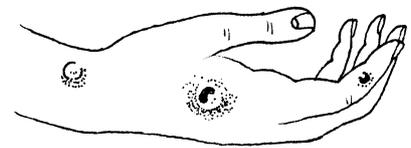


Smallpox was a very serious disease which caused huge spots filled with pus to appear all over the body. In the 18th century nearly everyone caught the disease and 25% of victims died. Those who lived had terrible scars left by the spots, especially on their faces.

As a young man, Edward Jenner (1749–1823) was given smallpox on purpose. The idea was that by giving it to people when they were young, fit and healthy they would survive better than if they caught it when they were older. This was a very dangerous thing to do and many people died. Jenner survived but later in his life, he set about trying to stop this practice.

Jenner noticed that girls who looked after cows rarely caught smallpox. He came up with a theory that if you gave people a disease caught from cows, called cowpox, they would be protected from smallpox. Many people thought he was mad and some even thought that anyone who was given cowpox would turn into a cow!

He tested his theory in 1796, when a milk maid called Sarah Nelmes caught cowpox. He asked an eight-year-old boy, called James Phipps, to come to his house, where he squeezed pus from a cowpox spot on Sarah's hand into a cut on James' arm. The boy caught cowpox. Eight weeks after this, he squeezed pus from a smallpox spot into another cut on James' arm. The boy did not get smallpox. This was the first vaccine (although Jenner knew nothing of microbes). The word 'vaccine' comes from the Latin for cow – *vacca*. Thanks to immunisation, smallpox no longer exists in the world (although some of the viruses are kept in laboratories for research).



*Cowpox spots on the hand of Sarah Nelmes.*



- 1 **a** Why was Jenner given smallpox as a young man?  
**b** Describe the symptoms that Jenner might have suffered.
- 2 **a** What was Jenner's theory?  
**b** What observations did he make to come up with this theory?
- 3 Why did James Phipps not catch smallpox?
- 4 **a** What is a vaccine?  
**b** Why do you think it got this name?
- 5 These are the first two lines of a poem by William Allingham (1824–1889), called 'The Milk Maid':  
O where are you going so early? he said;  
Good luck go with you, my pretty maid;  
Why do you think milk maids were renowned for being pretty in the 18th and early 19th centuries?