# The Vaccine

In the late 1800's, major discoveries and innovations were made in medicine. Dr. Louis Pasteur was a food chemist who became famous for making communities safer when he found the cause and prevention of diseases. He was the scientist who discovered that germs cause disease. Later, he discovered that heat would kill dangerous germs or bacteria in liquids. If left alone, bacteria could spoil the liquids, but if heated, the germs in the liquid would die. Named after Dr. Pasteur, the process was called pasteurization.

Another invention of Dr. Louis Pasteur was a vaccine that would counter the effects of rabies, a very dangerous disease. Pets are vaccinated against rabies regularly, but humans are only vaccinated if they are bitten by an animal that carries rabies. Still, because of Dr. Pasteur, there is a vaccination available that people can take that prevents them from getting rabies.

In today's world, people are vaccinated against all kinds of dangerous diseases. From Dr. Pasteur's example during the Industrial Revolution, doctors have learned to use a germ from the live disease and create a vaccine in just the right proportion so that when people are vaccinated properly, they become immune to the disease. Babies and children are routinely vaccinated against mumps, measles, polio, and tetanus, all diseases that formerly harmed children in the 1800's.

Interestingly, sometimes when a new disease, or strain of the flu, is discovered and begins to make people sick, the demand for a vaccine or shot can be higher than the supply available. There can be a shortage of the vaccine. The Center for Disease Control must decide who has the highest priority to receive the vaccine. Usually, babies, young children, and the elderly have first priority, but in a severe shortage emergency, they prioritize community helpers like firemen, policemen, doctors, and nurses to receive the vaccine first.

Adapted from:
The College of Physicians of Philadelphia. (2013). *The history of vaccines: Louis pasteur*. Retrieved from http://www.historyofvaccines.org/content/timelines/pasteur