

GREETING GIANTS

MEDICAL MEMOIRS



ERECTING GIANTS: MEDICAL MEMOIRS

“IN THE CONTINUAL REMEMBRANCE OF A GLORIOUS PAST INDIVIDUALS AND NATIONS FIND THEIR NOBLEST INSPIRATION, AND IF TO-DAY THIS INSPIRATION, SO VALUABLE FOR ITS OWN SAKE, SO IMPORTANT IN ITS ASSOCIATIONS, IS WEAKENED, IS IT NOT BECAUSE IN THE STRONG DOMINANCE OF THE INDIVIDUAL, SO CHARACTERISTIC OF A DEMOCRACY, WE HAVE LOST THE SENSE OF CONTINUITY?”

– WILLIAM OSLER, *THE LEAVEN OF SCIENCE*

Medical giants are those individuals who have contributed something to which posterity must pay tribute. Like all of humanity, these giants are mortal but their legacy is history itself. The memory of those we have loved and lost is instilled deeply into the literature of science and medicine. Some leave their legacies in physical signs and symptoms, such as *Homan's Sign*, named after John Homan or *Dietl's Crisis* named after Josef Dietl. Some physicians rise to such exalted heights that a disease is named in their honor, such as *Bright's Disease* for Richard Bright or *Peyronie's Disease* for Baron de la Peyronie. All of these methods are shortcuts of history to associate something with someone, a method of enshrinement.

A significant method of historical remembrance with profound implications in historical writing, is biography and autobiography: memoirs. The great Virchow wrote in 1849:

Should medicine ever fulfil its great ends, it must enter into the larger political and social life of our time; it must indicate the barriers which obstruct the normal completion of the life-cycle and remove them. Should this ever come to pass, medicine, whatever it may then be, will become the common good of all. It will cease to be medicine and will be absorbed into that general simplified body of knowledge which is identifiable with power...

Virchow was referring to Francis Bacon's famous paraphrase from the Bible, that 'Knowledge is Power.' Our knowledge is indelibly linked to those who painstakingly gathered the drops of truth, one-by-one, from the beginnings of recorded writing and passed them to us, their heirs. It is rare that our youth or current heirs recognize the value of the historian's craft, but some always do. It is therefore of more than a passing interest of historians to dwell for a while on the memoirs that dot the fertile landscape of the past and celebrate the giants upon whose shoulders we ourselves stand.





GALEN (129 C. – 200/216) *Font of Historical Wisdom*

Michael Moran, MD

Galen is one of the most widely recognized physicians of the past. He was born in Pergamon, which is now Turkey, and traveled and trained (152-157) in Alexandria. Galen was a prolific author, who wrote over 300 treatises, of which only about half survive. With the collapse of the Roman Empire, much of Galenic scholarship shifted to the Byzantine world and the Middle East. Vivian Nutton, a modern Galen scholar, has said Galen to be: *"The most prolific writer to survive from the ancient world, whose combination of great learning and practical skill imposed his ideas on learned doctors for centuries."* Galen most certainly was interested in anatomy; his work *Anatomical Procedures*, published c. 200 CE, embodied a lifetime of practical anatomical research. He may well have used this during his actual anatomical demonstrations and during his dissections. The original had 15 books, of which only the first 8½ have survived in the original Greek (translated by Charles Singer) and the remainder come to us via Arabic translations.

Galen's writings transformed anatomy via the efforts of Andreas Vesalius. To better understand the truly titanic influence Galen had, not only on medicine but upon Western thought in general, consider that his academic output of written material includes 150 titles, which is 1/8 of the total output of all classic Greek literature that survives! Galen was a brilliant academic physician and philosopher. A tireless investigator of nature, he studied physical examination and differential diagnosis, and was a ruthless critic of ideas unsupported by investigation and experience. Galen wrote and taught anatomy — predominately on

animals — as well as practiced clinical medicine and some surgery. He became the physician of Marcus Aurelius and his son, Commodus. His writings had a profound and lasting impression upon all of medicine for the next 1500 years. His books were transcribed and became part of the tradition of medical education at Alexandria where the books were translated into

Persian and Arabic continuing their legacy onwards into the Dark Ages in Byzantium and the Muslim worlds.

Galen's contributions inspired Renaissance investigators, such as Vesalius, to question his findings and spur an academic re-awakening in the 16th century.

Adrian W. Zorigniotti, the third American Urological Association's Historian from 1980-1988, was a devout Galenic historian. He acquired and reported upon many of the significant offerings that Galen had for urologists. He begins an extensive translation of Galen's *De Locis Affectis* by writing:

Galen dealt in great part with the etiology of urinary retention and suppression. In this chapter, he concerns himself with diseases of the kidneys, 'diabetes' and its relation to a disease called lientery.

Zorigniotti presented the authoritative translation of some critical Galenic works that, in turn, David Bloom used to review most of the Galenic corpus for a urological perspective. Galen was perhaps the most "self-referential" of ancient authors to come down to us but he was a perceptive clinician with most vocal attributes. His legacy for over 1½ millennia confirms Galen as one of medicine's true giants. ●



1: GALEN
{c. 130-200}.
2: The preparation and
application of medication.
3: Galen's head on pedestal.

1. Wellcome Collection
2, 3. National Library
of Medicine



ANDREAS VESALIUS (1514–1564)

FATHER OF MODERN ANATOMY

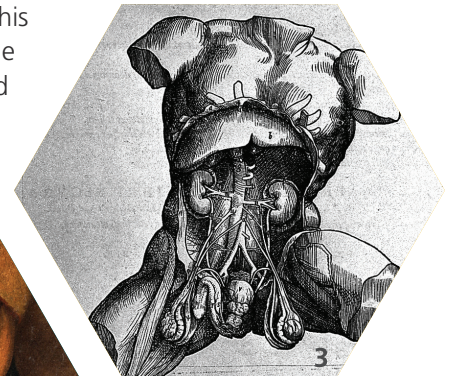
Michael Moran, MD

At this point, however, I have no intention whatever of criticizing the false teachings of Galen, who is easily first among the professors of dissection, for I certainly do not wish to start off by gaining a reputation for impiety toward him, the author of all good things, or by seeming insubordinate to his authority. For I am well aware how upset the practitioners (unlike the followers of Aristotle) invariably become nowadays, when they discover in the course of a single dissection that Galen has departed on two hundred or more occasions from the true description of the harmony, function, and action of the human parts, and how grimly they examine the dissected portions as they strive with all zeal at their command to defend him. Yet even they, drawn by their love of truth, are gradually calming down and placing more faith in their own not ineffective eyes and reason than in Galen's writings.

– Andreas Vesalius, 1543

Andreas Vesalius was born into a lineage of medical families in Brussels, Belgium and has become known as the father of modern anatomy. He was the second son of Andries van Wessel and Isabel Crabbe, born in the morning of December 31, 1514. He appears to have spent his youth in large part on his pursuit of the family tradition of medicine. He was fortunate in that his family heritage was to serve the royalty of the Holy Roman Empire who had managed to accumulate an impressive private library of medical classics. André, later Latinized to Andreas, learned Latin, Greek and Hebrew and followed the typical pathway to higher education. He matriculated to the University of Louvain at age 15, on February 25, 1530. His first medical mentor, Nicolaus Florenas, encouraged his transfer to the University of Paris in 1533. Vesalius had already managed to achieve some skill in anatomical dissection, obtaining numerous types of animals for this purpose (mice, dormice, cats and dogs). He presented himself as being largely self-taught and described his youthful efforts to procure cadavers, stealing one in the dead of the night from a municipal gibbet and hiding it under his bed for continued study. He claims to have persuaded a local judge to schedule a specific execution so that he could obtain from the freshly killed person, the “still beating heart.” He had already read extensively the anatomical works of Galen and Avicenna.

Vesalius eventually found himself helping publish the Latin translation of a newly discovered work of Galen's, *On Anatomical Procedures*, released in 1540. Now Vesalius knew well the anatomical literature that preceded his own work and was aware that his work would be compared to Galen's. Vesalius modeled his *De Fabrica* directly upon the recently published Latinized version of Galen's.



Vesalius' magnum opus, completed when he was 28, was published in Basel, Switzerland by his friend Johannes Oporinus. Vesalius

spared no expense in the creation of his work. He had worked assiduously for five years preparing for all aspects of this work. He had carefully worked with the artists and complained about the difficulties in working with some of them. One of the several lingering mysteries regarding this work remains: who were the artist(s)? The illustrations are performed by the studio of the master painter of Venice, Titian, but who deserves the actual credit may never be entirely clear. The wood blocks were cut from pear wood, against the grain and treated with linseed oil. These were then packed carefully for the trans-Alpine trip to Basel. *De Fabrica* was dedicated to the emperor Charles V on August 1, 1542. The colophon displayed the date of June, 1543. The book was a magnificent testament to the vision of this young physician. It was folio sized with 636 pages and 73 plates. The portrait of Vesalius depicted him dissecting the arm of a woman. In addition, it had a magnificent title page that itself was a masterpiece laden with much symbolism. He used ornate

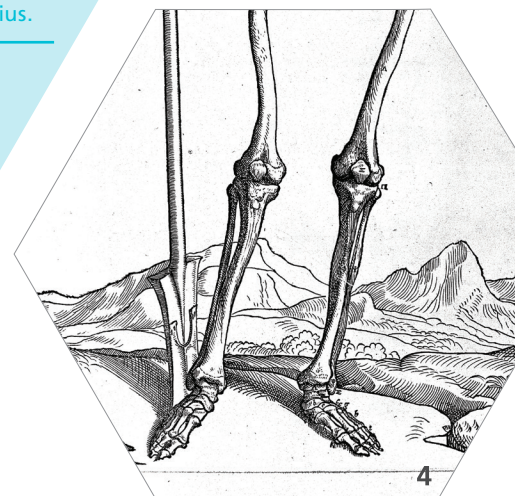
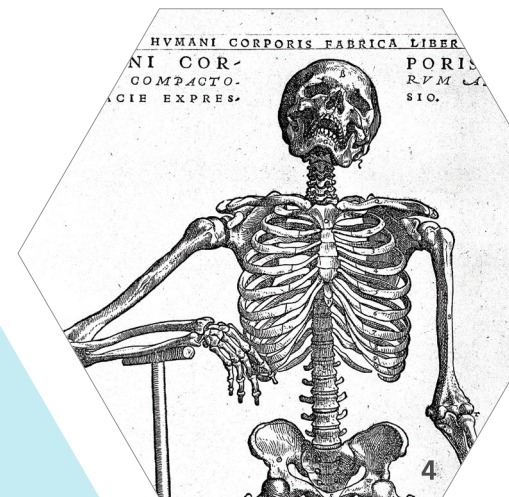
illustrated capital letters that also bore anatomical themes. *The Fabrica* consists of seven books: skeleton (1), muscles (2), vascular system (3), nervous system (4), abdominal viscera and organs of reproduction (5), thoracic viscera (6), and the brain (7). This large and expensive work was never a consideration for students, but fully intended for wealthy physicians who were interested in anatomy and for academic centers that could afford this masterpiece.

Within the cradle of early modern science, 1543 was the *annus mirabilis* made singular by the publication of two works, *De revolutionibus orbium coelestium libri sex* by the physician Nicolaus Copernicus and the *De humani*

corporis fabrica libri septem by Andreas Vesalius. Andreas Vesalius lifted the veil of subservience to the great classical thinkers and began to question and evaluate nature using observation by his own senses. With new observations revealing unexpected findings, these philosophers of new sciences began to boldly extrapolate the implications. They opened doors to their students and their students' students to improve humankind's understanding. Anatomy would be a vital part of medical education from 1543 onwards, and set the stage for the realignment of surgery and surgeons with the ancient profession. Vesalius' spark kindled a flame poised to explode from the curiosity of men and women. ●

- 1: Bronze bust of A. Vesalius.
- 2: Portrait of Andreas Vesalius (1514 - 1564).
- 3: Male torso, revealing the urinary system, by Vesalius
- 4: Skeleton leaning on pole, by Vesalius.

1-4. Wellcome Collection





FRÈRE JACQUES BEAULIEU (1651–1719)

FIRST TO PERFORM LATERAL LITHOTOMY

Sutchin Patel, MD

Jacques de Beaulieu was born to a poor peasant family in Burgundy, France in 1651. He was apprenticed at the age of 21 for six years to the wandering Italian lithotomist and hernia surgeon Paulomi who taught Beaulieu the trade of lithotomy. Around 1660 he experienced a personal mystical event that led him to don a monk habit and call himself *Frère Jacques*. He lived a simple life dedicated to his profession and asked only nominal fees for his services, often distributing his earnings to the poor.

He was not satisfied with the median approach to perineal lithotomy and was among the first to perform lateral lithotomy, which provided wider access to the bladder neck and facilitated removal of bladder stones.

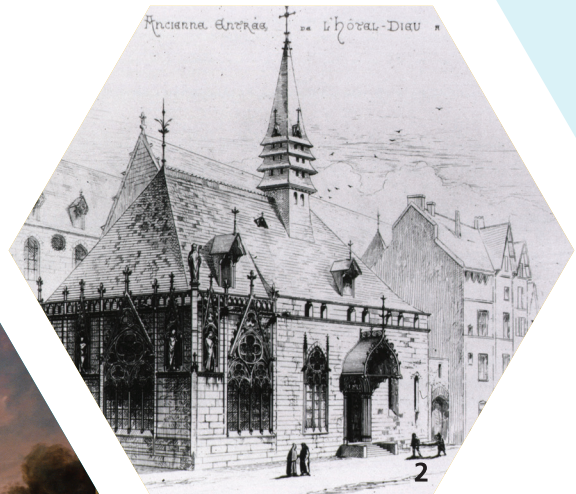
Imagine it, when in the Hotel Dieu, where, for centuries, nothing had been exhibited but the lingering cruelties of the apparatus major, where professed lithotomists laboured for hours amid the outcries of the patient to extract the stone, an operator appeared, daring beyond belief, making light of that operation which had been regarded as the masterpiece of surgery, who without hesitation or fear, performed by incision what had hitherto been attempted only by force of repeated dilations. Who boldly plunged his dagger-pointed knife into the hip, thrust it home into the bladder, felt for it with the staff, then enlarged his incision upwards and downwards, and in a few moments extracted the largest stone.

– John Bell, surgeon, on Frère Jacques

Frère Jacques often performed lithotomy in less than one minute and 10 lithotomies in one hour at Hôtel Dieu. However, he had a 53.5% mortality rate for 71 patients operated on at the Hôtel Dieu and La Charité Hospital in one month, compared to the average lithotomy mortality

rate of 14% at that time.

Frère Jacques' failures were due to a lack of anatomical knowledge and not the method used (it was estimated that more than half of the mortalities were attributed to transection of the internal pudendal artery). He shared his surgical techniques with other physicians and surgeons and stimulated other lithotomists such as William Cheselden of England to refine the lateral approach to perineal lithotomy. ●



1: Frere Jacques de Beaulieu.
2: Hospital charité.

1. National Library of Medicine
2. Wikimedia Commons
3. Courtesy Boerhaave Museum, Leiden, The Netherlands

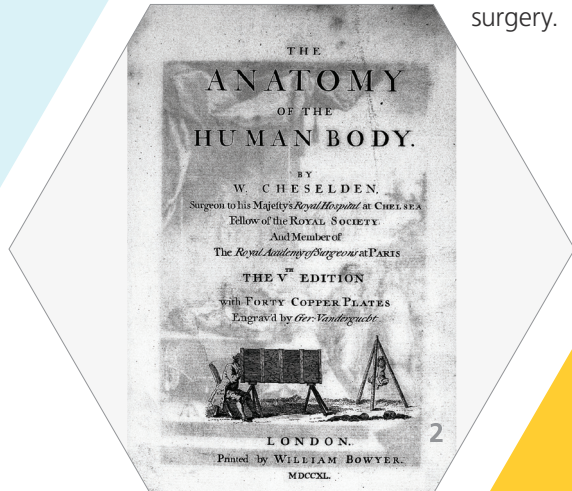


WILLIAM CHESelden (1688–1752)

TOWERING FIGURE IN SURGERY AND ANATOMY

Michael Moran, MD

William Cheselden was a towering figure in the history of surgery, anatomy, and the development of bladder stone surgery. He was born on October 26, 1688 in Burrough on the Hill north of Leicester to George and Deborah Cheselden. William was the third child and second son, and he received a good primary education at the Wyggeston School. It is probably through the influence of a distant relative, Dr. George Cheselden, that he became interested in medicine/ surgery.



He signed an apprenticeship with James Ferne in London at age fifteen, for which he paid £200 to £300 per year to his master. He probably learned his anatomy from William Cowper, who had become quite famous for this work. It was during his second year of apprenticeship that Ferne was appointed to cut for the stone at St. Thomas's Hospital; Cheselden would have been one of his assistants. He finished his training on December 5, 1710 and was made free by the Barber-Surgeons' Company. As all young surgeons of his day, he now had to earn his living but had no hospital in which to practice. Cheselden drew up a syllabus of lectures for anatomy that he published at Stationers' Hall on October 8, 1711. The syllabus included 35 lectures of about 80 pages that served in his teaching for the next 25 years. It appears that his anatomy lectures and course were successful and he possibly taught the course at a house in Cheapside.

He taught the course for at least two years before he was elected a Fellow of the Royal Society in 1712. He published his *The Anatomy of the Humane Body* in 1713.

Cheselden was never considered a great writer, but his textbook of anatomy was short, concise and applicable to surgeons and therefore became quite popular. In the first edition Cheselden stated in the preface:

This treatise being design'd for the use of those who study Anatomy for their entertainment, or to qualify themselves for the knowledge of physic or surgery, and not for such as would be critically knowing in the minute parts etc.

Cheselden made significant alterations up until the sixth edition, thereafter he did few or no alterations to the text or illustrations.

He applied for a position at St. Thomas's and failed in 1714. A more ominous event followed when the Court

of Assistants of the Barber-Surgeons' Company was sanctioned for his anatomy classes, which perhaps started Cheselden's lifelong desire to separate the surgeons from the barbers because of the latter's inability to appreciate the crucial importance of anatomy, anatomical dissection and research. Despite the censure of the Barber-Surgeons' Company, he continued his successful anatomy

classes. At the age of 30, Cheselden was finally chosen as the Assistant Surgeon at St. Thomas's on July 9, 1718 and he and his family moved from Cheapside to Red Lyon Street. During his early tenure at St. Thomas's Hospital he developed a reputation as a skilled surgeon and a great teacher, but he also famously operated on Mrs. Margaret White who had an umbilical hernia with necrotic bowel. He was able to resect the necrotic segment but she was left with a colostomy with which she was able to live for many years. ●

1: William Cheselden. Lithograph.
2: Book - Title page.

1-2. Wellcome Collection



JOHN HUNTER (1728–1793)

ADVOCATE OF INVESTIGATION AND EXPERIMENTATION

Michael Moran, MD

John Hunter was born the 10th and youngest child on February 13, 1728 to a Scottish family and was, according to his own notes, brought up fascinated by the wilds. He left Scotland in 1748 to join his older brother, William, a physician who had established his own successful practice and private anatomical school in London. John Hunter was much different than his older brother William, far less refined and more interested in comparative anatomy and dissections of unusual beasts. John came to London in 1748 and worked closely with William, trained as a surgeon with Cheselden and Potts, left as an Army surgeon and returned to begin practicing his trade. He was elected surgeon to St. George's Hospital in 1768 and began to give lectures in surgery and anatomy from the early 1770s. He became Surgeon-Extraordinary to King George III and Surgeon-General and Inspector of Hospitals to the army from 1790-1793. He strove to develop unique anatomical specimens and began to develop interest in physiological experimentation. This brought him increasingly into the realms of experimental surgery and he drifted towards collecting medical curiosities, surgical instruments and literature.

John Hunter's collection became his passion. He poured so much of his vast wealth into his collection that his poor wife and children were left destitute upon his death. John would take his collection and dissections to unprecedented areas with comparative anatomies and physiologies that resulted in his questioning the very origins of species. John had a special fondness for urologic conditions, the use of catheters, filiforms and bougies for treating complex urethral strictures; he was interested in obstruction of the lower urinary tract and subsequent injury to the kidneys, the function of the testicles and their descent and intersex states long before the actual physiology of any of these urological conditions was known.

Every year on February 14, the Royal College of Surgeons of England remembers the legacy of John Hunter with the Hunterian Lecture. Many a famous person has given this distinguished lecture, thus perpetuating the memory and legacy of John Hunter. In addition, there have been major written biographies of Hunter, including the most recent – and excellent – account by Wendy Moore

entitled *The Knife Man: The Extraordinary Life and Times of John Hunter, Father of Modern Surgery*.

Sir Henry Howse gave the Hunterian lecture on February 14, 1903 about Hunter's museum (later damaged from the bombings in World War II):

The museum, which he had spent his life and income in accumulating, was found after his death to be almost the only asset which he had left behind for the benefit of his wife and family. Commenced shortly after his return from the war, he gradually accumulated the specimens around him at his house at Earl's Court (which he bought in 1766 with some ground attached, for the purpose of observing the habits of the live animals he had collected), and in his town residence in Jermyn Street, until the preparations grew all too numerous to accommodate in this way. He then built a special museum for them in Castle Street, Leicester Square, and here they remained until the time of his death. During his life he is said to have spent £70,000 upon his museum, and if the story is true that he spent £500 upon obtaining the skeleton of the Irish giant, O'Byrne, we can well believe that the amount is not exaggerated. Indeed, on every hand there is evidence to show that where the interests of the museum were concerned he used his money with no sparing hand.



1: John Hunter, from the picture by Robert Home. The dog is supposed to have been the offspring of a half-breed wolf-bitch and an English mastiff.

1. Wellcome Collection

The museum greatly influenced many physicians as well as the public in Hunter's lifetime, but most notably his fellow surgeon James Parkinson (1755-1824). Parkinson would later recall:

From the earliest Moment of viewing the splendid and beautifully illustrative Collection of our revered and celebrated Countryman, John Hunter, Remains of Animals...became the Subject of my anxious Investigations.

Parkinson would become an early paleontologist and geologist and become influential in the development of this new science as well as lay the foundations that directly inspired Charles Darwin in his lecture quoting John Hunter:

There is a regular and continued gradation of these from the most imperfect of the animal, to the most perfect of the human species [skulls]. The most perfect human skull is the European; the most imperfect, the Negro. The European, the Negro, and the monkey, form a regular series.' Mr. Hunter observed that in placing the Negro above the monkey, great honour is done to him; for although a man, he can hardly be called a brother. He also remarked that our first parents, Adam and Eve, were indisputably black. This is quite a new idea but Mr. Hunter observed it may be proved without difficulty.

John Hunter's museum was almost lost, twice in fact, firstly after his death - no one could afford the collection and it was threatened to be broken up and sold piecemeal. The second was the destruction wrought upon it by the bombings of World War II, on the evening of May 10, 1941.

Hunter was interested in every species of animal and vegetable that he could dissect. To his fellow surgeons

and physicians this made him stand out as different from the common lot of surgeons generally interested in anatomy and surgery alone. Hunter's interest in animals not only sparked his abundant interest in their anatomy, but he also developed a living menagerie at a second location at Earl's Court that included birds and animals. Hunter's collecting interest was intimately associated with his desire to teach medicine and surgery as well as to probe the mysteries and majesty of the living world. Many in medicine and science recognized John Hunter as the true giant that he would become; urologists in particular, should well remember his monumental contributions. ●



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2: Charles Byrne, a giant, George Cranstoun, a dwarf, and three other normal sized men. Etching by J. Kay, 1794.

3: John Hunter at the door of his house in Golden Square in 1763.

4: Part of the Hunterian Collections on display at The Royal College of Surgeons of England.

5: Engraving of a Lion.

2, 4. Wikimedia Commons
3. National Library of Medicine
5. Public Domain



CASMIR J. FELIX GUYON (1831–1920)

FATHER OF MODERN UROLOGY

Michael Moran, MD

F. Guyon is considered by urologists all over the world to be the father of modern urology. The role of the great French pioneers who have contributed to the conception, definition, service and development of our specialty therefore often tends to be underestimated. – Alain Jardin, 1996

Jean Casimir Felix Guyon was born on July 21, 1831 on Reunion Island to a Navy surgeon and his Creole wife. He trained in medicine at the Hospitals of Nantes and was appointed Intern at the age of 22 and became Professor and Hospital Surgeon at the age of 30. In 1867 the death of Jean Civiale, inventor of a lithotripter, attracted this young and rising surgeon to the Hôtel Necker to assume the duties of his predecessor. In 1890 Guyon became the first professor of Genito-urinary Surgery at the University of Paris.

Alain Jardin wrote:

Guyon deserves the name of father of modern urology for having understood and put into practice the fact that:

- a urologist is essentially a surgeon;
- no progress can be made in urology without a multidisciplinary approach to basic and clinical research;
- the knowledge of a specialty implies a precise knowledge of the anatomy and physiology of the organs whose abnormalities and diseases need to be treated;
- the teaching of the specialty must be attended by all (Guyon's clinical lessons have remained the model);
- the nation's specialists must meet together. He was responsible for the creation of the Association Française d'Urologie in 1896 and chaired its Congresses from 1896 to 1910;
- specialists from different countries all over the world must meet together. He was responsible for the creation of the Association Internationale d'Urologie in 1907, which held its first congress in Paris from 3-09-08 to 3-10-08. He was the President of this Association from 1907-1914. In 1921 [actually 1919], the Association Internationale d'Urologie became the Société Internationale d'Urologie, to which French urologists have

continued to provide dynamic support;

- lastly, to develop a specialty, it is essential to be surrounded by the leaders in the field. Félix Guyon recruited the most skilled surgeons, especially Joachim Albarran.

The Hôtel Necker became the home for Guyon and a cadre of young like-minded specialists dedicated to the advancement of urology following his arrival on

July 9, 1867. *"To build a cathedral, time and determination are needed,"* stated Guyon, and he remained there from 1867 to 1906.

Guyon was described by his protégés as being extremely hard working. His relationship

with Joaquin Albarran (1860-1912) is legendary.

They worked together at the Necker from 1888 until 1901 when Albarran was made head of a small department at Hérald Hospital. Félix Legueu (1863-1939) joined the team after completing his internships in 1889 and in 1890 won the gold medal for his research work. Legueu became the chief of the clinic at Necker in 1892 and remained there until 1904. He then moved to the Tenon Hospital where he introduced the specialty of urology and worked with Proust. On Albarran's death in 1912, he was recruited to return to the Necker where he remained until 1933. Henri Hartmann (1860-1952) was another surgeon destined to follow in the tradition of Civiale and Guyon; he was followed in turn by Georges Marion (1869-1960). Edouard Michon (1868-1954) followed his mentor, Albarran, whom he accompanied to the Maison de Sané; he would eventually become head of urology at Beaujon Hospital. Finally, Ferdinand Cathelin (1873-1953), Guyon's last disciple, became the first private urologist in Paris.

The French Urological Society was founded in 1896. It is fitting that the Society of International Urology's top award is called the *Félix Guyon Award*. In 1910, Israel in Berlin stated, *all the urologists of the world were his pupils*. In 1882, the first issue of *Annales des maladies des organes genito-urinaires* was published and persisted until 1912 when it changed names to the *Journal d'Urologie médicale et chirurgicale*. ●



1: Felix Guyon.
2: Jean Casimir Félix Guyon holding up a stone in a bottle.

1. William P. Didusch Center for Urologic History
2. Wellcome Collection



SIR WILLIAM OSLER (1849–1919)

THE PHYSICIAN'S PHYSICIAN

Michael Moran, MD

William Osler has been referred to as the iconic physician of the twentieth century yet he is not known for any major medical discovery, no breakthroughs in knowledge, or legendary papers. Born in Bond Head, just outside of present Toronto, Osler entered McGill University, went on to the University of Pennsylvania and became one of the "Big Four" at the new Johns Hopkins Hospital as Physician-in-Chief in 1889. Osler became a truly outstanding educational physician in the clinical arena using his collection of ancient medical books and citing their contributions to the History of Medicine while on rounds, and inviting his staff and students to visit his home and library. His textbook *Principles and Practice of Medicine*, published in 1892, not only became a best seller, it also became the iconic link to his philosophy of medicine and developed him into the towering medical figure of his era. Much has been written on Osler and his textbook. In fact, his Pulitzer Prize winning biographer Harvey Cushing stated, "Someone, some day, could well write a volume devoted to a study of the successive editions of this famous work, which continues to exert an enormous influence on students of medicine." Osler had recently become the Professor of Medicine at the fledgling

Johns Hopkins Hospital, which allowed him the precious time for the culmination of his "inkpot career."

William Shakespeare's *As You Like It*, Act II Scene VII opens with the melancholy Jaques opining, "All the world's a stage, and all the men and women, merely Players; They have their Exits and the Entrances, and one man in his time plays many parts, His Acts being seven ages." Sir William Osler loved Shakespeare and listed him as one of the "saints of humanity." He also at one point alludes to Shakespeare as one of the world's great "creators."

The genius of William Osler has been cited by previous historians and the work and writings of Osler have assumed gigantic proportions. Because of his strength of character, he was fondly revered during his life. He had an impish, playful quality that shone through almost every encounter and a love of life that was readily apparent in the interactions of his busy medical practice. He became the "physician's physician" during his tenure as Physician-in-Chief at Johns Hopkins. He was a magnet in attracting loyal followers to his method of patient care and medical practice; students in particular adored him. Osler outlined his own personal ideals in *L'Envoi*, a speech he gave at a farewell dinner in New York, May 2, 1905:

I have had three personal ideals. One to do the day's work well and not to bother about to-morrow. It has been urged that this is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it, more than to anything else, I owe whatever success I have had to this power of settling down to the day's work and trying to do it well to the best of one's ability, and letting the future take care of itself.

The second ideal had been to act the Golden Rule, as far as in me lay, towards my professional brethren and towards the patients committed to my care.

And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride and to be ready when the day of sorrow and grief came to meet it with the courage befitting a man.

Mentors provide the most expedient method of imparting wisdom and experience to young medical students and residents who must quickly rise to the stresses and complexities of a modern medical career. Much has been written about mentor/mentee relationships. »



1: Sir William Osler.
2: Osler at bedside.
3: Osler with Johns Hopkins Medical School graduating class C. 1890-1905.

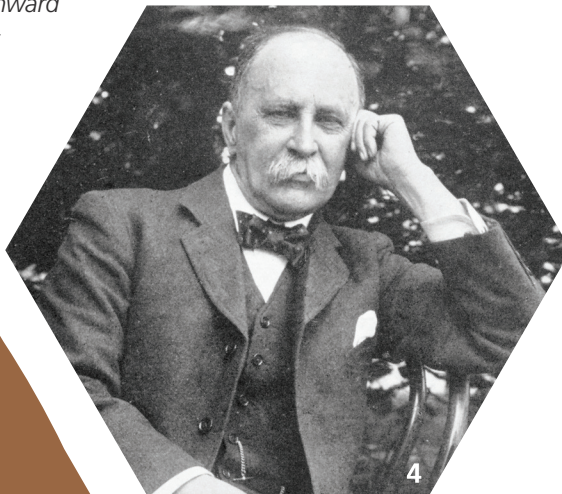
1. William P. Didusch Center for Urologic History
2, 3. National Library of Medicine.

Osler wrote much on mentoring in medicine and was a great mentor himself. Osler also aspired to greatness, setting for himself the loftiest of goals which he succeeded in no small way. Osler was loved in his medical practice in three countries and four teaching programs - McGill, University of Pennsylvania, Johns Hopkins and Oxford - and always maintained a reverence for medical heroes. When Osler moved to the highest centers of learning and teaching in his own meteoric career, he took his heroes with him. Sir Thomas Browne was his almost constant companion, literally, for he carried his *Religio Medici* with him everywhere. Above his fireplace mantelpiece at both his homes in Baltimore and at Oxford, Osler hung three great physicians' photos from the past: Thomas Linacre, William Harvey, and Thomas Sydenham, each considered a genius by many for his contributions.

One gets the flavor of Osler's all-encompassing personality from historian Sherwin Nuland, who wrote,

In 1884 the medical school of the University of Pennsylvania, America's oldest and one of its best, called Osler to the chair of medicine. Osler's departure was a devastating blow to McGill. Their finest teacher and the man called by Palmer Howard "the one single disciple of science" in the school was escorted to the train station by the entire student body. He was on his way to the next phase of the journey that would lead inevitably to Baltimore. The geographic progression southward was partnered with the academic progression upward.

Osler was becoming the high achiever or obsessive goal-setter that drove him in later life. After meeting with Rudolph Virchow in Berlin when finishing his medical education, Osler resolved to become a great clinician and teacher. Upon moving to the United States at the still tender age of 35, he became president-elect of the Canadian Medical Association; his star was on the rise. Osler was a man on a mission to become one of the great medical teachers of his time, like his friend and mentor Virchow whom he eventually eulogized in his classic work, *Rudolf Virchow: the Man and the Student*. ●



4: Sir William Osler.

4. Wikimedia



EDWIN HURRY FENWICK (1856 – 1944)

PROMOTER OF TECHNOLOGY AND COLLABORATION

Jonathan Charles Goddard, BSc(Hons), MB, BS, FRCS(Eng), MD, FRCS(Urol), FEBU

Edwin Hurry Fenwick (always Hurry, never Edwin) was born in 1856 in North Shields, Tyne and Wear, in the North East of England. He was one of eight children to Dr. Samuel and Mrs. Amy Fenwick; the five boys all became doctors.¹ In 1863 the family moved to London when his father took the unusual step of leaving a successful practice in the provinces to go to the capital.² Hurry received his medical training and qualified from the London Hospital Medical College in 1880. In the same year, he passed as a member of the Royal College of Surgeons of England (MRCS) and worked as House Physician and then House Surgeon at The London Hospital. In 1882 he became a Fellow of the Royal College of Surgeons of England (FRCS).¹

Two aspects of Fenwick's life and career single him out as a giant of urology to be studied and remembered. Firstly, his ability to embrace and promote the new technologies which thrust urology forward at the turn of the 20th century and secondly, his desire to bring urologists from across the world together in their emerging specialty.

After qualifying FRCS, Fenwick traveled Continental Europe to study in the centres of excellence there. He spent time in Berlin and Leipzig studying with Bernard Von Langenbeck (1810 – 1887) and Karl Thiersch (1822 – 1895).²

On returning home, he became surgical registrar, assistant surgeon and finally full surgeon to the London Hospital. Developing an interest in urology, he was appointed to St. Peter's Hospital for the Stone, the London urological hospital. He also became consulting surgeon to the West Hertfordshire Hospital and maintained a private practice at number 14 Savile Row.^{1,2}

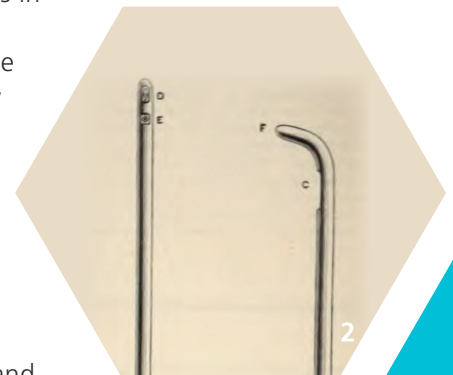
During his time in Germany, Fenwick would inevitably have been exposed to the new diagnostic endoscopes such as the Nitze-Leiter cystoscope of 1879. This instrument was introduced to England by Sir Henry Thompson in 1880.³ The cystoscope had an illuminating heated platinum loop with a somewhat clumsy cooling water system and was thus not widely adopted. The addition of the Swann-Edison incandescent lamp to Nitze and Leiter's cystoscopes in 1887 very much improved their usefulness. Fenwick presented these instruments to the Medical Society of London on 23rd January 1888, and he

declared the merits of this electric light as a diagnostic tool over blind digital exploration. He also lectured on the new technique of cystoscopy at St Peter's Hospital (27th January) and The London (15th February); the lectures were published in journals⁴ and as a book.³ Fenwick worried that this breakthrough in diagnostic technology had so far been overlooked in Great Britain and did much to popularise the cystoscope there.

By the end of the 19th century, Hurry Fenwick was once again pushing urology into a new era, this time with the novel x-rays Wilhelm Conrad Röntgen (1845-1923) had introduced in 1895. Hurry and his father were said to have been the first two London doctors to have installed x-ray machines in

their private practices.² Fenwick studied the use of this new technology in diagnosing ureteric stones and invented the first radio-opaque bougie to aid this in 1905. He was particularly skilled at correlating clinical, radiographic, surgical and post mortem findings.⁵ By 1908 he had published his experience of 1000 cases; this book is a remarkably clear and practical description of the use of x-rays in urology.⁶

At the beginning of the 20th century, associations began to appear in which urologists could discuss and share ideas within their new specialty. In America, in 1888, the Association of Genito-urinary Surgeons was formed. The first national urology society was created in France in 1896, followed by the AUA in America in 1902, then those of Germany and Russia in 1907. The French once again were prominent in setting »



up an International Association of Urology in 1907. Reginald Harrison of St Peter's Hospital, London was a founding member, but Hurry Fenwick was also an early mover in the International Association and was President of its second meeting held in London in 1911. Fenwick was also President of the Urology Section of the 17th International Medical Congress held in London in 1913. In that same year, he attempted to form a urology section within the Royal Society of Medicine (RSM). The RSM was the major London postgraduate medical association formed in 1907 by the amalgamation of the Royal Medical and Chirurgical Society of London and several other smaller societies. Fenwick's idea stalled due to an initial lack of momentum and the intervention of the First World War.⁷

Although Fenwick had retired from public work at St. Peter's and The London Hospital in 1903 and 1910 respectively, he was appointed Emeritus Professor of Urology at The London Hospital and, with the coming of the First World War, he returned there as a Lieutenant Colonel,



commanding its military section and also the Bethnal Green Military Hospital nearby.²

The Territorial Army Medical Service was formed as part of the British Army's territorial force in 1908 and Hurry Fenwick was made a *Captain de la Suite*.²

Unfortunately, when the first of the Great War's wounded arrived rather unexpectedly at Waterloo station on 30th August 1914, the four London Territorial General Hospitals were not ready. Fenwick immediately took some London Hospital medical students there to treat the wounded, and, due to the lack of ambulances, mobilised 14 Lyons & Co. horse-drawn tea delivery vans to transport the men back to The London Hospital.⁸ By the following morning,

Fenwick had admitted 300 men. His war service was recognised with the award of Commander of the Most Excellent Order of the British Empire (CBE) in 1919.

After the war, the International Association of Urology was replaced by the Société Internationale d'Urologie; Hurry Fenwick was the President of Honour at its first 1921 meeting. Once again, he reminded the delegates that prior to Nitze and Röntgen, urologists were blindfolded.² When the British Journal of Urology first appeared in 1929, Fenwick wrote that, "*when the practical electric cystoscope was born abroad in 1887, urology was born in every land. I was indeed privileged to act as obstetrician to the British offspring.*"⁹

Mr. Fenwick died at his home in Bedford Gardens, London on 5th May 1944. He should be remembered as one of the greatest promoters of the cystoscope in Great Britain, a pioneer of early radiology and a promoter of international cooperation in urology. ●

1: Edwin Hurry Fenwick.
2: Hurry Fenwick's
Irrigating cystoscope.
3: The First Wounded at The London
Hospital, 1914, by John Lavery, 1914.

1. Courtesy BAUS
2. Image taken from his book, *A Handbook of Clinical Cystoscopy*, 1904, author's collection
3. © The Royal London Hospital Archives



RAMON GUITERAS (1858–1917)

FOUNDER OF THE AUA

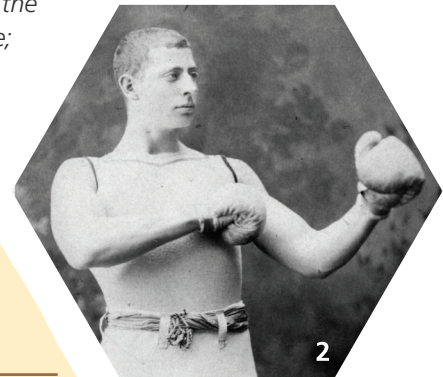
Michael Moran, MD

Ramon Benjamin Guiteras was born to Ramon and Elizabeth Manchester Guiteras on August 17, 1858 and raised in Bristol, Rhode Island. He attended prep school at Mowry and Goff's in Providence before matriculating to Harvard. He was by all reports quite the athlete and was particularly interested in boxing, having knocked down John L. Sullivan in a sparring match in the Yale gymnasium. He finished his undergraduate education in 1883 and went to Paris for two years of study. He is also known to have traveled to Vienna and Berlin and worked with Theodor Billroth. On his return to the United States, he worked at the Charity Hospital on Blackwell's Island (now Roosevelt) and the City Hospital of New York. He became Professor of Operative Surgery in 1894 and became the Chair of Genito-Urinary Surgery in 1898. The foundation of the American Urological Association is a bit more convoluted. Frederick Robbins, 14th President of the AUA, tells us

When, on the evening of February 22, 1902, a motion offered by Follen Cabot, seconded by Ferd. C. Valentine, that the New York Genito-Urinary Society adjourn 'sine die,' was carried, the American Urological Association was born. It had no name and its mother was dead. The mother, more than two years of age, was of humble origin, having been born in a wine house, but was fortunate in having for her father no less a person than our well-known and beloved Ramon Guiteras.

At the very first annual meeting of the newly founded American Urological Association, the founder and President, Ramon Guiteras' inaugural statement covered the history of urology itself. He begins by defining 'urology' from the Greek words οὐρῶν (urine) and λόγος (science), and noted that it...*"is employed (unfortunately, too rarely in English) to designate the study of the medical and surgical diseases of the urinary tract in the male and female."* He goes on to separate the newly formed society from that of its predecessor with the very next statement: *"The purely venereal diseases, syphilis and chancroid, have no place in urology, while gonorrheal urethritis, though venereal in origin, is legitimately included in the concept of urology, inasmuch as it and its complications affect the urinary tract proper."* He defined members of the specialty of urology with the following paragraph:

... the men who are, or should be, interested in urology include: First, physicians who are devoting themselves to the study of internal diseases, including diseases of the kidney, ureter, and bladder; second, surgeons who are interested in the study of surgical urinary conditions; third, gynaecologists who are making a special study of the urinary tract of the female; and, fourth, pathologists and chemists who



1: Ramon Guiteras.
2: Guiteras boxing.

1. National Library of Medicine
2. William P. Didusch Center for Urologic History

are interested in the pathology and chemistry of those organs and their secretions and discharges.

Guiteras clearly delineated the aspect of the urogenital systems that should spell out the interests of urology. He did this directly in the following fourth paragraph of his statement:

The territory of urology can be demonstrated in the female in the separate existence of the urinary tract on the one hand and the genital on the other, both opening into a common vestibule, the vulva. In the male both tracts meet at the posterior urethra, and have a common channel from that point to the external urinary meatus, although the urethra is essentially a urinary canal and does not form a part of the genital tract any more than the intestine forms a part of the biliary tract which empties into it. Yet the urethra can be said to be almost entirely surrounded by genital structures, and in some instances certain parts of them may encroach upon the urethra, giving rise to disease of the urinary organs through interference with the passage of urine. ●



HUGH HAMPTON YOUNG (1870–1945)

FATHER OF AMERICAN UROLOGY

Michael Moran, MD

Hugh Hampton Young, considered by many to be the father of urology in the United States, published his most famous work - *Young's Practice of Urology* - in 1926. In the preface he asks, "Why another 'Urology'? Have we not the recent great treatises by Legueu, Marion in France, Thompson-Walker in England, Watson and Cunningham, Guiteras, Chetwood, Keyes, and Cabot in America. Certainly a veritable embarrass de richesse." Yet his work would be unique, for Young culled lessons for the practice of the urologist based upon his massive surgical experiences, his methodical records and his attempts at follow-up on his patients.

His book *Hugh Young: A Surgeon's Autobiography*, published in 1940, is full of anecdotes from the early days at Johns Hopkins:

While attending the genitourinary cases on Ward E, I became greatly interested in their bacteriology. One of these patients was a milkman who for eight years had carried the typhoid bacillus in his urinary tract, and probably had transmitted the infection to many of the homes where he carried milk. This case furnished the material for my first foreign publication, which I presented to the Tenth International Congress in Paris on August 9, 1900. This case and additional ones afforded material for an extensive paper in Volume 8 of the Johns Hopkins Hospital Reports, which, under the editorship of Dr. Osler, was devoted entirely to typhoid fever and its complications. I subsequently found the typhoid bacillus in the center of a stone taken from a kidney in a patient who had had typhoid fever many years before...

Young also recounts how he ran (literally) into Professor Halsted and became a urologist.

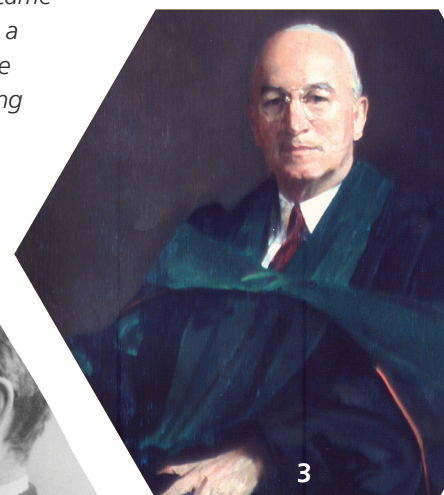
One day in October, 1897, I was walking rapidly down the long corridor of the hospital. As I turned a corner, I ran into Dr. Halsted with great force and almost knocked him down. I caught him just before he hit the floor and began to apologize profusely. Dr. Halsted, still out of breath, said: "Don't apologize, Young. I was looking for you, to tell you we want you to take charge of the Department of Genito-Urinary Surgery." I thanked him and said: "This is a great surprise. I know

nothing about genitourinary surgery." Whereupon Dr. Halsted replied, "Welch and I said you didn't know anything about it, but we believe you could learn."

Hugh Young took over the urology spot after the sudden loss of Dr. James Brown at Baltimore's Johns Hopkins Hospital, and he would follow in Halsted's footsteps, training the next generation of urologists who would go on to become chairmen of urology throughout the country.

Hugh Hampton Young was an early outspoken proponent of an independent urology association. It is fascinating to see how these founding fathers actually behaved at these annual meetings. Urologist Elmer Belt reminisced:

Well, I had gotten to this Montreal meeting a day ahead of time to set up an exhibit of my own on my new method of approach through the perineum to the posterior aspect of the prostate...Davis said that he had been looking up statistics on perineal prostatectomy and showed Dr. Young that the resident's results in mortality were better than Dr. Young's. Dr. Young turned scarlet and walked out of the room, and then about two minutes later he came back and said, 'see, it's such a good operation that even the residents can do it...Dr. Young was very friendly to me. He asked, 'Have you a motion



picture of this new perineal approach to the capsule of the prostate?', and I answered, 'Yes, indeed.' He said, 'Well, are you going to show it at the meeting?' And I said, 'But Dr. Young, I can't show it at the meeting because they have given me only 15 minutes for the paper, so I thought I'd just state what the principle was and sit down.' 'Oh,' he said, 'they'll give you all the time you want. I'll personally move that you be given an extended length of time to show your picture.'...At the meeting he jumped up and said that he wanted Dr. Belt given the privilege of showing a motion picture which would take more than 15 minutes... I remember how Dr. Young walked down the aisle and jumped up to the rostrum.



- 1: Hugh Young at his desk.
- 2: Young and daughter, Frances, 1904.
- 3: Color portrait of Young.
- 4: Hugh Young performing perineal prostatectomy when the AUA met in Baltimore, 1927.

1, 3, 4. William P. Didusch
Center for Urologic History
2. Chesney Archives

Atlantic City also had a special place in the history of Dr. Young and his death:

Up until his death Doctor Young always had a sense of humor, and he championed the hedonistic approach to life. He thoroughly enjoyed a good party where he was usually the center of attention; and with his death died a unique kind of festivity. The hedonistic ideal may have been his exodus. In the summer of 1945 (his last) he went to a medical convention in Atlantic City, New Jersey, where he gave a couple of lectures and attended an inordinate number of cocktail parties, luncheons, and dinners, as well as a beach party. It was too much for him and one morning, in the small hours, he suffered a heart attack. But this did not deter his zest, and he spent five hours the following afternoon on a fishing boat, stripped to the waist in the hot August sun. The same evening he suffered another heart attack. When he arrived in Baltimore five days later he was so exhausted he decided to enter the Brady Urological Institute at once. As they brought him in in critical condition he said, "I just had too good a time!" After what appeared to be a remarkable recovery, he died suddenly in his hospital bed. ●



ALEXANDER RANDALL (1883–1951)

MASTER OF UROLITHIASIS

Michael Moran, MD

Alexander Randall was a gifted physician who became a young urology resident at the new program at Johns Hopkins University. He did basic research in urolithiasis while at Hopkins and continued his interests at the University of Pennsylvania where he spent the bulk of his career.

Randall was born on November 18, 1883 in Annapolis, Maryland. He was the only son to J.W. Randall, an attorney. He grew up on the bay learning to sail, and his first scientific expedition at the age of 20 was a cruise with the Bahamas Expedition for three months prior to medical school. He graduated from the Johns Hopkins Medical School in 1907 and went into medical practice in Philadelphia where he fell under the influence of John B. Deaver, who was interested in genitourinary problems. In fact, Deaver influenced a whole group of young physicians to become urologists. Randall returned to Hopkins to work with the young professor of urology, Dr. Hugh Young. From 1910 until 1912, Randall was one of Young's first protégés before he returned to Philadelphia where he spent the remainder of his career. In 1929, Randall was promoted to Associate Professor at the University of Pennsylvania, and he was the director of the residency training program since 1923. He introduced intravenous pyelography in the U.S. after Von Lichtenberg came as a visiting professor in 1937. He published in 1931 his magnum opus, *Surgical Pathology of Prostatic Obstruction*, which made him famous. The autopsy findings on 1,218 patients allowed Randall to evaluate the effect of the prostate on the bladder.

Randall became the President of the American Urological Association in 1931 and a founding member of the American Board of Urology in 1935. In 1936, he began to present his experimental work on urolithiasis that forms the foundation of the work for which he is remembered today.

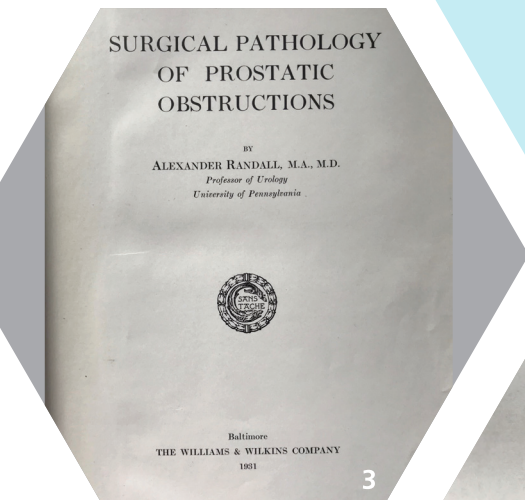
For the next five years, Alexander Randall presented paper after paper on urolithiasis, adding a wealth of data on cadaveric kidneys. On March 1, 1937 he presented a paper he had presented at the Annual Oration of the Philadelphia Academy of Surgery followed by a second at the American Association of Genito-urinary Surgeons in

Stockbridge, MA. These papers were entitled, "*The origin and growth of renal calculi*" and "*The initiating lesions of renal calculi*." He asserted:

Therefore, in offering a hypothesis for the origin of stone, these two postulates were formulated and they have presented the basis for a series of research problems in an effort to prove or disprove their accuracy: first, that an initiating lesion had to exist; second, that any such lesion should be sought for on the renal papillae, or close thereto.

He then looked at autopsy studies on the kidneys in 104 patients. He found small intrarenal stones in 12 and postulated a four-stage process of stone formation. Step one was a "*deposit of calcium, entirely devoid of any inflammatory evidences, as being laid down in the wall of the renal papilla...entirely below the surface of the cells covering the papilla.*" He noted the second stage as: "*the characteristic 'milk patch' deposit, but on the surface of one such 'milk patch' could be seen a tiny black dot.*" Stage three followed: enlargement of the still attached stone. The fourth stage was release of the calculus from the point of attachment. He used a particular pathologic specimen to illustrate each of these stages. This was deposition of renal solute forming the first appearance of the urinary stone. He looked at removed human stones to augment the attachment ideas and location of the nucleus within the stones. His interest in stones continued for several more years; he published two studies in 1940. In these, he updated his findings on 1,154 autopsies and presented more of the pathologic data. These points of origin were sterile, usually non-inflammatory, and the nidus was typically calcium phosphate. The incidence of plaques was 19.6%

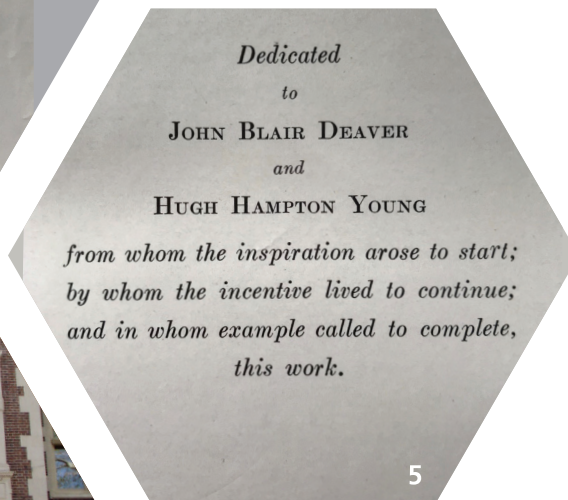




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and increased with age, peaking between 60-69 (at 29%). He concluded with the following comment, "*These facts carry definite proof of the papillary origin of a primary renal calculus...*"

Randall's health began to suffer during this period. Ironically, in 1937 Randall was treated with high doses of sulfathiazole, poorly soluble in the urine and which might have caused acute renal toxicity and sulfa stones with crystalluria. His blood pressure rose, though his renal function apparently improved. He had a minor stroke in 1941 and eventually suffered from a series of strokes that led to his death on November 18, 1951. His work led others to take up the investigation of plaques, but serendipitously, it was the thoughts of Albright that would trump the findings of Randall for about 20 years. Supersaturation theories had the backing of the basic scientists in crystal chemistry and physics. Randall's notions, however, would not pass away quietly in the night. ◆

1, 2: Alexander Randall.
3, 5. Randall's inscription
to the Giants in his life. In
*Surgical Pathology of Prostatic
Obstructions*, 1931.

4: University of Pennsylvania
Medical School.

1-3, 5. William P. Didusch
Center for Urologic History
4. Wikimedia Commons



WILLIAM P. DIDUSCH (1895–1981)

ILLUSTRATOR OF UROLOGY

Sutchin Patel, MD

William P. Didusch was a native of Baltimore and came from a family of artists. He began his career in 1913 as a student at the School of Art as Applied to Medicine at the Johns Hopkins School of Medicine under its founder Max Brödel.

In 1915, Brödel recommended Didusch to Dr. Hugh Hampton Young as the medical staff illustrator to the then new Brady Urological Institute. Didusch's ability became widely recognized first in the United States and then abroad due to the beauty and precision of his drawings as well as his amazing productivity. Between 1915 and 1957, Didusch illustrated countless articles in the urological and surgical literature as well as 18 textbooks, including Young's two-volume *Practice of Urology*, Lowsley and Kirwin's *Clinical Urology* and Nesbit's *Transurethral Prostatectomy*. In 1952, The American Cystoscope Makers, Inc. published his collected drawings as a tribute to Bill Didusch. Didusch was also one of the pioneers in making movies of surgical operations both at the Brady Urological Institute and the New York Hospital; his movies contributed greatly to the education of many urologic surgeons.

Didusch served the AUA as the Director of Exhibits (1938-1968), Executive Secretary (1952-1968), and was appointed the art editor of the *Journal of Urology* in 1946. In 1971, the AUA established the William P. Didusch Urological Museum at the association headquarters in Baltimore and Bill Didusch was appointed as the museum's first Curator. The museum opened on January 12, 1972 with the unveiling of the portrait of William Didusch, painted by his niece, Ann Didusch-Schuler.

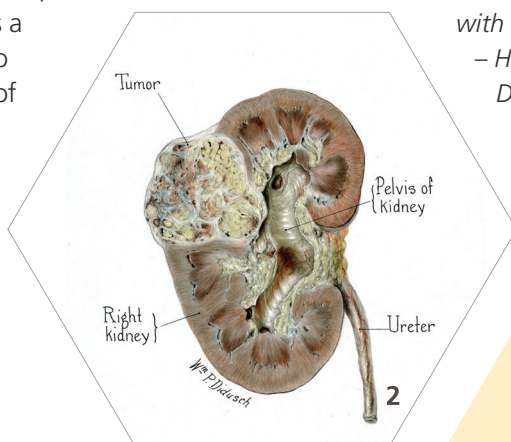
During the meeting of the American Urological Association, Inc. in 1968, the year of my retirement as Executive Secretary, I offered the bulk of my collection of urological drawings to

the Association. I had in mind the preservation of this vast amount of graphic material depicting the surgical techniques of some of the greats in urology that covered a period of many years. The possibility of creating a urological museum also had been given serious thought. I presented these ideas to the officers and members of the AUA Executive Committee and received a warm response.

– Comments by William Didusch, delivered at a surprise testimonial dinner (Chicago, May 18, 1971) in his honor, mark the birth of the William P. Didusch Museum of the AUA

No recitation of Mr Didusch's accomplishments, however glowing, can hope to do justice to the enormous role this man has played in the lives and careers of those untold numbers of urologists, many of them residents, with whom he had come in contact.

– Herbert Brendler, on the occasion of Bill Didusch's receipt of the Ferdinand C. Valentine Award ●



- 1: Young Didusch.
- 2: Didusch illustration of a kidney tumor.
- 3: Didusch at his desk.

1-3. William P. Didusch Center for Urologic History



REED M.J. NESBIT (1898–1979)

SKILLFUL TRANSURETHRAL RESECTIONIST

Michael E. Moran, MD

Reed M.J. Nesbit was born in California on December 8, 1898, graduated from Stanford University in 1921 and its medical school in 1924. He came to Ann Arbor to work in surgery under Hugh Cabot, becoming an instructor in 1926. He became associate professor in 1932 and achieved full professorship by 1948. It is estimated that he trained over 80 young GU surgeons during his tenure at the University of Michigan.

Although Nesbit was interested in many aspects of urology, he is rightly famous for his contributions to transurethral prostatectomy (TURP). He himself attributes his interest in the resectoscope to attending a symposium on June 10, 1931 in Philadelphia at a Section of Urology Meeting of the AMA. He heard Theodore Davis of South Carolina describe his work with 246 operations that permitted "operation in the minutest detail under direct vision." He noted that hospital stay had been reduced to several days rather than a few weeks and there were no deaths attributable to the operation.

Nesbit ordered a resectoscope and the electrical generator immediately on his return to Ann Arbor that same summer; his cautery device came from the Liebel-Flarsheim Company of Cincinnati. George Liebel accompanied the device on his own plane to personally deliver it and begin the training of the young Nesbit in October of 1931. Nesbit performed his first transurethral resection the following day. Nesbit was not a fan of the two-handed rack-and-pinion method of the Stern-McCarthy resectoscope. He later devised his own control mechanism, using a spring-loaded ring loop that enabled his second hand to be inserted into the rectum to palpate and stabilize the prostate during resections. Nesbit began initially with 28 French and 33 French resectoscopes; Wappler eventually provided him with 23 and 26 Fr. devices as well. Many of the early resectionists performed a perineal urethrotomy in any patients in which a 30 Fr. sound could not be passed easily. He routinely irrigated with 10 to 25 liters of sterile water during his TURs and did encounter problems with hemolysis and fluid overload in patients. In 1948 Nesbit switched to using isotonic 1.1% glycine for irrigation. His next 230 consecutive TURs showed no incidence of hemolysis.

The operator should spend many hours of practice cutting pieces of meat, for he cannot become a competent resectionist until his reflexes are so well coordinated with the cutting and the coagulating functions of the instrument that the mechanical aspect of its use is entirely automatic.

– Reed M. Nesbit, 1943

Nesbit's resident often began the TUR and the surgeon would finish the operation. Progressively larger and larger glands could be given to the resident. After 20 to 30 resections on smaller glands, the resident could progress to larger glands: 60 to 70 grams.

Nesbit reported that in his first 400 TURs, he had urethral strictures develop in six patients. He believed that this number could be reduced by better equipment and careful attention to the insertion of the instruments. He had bleeding difficulties in 4 out of the first 200 TURPs that bled from 14 to 30 days later. If a patient failed a voiding trial on the morning of the third post-operative day, he returned to the OR for immediate reoperation to remove any other obstructive tissues. Reoperation following discharge was also documented in 6 of these patients who had benign prostatic tissue and 14 of those who had malignancy. There were 25 deaths or 6.15% in his first 400 patients (open prostatectomy at Michigan at this time had an operative mortality rate of 18%). Nesbit's mortality statistics steadily declined such that of his last 635 patients there were only 8 deaths or 1.3%. The residents performed 365 TURs during this same period with 13 deaths or 3.6%: admirable but significantly different.

Nesbit predicted that the TUR would be rapidly adopted by urologists throughout the US:

probably every urologist in the North American continent joined the mad rush to obtain the necessary and not inexpensive armamentaria that promised the prostatic millennium.

He nevertheless remained cognizant of the potential for harm: "*the resectoscope flashed like a comet across the urological skies, leaving in its wake a trail of sepsis, incontinence, strictures, ruptured bladders and heartaches; as well as partisan argumentation.*"

Between the foundation in October of 1931 and 1945, the staff and residents at Michigan performed over 4,000 TUR; only 1/10 of prostates were performed by open methods. Frederic Foley summed up the era by stating, "*Resection is an extremely valuable procedure in some hands where it may be employed in almost all cases and a worthless procedure in other hands where it should be employed rarely, if at all.*" ●

1: Reed
M.J. Nesbit.

1. William P. Didusch
Center for Urologic
History



CHARLES BRENTON HUGGINS (1901–1997)

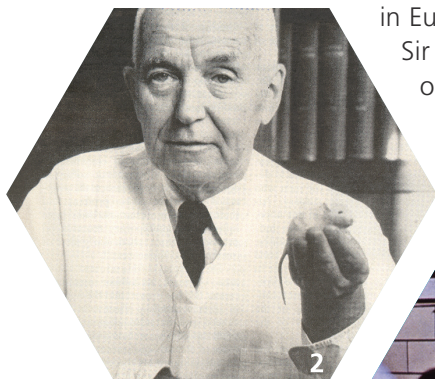
NOBEL PRIZE WINNER

Michael Moran, MD

Charles Brenton Huggins was the second urologist to win the Nobel Prize for Physiology in 1966, which he shared with Dr. Francis Peyton Rous (1879-1970).

Charles was born on September 22, 1901 in Halifax, Nova Scotia, graduated from Harvard Medical School in 1924 and completed his urologic residency at the University of Michigan. During his time in Ann Arbor, he developed a mentor relationship with Frederick A. Collier, and published his first two scientific papers on tuberculosis of the thyroid gland and relationship of hyperthyroidism and diabetes mellitus. He came to the University of Chicago at age 26 in 1927 (one of the original faculty members) and rose to become the Director of the Ben May Laboratory for Cancer Research. He developed an interest in genitourinary disease and surgery and assumed the leadership of the division of urology, which he held for over 25 years. He was heard to extol the virtues of urology during student rotations, saying, "*Urology is the Queen of the sciences.*"

Huggins was fortunate to come under the influence of his Chief of Surgery, Dallas B. Phemister, who encouraged the talented young urologist to expand his basic sciences, so he spent time in Europe (specifically under Sir Robert Robison) working on phosphate esters and phosphatases involved in bone physiology



and mineral metabolism. Phemister also encouraged his young faculty surgeon to take the role of genitourinary surgeon, so Huggins read and memorized Edward L. Keyes' famous textbook of urology. He went abroad, seeking further knowledge of genitourinary disease and its management and was influenced by Otto Warburg's theories of cancer and cancer metabolism (Nobel Prize in 1931). Warburg stated,

Cancer, above all other diseases, has countless secondary causes. But, even for cancer, there is only one prime cause. Summarized in a few words, the prime cause of cancer is the replacement of the respiration of oxygen in normal body cells by a fermentation of sugar.

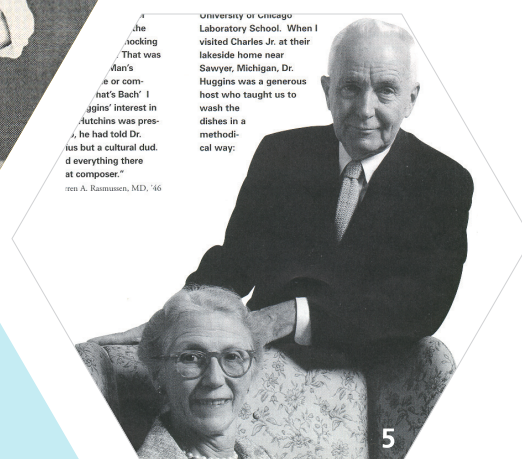
Huggins would found and become the director of the Ben May Laboratory for Cancer Research and put a sign on the door: "Discovery is our business." He rose rapidly in the ranks to become the William B. Ogden Distinguished Service Professor and was offered the position of Chair of The Johns Hopkins Urology Department (following Hugh Young), which he accepted but later turned down. He was a busy practitioner as well as great mentor to Clarence V. Hodges and William Wallace Scott. He loved his life and work:

Doing science in the universities is one of the most pleasant vocations of man. One must give everything, but one receives much in return. One pits his wits against apparently inscrutable nature, wooing her with ardor. Nature is blind to justice who cannot recognize personal identity. She can refuse to speak, but she cannot give a wrong answer. She is an unsophisticated, buxom lass who can be cajoled but not forced; her vocabulary consists of three words- yes, no, and perhaps. It is the genius of research to frame a question so simply that a conditional answer is prohibited.

Huggins neither slowed down, nor lost his investigative zeal following his nomination and winning of the Nobel Prize in 1966. He said modestly after winning, "A prize is not one of the great events of life, like birth and marriage." He also said that his co-recipient of the Prize, Dr. Peyton Rous, was his "hero," and he quoted from Rous' work on experimental cancers avidly and often.

Charles Huggins had spent much of his career experimenting upon the hormonal environment and methods that allowed adenocarcinoma of the prostate (and breast cancer) to propagate. He developed an interest in adrenal hormones as well as those produced by the gonads. In his Nobel address he stated,

The control of cancer by endocrine methods can be described in three propositions: (1) some types of cancer cells differ in a cardinal way from the cells from which they arose in their response to change in their hormonal environment; (2) certain cancers are hormone-dependent and these cells die when supporting hormones are eliminated; (3) certain cancers succumb when large amounts of hormones are administered.



- 1: Charles Huggins.
- 2: Huggins with a lab animal.
- 3: Huggins teaching.
- 4: Huggins in a classroom.
- 5: Huggins and his wife, Margaret.

1, 2, 4, 5. William P. Didusch Center for Urologic History
3. National Library of Medicine

Remarkably, there is no real biography of Charles Brenton Huggins; his biography from the Nobel Prize Committee is sparse and few lengthy historical documents exist. He was a dedicated husband to Margaret Wellman and father to two children, son Charles E. Huggins and daughter Emily Wellman Huggins Fine, who was kind enough to help with this history. Huggins would quiz his students daily in the research laboratory about their work and thoughts on their goals and findings. Student sources told that he had a colorful personality; he once stated he only got into Harvard because "the school needed more foreign students."

Huggins received numerous awards in his long and distinguished lifetime as well as many honorary degrees and several named laboratories. In addition to receiving the highly prestigious 1963 Lasker Awards (shared with Michael DeBakey), Huggins was awarded the Ramon Guiteras Award in 1966 by the American Urological Association. He summarized his life's works by stating, "It is a pleasant vocation to do experiments while teaching young people how to find new and beautiful things—how to do elegant science." ◆



EARL F. NATION (1910–2008)

FOUNDER OF THE AMERICAN OSLER SOCIETY

Mike Moran, MD; Sutchin Patel, MD

Earl F. Nation was an original founder of the American Osler Society and a lifelong collector and writer in his own right. Earl was born and raised in Zephyr, Texas and moved to San Diego, CA where he attended college. He became an ardent student and investigator of urology, in what Fielding Garrison called "...the first branch of medicine to emerge from the clouds of ignorance." He loved to collect books and famous articles and ephemera, and was especially fond of his Thomas Wolfe collection. Earl arose to outstanding levels of involvement with almost every organization with which he came into contact, and demonstrated great equanimity in all aspects of his long life.

During his final residency rotation on pathology, Nation was exposed to a tuberculous lung and thus developed acute tuberculous pneumonitis. In the 15 months at the Barlow sanitarium, he first read Harvey Cushing's biography of Sir William Osler. This led him to a life-long study of Osler, and formulation of the American Osler Society in 1978. Dr. Nation wrote,

When convalescing from tuberculosis, I had time to read Cushing's two-volume Life of Sir William Osler (it was the Pulitzer Prize winner in 1925). I had heard much about Osler and Cushing earlier when I was at Western Reserve... this biography educated me in many respects. Osler became my role model and I began to collect him, as my meager means would allow. I became interested in medical history also, in a way I might never have been otherwise. Osler's counsels, ideals and humanism, through his writings, and those of others about him, inspire me.

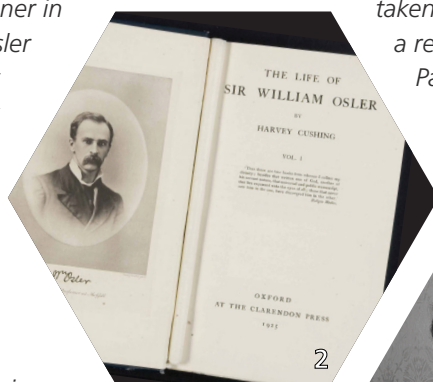
Nation served as president of the American Urological Association in 1977. The AUA History Forum Award for the best paper and presentation, the

AUA Earl Nation Retrospectroscope Award, was named in his honor.

One of Earl's favorite stories was told about the two-time Nobel laureate and personal friend Linus Pauling:

The audience was becoming restive. Dr. Pauling had been dancing beautifully with his wife before the break. He sensed the impatience of the audience and, with his usual ebullience, bounded to the microphone to fill the dead air. He proceeded to calm the after-dinner audience by telling them of a somewhat recent experience on his speaking tour. He told them that he had just returned from New England where had spoken about the therapeutic value of large doses of vitamin C. Following the address, an older man had approached him to inquire whether he was taking large doses of vitamin C himself. He assured the gentleman that he was. The inquirer then apologetically asked Dr. Pauling whether he was still sexually active and whether he thought the vitamin C was helpful. When Dr. Pauling answered in the affirmative, the man asked if he could be presumptuous enough to ask when Dr. Pauling had last had sex. Pauling said he told him, glancing at his watch "about 1950." The man, taken aback, said, "that does not sound like much of a recommendation, since it has been that long." Dr. Pauling said that he responded, while taking a long look at his navy time watch: "Oh! I don't know, it is only twenty one thirty now."

This brought the house down and Mrs. Pauling's blushing head down on my shoulder. ●



1: Earl F. Nation.
2: Osler biography intro page.
3: Nation as AUA President, 1977.

1, 3. William P. Didusch Center for Urologic History
2. Wellcome Collection



SIR DAVID INNES WILLIAMS (1919– 2013)

FOUNDER OF THE SPECIALTY OF PAEDIATRIC UROLOGY

Ronald Rabinowitz, MD

David Innes Williams (DI) was born in London on 12 June 1919, the son of a surgeon and a nurse at University College Hospital. Following in his father's footsteps, DI was educated at Cambridge and completed his war-shortened medical studies at age 23 at University College Hospital in 1942. With the more senior surgeons away at war, Williams rapidly became an experienced surgeon. As the Second World War ended, he was sent to India for three years in the Royal Army Medical Corps, where he gained even greater surgical and clinical experience.

Interested in Urology because it had not advanced much during the war - as had Orthopedics, Plastic Surgery, Neurosurgery, and Emergency General Surgery - Williams joined St Peter's Hospital for Stone in 1948. No one was interested in urology in children, as evidenced by the lack of knowledge of the staff at St Peter's of how to treat a child with posterior urethral valves. The only text on the subject of pediatric urology was by Meredith Campbell from 1937, which relied heavily on autopsy specimens. Williams obtained a part time position at Great Ormond Street Hospital for Children, working with surgeon Thomas Twistington Higgins. Wishing to be a surgical pioneer, DI realized the vast potential to expand pediatric urology. In 1951, he assisted Higgins and D. F. Ellison Nash in the publication of *The Urology of Childhood*. In 1952, at age 32, DI became Senior Genito-Urinary Surgeon at Great Ormond Street, the first full-time academic paediatric urologist. He remained the only full-time paediatric urologist in the United Kingdom for a decade.

In addition to numerous clinical publications about pediatric urology, he wrote and edited four additional books: *Urology in Childhood* (1958), *Paediatric Urology* (1968), *Urology in Childhood* (1974), and *Paediatric Urology* (1982). DI helped train a generation of pediatric urologists including Robert Jeffs, Barry O'Donnell,

Herbert Johnston, Alan Retik, Philip Ransley, David Frank, Howard Snyder, Christopher Woodhouse, and John Woodard among others.

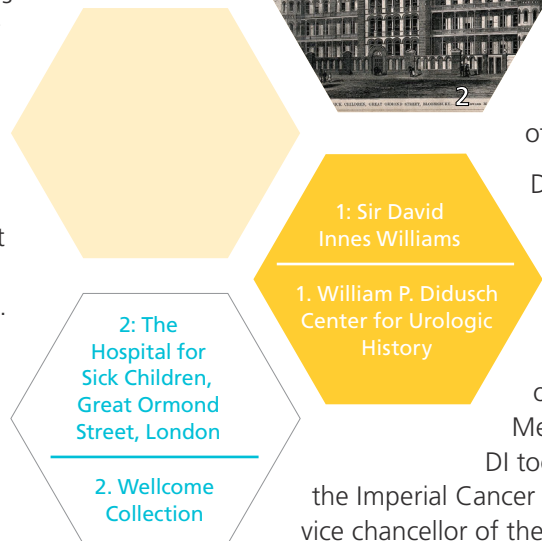
In 1963 Williams founded the Society of Paediatric Urological Surgeons at a dinner at his home attended by Barry O'Donnell, Jean Cendron, Herbert Eckstein, Richard Mogg, John Mitchell, and John Scott. As a pediatric urologist, DI Williams visited the United States frequently. DI gave the first Society for Pediatric Urology Meredith Campbell Lecture in 1964 and, in 1985, after being knighted by Queen Elizabeth, he was awarded the Pediatric Urology Medal of the American Academy of

Pediatrics Section on Urology. The title of his talk was *Reflux: A Career Experience*. Williams also received the Denis Browne Medal of the British Association of Paediatric Surgeons, the St Peter's Medal of the British Association of Urological Surgeons, and the Honorary Medal of the Royal College of Surgeons.

David Innes Williams retired from active practice in 1978 at the age of 59, still a superb surgeon, but determined to leave clinical practice while he was still as good as his registrars. When the position of Director of the British Postgraduate Medical Federation became available,

DI took it. In 1982, he became chair of the Imperial Cancer Research Fund and in 1985, pro-vice chancellor of the University of London. He was vice president of the Royal College of Surgeons and president of the British Medical Association, the British Association of Urological Surgeons, and the Royal Society of Medicine. He continued to publish in his second career, contributing to postgraduate medical education and the training of doctors from other countries.

Sir David Innes Williams was an outstanding clinician and surgeon, an international educator, and a superb academician. A true scholar and gentleman, he was a role model for pediatric urologists. He died on 3 May, 2013 at the age of 93. ●



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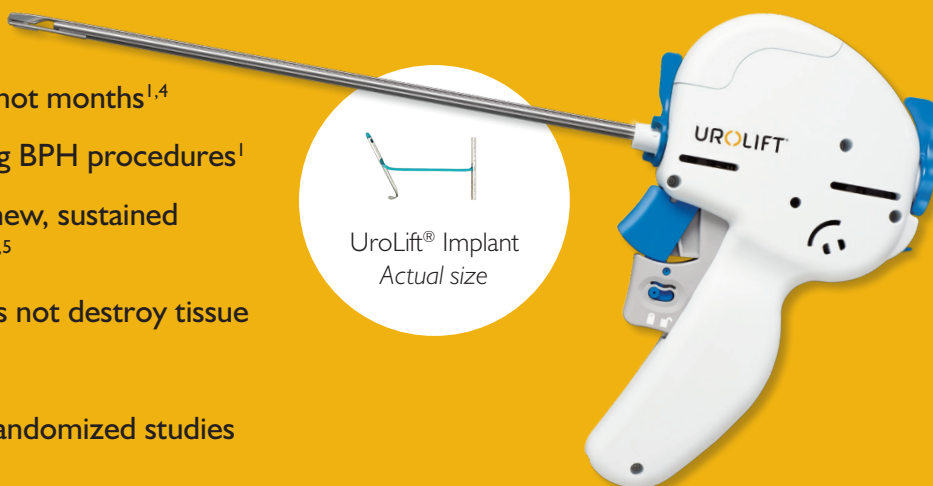
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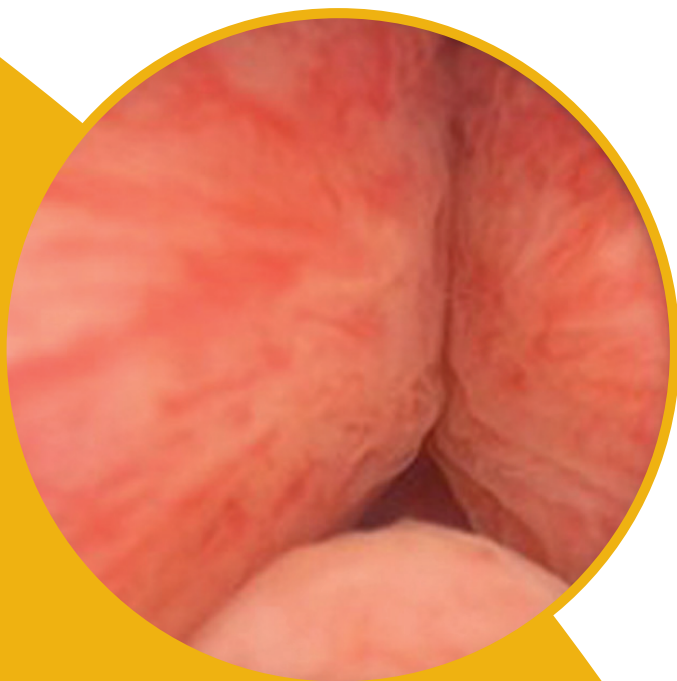
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