Viruses and Bacteria,
What Are They?

Viruses are tiny geometric structures that can only reproduce inside a living cell. They range in size from 20 to 250 nanometers (one nanometer is one billionth of a meter). Outside of a living cell (the tiny building blocks of our body), a virus is not active. When a virus gets inside our body it takes over the machinery of our cells and tells that machinery to produce more viruses. Viruses are more similar to mechanized bits of information, or robots, than to animal life.

Bacteria are one-celled living organisms. The average bacterium is 1,000 nanometers long. Bacteria are surrounded by a cell wall and they reproduce by themselves. They are found almost every place on earth including soil, water, hot springs, ice packs, and the bodies of plants and animals.

Most bacteria are harmless to humans and are beneficial. The bacteria in the environment are essential for the breakdown of organic waste and the recycling of elements in the biosphere. Bacteria that normally live in humans can prevent infections and produce substances we need, such as vitamin K. Bacteria in the stomachs of cows and sheep are what enable them to digest grass. Bacteria are also essential to the production of yogurt, cheese, and pickles. Some bacteria cause infections and disease in humans.

Viruses are tiny geometric structures that can only reproduce inside a living cell. They range in size from 20 to 250 nanometers (one nanometer is one billionth of a meter). Outside of a living cell, a virus is dormant, but once inside it takes over the resources of the host cell and begins the production of more virus particles. Viruses are more similar to mechanized bits of information, or robots, than to animal life.

Information courtesy of the CDC.

Document Released: 03/09/2004 Document Re-Released: 03/16/2010
ExitCare® Patient Information ©2011 ExitCare, LLC.