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Surgical History Program Abstracts

SH01
JOSEPH MURRAY: THE LAST NOBEL LAUREATE SURGEON.

Anthony Farfus

Royal Adelaide Hospital, South Australia

In 1990, Joseph Murray became the most recent surgeon to receive the Nobel prize for his contributions to the field of transplant medicine. In memoriam, following his death in November 2012, this presentation recounts his career. It highlights some of the important lessons that can be applied to surgeons in training today, such as astute observation, clinical innovation and prioritising patient care.

Following training as a plastic surgeon, Murray's interest in transplant surgery started with the observation of allograft skin transplants of soldiers who suffered burns during World War II. He recognised the greater successful take of skin grafts between relatives, compared to those who were unrelated. This inspired his early research which culminated in the first successful renal transplant in 1954 between monozygotic twins. His initial work was followed up by many other medical milestones, including the first kidney transplant using an immunosuppressant agent in 1962. Murray continued to work in transplant medicine until 1971, when he chose to focus his career on reconstructive surgery and made significant contributions to the field of head and neck oncology. He retired from clinical practice in 1986.

Despite his many achievements, Murray had many early setbacks in his career that delayed the amazing advances that were to follow. His tireless dedication has not only revolutionised the field of transplant medicine, but offers inspiration to new generations of surgeons striving to improve outcomes for patients today.

SH02
EARL PAGE: AUSTRALIA'S ONLY SURGICAL PRIME MINISTER

Graham Stewart

School of Rural Medicine, University of New Englan, New South Wales

Sir Earle Page, the only medically qualified Prime Minister of Australia, served in that role for 20 days in 1939. This is the second shortest tenure in this role, however his tenure as a federal member of parliament is the second longest recorded. He filled senior cabinet positions from 1923 until his ministerial retirement in 1956, in a number of roles (lastly, as Minister of health in the Menzies government) being responsible for the creation of the Australian Health system that was abolished by the reforms that lead to Medibank, by the Whitlam government.

From a position as rural surgeon in Grafton, NSW and having seen active service with the AIF in France, in 1919 he was elected to parliament, for the Country Party. He was soon elected the leader of the party and consequently Deputy Prime minister and Treasurer in the Bruce-Page ministry, of 1923–1929. It was during this period that at the formation of the Royal Australasian College of Surgeons he was appointed a Founding Fellow. It is interesting to note that this accolade was also achieved by another cabinet colleague, Sir Neville Howse VC (Minister for Defence and Health, at that time) another rural surgeon from Orange, NSW.

The importance that Earle Page placed on his surgical background can be seen in his notable contribution to health systems, is recorded in a number of addresses and is clearly revealed in the title of his autobiography "Truant Surgeon"

SH03
ARCHIBALD MCINDOE AND HEPATIC ANATOMY

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The New Zealander Sir Archibald McIndoe is a renowned pioneering plastic and reconstructive surgeon, famous for his work with burnt airmen, from The Royal Air Force, at Queen Victoria Hospital, at East Grimstead, during the Second World War. The Guinea Pig Club consisting of his rehabilitated patients became a very proud group commemorating his efforts.

McIndoe's area of interest before becoming involved with plastic surgery was in hepatic anatomy and upper abdominal surgery. After graduating from the University of Otago, in 1924 he was awarded a fellowship at the Mayo Clinic, at a time when that institution was still directly run by the surgical brothers, William and Charles Mayo. Impressing Lord Moynihan while visiting the clinic, the then President of the Royal College of Surgeons, promised a position to advance his intra-abdominal interest. Arriving in London this employment did not eventuate.

In 1930, he was offered a position by his cousin Sir Harold Gillies, another New Zealander, already famous for his facial reconstructive work in the First World War. As Gillies' first assistant and subsequently in his own practice, he developed an expertise unrelated to his earlier researches.

This talk will concentrate on McIndoe's career and research at the Mayo and particularly his work on hepatic anatomy and its relationship to developments in that field.

SH04
THE CONTRIBUTION OF HAROLD GILLIES TO SURGERY IN THE 20TH CENTURY

Varun Harish and Kenneth Lee

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Sir Harold Gillies ranks high in the surgical world and was instrumental in the founding of plastic surgery as a specialty. He was born in Dunedin and later went to Cambridge. He was named a Fellow of the Royal College of Surgeons in 1910 and adopted the specialty of otolaryngology initially. In the first world war, Gillies was sent to France and observed plastic surgery in action. He rushed back to England to start a new plastic and jaw unit. Gillies was challenged by the mutilated faces he encountered. He used his inherent talent and his otolaryngology training to move large amounts of tissue dramatically into wound defects. The major problem faced by his contemporaries was that primary closure of gunshot wounds was not possible; tissue loss could only be reconstructed by introduction of new tissue' local rotation and transposed flaps of various types for soft tissue repair and bone grafts from the rib and tibia to reconstruct osseous defects. Two of Gillies major innovations were the tubed pedicle flap and the epithelial onlay technique for reconstructing eyelids and lining the mouth. Following the war, he was knighted and continued his reconstructive work but expanded into cosmetic surgery. During World War II, he set up another plastic and maxillofacial unit in Hampshire and made great progress in the treatment of burns, soft tissue repair and maxillary osteotomies. Many of the great surgical advances have in fact originated during great wars, and the wars of the 20th century have been the breeding-ground of some of the greatest surgeons of the modern era.

SH06
THE USE OF ARSENICAL MEDICINES THROUGHOUT HISTORY

Diana Kennedy and Paul J Belt

The Princess Alexandra Hospital, Queensland

"Poisons in small doses are the best medicines, and the best medicine in too large doses are poisonous." – William Withering.

The use of arsenic in medicine has an expansive and diverse history. From pastes and remedies used in ancient cultures to modern chemotherapy, arsenic has been utilized in the treatment of a vast number of ailments and pathologies by both Western and Eastern practitioners. Arsenic-related pathologies of the gastro-intestinal, integumentary, haematological, cardiovascular, endocrine and reproductive systems have been reported to be associated with chronicity of use. We aim to review the use arsenical medicines throughout history and also outline the chronological evolution of our understanding of the systemic and cutaneous manifestations associated with chronic arsenicism.

Arsenic is a naturally occurring element that is odourless, colourless and almost tasteless. Exposure to it can be occupational, environmental or medicinal, and the toxicity of the compounds is related to their accumulation in tissues. Despite the epidemiologic evidence of arsenic's carcinogenicity, the mechanism is poorly understood and remains uncertain. Arsenic's use, both as an agent of therapy as well as an agent of death, has been referenced in academic texts for over two thousand years. The medicinal virtues of arsenic were recognized early, with Hippocrates and other forefathers of medicine referencing its use in their teachings. When reviewing literature on the modern era of arsenical medicine, the preparations we identified could broadly be classified into Western and Eastern medicines, with significant overlap in the clinical manifestations of chronic exposure.

SH07
A HISTORY OF MAGNESIUM: EPSOM SALTS, MILK OF MAGNESIA, AN ESSENTIAL ELEMENT FOR HEALTH

David Watters

Deakin University, Victoria

Magnesium, the 12th atomic element, is named after the Greek region of Magnesia. It is highly flammable and was used as flash powder in the early days of photography, during World War II in firebombs, and today in fireworks and flares, producing a bright white light. The metal was first made using electrolysis of magnesia and mercuric oxide by Sir Humphry Davy in 1808.

It is the active ingredient in Epsom salts, known since a farmer at Epsom (1618) noticed that water from a well containing magnesium sulphate healed his cows' scratches and rashes.

Pierre Delbet (1861–1957), Professor of Surgery in Paris from 1909, recommended magnesium chloride for wounds for its anti-septic properties, achieved without damage to tissue. He also noted that magnesium chloride seemed to cure other ailments.

Magnesium salts act as a laxative. Magnesium hydroxide is an antacid, first patented in by John Callen in 1818, but not called Milk of Magnesia until 1880 by Charles Henry Phillips. It was advertised in Australia and approved by the Royal College of Surgeons [of England] in 1838.

Today magnesium is used to control neurological excitability – convulsions, Parkinson's disease, eclampsia – and cardiovascular diseases – arrhythmias, atherosclerosis and hypertension. It may be beneficial for mood and diabetes.

Magnesium, like calcium, is stored in bones and thus serum levels are a poor indication of deficiency. Serum levels, red cell magnesium concentration and urinary excretion are the useful measures. The pharmacological and physiological effects of magnesium are still being delineated in clinical practice.

SH08
SURGICAL SERENDIPITY IN THE EARLY 1900S

William Sugrue

Whangarei, New Zealand

New Zealand was fortunate in having a number of surgeons sail to its shores in the early 1900s following distinguished undergraduate and postgraduate careers in the UK. Six of these stood out, four of whom were emigrating to NZ, the remaining two returning home. Five went on to become prominent surgical leaders in peacetime and war, honoured by society and became foundation members of our College in 1927.

The exception was Thomas Copeland Savage. A Fellow of the English College, he emigrated to NZ in 1902 for health reasons and settled in Auckland where he practised with distinction for the following thirteen years. Despite not being of robust health and with his wife expecting their fifth child, he volunteered his services to the NZ Medical Army Corps and was appointed a Major to be in charge of the Second Stationary Hospital in Cairo. Soon after arrival he became seriously ill with meningitis and died two weeks later on 28 July 1915. He had been attended to by his mentor Sir Victor Horsley. His death was a great loss to the NZ Expeditionary Force.

This modest and brilliant man had many attributes. Eisdell Moore, a medical student in 1906, wrote in his book "Operation Lifetime" published in 1964, "We did not know how lucky we were to have such a man." New Zealand which had a population of just over one million in the early 1900s was fortunate that Savage and others like him elected to emigrate or return to this young and distant land.

SH09
LOUIS OPIT SURGEON, BIOCHEMIST, MATHEMATICIAN AND PROFESSOR OF COMMUNITY MEDICINE

Anthony Slavotinek

The Queen Elizabeth Hospital, South Australia

Lou Opit's father emigrated from the Crimea, studied medicine in Sydney and practiced in Curramulka SA, where Lou was born in 1927. In 1928 the family moved to Adelaide. Lou's early education was at St. Peters' College, and like his father he studied Medicine. He graduated MB BS from Adelaide University in 1949.

Lou worked briefly in Fremantle, en route to England to become a Fellow of the Royal College of Surgeons in 1954. His English training was at the Royal Northern Hospital, Colchester and Warwick. He returned to Adelaide in 1956, as a senior Registrar at the Royal Adelaide Hospital and then joined Professor Jepson's unit as a Senior Lecturer at The Queen Elizabeth Hospital.

Two exposures may have influenced his future. In 1962 he was awarded the Harkness Fellowship to Harvard, where he became interested in medical records and statistics and in Adelaide he met John Charnock a biochemist in Department of Medicine.

He and John wrote several papers on non-surgical themes and this may also had some influence.

Opit changed his interests. He resigned from the Department and transferred to Warwick to study mathematics. There was a brief period at King's College Hospital, trying to improve medical records. Next he succeeded Professor Basil Hetzel as the second Professor of Community Medicine at Monash (1967–1984).

Lou Opit returned to Canterbury as Professor of Community Medicine and continued to serve on numerous international committees. He published more than 150 refereed papers. His unique character enchanted, instructed and provoked many.

SH10
THREE CENTURIES OF HANGINGS

Arthur Wynyard Beasley

New Zealand Archivist RACS, Wellington, New Zealand

This paper considers hangings in the 17–19th century, which have specific medical features of interest:

- the hanging of the "Batavia" mutineers in 1629, which introduced the concept of graduated punishment;
- the execution of Rev Dr William Dodd for forgery in 1777, which led to an early experiment in the discipline of resuscitation; and
- the execution of William Burke in 1829, which provides an insight into early 19th century anatomy teaching and practice in Edinburgh.

SH11
DOCTORS AND THEIR DUELS

Sam Mellick

University of Queensland, Queensland

The "Duel of Honour," a consensual fight between gentlemen (and rarely women) flourished from the 15th to the 19th Centuries and after a steady decline is now almost extinct. Wearing a rapier had become fashionable for gentlemen in 16th Century Europe and was soon preferred to the broader bladed sword as the weapon of choice, but paired pistols specifically designed for duelling appeared in the 18th Century and British made guns were highly prized.

Many notable persons fought duels, amongst them Lord Byron in England, Comte Albert de Dion in France, General Sam Houston in America, Benito Mussolini in Italy; and Doctors also indulged. In America Dr R. Marsteller fought with pistols, Sir Kenelm Digby duelled with the rapier in Europe and three Doctors in early Colonial Australia – William Bland, John White and William Balmain all duelled with pistols. These "Medical" encounters provide an interesting insight into the justification for each challenge and their duels will be described in detail.

Duelling was outlawed in Britain in the middle of the 19th Century, and bouts with fisticuffs became popular there, but sword duels persisted elsewhere. The demise of duelling was accelerated by the spreading realisation in a more enlightened age that is was basically irrational as it proved nothing, indeed it was illegal in most countries, and it was morally and intellectually indefensible.

SH12
THE ASSASSINATION OF DUC DE BERRY: PENETRATING CHEST WOUND MANAGEMENT IN 1820S FRANCE

Gausihi Sivarajah

St. Vincent's Hospital Melbourne, Victoria

In post-revolution France, the early nineteenth century saw the rise and fall of the Napoleonic Empire (1804-1814) and the restoration of the House of Bourbon. King Louis XVIII returned to power and ruled under a constitutional monarchy amid the push of the dominant ultra-royalist, la Chambre introuvable.

Charles Ferdinand d'Artois, the Duc de Berry, was the king's nephew and last prince in the direct Bourbon line. He was a known supporter of the ultra-royalist faction. On 13 February 1820, he was assassinated outside the Paris Opera when Louvel, a Bonapartist sympathiser, stabbed him in the right chest.

Customary interventions of blood-letting and cupping were utilised by the court physicians. After these attempts failed, the renowned surgeon Dupuytren was called upon. On examination, he diagnosed a haemothorax and made an exploratory skin incision. He was however, unable to locate the source of the bleeding. The duc died the next morning. The post mortem demonstrated the fatal injury responsible for exsanguination was a stab wound into the right atrium. Despite these findings, Dupuytren was heavily criticised by colleagues for his unorthodox intervention. Although he was conferred with a hereditary baronetcy by Louis XVIII, the Faculty Surgical Section in 1823 offered a prize to find the best way of treating chest injuries. The prize was not awarded until August 1828, to Dr Peter Francis Briot. His paper, a Memoir on the Treatment of Wounds extending into the cavity of the Chest, advised abstention from treatment, or closure of the wound.

While the assassination of Duc de Berry was an attempt to extinguish the Bourbon line, this event generated debate on the management of penetrating chest wounds in France in the 1820s.

SH13
THE ANATOMY LESSON

Robert Pearce

University of Western Australia, Western Australia

The study of Anatomy has been an integral part of medical education for centuries. Since the early Renaissance the progressive removal of social and religious barriers to human dissection has provided for more accurate scientific investigation of human anatomy and physiology.

Our surgical forebears discovered and taught a true and accurate anatomy and their lessons were often famously recorded, sometimes for publication in their own surgical texts. Early woodcuts, lithographs and engravings are discussed in this paper, together with later formal oil paintings which illustrate the progressive art and evolution of surgical teaching.

SH14
REFLECTING ON THE WRITING OF MEDICAL HISTORY

Linda Bryder

Traditionally medical history writing was almost the exclusive preserve of those within the profession, whose histories often included a strong biographical focus. While this continues to be an important strand within medical history, from the 1970s onwards academics from the humanities and social sciences also began to research and write medical history. Many of the early forays by non-medically trained historians were ideologically driven, informed and motivated by contemporary critiques of modern biomedicine and included an element of 'doctor bashing'. This paper will address how and why the discipline has evolved over the past forty years to a position where more balanced views are presented. I will also argue for the importance of researching medical history and its social context to promote a greater understanding of the very fabric of past societies.

SH15
THE COLLEGE ON SHOW

Ian Mcinnes

RACS, Victoria

During 2011 and 2012, The College opened its doors to the public, as part of the Melbourne Open House Program. Members of the Heritage Committee and 30 staff volunteers guided visitors through the College over 2 weekends.

A brief guided tour of the College and its treasures is presented and some of the difficulties and potential rewards are considered.

SH16
LESLIE COWLISHAW AND HIS COLLECTION

Geoff Down

Melbourne, Victoria

Leslie Cowlishaw was a Sydney physician, who over a period of some 35 years in the early part of the 20th century amassed an exceptional collection of books unlike any other in Australasia. The aim of his collection was to trace the development of medicine out of superstition and witchcraft into an art and then into a science. At the time of his death in 1943 his collection comprised some 2000 titles and was recognized as the finest private medical library in Australasia. Cowlishaw had intended to leave it to the Royal Australasian College of Physicians, where he was Librarian, but this never came to pass.

This paper will examine the life and career of Leslie Cowlishaw, the development of his interest in books, how and where he sourced them and how he constructed the collection. It will also describe how the collection came into the possession of the Royal Australasian College of Surgeons, how it is maintained and used, and some of the challenges it faces now and in the future.

SH17
ENHANCED RECOVERY ON THE WESTERN FRONT

Andrew Connolly

Middlemore Hospital, Auckland, New Zealand

The Western Front in the Great War saw the greatest number of Australian and New Zealand casualties of any Theatre. In excess of 12,000 New Zealanders and 46,000 Australians gave their lives in France and Belgium. These figures would have been considerably higher had it not been for the advances made in care of the wounded. Many of the advances made by Allied medical services including the Australian Medical Corps and the NZMC were based on a continuous drive toward quality improvement, audit of results, and a scientific approach to early treatment. A century later we try to claim such advances are signs of a modern health system yet history shows us we are in many cases simply refining enhanced recovery techniques developed on the battlefields of the Great War. This presentation is a review of advances made in the Great War to enhance the survival of casualties on the Western Front. Rapid evacuation of the wounded, fluid resuscitation including blood transfusion, aggressive warming of the casualty, anti-sepsis, and early definitive surgical management of trauma all became established during the war. In addition, definitive recognition and treatment of thousands of shell-shocked troops was a feature of medical care on the Western Front.

SH18
MEDICAL PRESIDENTS OF THE WELLINGTON CLUB

Arthur Wynyard Beasley

New Zealand Archivist, RACS, Wellington, New Zealand

The Wellington Club, founded in 1841, is New Zealand's oldest club. In its 172 years it has had seven medically qualified presidents (and one dentist). In this paper the most recent of these examines the careers of his august predecessors:

Dr Isaac Earl Featherston
The Hon Dr W E Collins
Sir Donald McGavin
Mr T V Anson (and his brother Dr G F V Anson)
Sir Duncan Stout
Dr Morvyn Williams
Sir Randal Elliott

SH20
"JOHN HEYSHAM GIBBON – THE MAN AND HIS DREAM": A DARING VENTURE INTO THE OPEN HEART

Lucy Marney and Sithi Sitharthan

The Townsville Hospital, Queensland

On 6th May 1953, exactly 60 years ago, the first clinically successful cardiopulmonary bypass was performed, blasting open the door to the heart that had been locked for centuries. Its seed was sown in 1931, at a 17 hour bed side vigil of a patient dying with massive PE. Surgery, then, could only be attempted by complete throttling of the great vessels from the heart. As a young fellow, Gibbon watched helplessly as life ebbed away and it set him off into a long, arduous and courageous journey into the unknown. His astute intellect combined with audacious belief, absolute devotion and lifelong dedication to this single research culminated in the first successful human open heart surgery by CPB – "we had for the first time in the history of mankind, a heart which was devoid of blood!" The patient, Cecilia Bavolek (ASD) was not even born when Gibbon started his research and outlived her surgeon by several decades.

It had a much more profound effect than mere construction of an oxygenating mechanical pump. It stimulated the imagination of other researchers and triggered a chain-reaction which led to the conquest of the heart.

"Their bodies offered to my trust" – this man of high integrity and moral values once said. His next two patients died and this truly admirable gentleman immediately put the product of his 23 years research into moratorium. He never again performed an open heart operation. He did share his knowledge liberally and it subsequently took off through the Mayo-Gibbon modification. Whilst his machine has now evolved to a portable state, the man himself will continue to inspire generations to come and will remain a legend forever.

This is his great story of inspiration and venture into the unknown. . .

SH21
MEDIEVAL MEDICINE C.400-1400

Philip Sharp

Sydney, New South Wales

The transition in medicine from Classical Antiquity to the Middle Ages depends on whether one's standpoint is Gaul, Roman, Constantinople or the frontier lands of Mesopotamia.

Various religions have played a large role in this transition. In 313 AD, Constantine the Great proclaimed a policy of religious freedom for all, ending the persecution of Christians in the Roman Empire. This led to a 'desecularisation' of the ancient world. Christianity (and later Islam) insisted on a Christian community that extended from before birth to the grave and beyond.

With the Barbarian invasions the collapse of the Western Roman Empire and the rise of warrior fiefdoms spelt catastrophe for civilization and its amenities – including the teaching and practice of medicine. The medicine they kept alive was just a shadow of its brilliance in Galen's day.

How did this ancient medical wisdom finally return to Medieval Europe? Why did the Church take the position that the divine was above the temporal? What were the various ecclesiastical regulations passed regarding medicine? For example how did they affect dissection and surgery? How were public concerns with insanity, public health, midwifery and hospitals dealt with? Why was Galen's 1000-year-old humoral theory rejected?

From birth to death – and even beyond if you were unlucky to be cut up for a public anatomy display – it had taken one thousand years for medicine to gain a hold that it had previously lacked or lost.

SH22P
HISTORY OF SURGERY AT TARI HOSPITAL

Wilson Pakalu and David Watters

Tari hospital, Hela Province, Papua New Guinea

Tari is one of the few last districts in the Southern Highlands Province of Papua New Guinea discovered by the Europeans in the 1950s. The district hospital was built in 1954 with the help of pioneer Australian medical assistants. The first medical officer to be stationed in Tari was Roger Rodrique in 1959. He performed minor operations under primitive conditions. Major surgical procedure began in the 1970s when Dr Riley was posted there. In 1984, Tari hospital was upgraded from a health centre to a district hospital status and several expatriate doctors were employed on short-term basis. The main reason for surgical admission was trauma and involved emergency surgeries in more than 80 percent of the cases. The Huli people are well known for their extra ordinary violent ways of solving conflicts. After the 1997 National General Elections, surgical services to Tari hospital became non-existent due to political tension. It took almost 10 years before surgical services resumed at Tari hospital after Medecins Sans Frontieres arrived in 2007. At the time of writing this paper, there is still no government funded surgeon at Tari hospital. Emergency surgeries are performed by MSF. Tari town is now the capital of the new Hela Province which is home to the multi-billion dollar LNG project in PNG. There is a much greater need for the PNG government to improve the surgical service delivery at Tari hospital to this day.

SH23P
THE HISTORY OF SCALP REPLANTATIONS AND LESSONS LEART

Rahil Nagpal and Chloe Wilcox

Westmead Hospital, New South Wales

The first successful case of scalp replantation was in 1976. The early experiences gained in replanting traumatically avulsed scalps helped shaped not only microsurgical decision making and techniques, but also provided early guidance in microvascular reconstruction of the face, scalp, head and neck.

In general, the larger the avulsion, the easier to identify and anastamose vessels, and prolonged ischemic time does preclude successful outcomes. The superficial temporal artery is the most reliable for scalp replantation and vein grafts are often required.

This paper looks at the history of the management of scalp avulsions and replants, and the key moments in developing basic axioms that have now formed the foundation principles of treatment in reconstructive surgery. The keys to successful post-traumatic replantation are discussed and compared to modern practices in reconstructive surgery, considering the limitations as well as potential future directions.