

Appendix 5: Process Drama Background Reading

Joseph Lister's Contribution to Science

Up until the late 1800s, patients were terrified of surgery and they had good reason to be. There was no anesthesia, so they were awake and often screaming in pain during the procedure. If they survived the operation, they were likely to die of infection afterwards. This was the world that Joseph Lister was born into, but it was a different one when he left.

Lister was passionate about science and medicine, and he attended medical college, eventually becoming a professor of medicine. Lister was living in Scotland when he discovered the work of the French scientist, Louis Pasteur. Pasteur was studying microorganisms and publishing papers stating that certain chemicals killed them. Lister repeated Pasteur's experiments, and he decided to try a germ-killing chemical called carbolic acid on his patients.

After surgery, he prepared bandages with carbolic acid. Then he waited and watched. Rates of infection dropped, and fewer patients died. Lister had proof that infection is caused by germs.

However, Lister's next challenge was convincing surgeons and the public of germ theory. People did not believe him at first because they could not imagine bacteria. They could not accept that there were living things so tiny that they could not see them.

Around this time, anesthesia came along and provided relief for many patients who had to undergo surgery. However, they were still dying of infection in large

PHOTOCOPIABLE

numbers. In fact, it was easier for doctors to do more damage because their patients weren't fighting, and death rates actually increased.

For several years, Lister was frustrated in his efforts to change surgical practice. He had to sit by as many doctors continued to expose their patients to infection. Then Queen Victoria got sick, and Lister was the only surgeon available to operate. He insisted on using carbolic acid to create an "aseptic environment," and the queen survived.

After Lister had saved the queen, people started to listen and eventually they accepted Lister's methods. His guidelines for creating an aseptic environment eventually became the norm in England and across Europe and the Americas.

PHOTOCOPIABLE

Discussion

1. How were Louis Pasteur and Joseph Lister special?
2. Why didn't the other surgeons believe Joseph Lister?
3. How did Lister eventually convince the public of germ theory?