

## Information on Common Food Poisoning Bacteria

Bacteria are one of the most common causes of food poisoning. Unlike food spoilage bacteria, food poisoning bacteria do not affect the taste, smell or look of food. Food poisoning bacteria may cause problems in one of four main ways. They may:

- Transfer from raw to ready-to-eat foods due to poor handling and storage practices
- Transfer onto foods from food handlers, pests or dirty equipment and utensils
- Survive in food that is undercooked
- Grow in food that is not stored at the correct temperature

If you complete and implement the Safe Catering Plan for your business it will help you control food poisoning bacteria.

Information on common food poisoning bacteria is given in the table below.

Bacteria (Key facts)	Typical symptoms	Common food sources	How you can control it
<p><b>Campylobacter species</b></p> <p>(The most commonly reported foodborne bacteria in Ireland)</p>	<p>Fever, headache, and feeling of being unwell, followed by severe stomach pain and diarrhoea, which may be bloody.</p> <p>Symptoms usually appear within 2 to 5 days of consumption but can be from 1 to 11 days.</p>	<p>Raw poultry meat, contaminated drinking water and unpasteurised milk</p>	<ul style="list-style-type: none"> <li>• Prevent cross contamination between raw poultry meat/juices and ready-to-eat foods</li> <li>• Prevent cross contamination between raw poultry meat/juices and surfaces/utensils/equipment used for preparing ready-to-eat foods</li> <li>• Do not wash poultry meat. Washing simply spreads bacteria</li> <li>• Wash hands with soap and warm water after preparing or handling raw poultry</li> <li>• Cook poultry meat to a core temperature of 75°C</li> <li>• Use potable water (if on a private water supply, ensure it is well maintained and routinely tested)</li> <li>• Use pasteurised milk</li> </ul>
<p><b>Salmonella species</b></p> <p>(Can cause severe illness in elderly people, infants and those with impaired immune systems)</p>	<p>Diarrhoea, fever, and stomach cramps. Can be life threatening for elderly, infants, and those with impaired immune systems.</p> <p>Symptoms usually appear within 12 to 36 hours but can be 6 to 72 hours.</p>	<p>Raw meat and poultry, raw eggs and egg products</p>	<ul style="list-style-type: none"> <li>• Prevent cross contamination between raw meat/juices and ready-to-eat foods</li> <li>• Prevent cross contamination between raw meat/juices surfaces/utensils/equipment used for preparing ready-to-eat foods</li> <li>• Cook meat to a core temperature of 75°C</li> <li>• Cook eggs thoroughly</li> <li>• Use pasteurised eggs in dishes that will not be cooked or only lightly cooked (e.g. mayonnaise and mousse)</li> </ul>

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<p><b>Verocytotoxigenic E. coli (VTEC), e.g. E. coli 0157 and E. coli 026</b></p> <p>(Very low infectious dose and can cause serious illness, especially in children)</p>	<p>Fever, vomiting, stomach pain and diarrhoea which can be bloody. Can cause kidney failure. Death has occurred in some cases.</p> <p>Symptoms usually appear within 1 to 14 days.</p>	<p>Raw beef (particularly minced beef, e.g. burgers) and meat products, contaminated drinking water, unpasteurised milk</p>	<ul style="list-style-type: none"> <li>Prevent cross contamination between raw meat/juices and ready-to-eat foods</li> <li>Prevent cross contamination between raw meat/juices and surfaces/utensils/equipment used for preparing ready-to-eat foods</li> <li>Cook meat (especially minced meat and burgers) to a core temperature of 75°C</li> <li>Use potable water (if on a private water supply, ensure it is well maintained and routinely tested)</li> <li>Use pasteurised milk</li> </ul>
<p><b>Listeria monocytogenes</b></p> <p>(Symptoms may not appear for up to ten weeks. Can grow at refrigeration temperatures. Small number of cases reported in Ireland but can cause very serious illness)</p>	<p>Fever, nausea, septicaemia meningitis.</p> <p>Potential complications during pregnancy include premature labour, meningitis in the newborn or even miscarriage.</p> <p>Symptoms can appear within 1 to 70 days.</p>	<p>Ready-to-eat refrigerated and processed foods such as: luncheon meats, cold cuts and other deli-style meat; soft cheeses; smoked seafood; and prepared salads</p>	<ul style="list-style-type: none"> <li>Ensure chilled food is stored at 0°C to 5°C</li> <li>Do not serve food past its 'use-by' date</li> <li>Prevent cross contamination between raw and ready-to-eat foods</li> <li>Ensure surfaces that will come into contact with ready-to-eat food are cleaned and disinfected</li> </ul>
<p><b>Staphylococcus aureus (Staph. aureus)</b></p> <p>(Produces a toxin in the food. This toxin is resistant to cooking temperatures)</p>	<p>Vomiting, diarrhoea, nausea and stomach pain</p> <p>Symptoms usually appear within 1 to 7 hours.</p>	<p>Food handlers are the main source as Staph aureus is carried on the skin and in the nose of humans.</p>	<ul style="list-style-type: none"> <li>Practice good personal hygiene, especially: <ul style="list-style-type: none"> <li>Wash hands and under fingernails vigorously with soap and hot water before handling and preparing food</li> <li>Do not prepare food if you have a nose or eye infection</li> <li>Do not prepare or serve food if you have wounds or skin infections on your hands or wrists</li> </ul> </li> <li>Minimise handling of ready-to-eat foods</li> <li>When preparing ingredients in advance of cooking minimise time spent at room temperature</li> <li>Keep hot food hot (at 63°C or above) and cold food cold ( 0°C to 5°C)</li> </ul>

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<p><b><i>Bacillus cereus</i></b> <b>which causes vomiting</b></p> <p>(Produces heat resistant spores and toxins that survive cooking)</p>	<p>Nausea and vomiting</p> <p>Symptoms can appear within 5 hours.</p>	<p>Rice and rice-based products (e.g. egg fried rice) cereals, vegetables, herbs and spices</p>	<ul style="list-style-type: none"> <li>• Cool cooked food as quickly as possible and place in fridge within 2 hours of cooking. In the case of rice, it is recommended to refrigerate within 1 hour of cooking.</li> <li>• Keep hot food hot (at 63°C or above) and cold food cold ( 0°C to 5°C)</li> <li>• When dried food is rehydrated, refrigerate if not planning to use within 2 hours.</li> </ul>
<p><b><i>Bacillus cereus</i></b> <b>which causes diarrhea</b></p> <p>(Produces heat resistant spores and toxins that survive cooking)</p>	<p>Abdominal pain, watery diarrhoea and nausea</p> <p>Symptoms usually appear within 24 hours.</p>		
<p><b><i>Clostridium perfringens</i></b></p> <p>(Grows rapidly at 43°C to 46°C. Produces heat resistant spores that survive cooking)</p>	<p>Abdominal pain and diarrhea</p> <p>Symptoms usually appear within 8 to 24 hours.</p>	<p>Gravy, stock, cooked meat, casseroles</p>	<ul style="list-style-type: none"> <li>• Keep hot food hot (at 63°C or above)</li> <li>• Cool cooked food as quickly as possible and place in fridge within 2 hours of cooking.</li> </ul>
<p><b><i>Clostridium botulinum</i></b></p> <p>(Can only grow in the absence of oxygen. Produces heat resistant toxins and spores. Some strains can grow at refrigeration temperatures)</p>	<p>Double vision, difficulty speaking and swallowing, headache, nausea, fatigue, constipation, vomiting, dizziness, muscle paralysis and damage to nervous system. Death may occur in severe cases.</p> <p>Symptoms appear within 8 to 72 hours.</p>	<p>Canned, jarred and vacuum packed foods, smoked and salted fish</p>	<ul style="list-style-type: none"> <li>• Follow manufacturers' storage instructions</li> <li>• Dispose of cans that are dented, leaking or bulging</li> </ul>