

Welcome to *Learning from Lister*

It is with great pleasure that we welcome you to this conference, *Learning from Lister*, which marks the centenary of Joseph Lister's death, organised by King's College London, in association with the Royal Society and the Hunterian Museum at the Royal College of Surgeons.

During his lifetime, Lister witnessed extraordinary change and innovation in surgery. He was present as a medical student in 1846 at the first operation performed in the UK under ether anaesthesia, while complex abdominal and orthopaedic procedures became almost routine during his lifetime. He made many contributions to these developments and was the leading advocate of antiseptic practice, based on his own surgical experience and research. Yet which aspects of his work were effective and original have always proved controversial.

In bringing together a wide variety of eminent scholars and healthcare practitioners, we hope this conference will enable lively and productive discussion, informed by perspectives from scholarship and practice.

Professor Brian Hurwitz, King's College London

Professor Marguerite Dupree, University of Glasgow

Mr Peter Thompson, King's College Hospital

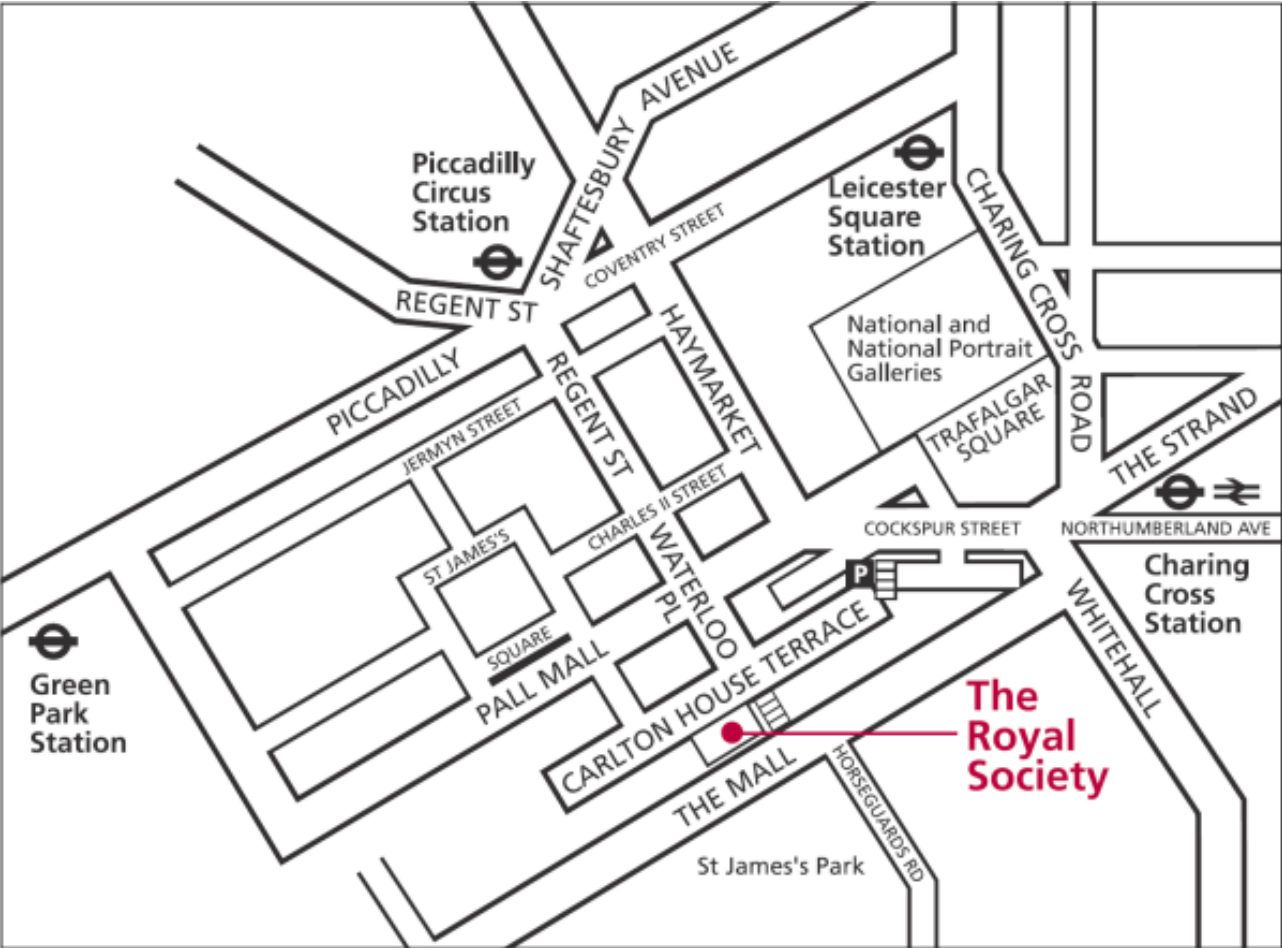
Professor Alistair Lax, King's College London

Dr Sam Alberti, Museums and Archives, the Royal College of Surgeons of England.

How to find us

The Royal Society

6-9 Carlton House Terrace
London SW1Y 5AG



The Royal College of Surgeons

The College is centrally located at Lincoln's Inn Fields within easy walking distance of Holborn (Piccadilly and Central lines) and Temple (District and Circle Lines) underground stations. It is a short taxi or underground journey from most major rail stations. Two NCP car parks are situated nearby.



The Royal College of Surgeons
35-43 Lincoln's Inn Fields
London WC2A 3PE

Tel: 020 7405 3474
www.rcseng.ac.uk

Getting Here:

Tube:

The nearest Tube station is Holborn (Piccadilly and Central Lines). It takes about 10 minutes to walk from the station to the museum.

Temple (District and Circle Lines) and Charing Cross stations (Northern and Bakerloo Lines) are a 10-20 minute walk or short taxi ride away.

Bus:

High Holborn (travelling east and west)
1, 8, 25, 38, 55, 98, 242

Kingsway (travelling north and south)
1, 59, 68, 91, 168, 171, 188, 243, 521

Aldwych (travelling east and west)
9, 11, 15, 23, 341

Aldwych (travelling north and south)
4, 6, 13, 26, 76, 77A, 139, 172, 176, 341

Rail

The nearest stations are Kings Cross St. Pancras, Euston, Waterloo and Charing Cross. It takes about 20-30 minutes to walk from each to the College.

Parking

On street parking is available outside the College on Lincoln's Inn Fields. The pay and display charges are in operation from Monday to Saturday, 8.30am - 6.30pm. The current charge

in the Westminster bays is £4 per hour with a maximum stay of 2 hours.

Visitors should be aware that both Westminster and Camden councils operate parking bays around the Fields. Please check the signs carefully when you park to determine which borough you are parked in and ensure you purchase a ticket from the correct pay and display machine.

The nearest multi-storey car parks are in Drury Lane and Bloomsbury Square.

Blue Badge holders can park in marked bays for up to 4 hours, Monday to Friday, 8.30am to 6.30am, and without time limit outside these hours. As a Blue Badge holder you are also entitled to park at a meter/pay-and-display bay for an extra hour once the paid time has expired.

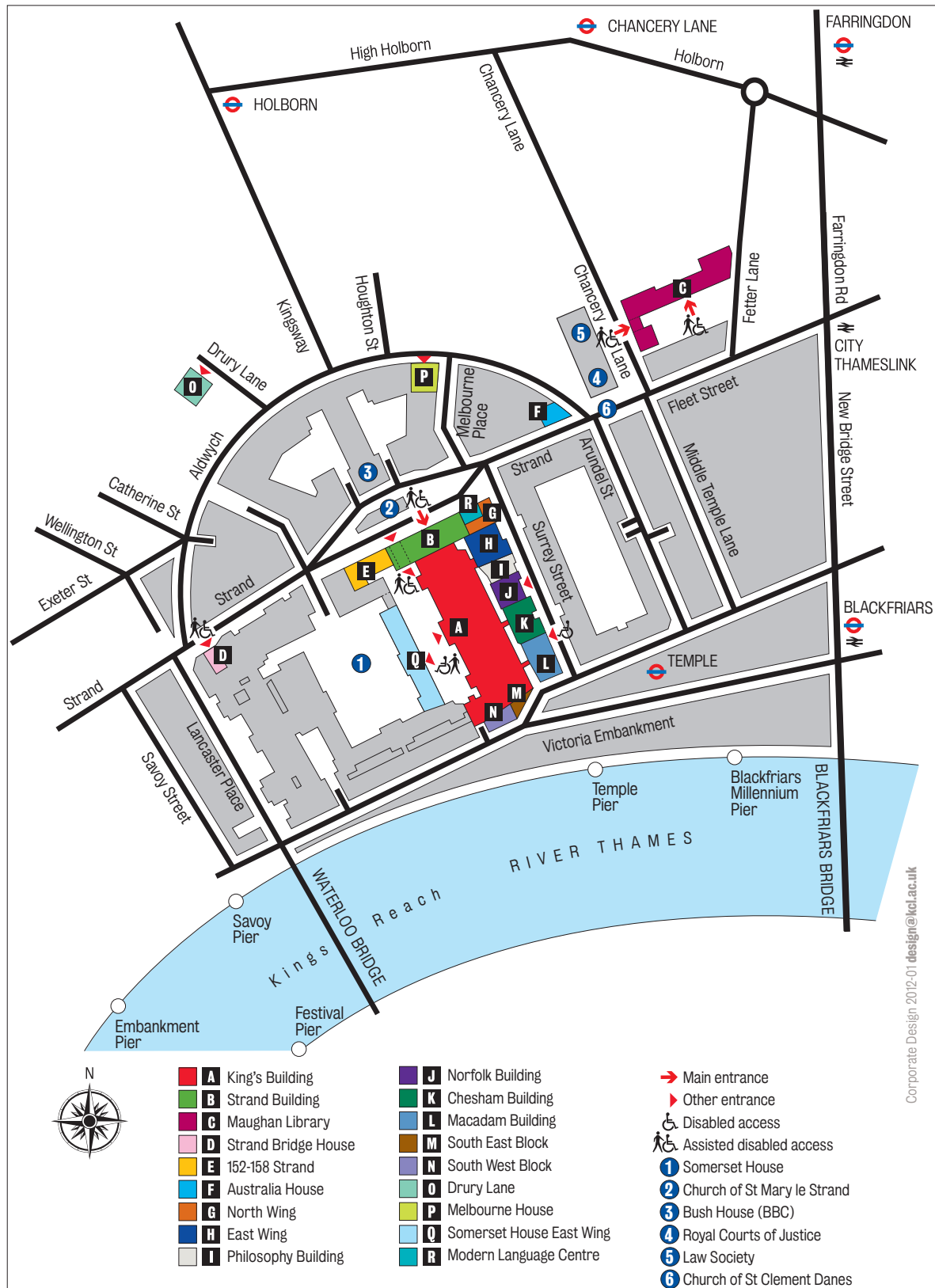
College parking for disabled visitors

The College has a dedicated parking space for use by disabled visitors. Please reserve this in advance by calling reception on 020 7869 6400.

For more information on disabled parking see:
<http://www.westminster.gov.uk/services/transportandstreets/parking/disabledparking/>

How to find us

King's College London



Corporate Design 2012-01 design@kcl.ac.uk

Venue guide

King's Building (labelled 'A' on map)

Strand Campus

Strand

London WC2R 2LS

United Kingdom

Great Hall – ground floor. The Great Hall is directly opposite the old foyer and stone staircases.

Edmond J Safra Lecture Theatre – next door to the Great Hall. With the Great Hall on your left, walk along the main corridor and you can't miss it.

The Council Room – second floor. The Council Room is on your left if you have arrived at the second floor via the large marble staircases from the foyer.

The River Room – second floor. From the marble staircases, turn right, walk past the cafe and the River Room is on your right before the stairs.

The Old Committee Room – second floor. From the marble stairs, turn left and walk past the Council Room.

K2.40 – second floor. From the marble staircase, turn left and walk along the main corridor until you reach the Nash Lecture Hall. Go through the door directly opposite the Nash Lecture Hall, and immediately turn right.

K0.20 – ground floor, immediately opposite the Safra

K0.16 – ground floor. This is past the Safra, turn left before you reach the stairs at the end of the corridor. The room is immediately on your right.

Outside King's

The nearest cafe with wi-fi access is the Caffè Nero at 181 Strand (turn right towards St Paul's Cathedral on the same side of the road as King's).

The nearest pharmacy is Boots, 105-109 Strand (turn left towards Trafalgar Square).

The nearest supermarket is Tesco Express, 125 Strand (turn left towards Trafalgar Square).

The nearest Post Office is 95 Aldwych (turn right outside King's and cross over by the Modern Language Centre).

Wi-fi access

The following wi-fi networks are accessible today:

WG000258

WG000293

WG000294

WG000295

WG000296

WG000297

WG000298

WG000299

WG000300

WG000301

The password is 12wthh07

Programme

Thursday 22 March 2012 at the Royal Society

- 18.30 – 19.00** Registration
- 19.00** WELCOME by Professor Sir Peter Morris, Nuffield Professor of Surgery Emeritus, University of Oxford
- OPENING REMARKS by Professor Sir Rick Trainor, Principal of King's College London
- 19.15** Hugh Pennington, Emeritus Professor of Bacteriology at the University of Aberdeen: 'Joseph Lister – Revolutionary Conservative, Nonconformist Establishmentarian'
- 19.55– 20.35** Dr Richard Horton, Editor, *The Lancet*: 'Lister's Global Revolution'
- 20.35** Drinks Reception

Friday 23 March 2012 at the Royal College of Surgeons of England

- 9.00** Coffee & registration
- 9.15** WELCOME from Professor Norman Williams, President of the Royal College of Surgeons of England
- 9.25** *Chair: Rosemary Wall*
Professor Sir Liam Donaldson, Chairman of the National Patient Safety Agency, formerly Chief Medical Officer for England: 'Safer Surgery – Simple Concepts, Complex Change'
- 10.05** THE SOCIETY FOR THE SOCIAL HISTORY OF MEDICINE LECTURE
Michael Worboys, Professor of the History of Medicine, University of Manchester: 'Joseph Lister on the Relations of Micro-organisms to Disease'
- 10.45** Questions/ discussion
- 11.00** Coffee
- 11.30** Parallel sessions
There will be an opportunity for questions and discussion at the end of each talk.
Chair: Alistair Lax
PARALLEL SESSION A – SURGICAL & OBSTETRIC ANTISEPSIS
- ♦ Constance Putnam (Concord, Massachusetts) 'Lister and the Fight Against Sepsis: Predecessors, Priority, and Progress'
 - ♦ Benedek Varga (Budapest) 'The Myth and Cult of Ignác Semmelweis: Constructing the History of Science'
 - ♦ Sally Frampton (London) "'The Peculiarities of the Peritoneum": Antisepsis and Abdominal Surgery, 1860 – 1900'

Chair: Sam Alberti

PARALLEL SESSION B – SURGICAL & OBSTETRIC ANTISEPSIS

- ♦ **Alison Nuttall** (Edinburgh) ‘Confining the Problem: Antisepsis and the Management of Puerperal Infection at Edinburgh Royal Maternity Hospital, 1844-1939’
- ♦ **Anne Bergin** (Maynooth) ‘Joseph Lister – Saviour of the Lying-in Hospital?’
- ♦ Prize presentation delivered by students of Lister Community School: ‘Joseph Lister: the Science and the Man’

13.00 Lunch

14.00 *Chair: Brian Hurwitz*

Gus McGrouther, Professor of Plastic and Reconstructive Surgery Research, University of Manchester: ‘Surgical Precision following Lister’

14.40 Questions/ discussion

15.00 Parallel sessions

There will be an opportunity for questions and discussion at the end of each talk.

Chair: Michael Worboys

PARALLEL SESSION A – LISTER, BACTERIA, ARTEFACTS

- ♦ **Sir Roddy MacSween** (Glasgow) ‘Lister: Pathologist’
- ♦ **Ruth Richardson** (London) ‘Fermentation as Metaphor: Joseph Lister’s Inaugural Lecture at King’s College, London 1877’
- ♦ **Sam Alberti** (London) ‘Heritage and the Memorialisation of Lister’

Chair: Peter Thompson

PARALLEL SESSION B – MODERNITIES

- ♦ **Claire Jones** (Leeds) ‘An “Aseptic Revolution?” Re-assessing the Role of Medical Advertising in Fin de Siècle Britain’
- ♦ **Roger Kneebone** (London) ‘Simulation based Surgical Re-enactment: an Innovative Methodology’
- ♦ **Julianne Weis** (Oxford) ‘Sanitizing Female Genital Cutting: from an Anglo-Sudanese Midwives’ Training School to the WHO’

17.00 Tea

17.30- 18.10 *Chair: Anne Crowther*

THE LISTER HOSPITAL LECTURE

Jim Connor, John Clinch Professor of Medical Humanities and History of Medicine, Memorial University of Newfoundland: ‘Knowledge Transfer Across the Waves: Listerism and Victorian Surgery Beyond Britain’

19.00 – 22.30

LISTER DINNER: Weston Room, King’s Maughan Library, Chancery Lane

AFTER DINNER TALK: **Professor Thomas Schlich**, Canada Research Chair in History of Medicine, McGill University

Programme

Saturday 24 March 2012 at King's College London

9.00 Coffee

9.15 WELCOME by Professor Sir Rick Trainor, Principal of King's College London

9.25 *Chair: Brian Hurwitz*

Marguerite Dupree, Professor of Social & Medical History University of Glasgow: 'Commemoration, Controversy and Collection: Celebrating Lister in London and Scotland'

10.05 THE LISTER HOSPITAL LECTURE

Jennifer Connor, Associate Professor of Medical Humanities, Memorial University of Newfoundland: 'Making Medical Innovation Intelligible: Listerism in Rhetorical Context'

10.45 Discussion and questions

11.05 Coffee

11.30 Parallel sessions

There will be an opportunity for questions and discussion at the end of each talk.

Chair: Peter Thompson

PARALLEL SESSION A – LISTER'S LEGACY

- ♦ **Rainer Engel** (Baltimore) 'Lister in the USA'
- ♦ **Dirk Shultheiss** (Giessen) 'James Israel (1848-1926): Pioneer of Infectious Disease and Kidney Surgery'
- ♦ **Jane Coutts** (Province of Cáceres, Spain) 'Keeping Lister Alive: Sir William Watson Cheyne's Campaign to keep Lister's Methods Alive and Understood'
- ♦ **Katie Edwards** (London) 'Cleaning Up: Lister's Legacy at the Florence Nightingale Museum'

Chair: Alistair Lax

PARALLEL SESSION B – LISTER'S INFLUENCE INSIDE THE OPERATING THEATRE

- ♦ **Gerard Fitzgerald** (Charlottesville, Virginia) 'War is in the Air: Oswald Hope Robertson, Chemical Germicides, and the Problem of Air Disinfection, 1941-1946'
- ♦ **Bryan Rhodes** (Lancaster) 'Lister's Legacy – the Evolution of Clean Air Operating Theatres'
- ♦ **Laurens Ceulemans** (Leuven) 'A Brighter Day has Dawned on Surgery'

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- 13.30** Lunch
- 14.30** ‘Lister’s influence outside the operating theatre’
There will be an opportunity for questions and discussion at the end of each talk.
Chair: Anne-Marie Rafferty
- ♦ **Thomas Schlich** (Montreal) ‘Farmer to Industrialist – how Antisepsis Changed the Self-image of Surgeons in Germany’
 - ♦ **Rosemary Wall** (London) ‘The Role of the Matron in Managing Infection in Late Nineteenth-century London’
 - ♦ **Edward R Howard** (London) ‘Lister and Experimental Science’
 - ♦ **Mary Wilson Carpenter** (Kingston, Ontario) ‘A Patient Learns from Lister’
- 16.30** Tea
- 16.45** *Chair: Margeurite Dupree*
THE LISTER INSTITUTE LECTURE
Anne Crowther, Senior Research Fellow in the History of Medicine, University of Glasgow, and Adjunct Professor, in the School of Nursing, University of Adelaide
‘Lister and the Empire: a continuing legacy’
- 17.25** Discussion
- 17.40 - 18.00** Closing remarks.

Sunday 25 March 2012

- 10.00 LISTER WALK: ‘Guts, Germs and Glory: Joseph Lister’s London’ with *Richard Barnett*, Public Engagement Fellow, Wellcome Trust, London (NB: register for this walk on registration at the RCS on 23 March)

Abstracts

Thursday 22 March 2012

Venue: The Royal Society

KEYNOTE

Revolutionary Conservative, Nonconformist
Establishmentarian

Hugh Pennington

Images, conversion and propaganda play key roles in revolutions. I will consider Lister's 1865-1867 Glasgow surgical innovations, their rapid uptake in Germany (judged by MD dissertations 1867-1873), and their impact measured by publication. Treatments of compound fractures and TB abscesses were early successes, applications on the battlefield and the enablement of cold surgery. I will then discuss the Koch-induced move of Lister from use of carbolic to mercuric chloride and the abandonment of the spray; Lister's conservatism (with Saxtorph, his opposition to women doctors), and conclude by considering the overall impact of his system and its relationship to the establishment of the germ theory paradigm.

KEYNOTE

Lister's Global Revolution

Richard Horton

Joseph Lister is a great figure today. But at the time of his original proposal - that carbolic acid was an effective antiseptic - he was assailed by 'savage critics' for being little better than a scandalous plagiarist. His story reveals the tensions that exist to this day about the nature of evidence, innovation, and surgical science. And his 'discovery' continues to find new meaning as the aspirations for surgery and anti-sepsis reach new and neglected peoples.

Friday 23 March 2012

Venue: The Royal College of Surgeons

KEYNOTE

Safer Surgery – Simple Concepts, Complex
Change

Sir Liam Donaldson

Health care is a decade or more behind other high-risk industries in its attention to ensuring basic safety. Aviation has focused extensively on building safe systems and has been doing so since World War II. Between 1990 and 1994, the U.S. airline fatality rate was less than one-third the rate experienced in mid century. In 1998, there were no deaths in the United States in commercial aviation. The story in healthcare is quite different; a significant proportion of hospitalized patients, up to 10% suffer a medical error and nearly half of these are preventable.

Five key areas seem to have found their way as measures to reducing risk: training and simulation, process standardization, checklists, good practice guidance and technological fixes. These are simple concepts that have fallen victim to complex, slowly adapting healthcare systems and in consequence, patients continue to suffer avoidable harm.

Some solutions to the above problems have been developed both locally and internationally. Unfortunately, these measures are not adopted evenly in different healthcare settings. The challenges to improving patient safety in healthcare remain significant and concerted efforts are required by all stakeholders to move this agenda forward.

KEYNOTE

Joseph Lister on the Relations of Micro-organisms to Disease

Michael Worboys

Joseph Lister is well known for championing ‘the germ theory of disease’ as the basis for his new antiseptic surgery. However, there are problems with this claim; principally, that there were many not one germ theory. Surgeons, scientists and others disputed what germs were, how they acted, and what diseases they caused. In this talk I discuss Joseph Lister’s changing ideas on the nature of germs and their actions, and how these related to his surgical practices.

Michael Worboys’ talk is kindly sponsored by the Society for the Social History of Medicine.

PARALLEL SESSION A – SURGICAL AND OBSTETRIC ANTISEPSIS

Lister and the Fight against Sepsis: Predecessors, Priority, and Progress

Constance E Putnam

No one questions the importance of Joseph Lister’s steadfast efforts over a considerable period of time to devise effective methods of reducing post-surgical infections. Frequently referred to as the “founder” of anti- and a-septic techniques, he is often made to seem like one who stood alone on this particular stage. The rush to certify Lister’s standing at times results in too little context being provided for his accomplishment; the significant insights and novel practices of his predecessors are given short shrift. In obstetrics, especially, Lister had notable forebears.

Celebrating Lister’s role does not require singling him out as if he were solely responsible for understanding how to combat infection. Rather, it can be an occasion for reinforcing our grasp of the fact that great discoveries generally

evolve over time. Progress is made by fits and starts; it is the result of a gradual process. Translating new principles into practice takes time and many proponents. In this paper, the progressive path from Gordon to Lister will be briefly sketched. The emphasis, however, will be on the extent to which Lister’s contributions (like those of most major figures) need to be viewed as building blocks resting on foundations established by others. Multiple priorities can be assigned. We should sing the praises of all those who contributed along the way, because this is how progress is made.

The myth and cult of Ignác Semmelweis

Benedek Varga

In 1847, Ignác Philipp Semmelweis (1818-1865), a Hungarian physician, found that the incidence of puerperal fever could be cut drastically by hand-washing. By this means, as head of the Vienna General Hospital’s obstetrics clinic, he was able to reduce puerperal fever mortality to between 1-3 per hundred deliveries.

Though this achievement was welcomed by some, he also met serious criticism. He was dismissed from his post as a university professor in 1850. He returned to Budapest and in 1865 died, almost forgotten, at the age of 47, a mentally disabled man, deserted by his family and friends.

From the 1890s, however, his arguments and achievements begin to be recognised. What was the reason for this change in assessment? In addressing this question the growing importance of bacteriology and the work of Pasteur, Koch and Lister will be considered, together with Semmelweis’s changing reputation within Hungarian medical circles.

Abstracts

'The Peculiarities of the Peritoneum': Antisepsis and Abdominal Surgery, 1860 - 1900

Sally Frampton

By the time Lister published on his use of carbolic antisepsis in *The Lancet* in 1867 ovariectomy, an operation to remove diseased ovaries by major abdominal section, had been practised in Britain for over 25 years and had come to be considered by most in the medical profession as a justifiable procedure for the treatment of ovarian cysts. Ovariectomists such as Thomas Spencer Wells and Thomas Keith had attained survival rates which equalled if not exceeded that of other capital operations, Keith in particular claiming a success rate of over 80% in his operations between 1862 and 1867.

By exploring the dialogue between pro- and anti-Listerian ovariectomists, I will show how ovariectomy impacted upon the debates surrounding the definition, objectives, and success of Listerism. Was the perceived ineffectiveness of antiseptics in the only operation that ventured into the peritoneum used to provide evidence of flaws in the Listerian method? Or were surgeons convinced that abdominal surgery, as Lister claimed, was simply an exception which should be considered separately from the rest of surgery? How did this play into debates as to whether abdominal surgery should remain the province of specialist surgeons?

This paper will also consider the conspicuous absence of Lister himself from much of the discussion concerning ovariectomy. How did Lister influence the operation given that he chose not to perform it? I argue that the interplay between ovariectomy and Listerism warrants further attention from historians, that it had a significant role in the changing definition of antisepsis, and that it demonstrates the ways in which earlier innovations in surgical technique influenced understandings of Listerism.

PARALLEL SESSION B – SURGICAL AND OBSTETRIC ANTISEPSIS

Confining the Problem: Antisepsis and the Management of Puerperal Infection at the Edinburgh Royal Maternity Hospital, 1844-1939

Alison Nuttall

Although Lister had begun to use antiseptic methods in 1865, and carbolic sprays and dressings were used in minor surgery at the Edinburgh Royal Maternity Hospital from at least 1870, antisepsis was not used during deliveries there until the early 1880s, and infection rates remained high. When antisepsis was eventually widely introduced into hospital practice, doctors eagerly anticipated a rapid decline in maternal mortality. This duly occurred in the tiny hospital service, but the overall effect was limited due to the much larger number of domiciliary births. In 1918 it was said to be more dangerous to become a mother than a soldier. The fall in deaths among women of child-bearing age from almost all other causes in the interwar period brought the continued mortality from puerperal infection into sharper focus, and a series of reports on the situation in Scotland provoked a varied range of responses, ultimately influencing the medical attitude to the comparative safety of home as the place of birth.

This paper uses the analysis of personal health records to examine the role of antisepsis and the management of puerperal infection in the history of the Edinburgh Royal Maternity Hospital 1844-1939, and its influence on the organisation and practice of the Hospital – effectively assessing the contribution of Listerism to maternity care. It argues that the discipline and surveillance necessary to control infection by antiseptic and aseptic methods was simultaneously and paradoxically both a major contributor to the medicalisation of childbirth and a reason for hospitals to continue to champion natural births with minimal intervention.

Joseph Lister – Saviour of the Lying-in Hospital?

Julia Anne Bergin

Puerperal infection presented in epidemic form at the Dublin Lying-in Hospital institution in 1803, 1810, 1812, 1813, 1818, 1819, 1820, 1825, 1826, and 1828 and at similarly frequent intervals through most of the nineteenth century. In 1862, the incidence of maternal mortality in the hospital was eighty-two maternal deaths per thousand deliveries.

Preventative strategies proved ineffective. By the 1860s, it was recognised that maternal mortality within institutions was increasing rather than decreasing, prompting debates on the value of lying-in hospitals. An eminent Dublin obstetrician – Dr Evory Kennedy - argued against the view that lying-in hospitals ‘preserved life’. He believed that lying-in hospitals should be reserved for complex cases only. In London, William Farr went a step further and called for the closure of lying-in institutions altogether, since mortality had become ‘in some instances excessive; in other instances appalling’.

While debates for and against institutional midwifery raged, Joseph Lister’s theories on asepsis began to circulate, and were received more positively by the medical profession than the pioneering work of Ignác Semmelweis two decades earlier had been. But the transition to safer midwifery care was slow. This paper will describe efforts made in the pre- and post-asepsis eras to prevent the spread of infection in Dublin’s lying-in hospitals. It will also examine the response by obstetricians to Lister’s argument that the key to eliminating infection lay in antisepsis.

Prize presentation delivered by students of Lister Community School on ‘Joseph Lister: the Science and the Man’

KEYNOTE

Surgical Precision Following Lister

Gus McGrouther

The principle of antisepsis was born in Glasgow when Lister applied pure carbolic acid on a piece of calico to the overlying wound in a case of compound fracture. The wound healed without infection and the usual amputation was avoided. But as with many radical innovations in medicine, it met resistance, in spite of the publication of further successes.

The benefits of antisepsis were to be dramatically highlighted nearly twenty years later by another surgeon working in Glasgow, Sir William Macewen, in an 1884 landmark paper in which he described 1,800 osteotomy (bone straightening) operations without blood poisoning or fatality.

The enormous benefits of the antiseptic technique are demonstrated in the contrast between the horrific mortality from sepsis in the American Civil War (1861-5) and the survivors of First World War reconstructive surgery for facial injuries. Later innovations were to follow with the development of antibiotics, and a sterile air-flow in operating theatres introduced by Sir John Charnley, so that nowadays we can operate on tissues that we know to be vulnerable to sepsis, such as bone and brain. Today, we can also treat patients with conditions known to predispose them to infection such as diabetes or immunosuppression, but the emphasis on hand-washing and alcohol hand-gels must not be allowed to blind us to simple environmental cleanliness. Building design and ventilation maintenance are fundamental: congested hospitals with short stays, 100% occupancy, unrestricted visiting, and lack of isolation facilities all present risks of which we must be aware!

Abstracts

PARALLEL SESSION A – LISTER, BACTERIA, ARTEFACTS

Lister: Pathologist

Sir Roddy MacSween & Paula Summerley

Lister, like all good surgeons, was keenly aware of the importance of pathology. His interests are manifest in a collection of case reports in the archives of the Royal College of Surgeons of England.

Lister had demonstrated his skills as an artist from an early age in drawings and water-colours which he used to illustrate his personal diary. He was familiar with microscopy through his father who became an FRS in 1832 by virtue of his contributions to the development of the achromatic lens. Lister became familiar with Virchow's descriptions of cellular pathology and this is exemplified in his illustrations of the cellular constituents of the resected specimens described in the case reports. It would appear from the dates on the illustrated specimens that this work was undertaken while Lister was a trainee surgeon/lecturer with Professor Syme in Edinburgh; surgery was carried out in the morning and Lister engaged himself in dissecting and describing the resected specimens in the afternoons.

The case reports comprise water-colour illustrations of clinical conditions, notably dermatological conditions; pre-operative illustrations of patient material; illustrations of intact and dissected specimens; and cytological details from camera lucida examinations of unstained preparations from tissues. The reports also contain lengthy clinical details and descriptions of the macroscopic features of the specimens.

Fermentation as Metaphor: Joseph Lister's Inaugural Lecture at King's College, London 1877

Ruth Richardson

This paper focuses on Lister's inaugural lecture at King's College in 1877. At this stage in his life, Lister had much to report upon in speaking at the institution which had newly appointed him Professor of Clinical Surgery, including some impressively high survival rates from complex operations previously regarded as mortal and/or foolhardy.

However, Lister chose *not* to discuss his success in using the carbolic spray in surgical operations, his treatment of open wounds and compound fractures, his specially treated ligatures, or his remarkable operative statistics. Instead, he decided to speak at length about the processes of fermentation in four important fluids: blood, wine, urine, and milk. Close examination of the historical context of his lecture, and of the illustrative materials created to accompany it – which (thankfully) survive – help us understand why Lister planned this lecture with such great care, and spent considerable efforts upon it.

His reasons for selecting the topic for this most important London lecture at King's College are not at first obvious to a modern audience, just as they probably were not to those who sat down in the Great Hall to listen to the original lecture. But I shall argue that it was a clever, timely, and well-thought out strategy designed to shape a frame of mind among his new colleagues and future students, receptive to germ-theories of disease causation.

Heritage and the Memorialisation of Lister

Sam Alberti

Few could challenge Lister's status as Patron Saint of British Surgery. The role played by his disciples in this canonisation is well-known: this illustrated talk instead will focus on the way heritage material has been deployed in the reification of Lister. Museums and archives in London, Glasgow and Edinburgh are shrines to the first medical Lord. The most unlikely objects have become 'relics': instruments he owned but actively didn't like; door handles from the ward in Glasgow. How did such items achieve talismanic status? What role do museums play in the construction of reputations and the credibility of the surgical profession?

PARALLEL SESSION B – MODERNITIES

An 'Aseptic Revolution'? Re-Assessing the Role of Medical Advertising in *Fin de siècle* Britain

Claire Jones

Medical historians and curators have long attempted to assess the impact of antiseptics and asepsis on late nineteenth century medical practice. Yet beyond those deemed responsible for their development, such as Joseph Lister, there is little modern consensus on the degree of acceptance of either system among medical practitioners. While some historians argue for a gradual process of adoption, others maintain that an aseptic revolution took place by focusing on the changing design and manufacture of medical tools and apparatus. Carbolic sprays, for example, and sterilisers for surgical instruments became readily available in the years following their invention, while surgical instruments made from sterilisable steel replaced those thought to breed bacteria made with ivory, ebony and tortoiseshell handles.

This paper seeks to reconcile these two arguments by providing a new perspective on this

well-trodden debate. It does so by emphasising the methods used to promote instrumentation to practitioners contained within neglected promotional literature. This analysis leads to two key points: that both aseptic and non-aseptic tools were commercially available and promoted alongside each other until at least the outbreak of World War One and secondly, that medical companies developed promotional strategies aimed at convincing practitioners of the benefits of asepsis long after aseptic products were available.

Simulation-based Surgical Re-enactment: an Innovative Methodology

Roger Kneebone

This paper describes simulation-based physical re-enactment of recent but now superseded operations as a means of documenting 'ways of doing' that are vanishing from collective awareness. By capturing the social, technical and pedagogic practices of surgery, simulation offers great promise as an innovative historical methodology. The paper uses one event at the Science Museum as a case study.

Major technological and social changes are profoundly affecting the practice of surgery. In the last few decades keyhole surgery has rendered many open operations obsolete, while working time restrictions have fragmented previously stable surgical 'firms' and disrupted longstanding patterns of practice.

Open cholecystectomy (removal of the gallbladder) exemplifies a commonly performed operation undergoing radical change. Exclusively carried out by open surgery until about 1990, this operation is now almost always performed laparoscopically. The skills of the open approach (still occasionally needed when complications arise) are being lost to today's generation. The experiences of retired clinicians represent an invaluable untapped resource.

Abstracts

Sanitizing Female Genital Cutting: From a Anglo-Sudanese Midwives Training School to the WHO

Julianne Weis

The proper method for ending the controversial practice of female genital cutting (FGC) has been violently debated for the last century. When the British instituted their colonial regime in Sudan, infibulation, or ‘pharaonic circumcision’, was immediately targeted for eradication as a harmful traditional practice and ultimately made illegal by the foreign administration. FGC was infamously used by both sides of the Kenyan independence struggle, with colonial administrators banning the practice as backward and barbaric, whilst Kikuyu women asserted their cultural rights by proclaiming “I will circumcise myself.” Today the mission for eradication in the name of progress and female empowerment continues, most famously with the efforts of the American-founded TOSTAN organisation in Senegal, which through community education programming, has boasted the abandonment of the practice in 90% of Senegalese villages. With the risk of infection and haemorrhage neutralised by the sanitisation/medicalisation of FGC, however, the only thrust of that eradication goal is thus pushed back to notions of cultural backwardness amongst FGC-users. Issues of paternalistic sanction and cultural agency thus emerge most clearly in this debate, while the very notions of cleanliness as companion to Western “progression” and “modernisation” is put on trial.

KEYNOTE

Knowledge Transfer Across the Waves: Listerism and Victorian Surgery Beyond Britain

Jim Connor

This presentation describes the reception (knowledge transfer) of antiseptic/aseptic surgery – Listerism – in Victorian Anglo-Canada using 19th-century Canadian and British medical journals, along with archival materials including personal and professional correspondence; clinical reports; medical student notes; and hospital administrative and medical board minutes.

The narrative highlights how the social, political, and intellectual connections between Canada (as colony, dominion, and then nation) and the United Kingdom catalysed the uptake of Listerism; this evolving trans-Atlantic relationship between Great Britain and ‘greater Britain’ (as William Osler famously dubbed Canada and other parts of the Victorian Anglo-world) fuelled further celebration of Lister, exemplified in the annual meeting of the BMA in Canada during the 1897 Diamond Jubilee celebrations with Lister as guest of honour. While a uniquely Canadian story, it is also one that has elements that may be readily generalisable to other Anglo-Victorian medical settings as it illustrates the transformation of operating theatres, surgical equipment, and the overall hospital physical plant and environment.

The presentation addresses performative aspects of antiseptic and aseptic teaching/learning/doing – in other words its *practice*. By considering antiseptic and aseptic practice *qua* technology, it seeks to integrate medical material culture truly into the historiographical ‘metanarrative’ of Listerism.

Jim Connor’s talk is kindly sponsored by the Lister Hospital.

Saturday 24 March 2012
Venue: King's College London

KEYNOTE

Commemoration, Controversy and Collection:
Celebrating Lister in London and Scotland

Marguerite Dupree

Lister's reputation and image was a complex construct, involving both the scientific and moral reputation of the medical profession, as he came to embody the rise of surgery from a craft to a science and the rise of the whole profession to a pinnacle of esteem.

Within weeks of Lister's death in February 1912 Lister Memorial Committees were set up first in Glasgow and London. Their work resulted in the plaque in Westminster Abbey and eventually the Lister Memorial Prize and Lecture at the Royal College of Surgeons of England and the statue in Portland Place in London. Their work also laid the basis for the organisation of the 1927 celebrations of the centenary of Lister's birth, when the Prime Minister opened events in London, and the King received national and international delegates at Buckingham Palace who gathered to recognise the achievements of Lister, science and surgery, associating them with professional honour and national pride. This paper will explore the nature of these and subsequent Lister celebrations, including the centenaries in 1965 and 1967, of his first successful antiseptic operation, and key *Lancet* publication.

The controversy, alongside the commemorations in Britain after his death is less well-known. Despite a vigorous campaign, including petitions from the most prestigious British, European and North American medical academies and institutions, the Lister Ward at the Glasgow Royal Infirmary was demolished

in 1924, rather than turned into a museum to celebrate Lister and his achievements. The paper will examine how this happened, and how in the end, Sir Henry Wellcome's agents bought the remaining pieces of the Lister Ward in 1925, including tons of timbers, as part of Wellcome's project to create a collection encompassing the complete history of medicine.

This examination of Lister commemorations and the controversy over the Lister Ward highlights alternative methods of commemoration, their underlying motives and clientele. Although Lister's precise position in the history of surgery is contentious today, his importance as an iconic figure in the history of the medical profession is secure.

KEYNOTE

Making Medical Innovation Intelligible: Listerism in Rhetorical Context

Jennifer Connor

Late twentieth-century historians of medicine have contextualized Listerism against the background of nineteenth-century laboratory science and clinical practice to indicate both the practical difficulties of antiseptic surgery based on the liberal use of carbolic acid and the problematical nature of the scientific hypotheses underlying its practice. Compounding the clinical and theoretical, however, were communication problems. Lister's inability to explain his surgical innovation slowed acceptance of his method. My present discussion analyzes stylistic features of Lister's communications, to examine their larger rhetorical context and explores communicative aspects of Listerism as innovation through comparison with selected examples of later innovators and their rhetorical choices.

From the perspective of rhetorical analysis, this presentation thus offers a modest response to Michael Worboys's call for more studies of

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performance in clinic, laboratory, and field, especially comparisons across sites and times. It also represents a foray into the ‘open terrain’ of rhetorical choices in scientific communication identified by Carol Reeves, a rhetorical critic who has studied several recent biomedical scientists and their publications. By forming a matrix of these disparate twentieth-century examples based on their semantic, syntactic, and rhetorical characteristics, we begin to place Joseph Lister, and ‘Listerism’, into a broader rhetorical context. Jennifer Connor’s talk is kindly sponsored by the Lister Hospital.

PARALLEL SESSION A – LISTER’S LEGACY

Lister in the USA

Rainer Engel

In 1876 Lister was an invited speaker at an International Medical Conference in Philadelphia, PA where he talked about his experience with the carbolic acid spray. Contrary to public opinion, his presentation did not find a positive response among the audience. Even an extended teaching tour through the States did not yield the hoped-for response. The initial rejection of his teaching probably caused a number of deaths, among these two US Presidents.

However, in the early 1900s, many American physicians supplemented their learning after attending the mostly mediocre American medical schools by looking for additional learning opportunities at European medical schools; there they became familiar with the aseptic teaching of Lord Lister. As they brought this back with them to the US, the field of medicine changed, and in Maryland his method led to the development of the new approach to prevent surgically induced infections: asepsis.

James Israel (1848-1926): Pioneer of Infectious Disease and Kidney Surgery

Dirk Schultheiss

In 1874 James Adolph Israel visited Joseph Lister in Edinburgh to learn about his principles of antiseptics. Israel transferred Lister’s practices to his own clinic where he systematically dedicated all his clinical and scientific efforts to the field of kidney surgery. By the turn of the century Israel had become one of the most important renal surgeons world-wide, publishing *Erfahrungen über Nierenchirurgie* (1894), *Chirurgische Klinik der Nierenkrankheiten* (1901) and *Chirurgie der Niere und des Harnleiters* (1925). The falling mortality rate of such procedures attests to the success of the combination of antiseptics and improved surgical technique.

Israel’s name is commemorated in the naming of the organism, *Actinomyces Israelii*, between 1878 and 1882. This paper charts his career.

Keeping Lister Alive

Jane Coutts

Lister’s understanding of the strict procedures required for creating and maintaining an aseptic surgical environment came under serious attack during the debate known as ‘aseptic versus antiseptic surgery’ at the end of the 19th century. While there was general agreement on the need for aseptic conditions, many surgeons at the time believed antiseptics were irrelevant, and that they did more harm than good. William Watson Cheyne, one of Lister’s inner circle, fought a lifelong campaign to keep Lister’s procedures of cleanliness and asepsis (particularly the use of antiseptics) on the agenda, against a background of scepticism and opposition, and ensured they continued to be understood as Lister himself had intended. This paper discusses Cheyne’s arguments and their importance in

ensuring Lister's message was not lost in the detail. The paper also suggests there may be grounds for revisiting Lister's ideas in hospitals today, especially in conditions where an aseptic environment is difficult to achieve.

Cleaning Up: Lister's legacy at the Florence Nightingale Museum

Katie Edwards

Lister's impact upon the nursing profession and nurse training is as relevant today as it was in Nightingale's day. The current debates about cleanliness in hospitals and hand washing are particularly important to the Florence Nightingale Museum. Interactive activities around these themes are staffed by retired nurses working as volunteers in the gallery space, who can further contribute to the visitor experience by discussing hygiene and infection control in their own working life, and by giving a personal view of the health service. Outreach activities involving Lister are of particular impact when delivered within the Evelina children's hospital at St Thomas'.

In addition to raising public awareness, the museum aims to place itself at the centre of history of nursing. The museum can make a vital contribution by offering a venue for display or public engagement for research connected with nursing either past or present. However, this can also be problematic, as conflicting discussion around Nightingale and her acceptance of germ theory and Lister's work with Nightingale often portrayed her as either hero or villain. Lister's legacy is part of the Nightingale Museum's remit because of its relevance – if a museum does not engage with current issues, it stagnates. This paper will examine how to raise public awareness of these issues, and to discuss how the museum can fulfil its role to facilitate stimulating discussion and debate.

PARALLEL SESSION B – LISTER'S INFLUENCE INSIDE THE OPERATING THEATRE

War is in the Air: Oswald Hope Robertson, Chemical Germicides and the Problem of Air Disinfection, 1941-1946

Gerard J Fitzgerald

This paper examines the research efforts of Dr. Oswald Hope Robertson, a professor of bacteriology at the University of Chicago Medical School from 1927-1951, to create infection-free hospitals and living spaces through the use and application of germicidal chemicals especially propylene glycol vapor and later triethylene glycol. Robertson, who began his research on glycol vapors and 'air sterilizers' for the Research Corporation of New York City during the 1920s, was one of a number of scientific practitioners in the United States who followed the Listerian tradition of chemical sterilization which he applied to air disinfection and contact infection phenomenon.

An expert in experimental pneumonia and the pathogenesis of airborne infection at the outbreak of World War II, Robinson, a senior member of the United States Armed Forces Epidemiological Board, conducted wartime research involving military test subjects to ascertain the effectiveness of various glycol-based containment technologies against airborne respiratory infection, which were deemed a viable technological response to airborne bacteria with seemingly little risk to humans. Working in concert with a large group of civilian and military medical and engineering experts, Robertson, along with his laboratory staff from the University of Chicago, carried out extensive experiments on the sterilization of air in military barracks paying special attention to the containment of hemolytic streptococci. A historical analysis of glycol research permits not

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only an examination of the technological and medical aspects of chemical germicides, but also allows the exploration to explore the larger institutional relationships between academic and military researchers.

An examination of the Robertson project at Fort Bragg, North Carolina also allows insights into the structure of the Armed Forces Epidemiological Board and the United States Army's approach to military research and development.

Lister's Legacy – the Evolution of Clean Air Operating Theatres

Bryan Rhodes

This paper will chart the evolution of clean air operating theatres and wound management from Lister's ground breaking introduction of the antiseptic system to the present day.

Although Lister's spray was used by other surgeons well into the 20th century, surgeons including William Macewen and William Arbuthnot Lane developed modifications to Lister's techniques including Lane's 'aseptic no-touch technique' and Macewen's rigorous hand scrubbing regime. Lane's pioneering method of plating simple fractures was achieved with a recognition that even a very small inoculum could result in infection in the presence of a metal implant.

The introduction of antibiotic medicines in the 1940's and 50's led to a mistaken optimism that surgical infection could be eradicated by pharmaceutical methods.

When John Charnley perfected his design of total hip replacement in the 1960's he recognised that the very highest standards of infection control would be required in the operating theatre. He was cautious about the use of antibiotics and his concerns about antibiotic

resistant organisms were confirmed some years later with the appearance of MRSA. This paper charts Charnley's clean air approach, which allowed air quality to be achieved better than 1 colony forming unit per square foot. MRC studies showed infection rates to be extremely low. This system remains the gold standard for implant surgery in the 21st century.

'A brighter day has dawned on surgery'

Laurens J Ceulemans, Philippe Nafteux, Paul De Leyn

John Hennen's legacy concerning the treatment of surgical wounds and epidemic diseases in a military context was well known when Joseph Lister was an assistant in Edinburgh. But his work has since faded from view and is now hardly known, even though Hennen left a rich bibliographical legacy.

John Hennen (1779-1828) was born in Ireland, and graduated at the College of Surgeons, in Edinburgh, after which he joined the army and was soon promoted. In 1809 he accompanied his Regiment to Cadiz and Gibraltar, and ultimately to Portugal where the medical care of important hospitals in the Peninsula Wars was entrusted to him. Both his dexterity as an operator and his 'incessant zeal' attracted attention.

With Napoleon's escape from Elba, Hennen was recalled to active duty and ordered to Belgium where he was put in charge of the Jesuits' Hospital in Brussels. Here he worked with Guthrie and Thomson, and after Waterloo (1815) attended Wellington. From the start of his practice, he recorded remarkable details of cases that came under his observation, records which contributed to his *The Principles of Military Surgery* (1820), in the Preface of which he noted that 'a brighter day has dawned on military surgery'.

LISTER'S INFLUENCE OUTSIDE THE OPERATING THEATRE

Farmer to Industrialist – How Antisepsis Changed the Self-Image of Surgeons in Germany

Thomas Schlich

Impressed by the improvement of surgical results after the introduction of antisepsis, German surgeons started discussing their newly acquired confidence in terms of their role in modern society. In 1881 Richard Volkmann, the most important proponent of Lister's system in Germany, compared the pre-antiseptic surgeon with the farmer who, after cultivating his land had to wait for the harvest and accept whichever way it turned out, being at the mercy of the elementary forces of nature. The modern antiseptic surgeon, by contrast, was like the manufacturer of whom the public expected high-quality products. Blind luck was replaced by control, fatalism by responsibility, Volkmann claimed.

Many contemporary surgeons felt, like Volkmann, that antisepsis had revolutionized their field. In their publications they described how surgeons had gained control over the results of their activity and how they now had to take on full responsibility for these results. Between 1870 and 1900 German-language surgeons adopted a concept of active risk management, which was to replace what they saw as the traditional fatalistic attitude of surgeons towards the dangers of their trade.

In this paper I will explore how the adoption of Lister's techniques in the German speaking countries helped to shape surgeons' self-perception as the avant-garde of a modern industrial society. It will thus trace how Lister's legacy has influenced surgeons' (and the public's) ideas about surgery until the present day.

The Role of the Matron in Managing Infection in Late Nineteenth and Early Twentieth-Century London

Rosemary Wall

The introduction of antisepsis coincided with the introduction of the trained Matron into British hospitals. With the influence of the Nightingale School and religious training institutions, St John's House and All Saints, trained nurses were appointed as Matrons for the first time in the 1860s and 1870s. The introduction of these women into the hospitals caused debate in the national medical press regarding how hospitals would be managed. Although the power of the Matron within the hospital has been debated, the everyday role of the Matron in management in the 19th century has been under-studied by historians of medicine and nursing.

By examining hospital committee minutes, this paper examines the extent of the role of the Matron in the implementation of the laborious techniques of antisepsis, asepsis and managing infection at St Bartholomew's Hospital, which had powerful matrons including Ethel Manson, who, as Ethel Bedford Fenwick, was a militant nursing reformer.

Lister and Experimental Science

Edward Howard

Joseph Lister acquired a lasting interest in physiology during his student days at University College, between 1848-1852. Thereafter Lister pursued research work concerned with detailed histology of the skin and the contractile tissue of the iris, elegant studies of inflammation, the nervous control of arteries, the cutaneous pigmentation of the frog, and the first of many studies on the mechanism of blood coagulation. In 1858 Lister reported innovative experiments on the control of gut peristalsis and the role of

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the autonomic nervous system in the rabbit, done without chloroform as Lister had noted that this agent depressed gut reflexes. From these experiments he inferred that sympathetic nerve action in the gut was mediated via the intrinsic plexus of nerves which had been described a year earlier by Meissner. Modern histochemical techniques confirmed this mode of action 100 years later.

The pathologist Cuthbert Dukes has written: 'Throughout the papers Lister shows himself to have been an inductive philosopher with a genius for seeing at once the precise experiment necessary to clear a doubtful point' and it is of interest to consider how Lister's researches eventually led to the principle of antiseptis.

A Patient Learns from Lister

Mary Wilson Carpenter

'Well do you think Mr ____ did it from cruelty, or to cause you pain? No Sir, I think Mr ____ did it so as I should not have a stiff joint afterwards, Sir. How do you think so? I think so Sir, as Mr ____ told me I would be able to pull him around the bay near our place in Shetland when he came there to spend his holiday yet some day perhaps Sir (a laugh). Very good proof, gentlemen, the patient understands the term 'a stiff joint'.¹

Joseph Lister had just returned from London to make a last examination of his patients in the Edinburgh Royal Infirmary before moving to his new position at King's College London in October 1877. Margaret Mathewson, a twenty-nine-year-old woman from the island of Yell who had undergone the excision of her tuberculous shoulder joint by Lister, explained to 'the Prof' why she believed the student dresser had not intended her any harm, although he had manipulated her shoulder so forcefully during dressings as to cause great pain, bleeding, and a slowing of the healing process. Lister replied with

approval, but did not know that Mathewson had, in fact, believed the dresser had caused her pain deliberately.

Mathewson later wrote two narrative accounts of her experience as a patient of Lister's. The two versions of the 'Sketch' differ extensively, not only because many changes. Much of what was left out is not only 'more interesting' but extremely significant. Far from being the silenced, passive object of the 'clinical gaze', Mathewson represents herself as the willing student of Lister's staff, and that staff as actively teaching patients such matters as how to do their own dressings. I can only present hypotheses about why she revised the 'Sketch' as she did, but I can document what this extraordinary student-patient learned from Lister.

KEYNOTE

Lister and the Empire: a continuing legacy

Anne Crowther

The reception of Lister's antiseptic practices in Britain and abroad has been the subject of much discussion. Lister's first biographers contrasted his rapid acceptance in Scotland and the English provinces with an original lukewarm reception in London. Similarly, his apparently enthusiastic reception by leading European surgeons was contrasted with a patchy reception in the British Empire. Medical historians in many countries have been keen to trace the 'first' Listerians, and to explain the varied reaction of the local profession to these new techniques. This raises the question of how medical innovations were transmitted in Lister's time, especially in such a practical and tactile field as surgery. Lister's long-continued, painstaking experiments in antiseptic lotions, dressings, and sutures, seemed needlessly complex to his critics, and were best understood by those who saw him in action. From the 1880s

onwards, the acrimony subsided, and Lister's international reputation became a major asset to the medical profession, even as it discarded or bypassed many of his techniques. This period also coincided with the zenith of the British empire, and Lister's name was often invoked in imperial discourse. He was credited with influencing not only surgery, but public health, bacteriology, pathology, obstetrics, and more generally with inspiring a concept of 'scientific medicine' that seemed particularly important as a justification of imperial rule. This paper considers Lister as a focus of imperial sentiment, and how this legacy was handed on to the next generation of doctors, whose careers would begin with an imperial war, and end in the period of decolonization.

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