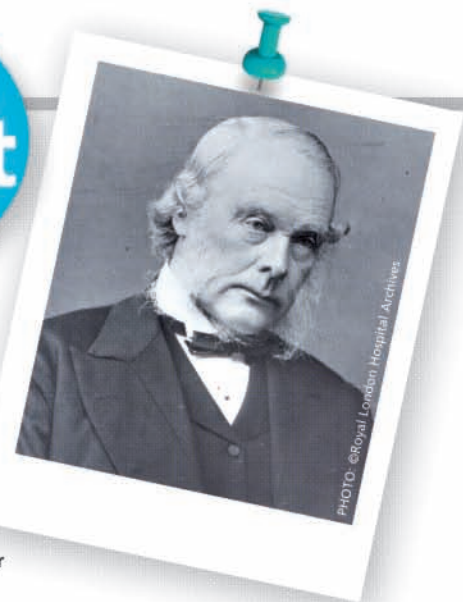


# Coming clean: Lister's legacy

the  
vault



Lord  
Joseph Lister

**L**isterine, listeria, the Lister Institute – the name of London Chest consulting surgeon Joseph, later Lord, Lister lives on in our consciousness today. But not many people will be aware of his role as one of the most significant figures in the history of medicine thanks to his pioneering use of antiseptics in surgery.

When Joseph Lister first took up the scalpel in the 1850s, surgery was a desperate, life-threatening gamble more likely to kill than cure. If you went under the knife – for a compound fracture, for example – there was a better-than-even chance that you would die from post-operative infection of your wounds.

A shy, reserved Quaker, educated at University College, London, Lister revolutionised operating theatre hygiene, succeeding in making sterile surgery routine by the time he joined The London Chest Hospital as consulting surgeon in 1896.

## Revolutionising theatre hygiene

As a young surgeon at Glasgow Royal Infirmary, he had absorbed the work of French scientist Louis Pasteur, who claimed micro-organisms (germs) in the air caused surgical sepsis and gangrene.

He decided to eliminate this risk by treating wounds with a chemical solution – hitting upon carbolic acid, impressed by the way it had been successfully used to treat sewage.

At a time when clean water was not readily available for washing patients' wounds – and when surgeons saw no need to wash their hands before seeing a patient – Lister's experiments were to revolutionise surgical practice.

In August 1865, he dressed a compound leg fracture wound with a piece of lint dipped in liquid carbolic acid. The wound healed well – although the patient later died – and he introduced carbolic acid dressings into his regular surgical procedure.

He published his findings in *The Lancet* in 1867, following up with another breakthrough two years later by introducing the use of cat-gut ligatures, which could be cut very short and closed the wound tightly, to replace the traditional silk thread for stitches, a major source of infection.

## Clean gloves for all surgeons

Lister's experiments showed that cat-gut ligatures were absorbed by the body and if soaked in carbolic acid could be made sterile. Sterilising surgical instruments with carbolic acid followed: he also suggested surgeons wear clean gloves

and wash their hands before and after operations with 5% carbolic acid solutions.

By 1870, he claimed that mortality for amputations had dropped from over 40% to 15%, and in the 725 major operations he performed between 1871 and 1877, there was a mortality rate of only 5.1%.

So convinced were many of Lister's contemporaries by his methods, that by 1880 they were becoming standard surgical procedure. Moreover, it was Lister who finally managed to persuade his colleagues of the importance of cleanliness during childbirth.

Lister was also the second man in England to operate on a brain tumour, as well as developing a method of repairing kneecaps with metal wire and improving the technique of mastectomy.

## First surgeon to receive a peerage

Deeply religious and uninterested in social success or financial gain, he nevertheless achieved great fame. In 1897, he became the first surgeon to receive a peerage and was president of the Royal Society between 1895 and 1900.

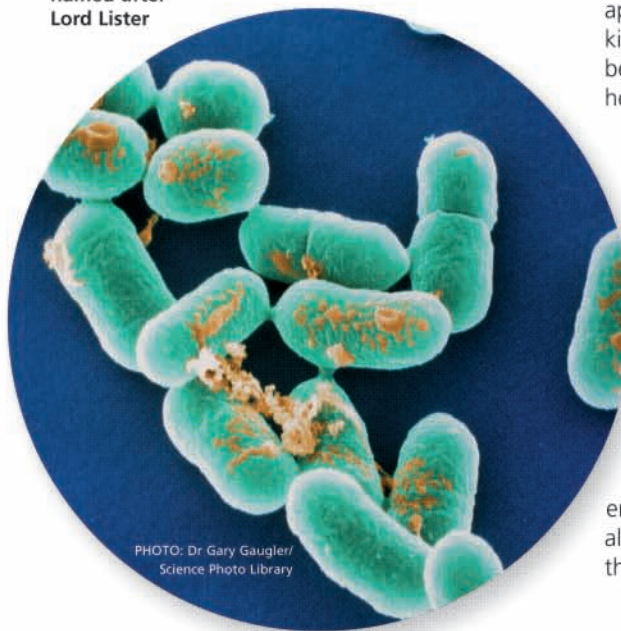
Although he officially retired from practice after his wife's death in 1893, he was so eminent that surgeons didn't dare operate on King Edward VII's appendicitis in 1902 without consulting him. The king later told Lister: "I know that if it had not been for you and your work, I wouldn't be sitting here today."

In 1912, Lister died, aged 84, and his funeral took place in Westminster Abbey. He was furthered honoured with two public statues, one in Portland Place, London, the other in Kelvingrove Park, Glasgow.

Today his name lives on with the Lister Institute of Preventive Medicine, Listerine mouthwash (named after him for his work in antiseptics), and also named in his honour, the bacteria type listeria.

But as modern medicine struggles with MRSA, one of Lord Lister's greatest legacies remains that by promoting a clean, sterile environment in the operating theatre, he made all surgery much safer for patients, regardless of their condition.

Bacteria type *Listeria*,  
named after  
Lord Lister



Lister's name  
lives on in many  
bathrooms today

