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Germs, bacteria and viruses – understanding the difference

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These scientific terms are often used interchangeably, but they do have very different meanings, which affects the way we need to protect against them

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As we all become more aware of the need for good hygiene – and the part this plays in fighting infection – it is important to be informed about the language we use.

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Germs

This is a broad, catch-all term describing very small microorganisms. Another term for a germ is a pathogen.

Germs are everywhere. Most are harmless and many are actually beneficial, but some can cause infection and disease. Germs are passed between individuals with the main methods of transmission being:

* Direct contact
* Indirect contact, such as touching a door or using a shopping trolley
* Coughing and sneezing and sharing of body fluids
* Consuming contaminated food or water

We can reduce our exposure to germs by following some very simple steps. These include covering our mouths when we cough or sneeze, washing our hands regularly, keeping our distance from others if feeling unwell and cleaning and disinfecting regularly touched surfaces.

<bullet>Top tip! Did you know 80% of infections are spread by hand? This is why regular hand washing and cleaning of surfaces is so important. For high-traffic areas such as escalator belts, door push pads and counters, consider using Puralife Clean Skins to take your hygiene routine one step further.

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Bacteria

There are several categories of germ, with bacteria being one of the major types.

Bacteria are living, single-celled organisms that can reproduce independently. This can be on - or in - people, animals or plants. They are hugely successful and it is estimated that there are five million trillion trillion bacteria on Earth, which far exceeds the weight of all the plants and animals on the planet combined.

Trillions of bacteria live on, or in, the human body and many of these bring benefits, especially when it comes to gut health, but some can cause serious problems such as sepsis, tuberculosis and pneumonia.

Bacterial infections are treated with antibiotics.

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Viruses

The second major category of germ is the virus.

Viruses are even smaller than bacteria. They do not even comprise of a single cell, rather they are genetic material (DNA or RNA) wrapped up inside a protein coating. They are non-living and can only reproduce by using a host cell to replicate, which means a virus needs to find something - a person, animal or plant - to live in. Once it finds a host, a virus is able to evolve quickly.

Unlike bacteria, viruses can only survive for a short period of time outside a living cell. They do not respond to antibiotics.

Most, although not all, viruses are responsible for causing disease, including the common cold, HIV, chickenpox and coronavirus. Treatment includes vaccination and the use of antiviral drugs. Many viruses, such as the common code and flu, will abate within a week or two.

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Other important terms

* Fungi. Another type of germ. Examples include mould, yeast and mushrooms. Fungi are important decomposers and have many uses, but they can cause disease and infection. While fungal infections are not dangerous in a healthy person, they can cause issues for individuals with compromised immune systems
* Microbe. A microbe is a small living organism invisible to the naked eye. A microbe could be bacteria, algae, fungi or a virus.