

Department of Clinical Haematology

# Food safety when you are less able to fight infection

Information for patients



Some blood disorders and/or their treatment (such as chemotherapy or bone marrow transplant) may make you less able to fight infections. Because of this, you may be more at risk from the bacteria and fungus in foods. This may occur for two reasons:

- Your white blood cells (neutrophils), that would normally fight food poisoning, may be at a low level. This is called neutropenia.
- The lining of the gut, which normally acts as a barrier between bacteria and the bloodstream, can be damaged by chemotherapy. This makes it easier for bacteria to enter the bloodstream.

At these times it is important that you are careful about the foods you eat, to avoid getting an infection from food.

This leaflet gives information about good food handling and foods that should be avoided when receiving chemotherapy or during a bone marrow transplant (see page 6).

# Good food handling

## **Shopping**

- Do not buy food with damaged packaging.
- Chilled and frozen food should be bought last, taken home quickly and put straight into the fridge or freezer. Bacteria multiply more quickly in warm conditions, such as the car or kitchen. A cool box or cool bag is useful for taking foods home.
- It is safer to buy pre-packed chilled foods, such as cheese or cold meats, rather than buying items from the delicatessen or fresh food counter.
- Always check the use by dates.

## **Food storage**

- Keep the coldest part of your fridge between 0°C and 5°C. Above 5°C bacteria multiply much more quickly.
- Keep your freezer below -18°C.
- Never re-freeze food once it has started to thaw.
- Keep food covered.
- Store cooked food at the top of the fridge and raw or defrosting meat at the bottom of the fridge, in a covered container.
- Use food within use by dates and follow instructions on packaging as to how soon after opening the food should be used.
- Defrost food thoroughly in the fridge or in the microwave on defrost, rather than in the warm kitchen. Do not defrost if the packaging gives instructions to cook from frozen.

## **Food preparation**

- Always wash your hands with warm water and soap before preparing food.
- Also wash your hands after going to the toilet and after touching pets, dirty washing, the rubbish bin, cat litter or soil.
- Use paper towels to dry your hands, instead of a towel or tea towel.
- Keep pets away from food, plates and dishes, and surfaces where you may prepare or serve food.
- Make sure cloths and sponges are bleached, disinfected or changed regularly or straight away if used to wipe up raw meat juices.
- Avoid cross-contamination of food by washing chopping boards and utensils between uses for raw and cooked foods. Ideally you should have three boards, one for raw meat, one for cooked meat and one for other foods.
- It is advisable to disinfect your kitchen surfaces after preparing raw meat.
- Keep your fridge, work tops, sinks and taps clean.
- Wash fruit and vegetables before eating, even if bought pre-washed.

## **Cooking**

- Cook food thoroughly and make sure it is piping hot all the way through.
- Meat should be cooked until the juices run clear.
- Never remove cooked meat from the pan or grill using the same utensil that you used to put it in with when raw.
- Do not eat raw egg or food containing raw egg.
- Always follow the cooking instructions on packaged foods.

## **Reheating foods**

- Left-overs should only be eaten if cooled within one hour of cooking, then covered and stored in the fridge, or frozen. Foods cool quicker in smaller quantities. A good way to cool food quickly is to place it in an uncovered container and stand this in a bowl of cold water. Regular changes of the water or adding ice cubes or an ice pack will further speed up cooling.
- Do not put hot food in the fridge or freezer, as this will increase the temperature of the other foods already being stored.
- Use left-overs within 24 hours, and make sure they are heated until piping hot.
- Never reheat foods more than once.
- Do not reheat rice or keep it warm.
- For Ready Meals, follow the manufacturer's instructions and make sure the food is piping hot throughout.

## Foods to avoid when you are less able to fight infection

Some foods are more likely to cause food poisoning and should be avoided from the beginning of your chemotherapy or conditioning chemotherapy, if you are having a bone marrow transplant. You will be told by your medical team or by your Specialist Nurse when you no longer have to avoid these foods.

<b>Avoid these foods:</b>	<b>Suitable alternatives:</b>
All dairy products made from unpasteurised milk	Any pasteurised or UHT milk, soya milk, rice milk, almond milk, etc.
Raw or soft-cooked eggs, homemade mayonnaise, mousses and ice creams made with raw egg, soft meringue	Eggs cooked until the yolk and white are set Shop bought mayonnaise, mousses and ice cream
Soft, mould ripened cheeses, e.g. brie, Camembert and goat's cheese Cheese made from unpasteurised milk, e.g. parmesan Blue vein cheeses	Processed cheeses, e.g. Philadelphia, Dairylea, Kraft cheese slices Cottage cheese Vacuum packed hard cheeses made from pasteurised milk, e.g. most cheddar, Edam, Red Leicester
Raw or lightly cooked shellfish	Well-cooked shellfish
Raw, rare or medium rare meats Cold meats that have been smoked but not cooked, e.g. salami and Parma ham Sushi, sashimi, caviar and oysters	Well-cooked meat and fish Tinned meat or fish Vacuum packed cooked cold meat, e.g. ham, beef, turkey

<b>Avoid these foods:</b>	<b>Suitable alternatives:</b>
Meat and fish paté	Paté and paste in jars, which do not need refrigerating until opened
Yoghurts with large numbers of added bacteria (bio or probiotic), e.g. Activia, Yeo Valley and Total Greek yoghurt	Yoghurt that does not have extra added bacteria. (The live bacteria used to make yoghurt are not harmful.)
Yoghurt drinks with added bacteria, e.g. Actimel and Yakult	Fromage Frais
Indian and Chinese takeaways Food from takeaway vans	Indian and Chinese ready meals Fish and chips Well-cooked pizza

## Neutropenic diet

Some Haematology units may recommend following a neutropenic diet, which involves also avoiding foods like raw, unpeeled fruit and vegetables, fresh nuts, uncooked pepper (the seasoning rather than the vegetable), herbs and spices, and bottled mineral water, as well as the food in the previous table.

There is, however, little evidence to say whether this reduces the risk of infection or not. At the Oxford University Hospitals, we have taken the decision as a Haematology Department not to recommend this stricter diet, to help you maintain your nutrition during treatment, which we know is also important.

## How to contact us

If you have any questions or concerns, or need further information, please contact us.

### **Dietetics Department**

Churchill Hospital

Tel: **01865 235 421**

(8.00am to 4.00pm, Monday to Friday)

If you have a specific requirement, need an interpreter, a document in Easy Read, another language, large print, Braille or audio version, please call **01865 221 473** or email **[PALS@ouh.nhs.uk](mailto:PALS@ouh.nhs.uk)**

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