

Food Hygiene: How to Prevent Foodborne Illness

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While Europe is the global region with the lowest estimated burden from foodborne illness,¹ hundreds of thousands of cases are reported in the European Union each year.² Many people become ill from food prepared or stored incorrectly at home, but the good news is that many cases are mild and we can all keep ourselves safe from foodborne illness by following some simple tips.

What causes foodborne illness?

Foodborne illness, often referred to as 'food poisoning', is caused by eating food contaminated with illness-causing pathogens. Symptoms can range from mild to severe, depending on the cause, but commonly include nausea, vomiting, diarrhea, stomach cramps, weakness, loss of appetite, fever, aching muscles, or chills. In severe cases, foodborne illness can lead to hospitalization or even death. Three important causes of foodborne illness are:³

- Bacteria and viruses: These can multiply in the body and make us sick. Microbes can take time to multiply to levels that cause symptoms so it may take several days for symptoms to appear.
- Parasites: Depending on the type of parasite, the onset of symptoms can vary and some people may be unaware they have been infected.
- Toxins produced by living organisms such as a bacteria or fungi. As it is the toxins themselves that cause illness, symptoms can appear just a few hours after eating contaminated food.

Most outbreaks start at home

Food can become contaminated at any stage in the food chain, including at the farm, during animal slaughter, during processing, in catering kitchens and restaurants, or at home. Keeping our food safe relies on [the efforts of everyone involved in the food chain](#).

In Europe, the majority of reported foodborne illness outbreaks start at home with bacteria (such as *Campylobacter* and *Salmonella*) and viruses (such as norovirus) being common causes.² Sticking to some basic food hygiene rules can prevent us from getting sick.

Avoid cross-contamination

Raw foods can contain invisible disease-causing microbes. These can be transferred to ready-to-eat foods by cross-contamination either directly (for example if raw meat comes into contact with cooked foods) or indirectly (for example by chopping salad vegetables with a knife that was previously used to chop raw meat).

Hygiene tips:⁴⁻⁶

- Always wash your hands thoroughly with warm soapy water before handling food and repeat often during food preparation.
- Cover any cuts with waterproof bandages and do not prepare food for others if you are sick or have a skin infection
- Wash fresh vegetables and fruit well with clean water before use to remove potential contaminants from the surface.
- Keep raw and cooked foods separate to avoid harmful microbes from raw foods spreading to ready-to-eat foods.
- Use different utensils/chopping boards for raw and cooked foods to prevent cross-contamination. It may help to dedicate different coloured chopping boards to fruit/vegetables, fish/seafood, meat/poultry or raw/cooked foods.
- Prepare and chop food on a clean surface and clean all utensils and surfaces thoroughly after use with hot water and detergent, or in the dishwasher.
- Never wash raw chicken as the splashing water can spread bacteria around the kitchen.
- Wash dishcloths, tea towels, hand towels and aprons frequently at high temperatures.

Cook thoroughly

Uncooked or undercooked meats & shellfish, or unpasteurised dairy products are a major source of foodborne illness. Cooking/heating foods to temperatures of at least 72°C for 2 minutes will kill most illness-causing microbes.

Cooking/heating tips: [4.7.8](#)

- Check temperatures using a cooking thermometer, inserted into the centre of the food, or the thickest part of the meat away from the bone.
- Whole cuts of beef (steaks, joints) or lamb (chops, joints) can be eaten rare or pink as they are unlikely to have harmful bacteria in the centre. The outer surface should be seared to kill bacteria.
- Ground meat/fish products (such as burgers, sausages or fishcakes) have a large surface area and are therefore more likely to be contaminated than whole cuts of meat. These foods should be cooked through to a core temperature of at least 72°C for 2 mins.
- For pork and poultry, there should be no pink meat left. If you don't have a thermometer, pierce the thickest part with a fork or skewer; the juices should run clear, not pink.
- Reheat leftovers of pre-prepared foods thoroughly. Bring soups and stews to the boil for at least 2 minutes.
- It is also safe to eat leftover leafy greens like spinach as long as they are thoroughly reheated.

For tips on how to cool and store leftovers see [Safe food storage at home](#).

Some common foodborne illnesses and their symptoms

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Pathogen	Type of pathogen	Symptoms	Commonly associated foods
Campylobacter (causes Campylobacteriosis)	Bacteria	Diarrhoea, abdominal pain, fever, headache, nausea, vomiting. Symptoms typically start after 2-5 days and last for 3-6 days.	Raw milk and dairy products, raw/undercooked poultry ⁹
Salmonella (causes Salmonellosis)	Bacteria	Diarrhoea, nausea, vomiting, fever, abdominal pain. Symptoms usually occur after 6-72 hours and last for 2-7 days. Rarely, it can lead to severe dehydration that can be life-threatening, especially in children or the elderly.	Eggs, pork meat, poultry ^{10,11}
Yersinia (causes yersiniosis)	Bacteria	Fever, abdominal pain, diarrhea.	Undercooked meat ²
Listeria (causes Listeriosis)	Bacteria	Symptoms can range from mild flu-like symptoms, nausea, vomiting and diarrhoea, to serious complications such as meningitis or other potentially life-threatening conditions.	Ready-to-eat foods such as smoked fish, cured meats and soft cheeses ¹²
Certain strains of E. Coli (e.g. EHEC, STEC, VTEC)	Bacteria	Abdominal cramps, diarrhoea, fever, vomiting. Symptoms typically start after 3-8 days and last for up to 10 days. In rare cases, it can cause haemolytic uraemic syndrome (HUS), which can cause kidney failure.	Unpasteurised milk and cheese, undercooked meat, raw salad vegetables (e.g. sprouts, spinach and lettuce) ¹³
Norovirus	Virus	Diarrhoea, vomiting, abdominal pain	Uncooked shellfish, raw fruits and vegetables, but any food can become contaminated through improper handling ¹⁴
Hepatitis A	Virus	Liver inflammation, fever, loss of appetite, diarrhoea, nausea, abdominal discomfort, dark-coloured urine and jaundice. Not everyone will show all symptoms.	Uncooked shellfish, raw fruit and vegetables ¹⁵
Hepatitis E	Virus	Liver inflammation. In rare cases, it can lead to liver failure. Many people will not show any symptoms.	Raw/undercooked pork meat and liver ¹⁶
Toxoplasma gondii	Parasite	Most people show no symptoms. Infection in pregnant women can lead to brain or vision abnormalities in the baby, miscarriage or stillbirth.	Undercooked meat, raw fruit and vegetables ¹⁷
Scombroid fish poisoning	Toxin	Tingling or burning of the mouth or throat, rash, headache, diarrhea,	Fish (tuna, sardines, anchovies, mackerel).

	usually starting within one hour after eating.	
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