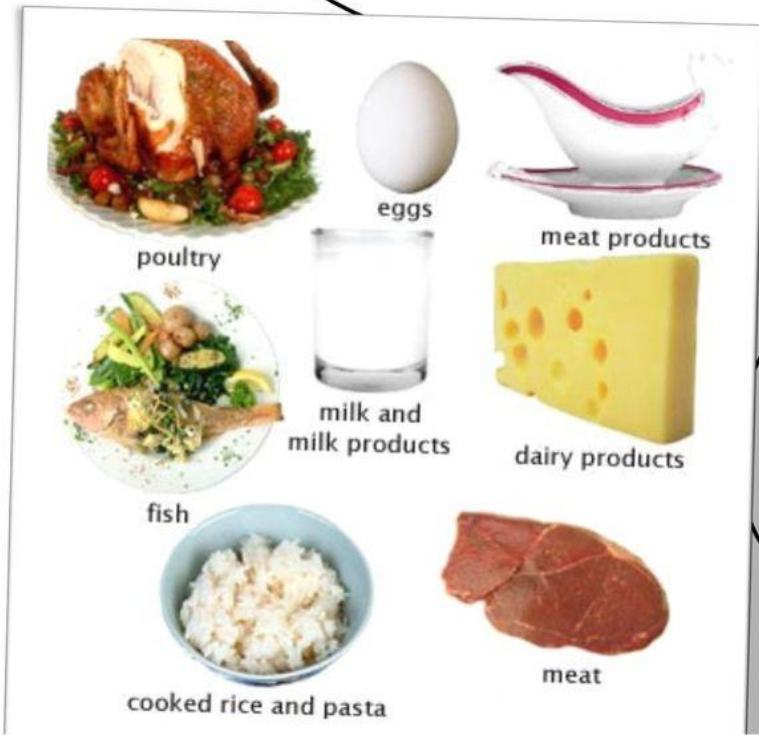
- Clean
- Separate
- Cook
- Chill



High risk food



What is a high risk food?



A food which is an ideal medium for the growth of bacteria or microorganisms. We like **moisture**, **protein** and **warmth** to grow

Low Risk foods

Low-risk foods

- Low-risk:**
- * rarely implicated in food poisoning
 - * do not support multiplication of food poisoning bacteria
- Examples:**
- * preserved food like jams, marmalade
 - * dried foods or food with little available moisture such as flour, bread, & rice
 - * acid foods such as vinegar; and products stored in vinegar
 - * fermented products such as salami
 - * foods with high fat / sugar content such as chocolate
 - * unopened canned food



A food handler must:

- Keep themselves clean
- Keep workplace clean
- Protect food from contamination
- Have good personal hygiene
- Protective clothing
- Inform supervisor of any stomach illness, skin problems, coughs and colds

Why is hand washing so vital?

- To remove bacteria
- To prevent cross contamination
- When is it important?
- Before handling food
- After : touching raw food, going to the toilet, smoking, sneezing, cleaning, handling waste, handling allergens, offering first aid
- There must be hand wash basins, hot/cold water, antibacterial liquid soap and paper towels.
- Wash front, back and between fingers, rinse/dry

Cleaning

- Detergent – removes dirt and grease
- Disinfectant – reduces bacteria to a safe level
- Sanitiser – combines detergent and disinfectant
- Hand contact surfaces – door handles, fridge handles, taps, light switches, cooker controls, lids on waste bins, telephones, toilet seats & flush handles, pens
- Clean as you go

6 stages of cleaning

- Pre-clean (scrape bits into food waste)
- Main clean
- Rinse
- Disinfect
- Final rinse
- Dry

Cleaning and waste disposal

- Handle cleaning products with care/store away from food/ follow instructions for use
- Use special cloths for each job
- Remove rubbish regularly
- Use foot operated bins with lids
- Clean and disinfect regularly and use disposable bags

Control Pests

- Any living creature capable of contaminating or damaging food
- Rats, mice, pigeons, sparrows, starlings, flies, cockroaches
- Pests contaminate food with:
- Bacteria, droppings, hair, feathers,
- They damage stock and cause food wastage

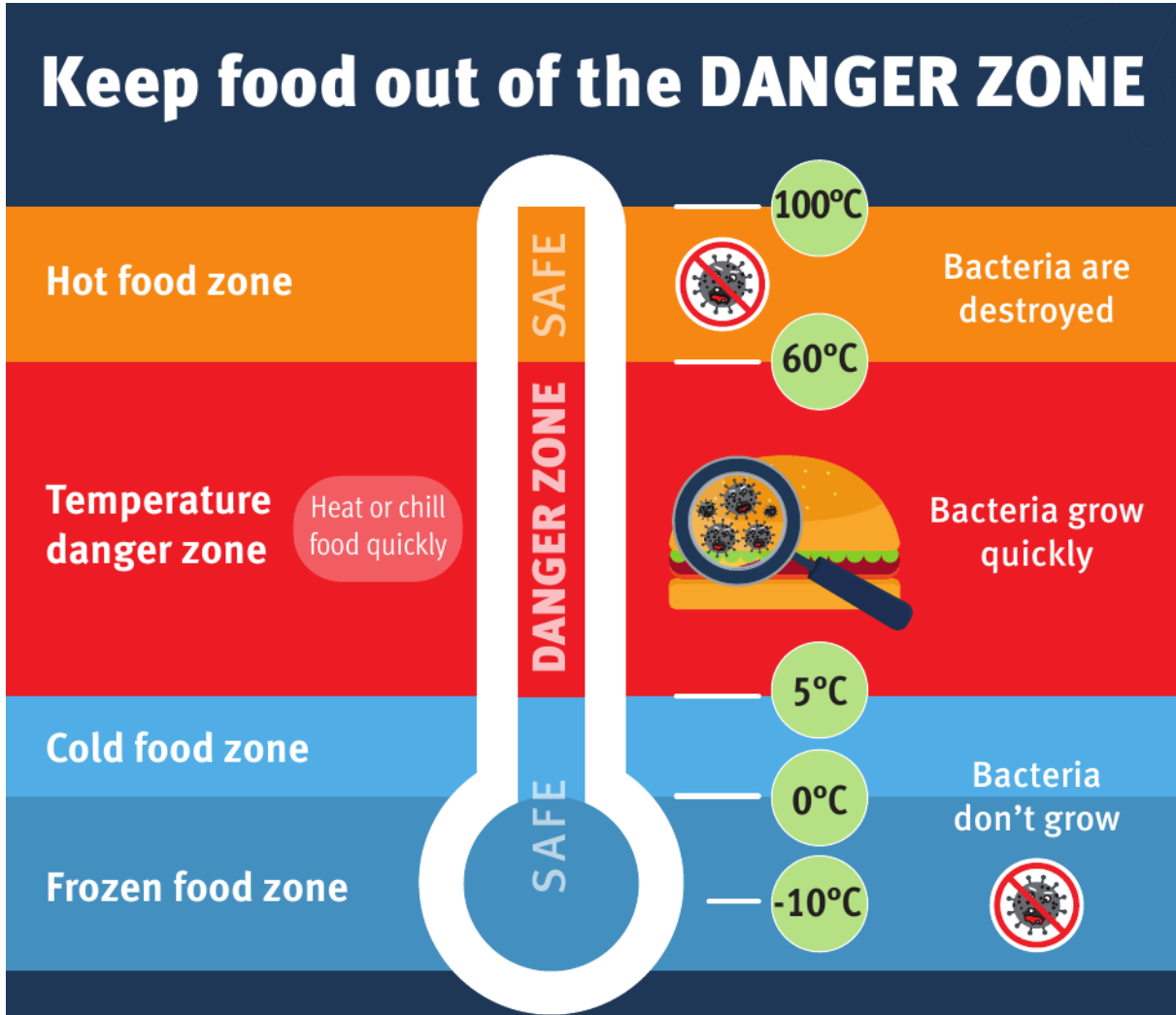
How to prevent pests

- Keep food covered
- Keep work areas clean
- Make sure bins have lids
- Empty bins regularly
- Check food deliveries
- Check & rotate stock
- Keep doors and windows closed
- Tell your supervisor if you see signs of pests

Time and temperature control

- Keep high risk food out of danger zone 5-63°C
- Keep cold food at 5°C or below to slow growth
- Keep frozen food at -18°C or below
- Keep hot food at 63°C or above as most bacteria will die
- Check temperature of deliveries & reheated food/hot held food
- Core Temperature of food (centre) can be checked with probe thermometer

Danger Zone



Temperature continued

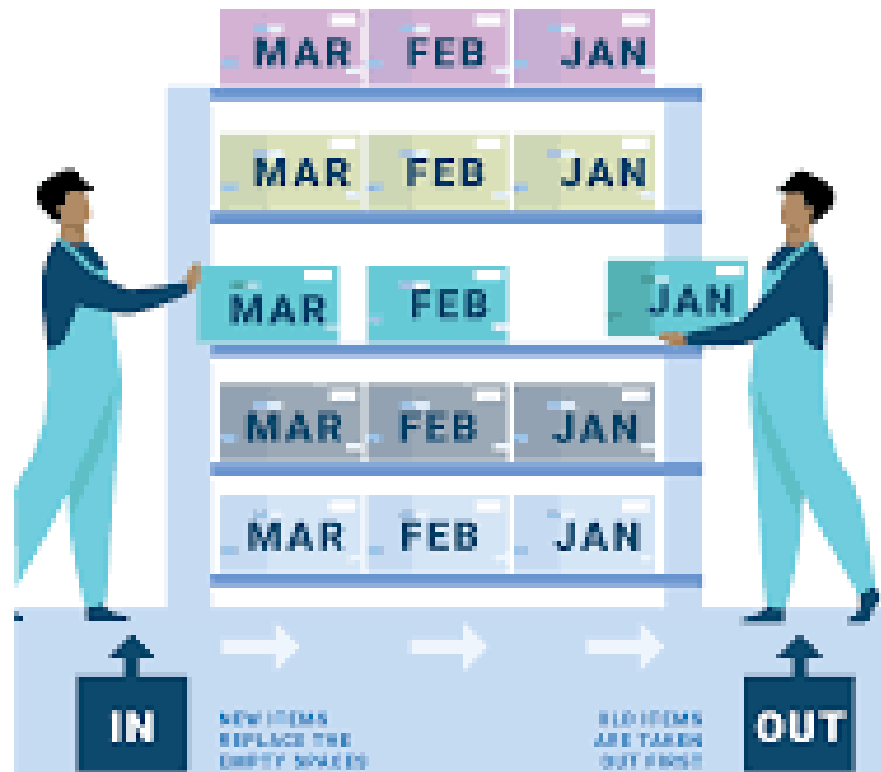
- Defrost thoroughly in the fridge
- Cook food so that core reaches 70C for 2 mins
- Keep hot held food above 63C
- Cool food quickly by:
 - Dividing into smaller quantities
 - Use an ice bath or cold water and stir
- Reheated food must reach 73C for 30 seconds

Stock rotation

- Checking dates on food deliveries
- Putting food with shorter shelf life at the front
- Use oldest food first
- Date marks:
 - Best before – usually on long life things like canned, dried and frozen food
 - Use by – found on highly perishable food such as meat, fish, dairy
- It is an offence to sell or use food past its use by date

FIFO

FIRST IN, FIRST OUT



FCS

FOOD CONSULTING SERVICES

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THE END

Which one of the safety rules did you break?

