

Lord Lister

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In this series I am discussing some of the exhibits contained in the BAUS Virtual Museum of the History of Urology which is part of the BAUS website (www.baus.org.uk). In this article I am joined by Peter Thompson and Aruna Nandasena to answer the question posed in the last issue; the sounds in the picture (Figure 1) are named after the famous surgeon, Lord Lister (Figure 2). 2012 saw the 100th anniversary of Lister's death and now is an opportune time to remember Lister's contributions that revolutionised surgery.

Joseph Lister was born in Upton, Essex in 1827. He studied at University College, London, trained in surgery in Edinburgh under Prof James Symes and became Professor of Surgery in Glasgow and later Edinburgh.

Lister was brought up in an era when the cause of infection and the existence of micro-organisms was unknown. Infection of surgical wounds was inevitable. In the Franco-Prussian war (1870-71), of the 13,000 amputations performed about 10,000 died of gangrene and sepsis. Denonvillier, the leading surgeon of Paris warned "when we decide upon operation, we sign the patient's death warrant." This situation put a limit on surgery and in 1874 Sir John Erichsen stated "Surgery was rapidly approaching finality of perfection" and predicted that "the abdomen, chest and brain would be forever shut from the intrusions of the wise and humane surgeon."

During this period Louis Pasteur presented his germ theory of disease. In Glasgow, Lister was also experimenting on wound infection and similarly showed that it was not exposure to air itself but minute particles in the air that caused putrefaction.

He found that carbolic acid could be used on wounds to treat infection and make them heal. He used his carbolic acid to clean the surgical teams' hands, the patient, the instruments and drapes, dressed the wound with carbolic acid soaked lint and sprayed carbolic acid in the operating room (Figure 3). General cleanliness of the wards, patients and staff was emphasised. The infection rate reduced dramatically.

He published his antiseptic techniques and these were quickly taken up by many surgeons on the Continent but there was little acceptance of his ideas in England. In order to promote his techniques he came to London and assumed the post of Chair of Clinical Surgery at the Kings College Hospital in 1877.

In October of that year, a boy named Francis Smith was run over by a cart and sustained a closed fracture of

the patella. Lister performed an open fixation of the patella using silver wire treated with carbolic acid. Surgeons were horrified; they assumed the boy would end up with an amputation. London watched; the surgery was a success and the wound healed without infection. Lister's techniques started gaining acceptance and recognition. The morbidity and mortality of surgery dropped and it was possible to undertake safe surgery in all areas of the body leading to the development of all fields including urology.

Lister also introduced catgut as an absorbable ligature, he developed absorbent dressings, gauze swabs, many surgical instruments including a sinus forceps, a screw tourniquet to compress the abdominal aorta and of course the sounds (Figure 1). He used his antiseptic techniques to successfully treat abscesses using carbolic acid putty, and even treated Queen Victoria's axillary abscess. His opinion was sought in the diagnosis of King Edward VII's appendicitis; the King later attributed his survival to Lister's influence.

In 1883 he was created a Baronet and in 1897 he was raised to the peerage as Baron Lister. He was one of the original 12 members of the Order of Merit and made a Privy Councillor in the 1902 coronation honours. Lister was president of the Royal Society from 1895 to 1900.

Due to his research, Lister is considered one of the pioneers of bacteriology alongside Robert Koch and Louis Pasteur. Lord Moynihan said, "Lister was the greatest material benefactor the world has ever known. He saved more lives than all the wars and all the ages have thrown away." A more comprehensive review of the life of Joseph Lister will soon feature in the BAUS Virtual Museum.

In the next issue I will be writing about open prostatectomy; who do you think did the first one?

Find out more about the history of urology:
<http://www.baus.org.uk/sections/history>

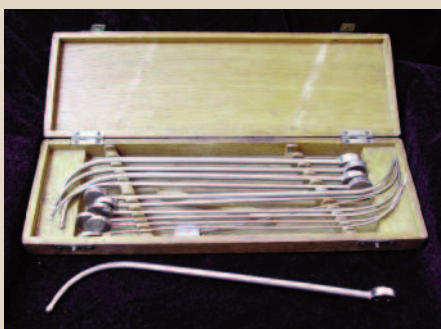


Figure 1: Lister urethral sounds.

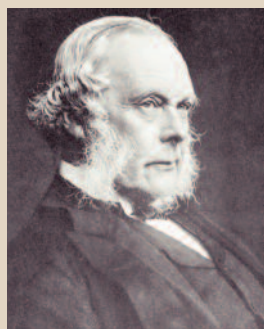


Figure 2: Joseph Lister.



Figure 3: Lister's carbolic spray.