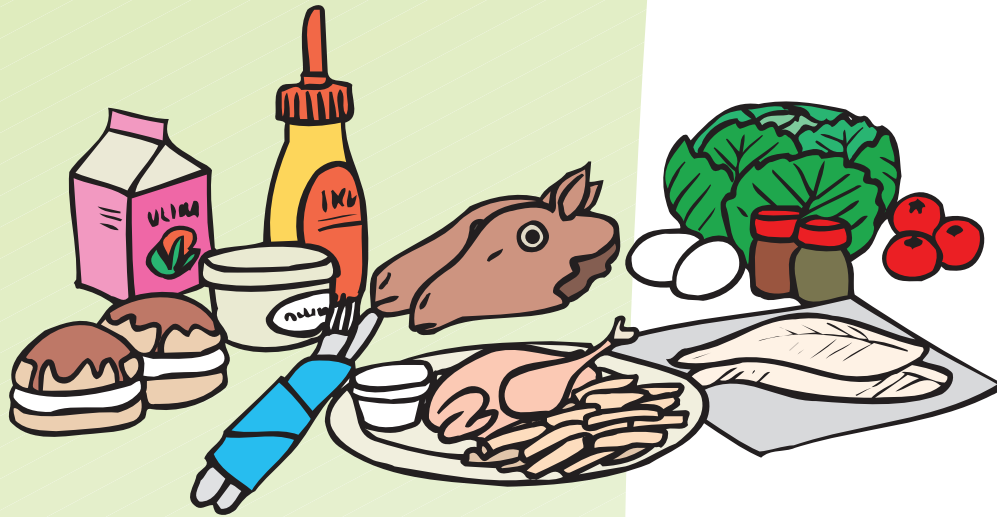


# Keep it Clean

*Food hygiene guidelines*





*Consumers want the food they ingest to be healthy, safe, and not to be past the expiration date. Icelandic foodstuffs are distributed all over the country and across the world. Proper quality and storage must be assured to prevent spoilage from the time they are produced until they are consumed*

Poor hygiene in the treatment and processing of foodstuffs can create the danger of contamination by microbes, contaminants and foreign particles with potentially adverse health effects to the consumer. Such incidents may lead to company losses in the form of reduced sales and damaged image.

Bear in mind that one careless worker in the workplace can undermine all the efforts made by reliable staff members.

# Microbes

**Microbes** (germs) are microscopic organisms such as bacteria, algae, viruses and certain mushrooms that are invisible to the naked eye. They are widespread in our environment, in the air, soil, water and in and on the bodies of humans and animals. Some microbes cause spoilage by decomposition, others are pathogenic, causing diseases.

**Spoilage** microorganisms are microbes that break down compounds in foodstuffs and leave foul smelling and unpalatable excreta: Cold-cuts become sour, meats putrefy, bread and jams mould. The shelf-life of foodstuffs is often determined by our success in reducing the proliferation of microbes.

**Pathogenic** microorganisms represent a large group made up of numerous species that are all disease-causing as their name implies. They die upon boiling but their excreta is not broken down and can result in food poisoning. Some create spores that resist boiling and can sprout later, causing food poisoning.

**Food poisoning**, along with poisoning due to contaminants, is commonly referred to as food diseases. Food diseases cause illness and can cause permanent health damage, even death, to the consumer and huge losses for the relevant processing company.

*Strict hygiene must be observed in the working area*



## How can we protect ourselves from these invisible enemies?

This can be achieved by understanding their characteristics and growth conditions. Bacteria represent the most important group of microbes in food.

## Where do they come from and how do they enter the food?

Frequently, the microbes accompany the raw material from their original environment, Microbes can be carried with vegetables as they are pulled from the soil for example. During slaughtering, microbes can waft onto the carcasses from the intestines of slaughtered animals. Germs from human intestines can be transmitted to food if the workers do not wash their hands sufficiently well when using the toilet.

It is essential to avoid transmitting germs from the environment to the food in the production and distribution of foodstuffs.

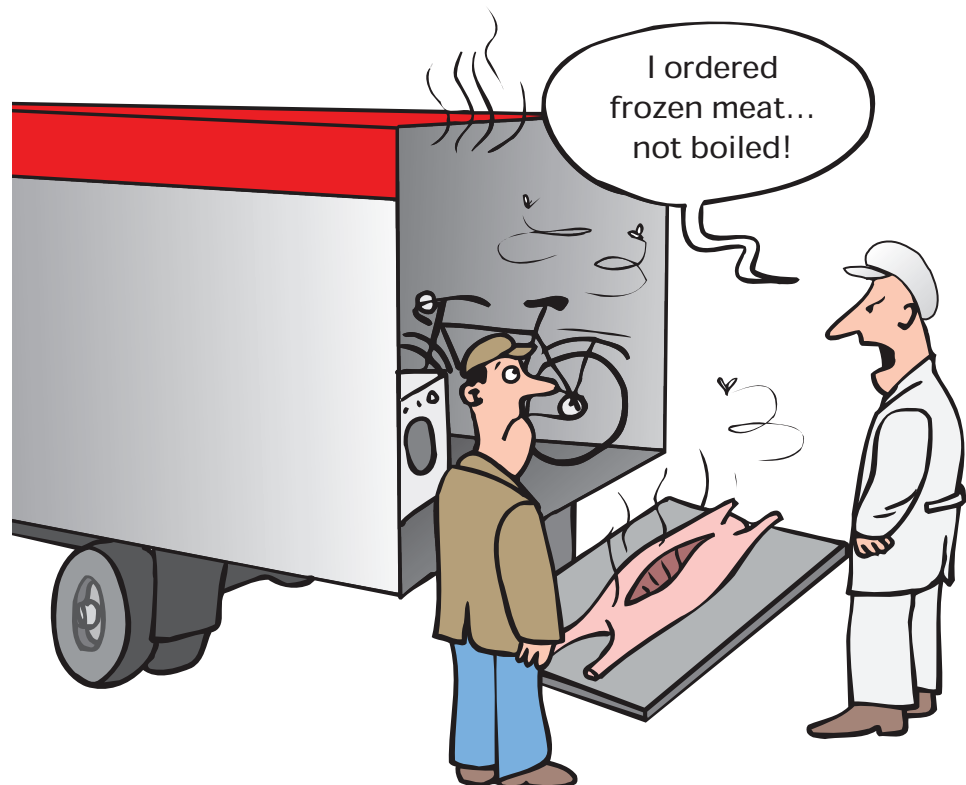
## Good hygiene is the safest defence

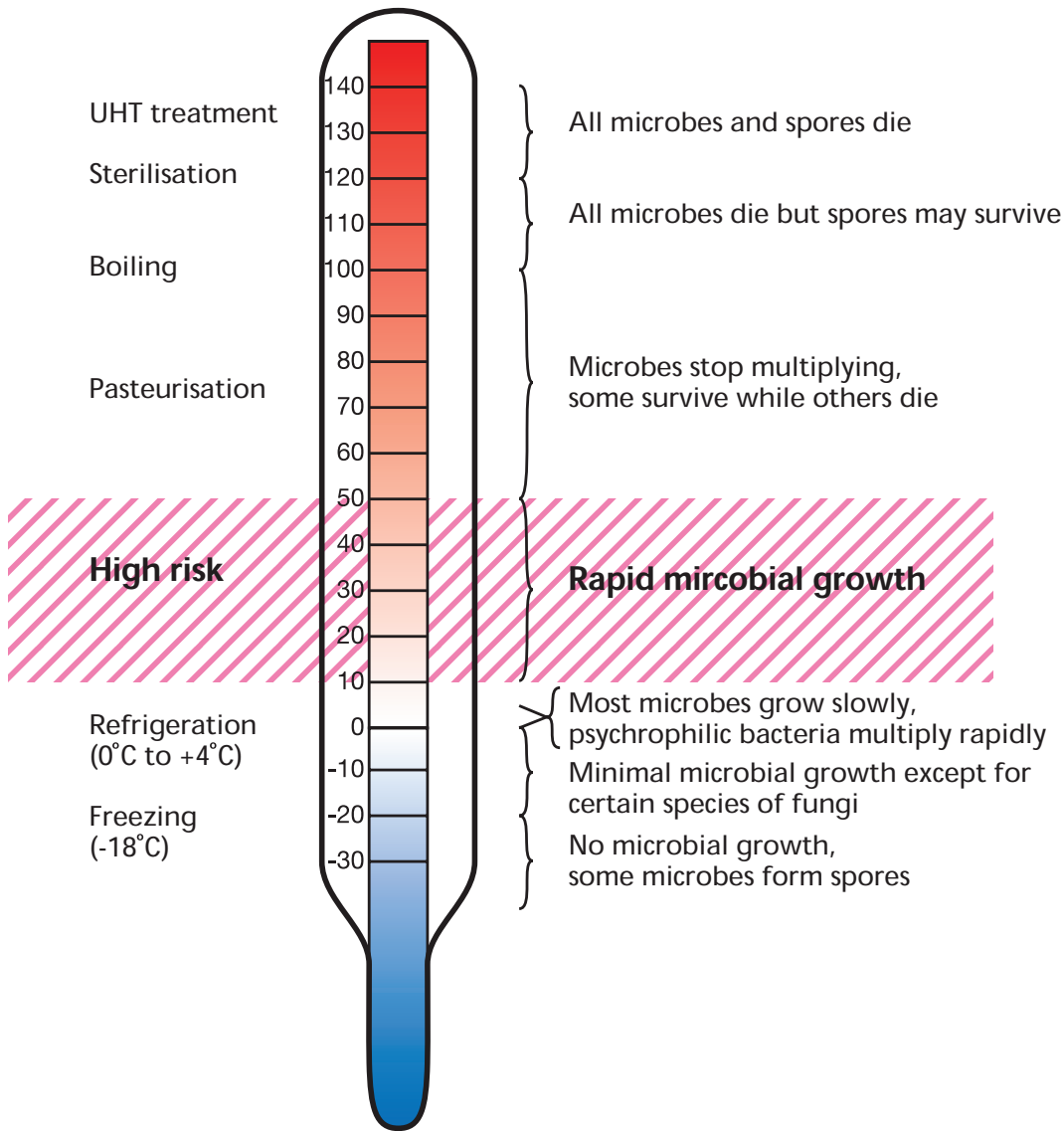
Should germs succeed in establishing themselves in a certain place they can be carried on the

workers' hands or equipment to another spot and from one piece of foodstuff to another. Special care should be taken in canteens and restaurants. Various types of food (fish, shellfish, meat, vegetables) are being prepared in different conditions (fresh, raw, boiled) at the same time in these establishments. Under such conditions the danger of cross-contamination increases tremendously. This danger is also present in production companies such as in shrimp processing plants and meat processing companies.

By cross-contamination the germs waft from one type of food onto another and from raw material to fully processed foodstuffs. Such infection between foodstuffs occurs if we use dirty equipment, badly washed pallets and tables and use the same equipment for raw and fully processed foodstuffs.

Germs are also distributed during the processing. On uncut carcasses and pieces of fish the germs are mainly found on the surface. However, those germs spread to the flesh when it is cut or minced. Germs are also distributed by air, dust and by vermin if it succeeds in entering the foodstuffs' environment.





### Under what conditions do germs proliferate

Their numbers are most often dependant on how much effect they have on foodstuffs and consumers. Therefore it is a matter of principle in the treatment of foodstuffs to prevent the growth of germs. This can be accomplished by precluding some of the conditions that they need to proliferate and thrive.

Growth conditions can be quite favourable in foodstuffs since the germs need sufficient nutrients, felicitous temperature and suitable humidity. We are unable to alter the nutrients or humidity easily but we can control the temperature.

The conclusion is therefore that correct temperature and hygiene are the principal factors in the fight against germs. The temperature must

either be sufficiently low or high to prevent the growth of the germs or to kill them.

To ensure the consumers' safety the following criteria has been set.

- Chilled food should be stored at 0-4°C.
- Food that is to be served cold must be cooled quickly and sufficiently and be stored at the same temperature. Food that is to be warmed up should be heated to 75°C and hot food must be kept hot above 60°C.
- During transportation and delivery/reception the correct temperature must be kept all the time. The temperature chain must never be severed. No chain is stronger than its weakest link.

# Under what conditions do germs proliferate?

The main germs that cause food illnesses	Typical reasons
<p><b><i>Bacillus cereus</i></b>                      - can create spores                      - can create heat resistant poisons</p>	<p>Too slow cooling of heated courses.                      Food kept warm at too low a temperature.</p>
<p><b><i>Campylobacter</i></b></p>	<p>Insufficient hygiene, cross-over pollution in prepared food.</p>
<p><b><i>Clostridium botulinum</i></b>                      - getur myndað gró                      - myndar mjög hættulegt eitur</p>	<p>Insufficient heating or cooling.                      Too little salt or acidification.</p>
<p><b><i>Clostridium perfringens</i></b>                      - can create spores</p>	<p>Too slow cooling of heated courses.                      Food kept warm at too low a temperature.</p>
<p><b><i>E. coli</i> 0157</b></p>	<p>Insufficient heating.                      Insufficient hygiene.</p>
<p><b><i>Listeria monocytogenes</i></b>                      - proliferates at cooling temperature</p>	<p>No or insufficient heating.                      Pollution from raw food and environment to the heated food.</p>
<p><b><i>Salmonella</i></b></p>	<p>Insufficient heating or cooling.                      Pollution from worker, raw materials.                      or dirty equipment to prepared food.</p>
<p><b><i>Staphylococcus aureus</i></b>                      - creates heat-resistant poisons</p>	<p>Pollution from the workers hands, their noses and cuts.                      Insufficient cooling.</p>

## Contaminants and foreign bodies

Cleaning substances and other dangerous substances or poisons that waft onto foodstuffs are called contaminants. They should be stored in properly closed containers, away from foodstuffs. By so doing mishaps and serious accidents can be avoided.

At the end of the cleaning process the tables and equipment must be properly washed so that cleaning substances will not seep into the foodstuffs.

Lubricants for machines should be used with care. It is important not to keep small things in pockets or in the work area since they could enter the foodstuffs. Pieces of glass, hair, flakes of paint, metal splinters, remains of band-aid and jewellery are examples of foreign bodies that have been discovered in foodstuffs.



*Jewellery and watches are forbidden as well as nail varnish and all cosmetics and perfumes are to be used with caution.*

# Code of conduct



*Those suffering from severe cold should not work on unprotected foodstuffs.*

A Health Certificate or a filled in Health Report is required when staffmembers are recruited for food processing. People suffering from infectious diseases should not handle foodstuffs.

All members of staff that are involved in the production are to respect the company's code of conduct and observe hygiene in the work area.

## **A clean place of work creates pleasure and pride among all members of the staff.**

A special care should be taken to observe that consumption of food, drinks and tobacco is always forbidden in the work area. The reasons are obvious. Nobody wants scraps of wrappers, tobacco or pieces of glass in their food.

Watches and jewellery are forbidden in the work area. The only exception is a plain wedding ring. This is banned because of the danger that the jewellery or parts thereof might fall into the foodstuffs and the washing and disinfection of the hands becomes more difficult.

The use of nail varnish is strictly forbidden and all cosmetics should be used with caution, especially perfumes. Unnecessary traffic in the work area or between work zones is undesirable since it increases the danger of dirt circulating in or between areas.



## Work Clothes

The protective clothing that members of the staff use in the work area is meant to protect the foodstuffs against pollution. It must be suited to each job and cover the inner clothes completely. The head gear must cover all the hair or it would be of little use. The work area must never be entered in overcoats or casual shoes since germs and dirt might be carried into that area.

Before entering the work area overcoat and casual shoes should be removed and kept separate from the work clothes. At the beginning of the work day one should put on clean protective clothing and footwear. In various places it is demanded that light coloured dungarees should be worn.

*Special care should be taken in what order the protective clothing is put on:*



- 1** Put the headgear on.  
*The headgear is to cover the hair completely.*



- 2** Put on a working gown/protected clothing and footwear.  
*The gown – clean, light and without pockets.*



- 3** Wash and disinfect hands carefully.  
*Wash hands without gloves.*



- 4** Put gloves on, wash and disinfect them as you did with the hands.  
*Gloves are also to be washed and disinfected.*

The reason for this order is that a lot of germs and dirt can hide in people's hair that is constantly falling out. This is why we begin by putting on the headgear before putting on anything else.

The hands are to be washed carefully in soap liquid and warm water and care taken to clean the nails thoroughly. If gloves are used they are to be washed and disinfected like the hands. Stricter rules may apply on hygiene in companies where sensitive products are being processed and simpler rules where only packaged goods are processed. Requirements for protective clothing, fixtures and equipment depend on the nature of the job in each location. On the other hand there is one rule that applies everywhere, that the same requirements regarding conduct and hygiene do apply to visitors and repairmen that are conducting business in the work area where foodstuffs are processed.

## In the work area



*Do not touch the hair or the headgear in the work area.*



*Various types of dirt get attached to money and it can waft onto the foodstuffs.*



*All cuts and injuries are to be covered immediately with a suitable dressing.*

The utmost hygiene shall be observed once the work area has been entered. Hands/gloves are always to be kept clean. Care should be taken not to touch the hair or the headgear in the work area and remember not to bite nails, lick fingers, or to pick your nose and absolutely not to sneeze, cough or spit in the vicinity of the foodstuffs. Those suffering from a severe cold should not work near unprotected foodstuffs.

All cuts and injuries are to be covered immediately with suitable dressings. The hands are always to be washed when they have touched something dirty.

Containers, equipment and foodstuffs that fall on the floor are not to be placed on the worktable or the conveyer belt again. Each employee is to keep his work surroundings clean during working hours.

Sales people are not to touch unprotected foodstuffs with their bare hands and not at all having handled money which is unavoidably contaminated with dirt.

## Breaks and trips to the toilet

Before leaving the work area the work clothes are to be put in the right place; hung up or placed where they should be and not left on the back of chairs, tables or on equipment. Protective clothing such as aprons and gloves are to be cleaned to some extent beforehand. It is forbidden to leave the work area in the working clothes.

All protective clothing should be removed, also gowns before going to the toilet. There is always some danger that E. Coli and other dangerous germs might become attached to hands and work clothes. Hands should be washed and disinfected before putting on the work clothes again.



Hands and gloves must be washed and disinfected before entering the work area after a break.

## At the close of the working day

All protective clothing such as aprons, gloves and footwear must be cleaned at the close of the working day and left as described. Dirty garments must be washed. Equipment, containers and other fixtures are to be cleaned in accordance with the company's cleaning schedule and placed as prescribed in the work schedule

Dear employee!

- Strive as you can to observe hygiene
- The hands touch all sorts of objects and should not carry germs and dirt to our food.  
Wash and disinfect your hands.
- If the work clothes are not clean they will pollute the food.  
Wear clean, neat and light working clothes without pockets.
- Jewellery and the processing of foodstuffs are not compatible. The consumption of food and smoking should only take place in assigned areas.
- The work area, equipment and containers should be kept clean during working hours; this reduces germs.
- Take special care that pollution is not transferred from raw to boiled or fully finished foodstuffs.
- Always follow the work directives; if in doubt ask.

