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Today we are going to be talking about food handling and storage. We’ll be looking at:

- Some simple rules to follow when preparing food at home
- Which foods you need to take special care with and how to store them properly
- What to look out for when you are buying food
- And some common things found on labels:
  - looking at the difference between ‘use by’ and ‘best before’ date marking and
  - storage instructions on labels.

Every year there are between 4-7 million cases of food poisoning reported in Australia

- Usually symptoms are quite mild, however people can get very sick from food poisoning
- Symptoms include nausea (sick feeling in the stomach), stomach cramps, diarrhoea, vomiting, fever and headache.

Food poisoning happens when bad bacteria get the chance to grow on food (including some drinks)

- Bad bacteria need time, the right temperature and water (even a small amount of moisture) to grow
- The most common causes of food poisoning are:
  - getting food from an unsafe source (the people who handled the food before you have not followed good hygiene rules)
  - not keeping the food hot enough or cold enough
  - not cooking the food properly (still raw inside)
  - not following good hygiene rules, like washing your hands
  - people who are sick preparing food for other people and putting their germs on the food.
Module 1
Food Handling and Storage
Good hygiene is the best way to prevent food poisoning when preparing food at home. Before cooking, during cooking and before eating.

- **Wash hands with warm soapy water**
  - for at least 10 seconds before preparing or eating food and after touching raw meat. Make sure to wash the backs of your hands and in between fingers. Bacteria (germs) are easily transferred to tea towels, handles, cooking utensils and other food
  - make sure to wash your hands after sneezing, going to the toilet, changing nappies (or helping others on the toilet), and handling rubbish
  - it’s a good idea to use gloves when you cook, but remember to **wash and dry your hands thoroughly before putting gloves on** (it’s no good putting clean gloves on with dirty hands!)
  - and gloves should be changed any time you would normally wash your hands or if they are torn

- **Hand drying** is just as important as hand washing
  - bad bacteria live in water. If your hands are still wet, then bacteria can grow. Paper towels are great to dry hands with because they can be thrown away (of course they should only be used once)

- **Kitchen surfaces and utensils** such as knives, graters and chopping boards are also common ways for bacteria to spread
  - just like hands if kitchen surfaces and chopping boards have not been cleaned **or dried** properly bacteria can grow and be transferred to other food. Clean and dry kitchen utensils before and after using them.

- **Wash fruit and vegetables** before preparing and eating them
  - fruit and vegetables may have been handled by other people before they get to the table
  - you should make sure home-grown fruit and vegetables have been cleaned as well – even if you don’t use chemicals to grow your fruit and vegetables – animals could have wandered into the vegie patch

Now we’ll talk about these last three things in a bit greater detail
The key food safety steps

- Wash your hands with warm water and soap before preparing or eating food.
- Keep the kitchen, workbenches and utensils clean.
- Wash fruit and vegetables before preparing and eating food.
- Keep raw meat, poultry and seafood separate from other foods. Use different chopping boards, knives and plates.
- Cook foods thoroughly, especially meat, poultry, eggs and seafood.
- Store risky foods in the fridge.
Script for Module 1: Food Handling & Storage

Keep cooked food and raw food separate

- **Raw meat** is especially risky and should be kept separate from other raw food and cooked food
  - always use separate cutting boards for raw meat, cooked food and food that is going to be eaten raw or food that does not require any further cooking like cheese, bread, salad vegetables and fruit
  - if there are harmful bacteria on raw meat, chances are they will be killed during the cooking process, but if the raw juices come in contact with cooked food or salad food, (which won’t be cooked) there won’t be an opportunity for the bacteria to be destroyed
  - even if you are using two types of raw meat – say fish and chicken – do not use the same chopping board or knives. Just in case one of the types of meat has been spoiled.

- **Some of the most common ways for bacteria to be spread include:**
  - using tongs to place a raw piece of meat in a pan and then using the same tongs to remove the cooked meat from the pan (the raw meat juices can be transferred to the cooked meat)
  - using a chopping board to cut meat and then making a sandwich on the same board using the same knife (bacteria can be spread to and from the knife or the chopping board)
  - handling raw meat and then grating a carrot for a salad (bacteria can be spread from hands to the carrot, the grater and any other food prepared with the grater)
  - if using marinade to tenderise meat, be sure to boil the marinade before eating as it may contain bacteria

**NOTE:** Some cultures include raw meat in their traditional dishes. If raw meat is used, it is important that the meat is bought from a butcher who understands how the meat is going to be eaten, so that it can be prepared in a way that minimises the risk.
Keep cooked food and raw food separate
Cook food thoroughly

Bacteria live on the outside of meat and in the intestines of animals
  o when a small animal such as a chicken or fish is cleaned it is difficult to keep any of the bacteria from the gut reaching the outside flesh
  o this is why these types of meat need to be cooked until their juices run clear to destroy any bacteria on the outside and the inside of the meat
Some types of meat can be eaten when they are slightly pink inside
  o large cuts of meat that have not been handled very much, such as steak and whole roasts, may be slightly pink inside and still be safe to eat
  o this is because there is unlikely to be bacteria in the centre of the meat – and the bacteria on the outside will be destroyed by the cooking process
    ▪ if meat is skewed there is the risk of transferring bacteria from the outside of the meat to the inside.
      In this case the meat should be thoroughly cooked until the juices run clear
  o other meats that have gone through more processing steps (outside meat and inside meat have been mixed) such as kebabs, hamburgers, mince, rolled roasts and sausages should be cooked until their juices run clear

Special care should also be taken with eggs
  o only use clean eggs and cook them until the whites are set
  o raw, undercooked, cracked or dirty eggs can be contaminated with Salmonella (a type of bacteria responsible for food poisoning)
Cook food thoroughly, until the juices run clear – especially chicken
Store risky foods in the fridge

There are some foods that need to be stored carefully, or else they will quickly become unsafe to eat

- meat, poultry (chicken, turkey, duck), seafood, luncheon meats, milk, cheese, yoghurt, eggs (and foods made with eggs), cooked rice and pasta, sprouts (alfalfa, bean sprouts), foods that have been made ahead of time or that may be eaten over a couple of days such as salads

Rules to follow for handling and storing risky foods:

- **Raw meat** should be covered and put on a clean plate on the bottom shelf of the fridge
  - Remember to keep raw and cooked food separate
  - Meat should be thawed in the fridge overnight; however frozen meat can be thawed at room temperature or in a microwave provided it is cooked as soon as it is thawed and the meat is cooked *until the juices run clear*
  - The fridge door is a slightly higher temperature than the rest of the fridge. Raw and cooked meat should be stored in the coldest part of the fridge (not the door)

Food stored in open containers can easily be contaminated

- **Leftovers** should be put in a clean glass or plastic container (not metal) and covered with a clean lid
- **Never store food in an open can.** Transfer any leftover contents of the can to a clean non-metallic container, cover and treat the food as if it was fresh food of the same kind – fruit bought in plastic tubs with lids are okay.
- **Take extra care if you are preserving foods** at home including vegetables preserved in oil. If the food is showing signs of spoilage throw it out
- **Eggs** should be stored in the carton they were bought in or in the covered egg compartment of the fridge, to prevent the eggs from being damaged and picking up other odours from the fridge
Store food safely

Bread
Can be frozen for later use (4 months)

Leftovers
Cool quickly and store in the fridge in a non-metallic container with a lid (2-3 days) or can be frozen (2-3 months)

Cured meat (ham, bacon)
Cover and keep separate from raw foods (2-3 weeks)

Eggs
Store in the carton or in the covered ‘egg’ compartment (check the label for ‘best before’ date)

Raw meat
Covered, on a plate, on the lowest shelf of the fridge (3-4 days) or can be frozen (3-12mths). Thaw in the fridge before use

Fruit and vegetables
Ripen in a fruit bowl, then place in the crisper of the fridge to keep fresh

Freezer
Purchased frozen food
Once thawed do not re-freeze (check the label for ‘best before’ or ‘use by’ date)

Milk, yoghurt, cream, cheese, margarine and butter
Store in the fridge (check the label for ‘best before’ or ‘use by’ date). Long life milk should be stored in the fridge and then used within 7 days after opening

Opened jars, cans and bottles
Store in a non-metallic container with a lid and treat like fresh food of the same kind once opened (check the label for storage instructions)

If in doubt...throw it out!
Keep hot food hot and cold food cold

- Risky food can only be kept at room temperature for two hours before it has to be eaten or stored in the fridge (that includes the time you have taken to prepare the food)
- Room temperature is between 5°C and 60°C
- After two hours the food must be put in the fridge – and can be eaten later
- Food left out for more than two hours must be eaten straight away – cannot be put in the fridge for later use
- After four hours the food is not safe to eat and should be thrown away
  - **Cold food** should be stored below 5°C
  - **Frozen food** should be stored below -15°C
    - Bringing cold or frozen foods home from the shops can be tricky. Take an insulated bag with you and try not to put cold or frozen food in the boot because this is generally the hottest part of the car
    - Get the food into a fridge or freezer as soon as you can
  - **Hot food** should be eaten as soon as possible after it has been cooked
    - If you have cooked food to eat later, it should be cooled quickly before putting it in the fridge
    - Put the hot food in a shallow dish. This will allow the food to cool down quicker and prevent ‘hot’ spots
    - When the food has stopped steaming it can be put in the fridge – when it has cooled completely it can be put in the freezer

**NOTE:** If steaming hot food is put in the fridge or the freezer, the overall temperature inside the fridge will rise and you risk spoiling other food

- **When re-heating food**, heat it until it is steaming hot and make sure the food has been heated all the way through, especially if it has been reheated in the microwave
- Food heated in the microwave can tend to have ‘cold’ spots
Store food safely

**Bread**
Can be frozen for later use (4 months)

**Leftovers**
Cool quickly and store in the fridge in a non-metallic container with a lid (2-3 days) or can be frozen (2-3 months)

**Cured meat (ham, bacon)**
Cover and keep separate from raw foods (2-3 weeks)

**Eggs**
Store in the carton or in the covered ‘egg’ compartment (check the label for ‘best before’ date)

**Raw meat**
Covered, on a plate, on the lowest shelf of the fridge (3-4 days) or can be frozen (3-12mths). Thaw in the fridge before use

**Fruit and vegetables**
Ripen in a fruit bowl, then place in the crisper of the fridge to keep fresh

**Freezer**
**Purchased frozen food**
Once thawed do not re-freeze (check the label for ‘best before’ or ‘use by’ date)

**Milk, yoghurt, cream, cheese, margarine and butter**
Store in the fridge (check the label for ‘best before’ or ‘use by’ date). Long life milk should be stored in the fridge and then used within 7 days after opening

**Opened jars, cans and bottles**
Store in a non-metallic container with a lid and treat like fresh food of the same kind once opened (check the label for storage instructions)

*If in doubt...throw it out!*
Another thing that will increase the temperature of your fridge is putting too much food into it – or overstocking. This can mean the overall temperature of the fridge may rise, causing food to spoil.

Other tips for storing food

- If fruit still needs to ripen up a bit – leave it at room temperature, but then put it in the crisper section of your fridge and it will last longer
- The skin of bananas will go black if they are put in the fridge, but they are still good to eat
- Bread and milk can be frozen and used later
  - try to get rid of any air in the bag before freezing bread so you don’t get ice crystals – this may make the bread soggy when it is unthawing
  - shake milk after thawing it. If it is not shaken – the milk may seem a little ‘watery’
- Once UHT or ‘long life’ products have been opened you need to treat them as if they were fresh foods
- Frozen foods should not be re-frozen once they are thawed
- Don’t buy frozen foods that have ‘ice crystals’ forming as this probably means they have been at least partly thawed and then re-frozen
- If you think a food is not safe to eat – don’t take the chance – throw it out

Demonstration – How quickly the temperature of food stored outside the fridge can rise

Demonstration:
Use a food that would normally be refrigerated (e.g. a small tub of yoghurt. Explain to participants that we can underestimate how quickly the temperature of food rises when it is left out.

1. place a kitchen thermometer in the yoghurt and note the temperature
2. compare the temperature at the end of the session.
Don’t overcrowd the fridge
‘Best before’ and ‘use by’ date marking

Dates are marked on foods so we know how long they can be kept for before they become unsafe to eat. The two most common date marks are ‘use by’ and ‘best before’:

• ‘Use by’
  o these foods must be eaten by the date marked and
  o cannot legally be sold after this date. **They are unsafe to eat after this date**
• ‘Best before’ – most foods will have a ‘best before’ date. It is becoming increasingly common – even on risky foods
  o Food will lose quality after the ‘best before’ date, but may still be safe to eat for a **few days** past this date.
  o These foods can legally be sold past the ‘best before’ date so long as they are still fit for human consumption.
  o Of course if the food is showing obvious signs of deterioration – **throw it out**
• ‘Baked on’ or ‘baked for’ – bread doesn’t have a ‘use by’ or ‘best before’ date, because it’s expected it will be eaten within seven days, but people still want to know how fresh it is – so some bakers will put a ‘baked on’ or ‘baked for’ date on the label to let you know what date it was baked on
• If the shelf life is longer than two years and the food isn’t likely to spoil before it is eaten, like salt, sugar or flour - it doesn’t need a date mark
• **Storage instructions** are on the label if the food has to be kept in a certain way for it to be safe. For example yoghurt will have an instruction to **keep refrigerated below 5°C**. If the food isn’t kept according the instructions, the quality cannot be guaranteed
• **As mentioned before - Long life or UHT foods** should be treated like fresh foods of the same kind once they are opened. There will be instructions on the label for storing the food before and after the pack has been opened.
BEST BEFORE
BEST BEFORE: may still be safe to eat for a few days after the ‘best before’ date, but the quality may not be as good.

USE BY
USE BY: these foods must be eaten by the ‘use by’ date shown on the label.

- milk
- cheese
- yoghurt
- cream
- meat
Don’t buy food if the packaging is damaged

• Badly dented cans, swollen cans, packages that are split or containers that are leaking should be left on the shelf
  o all these things means there is an opportunity for bacteria to get into the food
• Always use common sense and
  o Don’t buy food if you are unsure of the quality
  o ‘if in doubt, throw it out’
Don’t buy food if the packaging is badly damaged
Food that is mouldy should be thrown out
  o Cereals or grains that have become damp can develop mould and are especially risky. They should be thrown out

A tip for storing tomato paste is – to store it upside down (bacteria are starved of oxygen)
Food that is mouldy should be thrown out
Trying to cut off the mouldy bits or spooning off the mould from the top of sauces or jam is not a good idea
  o You will only be cutting off the part that has grown enough for you to see – the rest of the food may still contain mould that has not grown enough for you to see yet
  o Spooning mould off the top of sauces and jams can push the mould further into the food
  o Some cheese has mould on it – such as camembert or brie – these moulds have been specially treated and it is not the same as the mould that grows when a food is left too long in the fridge

If in doubt – throw it out
Food that is mouldy should be thrown out
Sometimes food can look alright, but not be safe to eat

- Check the date
- Has it been stored properly? – remember even if the food is still ‘in date’ if it has been left at room temperature for too long it may look alright, but be unsafe to eat
- Is the packaging damaged?

If in doubt – throw it out

Distribute common food packaging date stamped with ‘best before’ or ‘use by’

- Include labels from products with a long shelf life. Products with a shelf life of two or more years probably will not have a date mark. This is because they are likely to be eaten long before the quality of the product is affected e.g. flour, salt, sugar, rice or canned food such as tuna or sweet corn.

- Include long-life or UHT labels. These labels will have two sets of storage instructions – before and after the product has been opened

- Ask participants if they can locate the date mark on the label. When a participant locates the date mark ask them to tell the group what the date mark means e.g. “Do you think this food could safely be eaten after this date?”

- If a participant can’t find a date on a product, such as a can or a bag of flour, ask them to think about why that might be – and remind them of the reasons (as listed above).
If in doubt – throw it out!
Distribute the ‘Spot the mistake’ activity sheet to participants

Explain the activity to participants

- There are some common storage mistakes in the picture. Put a circle around the ones you can find

Give them about 3 minutes to complete the activity and then discuss the answers as a group. They can work in pairs and call the answers out or work individually.
Draw a circle around the common food storage mistakes in this picture.
Check the temperature of the yoghurt (or the food you have chosen) and let the participants know how much the temperature has risen in a short amount of time.

Recap the main points

- Storing food correctly and washing hands are the best way to prevent food poisoning
- Always wash hands with warm water and soap before, during and after handling food and always dry hands thoroughly
- Keep cold foods cold and hot foods hot
- Check the dates and storage instructions on labels
- If in doubt throw it out.

**Group discussion & evaluation**

- What will you take away from today’s session?
- Do you feel more confident about handling and storing food than before the session?
- What changes, if any, do you plan to make as a result of today’s session?

**Thank you**

Distribute Fact Sheet – ‘Tips for storing food’

Distribute Hand out – ‘best before’ and ‘use by’
# Tips for storing food

Follow these tips to keep food safe to eat:

1. Check the code for the ‘use by’ or best before date.
2. Check the label for instructions on how to store the food – before and after it has been opened.
3. Do not buy food if the pack, bottle, jar or can is swollen, open or badly damaged.
4. When canned or packaged food has been opened – store the food in a clean glass or plastic container with a tight lid and treat it like fresh food of the same type.
5. Write the date on the pack when you open or freeze food as a reminder.
6. Cook or eat food within 2 hours or store it in the fridge for later use.
7. If in doubt – throw it out.

And remember...

- The temperature is higher in the door of the fridge and at the front of the shelves.
- Store meat, poultry, seafood and cooked food in the coldest part of the fridge.
- Food stored in the freezer will be safe to eat after the times stated in the table, but may not look or taste as good.
- Always include an ice pack in lunchboxes to keep food cool and eat any risky foods within four hours. After four hours, risky food needs to be thrown out – it’s unsafe to eat.

## Food Storage Guidelines

<table>
<thead>
<tr>
<th>Food</th>
<th>Cupboard</th>
<th>Fridge</th>
<th>Freezer</th>
<th>Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>3-5 days</td>
<td>4-12 months</td>
<td>Larger cuts of meat, like roasts, can be frozen for longer</td>
<td></td>
</tr>
<tr>
<td>Minced meat and offal</td>
<td>2-3 days</td>
<td>3-4 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood</td>
<td>2 days</td>
<td>2-3 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood with hard shells (e.g. prawns or oysters)</td>
<td>Store these foods in the coldest part of the fridge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cured meat like bacon or ham</td>
<td>2-3 weeks</td>
<td>1-2 months</td>
<td>If the meat is slimy or slimy off throw it out</td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td>3 days</td>
<td>3-12 months</td>
<td>Whole birds can be frozen for longer</td>
<td></td>
</tr>
<tr>
<td>Cooked food</td>
<td>Cooked food should be stored in the fridge and eaten within 3-5 days</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## BEST BEFORE

**BEST BEFORE** may still be safe to eat for a few days after the ‘best before’ date, but the quality may not be as good.

- flour
- canned food
- cereal
- UHT (long-life) milk
- packet foods

## USE BY

**USE BY**- these foods must be eaten by the ‘use by’ date shown on the label.

- milk
- cheese
- yoghurt
- cream
- meat
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