



Cooking livers safely: Information for chefs

October 2024

Keep your customers safe from harmful bacteria by following the rules in your food control plan for handling and cooking livers. This document provides you with more information to help you cook and handle livers safely.

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The information on this PDF is available online at the URL below.
For more food safety information, visit the following webpages or scan the QR codes.



mpi.govt.nz/food-business/food-safety-codes-standards/good-operating-practice/documents/safe-cooking-of-livers



Template Food Control Plan – Simply Safe & Suitable mpi.govt.nz/dmsdocument/16684

What is the issue?

Raw livers often have bacteria such as *Campylobacter* and *Salmonella*. If liver isn't cooked enough, bacteria will survive and make people sick. It doesn't take much bacteria to make someone sick.

Campylobacter are often on the surface and inside of livers. If liver isn't cooked enough, *Campylobacter* will survive and can cause campylobacteriosis, a type of foodborne illness. Campylobacteriosis outbreaks are often linked to eating undercooked liver dishes.

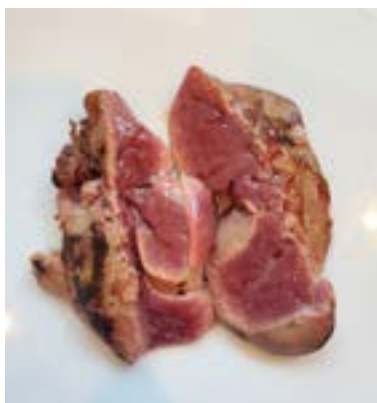
Campylobacteriosis can be very serious and lead to hospitalisation. Symptoms of campylobacteriosis include vomiting, diarrhoea or bloody diarrhoea, headache and body aches. Symptoms can last up to 7 days. The elderly, very young or immunocompromised are more likely to get very sick.



For more information, on campylobacteriosis, see *Campylobacter* infection: symptoms and advice at mpi.govt.nz/food-safety-home/food-poisoning-symptoms-causes/campylobacter-infection-symptoms-advice/

How can I tell if food is contaminated?

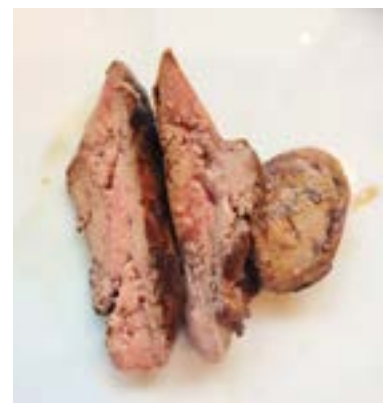
You can't see or smell *Campylobacter* and *Salmonella*, and they don't occur evenly on or in liver, so contamination is not obvious. As New Zealand Food Safety testing shows that *Campylobacter* can be found on the inside and outside of livers, cooking livers to an internal temperature of 75°C for 30 seconds will kill the bacteria present.



Picture 1: Undercooked chicken liver cooked to 55°C, still bloody in the middle.



Picture 2: Undercooked chicken liver cooked to 60°C, still bloody in the middle.



Picture 3: Chicken liver cooked to safe internal temperature of 75°C, still pink in the middle.

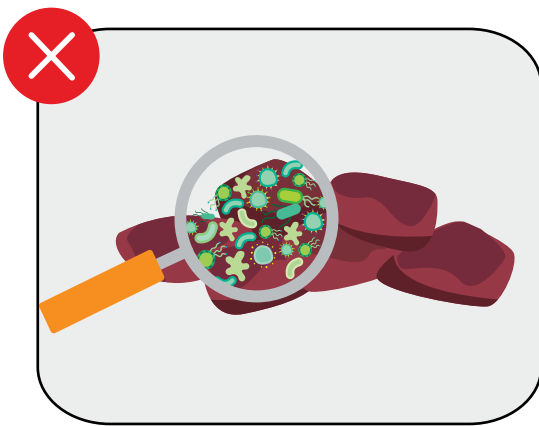
What can go wrong when preparing liver?

Many cases of campylobacteriosis are due to restaurants or caterers serving undercooked livers and liver products, including:

- sliced or whole lamb livers;
- chicken livers; and
- chicken liver mousse or pâté.

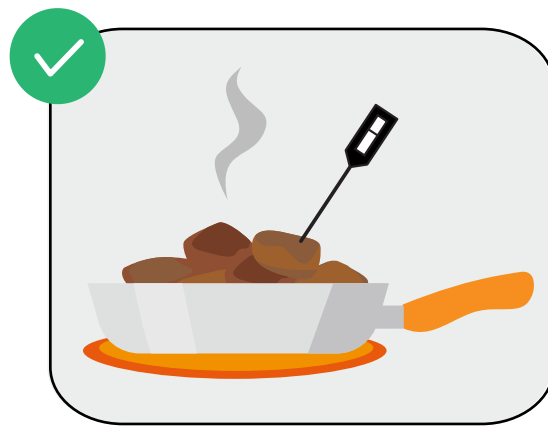
Here are examples of what can go wrong and how to prevent it:

What can go wrong

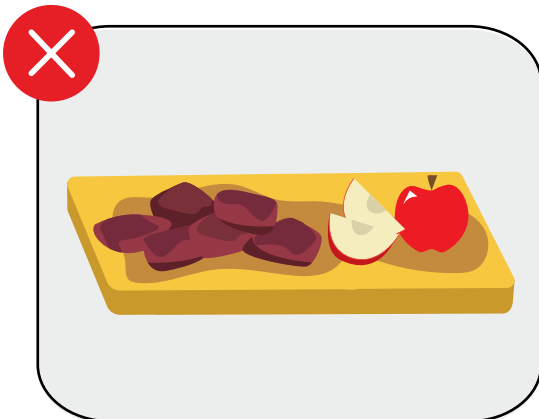


Undercooking: not cooking livers long enough means harmful bacteria in the middle won't be killed. Some believe thoroughly cooked livers will be dry, but careful cooking can make them both safe and tasty.

What you can do to prevent things from going wrong



Cook liver so the thickest part reaches 65°C for 15 minutes, 70°C for 3 minutes, or 75°C for 30 seconds.



Cross-contamination: raw liver juices can contaminate other foods if livers aren't kept separate. Hands and equipment that haven't been cleaned and sanitised can contaminate food.



Store raw liver in a container on a lower fridge shelf to cooked foods so it doesn't drip onto other food. Use different utensils and different surfaces for raw and ready-to-eat foods.

What can I do to protect my customers?

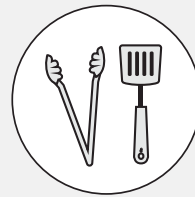
Ways to cook liver safely

- **If the livers are frozen,** defrost all the way through before cooking.
- **Fry livers in small batches:** Ensure each liver is in contact with the hot surface of the pan.
- **Check temperature:** Fry livers in a hot pan until the middle of the thickest part reaches 65°C for 15 minutes, or 70°C for 3 minutes, or 75°C for 30 seconds. Use a probe thermometer to check the temperature of the centre of the thickest part of the liver. These methods are the most reliable way to ensure the livers are cooked. Checking for a change in liver colour is not a reliable indicator of safety. You don't need to check the temperature of thinly sliced or unformed minced liver.
- **Prepare pâté safely:** Fry the livers, then finish cooking them in a water bath. Ensure the water bath is hot enough that the middle of the thickest part reaches 65°C for 15 minutes, or 70°C for 3 minutes or 75°C for 30 seconds.

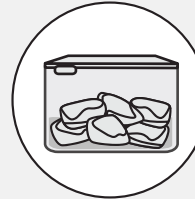
Ways to prevent cross-contamination



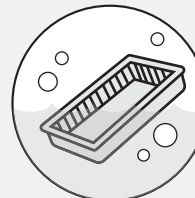
Wash your hands. Hands can spread bacteria from raw food and dirty surfaces to other food. Wash your hands with soap for 20 seconds, rinse, and dry hands on a clean dry towel or paper towel before preparing food and after handling raw ingredients. Use clean utensils for ready-to-eat foods instead of hands.



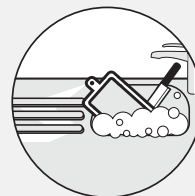
Use dedicated equipment: Use separate equipment for raw poultry and livers that isn't used for other foods.



Prevent leaks: Ensure juices from raw liver don't leak onto other foods.



Rinsing dirty equipment with high pressure taps in the sink can spray bacteria around the kitchen. If you recycle, dip the plastic recyclable liver packaging in soapy water or rinse the packaging outside of the kitchen so raw liver juices and bacteria don't spread to other surfaces.



Clean and sanitise equipment: After use, clean and sanitise thermometers, cutting boards, knives, and other utensils that have come into contact with raw liver.



If you use gloves when preparing raw liver, remove them before touching other food or surfaces. When you have finished handling the liver, carefully peel gloves off over a rubbish bin. Wash your hands immediately after taking off the gloves.