CONDITION

# Food poisoning

Food poisoning is an illness caused by germs or toxins in contaminated food or drink.

**WHAT IT IS**
Illness caused by contaminated food or drink

**BODY SYSTEM**
Digestive system, sometimes other organs

**MAIN SYMPTOMS**
Diarrhoea, vomiting, stomach cramps, fever

**WHAT CAUSES IT**
Germs or toxins in food and drink

**HOW IT IS DIAGNOSED**
Exposure history; stool or blood tests when needed

**MAIN TREATMENT**
Fluids, rest, and cause-specific medicines when needed

**CAN IT BE CURED?**
Yes - most cases clear with recovery

**IS IT AN EMERGENCY?**
Sometimes - with severe dehydration or nervous system symptoms

**LONG-TERM OUTLOOK**
Most recover fully; some develop lasting complications

## Overview

Food poisoning, also called foodborne illness, happens after you eat or drink something contaminated with harmful germs or their toxins. Possible causes include bacteria, viruses, parasites and chemicals.

Contamination can happen while food is grown, processed, transported, stored or prepared. Food may look, smell and taste normal even when it contains a harmful germ.

Symptoms often affect the digestive system. Diarrhoea, vomiting and stomach cramps are common. Some infections can also affect the kidneys, joints, nerves or an unborn baby.

Symptoms may begin within hours, but some causes take several days or longer to make you ill. This means the last food you ate is not always responsible.

Most people recover without specific medical treatment. Food poisoning can be more serious

when it causes dehydration, bloody diarrhoea or symptoms outside the digestive system. Babies, older adults, pregnant people and people with weakened immune systems may need medical advice sooner.

## Symptoms

The symptoms depend on the germ or toxin involved. Common symptoms include:

Vomiting caused by a toxin already present in food can start quickly. Other forms of food poisoning may not begin until days or, less often, weeks after exposure.

Diarrhoea may be watery. Blood or mucus in the stool can suggest more severe inflammation and needs medical assessment.

Repeated vomiting and diarrhoea can cause dehydration, meaning your body has lost too much water and salt. Signs include a dry mouth, strong thirst, dark urine, urinating less often, dizziness and unusual tiredness. Young children may have fewer wet nappies, cry without tears or become less responsive.

A few foodborne conditions cause different symptoms. Botulism, for example, affects the nerves and can cause blurred or double vision, drooping eyelids, difficulty speaking or swallowing, muscle weakness and breathing problems. These are emergency symptoms.

- Watery or loose diarrhoea
- Nausea or vomiting
- Stomach pain or cramps
- Fever, chills or headache
- Tiredness and loss of appetite

## Causes and risk factors

Food poisoning may be caused by bacteria such as Salmonella , Campylobacter , certain types of Escherichia coli and Listeria . Viruses, including norovirus, are also common causes. Parasites and toxins produced by bacteria, moulds, algae or some mushrooms can cause illness as well.

Food can become contaminated through:

Anyone can develop food poisoning. The chance of serious illness is higher in children younger than 5, adults aged 65 or older, pregnant people and people with weakened immune systems.

A weakened immune system may be caused by a health condition or by treatments that reduce immune activity.

Pregnancy raises particular concerns because Listeria infection may be mild in the pregnant person but can harm the pregnancy. People in higher-risk groups may need to avoid specific foods, such as unpasteurised products and certain chilled ready-to-eat foods, according to local food-safety advice.

- Undercooking meat, poultry, seafood or eggs
- Unpasteurised milk, cheese or juice
- Raw produce contaminated by soil, water or handling
- Poor handwashing during food preparation
- Contact between raw foods and ready-to-eat foods
- Incorrect refrigeration or prolonged storage at unsafe temperatures
- Food prepared by someone who is ill

## Diagnosis

Many mild cases are diagnosed from your symptoms, recent food history and whether other people who ate the same food are also ill. A physical examination may check for dehydration or severe abdominal tenderness.

Testing is not always necessary when symptoms are mild and improving. If the illness is severe, prolonged or part of a possible outbreak, a stool sample may be tested for bacteria, parasites or signs of a virus. A laboratory may use a culture or a molecular test, which looks for genetic material from a germ.

Blood tests can assess dehydration, kidney function or signs of infection. Blood cultures may be used when a germ may have entered the bloodstream. Suspected toxins or outbreak-related foods may require testing by a public health laboratory.

Tell a healthcare professional about recent travel, untreated water, restaurant meals, raw foods and anyone else who became ill. Also mention pregnancy, immune problems, recent antibiotics and contact with animals. These details can help guide testing.

## Treatment and management

Replacing lost fluid is the main treatment. Take frequent small sips if nausea makes drinking

difficult. An oral rehydration solution provides water with carefully balanced salts and sugar. It may be especially helpful for children, older adults and people with frequent diarrhoea.

Continue breastfeeding a baby who is ill, while seeking advice if feeding or wet nappies decrease. Once you can eat, choose foods you can tolerate. Most people do not need to follow a highly restricted diet. Avoid alcohol until you have recovered, as it can worsen dehydration.

Rest and wash your hands carefully after using the toilet or helping someone who is ill. Do not prepare food for other people while you have vomiting or diarrhoea. Local public health rules may affect when people who work with food, healthcare or young children can return to work.

Antibiotics like amoxicillin or doxycycline do not treat viruses and are not routinely needed for most bacterial food poisoning. They may be used for selected infections or for people at greater risk of complications. In some infections, including suspected Shiga toxin-producing E. coli , antibiotics may be harmful. A healthcare professional should decide when they are appropriate.

Medicines that slow diarrhoea are not suitable in every situation. They may be unsafe when there is bloody diarrhoea, a high fever or certain bacterial infections. Ask a pharmacist or healthcare professional before using them, especially for a child.

Severe dehydration may require fluids through a vein in hospital. Other treatment depends on the cause and any complications.

## Complications

Dehydration is the most common complication. Severe dehydration can affect blood pressure, kidney function and alertness.

Some strains of E. coli produce Shiga toxin. This can lead to haemolytic uraemic syndrome, or HUS, which damages red blood cells and the kidneys. Warning signs can include urinating much less, extreme tiredness, pale skin and unexplained bruising.

Less common complications include infection spreading into the bloodstream, reactive arthritis after an infection, or ongoing bowel symptoms such as post-infectious irritable bowel syndrome. Certain infections may rarely be followed by nerve problems, including Guillain-Barré syndrome.

Botulism can weaken the muscles used for breathing. Listeria infection during pregnancy may lead to miscarriage, premature birth or serious infection in a newborn. These complications are not typical of routine food poisoning, but they explain why certain symptoms and risk groups need prompt assessment.

## Prevention

Food poisoning cannot always be prevented. Contamination may occur before food reaches your home, and recalls sometimes involve products that appeared safe. Careful food handling can still reduce the risk.

Follow four basic principles:

Wash fruit and vegetables under running water. Do not wash raw poultry, because splashing water can spread germs around the kitchen.

Check use-by dates and follow storage instructions. Avoid food from damaged, swollen or leaking containers. Pay attention to official food recalls.

If you are pregnant, older, immunocompromised or preparing food for a young child, follow local advice about higher-risk foods. This may include avoiding unpasteurised products, raw shellfish, undercooked animal products and some refrigerated ready-to-eat foods.

- Clean: Wash hands, utensils and work surfaces properly
- Separate: Keep raw meat and its juices away from ready-to-eat food
- Cook: Cook food thoroughly and use a food thermometer when appropriate
- Chill: Refrigerate perishable food promptly and keep the refrigerator cold

## Living with it and what to expect

Most food poisoning is short-lived. Vomiting may settle before diarrhoea, while appetite and energy can take longer to return. Mild bowel changes can continue for several days after the main illness improves.

Focus on drinking enough and gradually returning to normal meals. Dark urine, dizziness or reduced urination suggest that fluid replacement is not keeping up with your losses.

If tests identify a reportable infection, public health staff may contact you. They may ask what you ate, where it was purchased and whether anyone else is ill. This information helps identify outbreaks and remove unsafe food.

Most people return to their usual health. A smaller number have lingering bowel sensitivity, joint pain, kidney problems or nerve symptoms. Follow-up may be needed if symptoms do not settle, test results require review or a complication has occurred.

## When to get medical help

Seek prompt medical advice if you have bloody diarrhoea, a high fever, severe or worsening abdominal pain, or diarrhoea lasting more than about three days. You should also get help if vomiting prevents you from keeping fluids down.

Contact a healthcare professional sooner if the affected person is a baby, an older adult, pregnant or has a weakened immune system. During pregnancy, seek advice after eating food recalled because of Listeria , particularly if fever, muscle aches, nausea or diarrhoea develop.

Arrange medical review for signs of dehydration such as very dark urine, urinating much less than usual, persistent dizziness or a very dry mouth.

Get emergency help for:

These symptoms can indicate severe dehydration, bleeding, botulism or another condition needing urgent treatment.

- Confusion, collapse, fainting or difficulty waking
- Little or no urine with severe weakness
- Difficulty breathing or swallowing
- Blurred or double vision, drooping eyelids or spreading muscle weakness
- Vomiting blood or severe, constant abdominal pain
- Signs of shock, such as cold clammy skin with rapid breathing

## Common questions

How long does food poisoning last?

Many cases improve within a few days, but the timing depends on the cause and your overall health. Diarrhoea or tiredness may continue after vomiting stops. Symptoms that are severe, worsening or not improving need medical advice.

How soon after eating does food poisoning start?

It can begin within hours or take several days or longer. Toxins already present in food often cause rapid symptoms. Infections usually need time to multiply or affect the body, so the most recent meal may not be the cause.

Is food poisoning contagious?

Some causes can spread from person to person, especially viruses such as norovirus. Careful handwashing with soap and water, cleaning contaminated surfaces and avoiding food

preparation for others can reduce spread.

What should I eat after food poisoning?

Drink first, using small frequent sips if needed. When you feel able, return gradually to foods you can tolerate. There is usually no need to force food or follow a strict diet. Avoid alcohol while dehydrated or still vomiting.

Do I need antibiotics for food poisoning?

Usually not. Antibiotics do not work against viruses, and many bacterial infections improve without them. They are useful for selected causes but can worsen the risk of complications in some E. coli infections.

How can I tell food poisoning from a stomach virus?

Symptoms can be almost identical, and viruses are themselves a common cause of foodborne illness. A shared meal followed by similar illness may suggest contaminated food, but testing or outbreak investigation may be needed to identify the cause.

## Sources

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