

Lord Joseph Lister – experimental and clinical genius

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Lister was born on 5th April, 1827. The previous year his father, Joseph Jackson Lister, a wine-merchant, mathematician and amateur scientist, made an important technical breakthrough. He developed an 'achromatic' lens for microscopes which compensated for image distortion called 'chromatic aberration'. As an infant Joseph showed a precocious talent for observation and drawing. He was attracted to a surgical career whilst at school and qualified at University College, London, in 1852 at the age of 25 yrs. He had developed a passion for microscopy and physiology which stayed with him for the whole of his life.

His experimental work continued after his move to Edinburgh in 1853 and despite a heavy surgical workload he published 15 papers on physiological research in the 3 years 1857-60. The topics were wide-ranging and included the structure and function of the muscle of the iris, intestinal absorption of foodstuffs, and the origin and mechanism of inflammation.

Appointment as Regius Professor of Surgery in Glasgow in 1860 was followed by his initial work on antiseptics. This work followed Pasteur's observations on the causes of fermentation in wine and milk. Lister concluded that contamination from hands and instruments was the cause of much surgical infection.

He returned to Edinburgh in 1869 and continued to develop his antiseptic techniques and microbiological research. The latter included the observation in 1871 that *Penicillium glaucum* added to urine inhibited the growth of bacteria. This was 57 years before Alexander Fleming's publications on *Penicillium*.

Lister's antiseptic techniques were gradually accepted in Europe but not in London. He therefore moved to King's College Hospital in 1877 and in just two years a clear statistical analysis of his results finally overcame the hostility of many of the London surgeons.