Fighting Disease

Alexander Fleming (1881-1955)

After Louis Pasteur's and Robert Koch's publications on the germ theory of disease, doctors developed a better understanding of the cause of infection. However, methods of treatment were still limited to vaccinations and anti-toxins. Joseph Lister's carbolic spray worked with some success during operations, but was not suitable for everyday use. The question was, how could people be protected against infection on a day to day basis?

What brought him to prominence?
Fleming was a farmer's son from Ayrshire in Scotland. He moved to London at 13 and later trained as a doctor. In 1928 Fleming was research assistant to Sir Almroth Wright working on bacteria. He accidentally discovered a mould on a set of culture dishes, which were being used to grow the staphylococci germ (which turns wounds septic). Fleming noticed that where there was mould the germs had stopped developing.

It was one of Fleming's colleagues who identified the mould as penicillin. Fleming subsequently tested the penicillin on animals, with no ill effects, and also used it to cure a colleague's eye infection.

How did Florey and Chain aid in this discovery?
After his initial discovery, Fleming did little more than keep a supply of the mould and return to his routine work. It was the scientists Howard Florey and Ernst Chain, who developed penicillin further. Florey and Chain were chiefly responsible for the research which led to its success as a drug, although Fleming took most of the credit for the discovery and its subsequent development.

How important was Fleming's discovery?
Fleming had discovered the first antibiotic. However, it was not until the research work of Florey and Chain that penicillin could be produced as a drug. At first supplies of penicillin were very limited, but by World War II it was being mass-produced by the American drugs industry, and given to all soldiers before active service.