

Four simple rules to help keep you safe

For more information on food safety issues:
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CLEAN

- clean your hands by washing them with soap and drying with a clean towel
- always wash your hands before handling food and after handling raw meat and poultry, going to the toilet, changing nappies, handling pets and gardening
- wash knives and utensils and scrub chopping boards between preparing raw and cooked food
- keep your fridge clean.

COOK

- defrost frozen foods thoroughly before cooking
- never leave hot food to cool for more than two hours before putting it in the fridge
- cook minced meat and sausages thoroughly (meat should not be pink), and cook poultry until juices run clear
- pre-cook minced meat, sausages and poultry before barbecuing.

COVER

- keep all foods covered in the fridge, in the cupboard and outdoors
- keep raw meat and poultry covered and away from ready-to-eat food, fruit and vegetables
- when cooking outdoors, ensure that all food remains covered until ready to cook or eat.

CHILL

- ensure your fridge is operating at a temperature of between 0 and 4°C
- keep raw meats and poultry in the bottom of the fridge to ensure their juices don't drip on to other food
- keep all perishable foods in the fridge until you are ready to use them
- when picnicking, keep food cool by using a frozen chilly pad
- marinate food in the fridge, not on the bench.



Micro-organisms or bugs that cause illness are called pathogens. This pamphlet looks at some of the common pathogens that cause foodborne illness in New Zealand and gives advice on how you can avoid them



More information about pathogens that cause foodborne illnesses

How to keep yourself and your food safe

A wide variety of micro-organisms – bacteria, fungi, parasites, viruses and other organisms – can cause illness in people. Many of these can contaminate food. Knowing what to watch out for and how to ensure you don't contaminate food that you, your family or others are going to eat is an important part of knowing how to avoid foodborne illness.

It can take from as little as 20 minutes to several weeks to become sick from food that's been contaminated by pathogens (and your illness may not be caused by the last thing you ate). Foodborne illness can be mild but sometimes (especially if you have low immunity) it can be life-threatening or cause death.

If you think you have an illness caused by food, contact your doctor right away.



Name	Possible symptoms (from most to least common)	Foods and causes linked to outbreaks	How soon it typically strikes
Bacillus cereus (bacteria)	Two different forms of foodborne illness: Vomiting, nausea, occasional diarrhoea Diarrhoea, abdominal pain, occasional nausea	Rice, starchy foods such as potato and pasta, meat, casseroles, vegetable dishes, foods containing spices	1 to 6 hours (vomiting) 10 to 12 hours (diarrhoea)
Campylobacter (bacteria)	Muscle pain, headache, fever, followed by diarrhoea (can be bloody), abdominal pain, nausea	Undercooked chicken, unpasteurised milk, chicken liver pâté, drinking water	2 to 5 days but can range from 1 to 10 days
Ciguatera (toxin)	Nausea, vomiting, diarrhoea, muscle pain followed by neurological symptoms including headache, temperature reversal (hot things feel cold and cold things feel hot), dizziness, tingling, muscular weakness, irregular heartbeat	Grouper, barracuda, snapper, jack, mackerel, triggerfish (caught in tropical regions)	Within 6 hours
Clostridium botulinum (bacteria)	Nausea and vomiting followed by neurological symptoms including weakness, dizziness, double vision, difficulty speaking, swallowing and breathing, abdominal distension	Canned or bottled foods, especially vegetables and seafood products, garlic in oil	12 to 36 hours
Clostridium perfringens (bacteria)	Severe abdominal pain, watery diarrhoea, occasional vomiting and nausea	Meat dishes, especially rolled roasts, stuffed meat, soups, stews, gravies, pies	10 to 12 hours, but can range from 6 to 24 hours
Cryptosporidium parvum (parasite)	Watery diarrhoea, vomiting, stomach cramps, weight loss	Drinking water, raw fruits and vegetables, apple juice, unpasteurised milk, salads	3 to 11 days
Cyclospora (parasite)	Watery diarrhoea, loss of appetite, weight loss, cramps, nausea, vomiting, muscle aches, low grade fever, extreme fatigue	Raspberries, lettuce, basil and pesto	1 week
E.coli (O157:H7) (bacteria)	Severe abdominal pain, watery (then bloody) diarrhoea, occasional vomiting	Undercooked minced meat, unpasteurised milk, lettuce, sprouts, unpasteurised fruit juices	1 to 8 days
E. coli (STEC) (bacteria)	Range from mild diarrhoea through severe cramps to profuse diarrhoea containing a lot of blood	Undercooked minced meat, cooked meat, apples, radishes, unpasteurised juices and dairy products, direct contact with animals and animal fertiliser, contaminated water	1 to 2 days

Name	Possible symptoms (from most to least common)	Foods and causes linked to outbreaks	How soon it typically strikes
Giardia intestinalis (parasite)	Diarrhoea, flatulence, stomach cramps	Raw vegetables, drinking water, salads, fruit salad, sandwiches	1 to 3 weeks
Hepatitis A (virus)	Fever, malaise, nausea, vomiting, loss of appetite, abdominal pain, jaundice	Shellfish, salads, cold meats, sandwiches, fruits, vegetables, fruit juices, milk, milk products, infected food handlers	10 to 50 days
Listeria (bacteria)	Non-invasive: Diarrhoea, fever, muscle pain, headache, occasional abdominal cramps and vomiting Invasive: Fever, headache, diarrhoea, vomiting, septicaemia, encephalitis, meningitis, spontaneous abortion or stillbirth	Long shelf-life products stored under refrigeration such as deli meat and poultry products, smoked seafoods, cheeses (particularly soft-ripened cheeses), pre-cooked sausage products. Also unpasteurised milk, corn salad, coleslaw	Non-invasive: 11 hours to 7 days Invasive: 1 day to 3 weeks
Norovirus (virus)	Nausea, vomiting, diarrhoea, abdominal pain, headache, low-grade fever	Shellfish, salads, sandwiches, cold meats, infected food handlers	24 hours but can range from 10 to 50 hours
Salmonella (bacteria)	Nausea, vomiting, abdominal cramps, diarrhoea, fever, headache	Raw meats, poultry, unpasteurised milk and dairy products, seafoods, fresh produce (including sprouts), foods handled by infected foodhandlers, eg kebabs, sandwiches	6 hours to 2 days
Scombrototoxin (toxin)	Tingling or burning sensation in the mouth, upper body rash, reduced blood pressure, headache, itching, nausea, vomiting, diarrhoea	Fresh tuna, kahawai, mahi mahi, bluefish, sardines, mackerel, amberjack, abalone	A few minutes to a few hours
Staphylococcus aureus (bacteria)	Nausea, vomiting, abdominal cramps, occasional diarrhoea	Ham, cooked meats, yoghurt, chicken salad, pasta dishes, bakery products (especially cream-filled), cheese	2 to 4 hours but can range from 30 minutes to 7 hours
Vibrio parahaemolyticus (bacteria)	Diarrhoea, abdominal pain, nausea, vomiting, headache, fever, chills	Raw oysters and clams, crabs, shrimp	4 hours to 4 days
Vibrio vulnificus (bacteria)	Diarrhoea (in healthy people), bloodstream infection (in people with liver disease, diabetes, or weak immune systems)	Raw oysters and clams, crabs	Within 16 hours (diarrhoea)
Yersinia enterocolitica (bacteria)	Adults: Abdominal pain, headache, fever, diarrhoea, nausea, vomiting Children: Watery, mucoid diarrhoea	Pork and pork products, dairy products, fruit, vegetables, tofu	7 days but can range from 1 to 11 days