

THE WHY, WHEN & HOW OF HAND WASHING



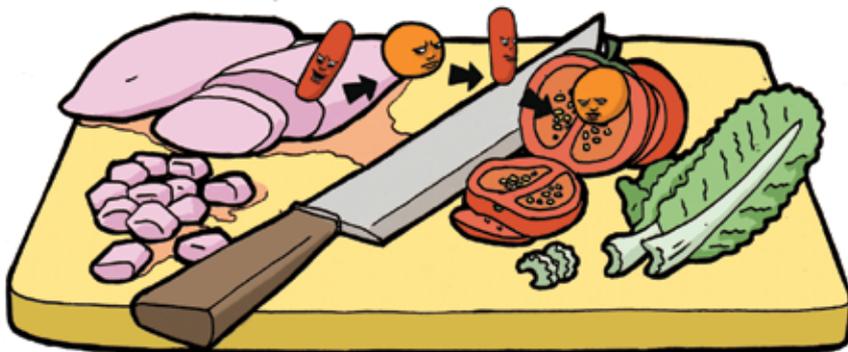
Dr Semmelweis (1818-1865), a Hungarian doctor, washing his hands.

Why wash your hands?

Not all infections can be avoided but one of the simplest methods of prevention is correct hand washing. Unwashed or poorly washed hands are a very common way of spreading many diseases like flu, colds and food poisoning. Dr Semmelweis, way back in 1847 was the first person to discover the importance of hand washing in reducing the spread of infection.

Microbes can stay alive on hands for hours. If we don't wash and dry our hands properly microbes can be spread very easily from person to person or from contaminated food to people.

Cross-contamination



Food poisoning

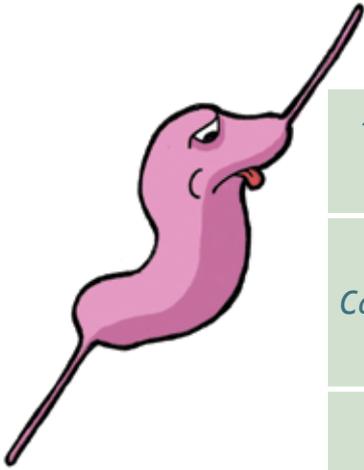
Harmful microbes in and on our food are usually killed or controlled by cooking or chilling.

Sometimes they can spread from raw foods to prepared and cooked foods, for example by unclean hands or dirty kitchen utensils. When these foods are eaten they can cause illness. This is known as cross-contamination.

Each year an estimated 1 million people in the UK suffer from food poisoning caused by microbes. The symptoms are not only unpleasant - they include vomiting, diarrhoea, abdominal pain and fever - they also cost an estimated £1.5 billion a year in lost working days and medical care. Most food-borne illness can be prevented by storing cooked and raw food separately and washing our hands before and after touching raw food.

Cross-contamination, the transfer of microbes from raw foods to prepared and cooked foods, takes place by:

- raw food touching or splashing on cooked food
- raw food touching equipment or surfaces that are then used for cooked food
- people touching raw food with their hands and then handling cooked food



Campylobacter

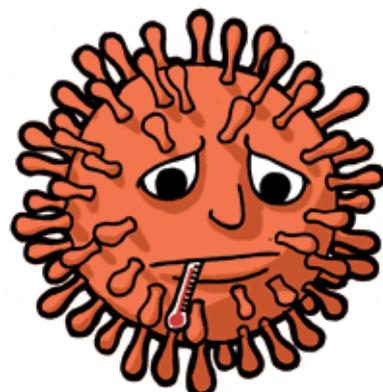
Types of bacteria	Time taken to develop	Examples of some risky foods	Main symptoms
<i>Campylobacter</i>	1-3 days	Red meat, poultry and raw milk.	Abdominal cramps, fever and diarrhoea.
<i>Salmonella</i>	1-3 days	Meat, poultry, salads, eggs and raw egg products.	Abdominal cramps, fever, diarrhoea and sickness.
Strains of <i>Escherichia coli</i>	varies, usually 1-4 days	Meat, raw milk and salads.	Abdominal cramps and bloody diarrhoea. Some strains can cause serious complications.
<i>Listeria</i>	varies	Soft cheeses, pâté and chilled ready-to-eat products.	Flu-like symptoms. Septicaemia and meningitis may develop.
<i>Bacillus cereus</i>	8-16 hours	Cooked rice and cooked meats.	Abdominal cramps, fever, diarrhoea and sickness.

Spreading infection

At home

Infections such as colds and flu are spread by touch, just as much as coughs and sneezes. Microbes that cause these infections can be passed from person to person by hand contact or by touching contaminated surfaces such as door handles or light switches. Infections can be avoided by correct hand washing, particularly after sneezing and blowing the nose.

Influenza





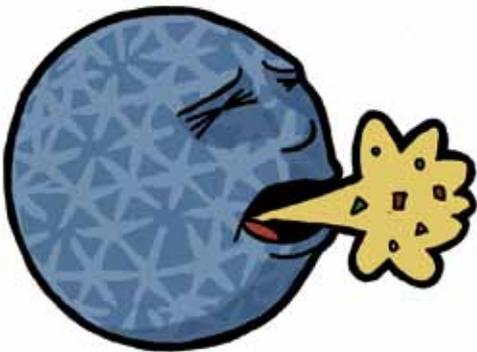
Microbes on a door handle.



Microbes that cause infections can be passed from person to person by hand contact.

In healthcare settings

Disease-causing microbes can thrive in hospital and other healthcare environments because they can be easily passed between individuals.



Norovirus

Common infections in healthcare settings include:

- Meticillin-resistant *Staphylococcus aureus* (MRSA)
- *Clostridium difficile* (*C. diff*)
- Norovirus

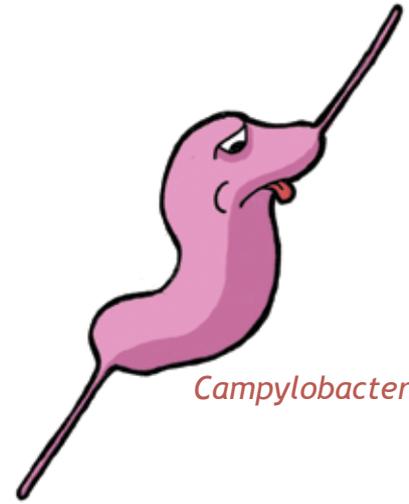
Good hand hygiene is the most effective technique for reducing the spread of infection. Doctors, nurses and visitors must wash their hands thoroughly and frequently and are encouraged to use alcohol-based gels in between hand washing.

When should you wash your hands?

Before	After
Preparing food	Handling raw foods, especially meat
Eating food	Going to the toilet
Caring for the sick	Touching rubbish or waste bins
Looking after babies	Changing nappies
Looking after the elderly	Caring for the sick
Putting in contact lenses	Coughing or sneezing
	Touching pets and other animals
	Gardening



society for general Microbiology



Fascinating facts

- ▶ An American study showed that only 85% of people actually do wash their hands after going to the toilet, even though 95% said that they did!
- ▶ The number of microbes on fingertips can double after using the toilet.
- ▶ A staggering 1,000 times as many microbes are spread from damp hands than dry hands.
- ▶ A study in America showed that during daily activities, adults infected with the cold virus transferred it on average to 35% of the surfaces they touched.
- ▶ The most frequently contaminated objects are door handles, pens, light switches, remote controls and taps.
- ▶ Cases of food poisoning tend to increase in the summer months as microbes thrive in warmer conditions and people can be less careful about food safety.
- ▶ It is impossible to tell from its appearance whether food is contaminated with *Salmonella*. It will look, smell and taste normal.

The Society for General Microbiology (SGM) is a professional body for scientists who work in all areas of microbiology. An important function of the Society is the promotion of the public understanding of microbiology. SGM produces and distributes a wide range of resources to support microbiology teaching in schools and colleges across all key stages and post -16. It also runs training courses in practical microbiology for teachers and technicians and occasional workshops. The Society also offers an information service to teachers and participates in schools competitions and other activities.

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