

# Chemotherapy patients are at risk from poor food safety practices at home

September 28 2018, by Ellen W. Evans

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Credit: AI-generated image

While chemotherapy is a gruelling form of treatment in itself, the reduced immune system function that it causes can leave patients at risk from pathogens too. These illnesses can be contracted from a range of sources, including food.

We know that people undergoing [chemotherapy](#) are at an increased risk of [foodborne illness](#). In fact, food poisoning such as [campylobacteriosis](#), [listeriosis](#) and [salmonellosis](#) are common among cancer patients.

However, our research has found that [chemotherapy patients](#) may not be aware of the additional risks that foodborne bacteria present. While anyone can have food poisoning, those who are undergoing chemotherapy treatment can be made seriously ill simply because the food they are eating isn't being handled properly. Foodborne infections can cause delays in treatment and potentially increase patient mortality.

To reduce the chance of contracting a foodborne infection it is essential that patients and those caring for them adhere to [key food safety practices](#). As well as sticking to use-by dates, these practices include cleaning hands, surfaces and equipment, cooking foods thoroughly, separating ready-to-eat food from raw food and keeping food at safe refrigeration temperatures.

## **Keeping patients safe**

[Our previous research](#) looked specifically at the food safety information which is available to people receiving [chemotherapy treatment](#) from NHS hospitals. We found that a clear lack of consistent, correct and credible information on the critical importance of food safety for chemotherapy patients. Exploring the issue further, we have been assessing what people receiving treatment and their families know about food safety and how they implement this knowledge at home.

# Five keys to safer food



## Keep clean

- ✓ Wash your hands before handling food and often during food preparation
- ✓ Wash your hands after going to the toilet
- ✓ Wash and sanitize all surfaces and equipment used for food preparation
- ✓ Protect kitchen areas and food from insects, pests and other animals

### Why?

While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, wiping cloths and utensils, especially cutting boards and the slightest contact can transfer them to food and cause foodborne diseases.



## Separate raw and cooked

- ✓ Separate raw meat, poultry and seafood from other foods
- ✓ Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- ✓ Store food in containers to avoid contact between raw and prepared foods

### Why?

Raw food, especially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

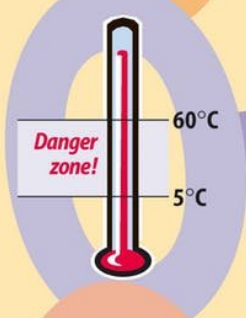


## Cook thoroughly

- ✓ Cook food thoroughly, especially meat, poultry, eggs and seafood
- ✓ Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- ✓ Reheat cooked food thoroughly

### Why?

Proper cooking kills almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70°C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.



## Keep food at safe temperatures

- ✓ Do not leave cooked food at room temperature for more than 2 hours
- ✓ Refrigerate promptly all cooked and perishable food (preferably below 5°C)
- ✓ Keep cooked food piping hot (more than 60°C) prior to serving
- ✓ Do not store food too long even in the refrigerator
- ✓ Do not thaw frozen food at room temperature

### Why?

Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5°C.



## Use safe water and raw materials

- ✓ Use safe water or treat it to make it safe
- ✓ Select fresh and wholesome foods
- ✓ Choose foods processed for safety, such as pasteurized milk
- ✓ Wash fruits and vegetables, especially if eaten raw
- ✓ Do not use food beyond its expiry date

### Why?

Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

WHO advice on keeping food safe. Credit: World Health Organization

As described in our [recently published research](#), we found that although people receiving chemotherapy and their families are aware of some [food safety practices](#) relating to refrigeration, cooking and cleaning, they are still following potentially unsafe practices when handling and storing food at home.

The study involved 172 people, most of whom had received chemotherapy for treatment of cancer in the past three years. 51 of this number were family members, who had been responsible for preparing food for partners or children during chemotherapy. We found that less than half of the people surveyed had received any information about food safety from healthcare providers. People with neutropenia (an abnormally low level of white blood cells, which fight infections), blood-related cancers, or those that had received a transplant were significantly more likely of receiving information on food safety. We presume this is because they are at an increased risk of infection, but haven't conducted research with healthcare providers on this point specifically.

## **Unsafe practices**

Although those that said they had received information were found to be more knowledgeable about food safety, gaps in their awareness and potential food safety malpractices were still reported. In particular, we found that awareness of when to wash hands was very high and hand-washing practices were frequently reported to be implemented in the home. But the reported hand-washing methods were inadequate. Only 58% reportedly rubbed their hands together and between fingers with

soap for the recommended 20 seconds when washing.

Most participants also knew of the importance of ensuring fridges were kept at the right temperature (below 5°C) but only 35% said that they used a thermometer to check their own fridge was correct. Similarly, with cooking, although the chemotherapy patients and family members knew to ensure food was cooked thoroughly, 78% said they never used a meat thermometer to make sure it was done.

# HANDWASHING



**Handwashing removes bacteria from hands to help prevent the spread of infections. It is essential to wash your hands on these occasions:**

- Before, during, and after preparing food
- Before eating food
- After using the toilet
- After blowing your nose, coughing, or sneezing
- After touching an animal

**Remember, clean hands are healthy hands!**

You should spend 20-30 seconds cleaning your hands:

- 1 Wet your hands with clean water
- 2 Use soap
- 3 Rub palm to palm
- 4 Back of hands
- 5 Rub fingernails
- 6 Fingers interlaced
- 7 Base of thumbs
- 8 Rub wrists
- 9 Rinse hands
- 10 Dry hands using a clean towel or kitchen paper



Prifysgol  
Metropolitan  
Caerdydd



How to wash your hands properly. Credit: ZERO2FIVE Food Industry Centre

We also found a particular issue in relation to raw poultry. Many participants thought that they needed to wash raw poultry (and did so). But washing poultry is a food safety malpractice. Water splashes created when washing raw meat can result in the transfer of pathogens and cause [cross-contamination in the kitchen](#).

Looking to prepackaged foods, we found that up to 40% relied upon, taste, smell or the look of food, rather than following use-by dates. Although food might appear ok, use-by dates are the only reliable way to ensure food safety. These dates are determined by looking at bacteria growth to ensure that dangerous levels are not exceeded between when the product is made and consumed.

We are now looking at how healthcare providers can deliver credible and effective [food safety](#) information to those receiving chemotherapy and their families. But what we can tell from our research to date is that people receiving chemotherapy need to be made aware just how critical [food safety](#) can be to their health.

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