



Anesthesia History  
Association

2004 Spring Meeting  
May 7-8, 2004

The Westin O'Hare  
Rosemont, Illinois

# **AHA 2004 Spring Meeting May 7-8, 2004**

## **Overview and Objectives**

The program is intended to enhance knowledge of historical events in anesthesia. Great advances have been made in the field of anesthesiology and it is important that practitioners recognize the historical roots of current practice. Meetings of the Anesthesia History Society offer a mechanism of disseminating and archiving the achievements that have been made in the field over the years. Needs assessment is based on prior course evaluations, literature, and expert opinion.

## **Who Should Attend**

Primarily physicians, anyone interested in medical history.

## **Continuing Education Credit**

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of the University of Pittsburgh School of Medicine and the Anesthesia History Association. The University of Pittsburgh School of Medicine, as part of the Consortium for Academic Continuing Medical Education, is accredited by the ACCME to provide continuing medical education for physicians.

\*The University of Pittsburgh School of Medicine designates this educational activity for a maximum of 5 category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those credits that he/she actually spent in the educational activity.

\*Other healthcare professionals are awarded 5 continuing education units (CEU's) which are equal to 5 contact hours.

## **Schedule**

**Friday, May 7, 2004**  
Oak Park and Riverside, Illinois

*Tour attendees should plan to meet in the hotel lobby at 9 AM.*

**9:00 AM – 12:30 PM**

Oak Park, Illinois

Morning Walking Tours of the Frank Lloyd Wright Home and Studio and the Unity Temple  
*Theodore C. Smith, M.D.*

**12:30 PM – 1:30 PM**

Oak Park, Illinois

Lunch at Café Winberie

**1:30 PM – 3:30 PM**

Riverside, Illinois

Afternoon Driving Tour of Frank Lloyd Wright homes in Riverside  
*Theodore C. Smith, M.D.*

**7:00 PM – 9:00 PM**

Opening Reception

Wood Library-Museum of Anesthesiology

## **Saturday, May 8, 2004**

The Westin O'Hare  
Rosemont, Illinois

**7:00 AM – 7:45 AM**

**Director's Parlor**

Registration/Continental Breakfast

**All Sessions will be held in Director's B**

**7:45 AM – 8:00 AM**

Welcome

*Doris K. Cope, M.D.*

**8:00 AM – 8:50 AM**

Opening Plenary Lecture

History of Anesthesia for Liver Transplantation

*J. Antonio Aldrete, M.D.*

**9:00 AM – 10:30 AM**

**Session A**

Moderator: *William D. Hammonds, M.D.*

Anesthesiology in the United States: A History of Seeking Product Differentiation and Alignment

*David B. Waisel, M.D.*

The Third Bigelow: Unhappy Surgeon, Maecenas and Samurai

*Ray J. Defalque, M.D., and A.J. Wright, M.L.S.*

A Look at Pediatric Pain Management and the Father of Academic Anesthesia, Ralph M. Waters, MD

*Kathleen L. Larkin, M.D., and David B. Waisel, M.D.*

**10:30 AM – 11:00 AM**

**Director's Parlor**

Refreshment Break

**11:00 AM – 12:00 NOON**

**Session B**

Moderator: *Selma Harrison Calmes, M.D.*

Anesthesia in Arabic-Islamic Medicine

*Dr. Ashraf H. Salem*

The Morton Monument at Mount Auburn Cemetery: For Dust Thou Art, and Unto Dust Shalt Thou Return

*Gerald L. Zeitlin, M.D.*

Gwathmey's Debates with Lundy and Mayo Clinic Physicians to Use Colonic Ether Analgesia for Labor and Delivery

*Robert A. Strickland, M.D.*

**12:00 NOON – 1:45 PM**

**Director's A**

Luncheon Plenary Session

Presentation of AHA Honorary Membership to C. Ronald Stephen, M.D., by William D. Owens, M.D.

**2:00 PM – 3:30 PM**

**Session C**

Moderator: *Gerald L. Zeitlin, M.D.*

Ralph Waters and Kansas City: 1924-27

*Robert A. Strickland, M.D.*

An Opportunity to Stand Up, Be Counted and Salute: Women Physician Anesthetists in World War I

*Selma Harrison Calmes, M.D.*

Harvey William Cushing and Early Theories on Shock

*Mark G. Mandabach, M.D.*

3:30 PM

**Adjournment**

## Faculty Listing

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## **Faculty Disclosure**

Faculty for this activity have been requested to identify significant financial or other relationships with manufacturer(s) of any commercial product (s) or with provider (s) of any commercial services (s) which might affect the balance of their presentation.

The following information was disclosed:

J. Antonio Aldrete, M.D., grant and research support Arachnoiditis Foundation, Inc.

No significant financial relationships with commercial entities were disclosed by:

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## **Disclaimer Statement**

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## History of Anesthesia for Liver Transplantation

J. Antonio Aldrete, M.D., M.S.

Rarely do we have in medicine the opportunity to walk the path of the unknown. Liver transplantation is probably one of the most challenging operations as it is an impar organ for which there is no artificial replacement or supplement for its function.

About 40 years ago the first human liver transplant was performed at the VA Hospital in Denver, CO. As we gathered experience hypoglycemia, ↑Mg, ↓Kt, ↑Na, metabolic acidosis, massive hemorrhage and hypothermia were diagnosed, measured and treated. Simultaneous clumping of the portal vein and the IVC cava had never been done I humans before. Eventually OT #8 was the first long term (14 months) survival and went on from there. The choice of anesthetic agents and muscle relaxants were limited. Other “firsts” cases done by the team were simultaneous a cardio-renal transplant, pancreas-renal transplant and others, heterotopic transplantation and auxiliary liver transplant.

The transplantation team took care of the patients completely. The decisions for ethical issues were not easy; declaration of brain death, re-transplantation life support for cadaveric donors, DNR and the reluctance of some anesthesiologists to participate in these operations were challenging.

As a whole, it was the best of times with a few bad times. The first 170 cases at the University of Colorado took 17 years. From there on Cefalosporine made a difference.

### References

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4. Aldrete JA, O’Higgins JW, Starzl TE. Changes of serum potassium during renal homotransplantations. *Arch Surg* 1970;101:82-84.
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10. Aldrete JA, O’Higgins JW, Pearson JR, et al. Alterations of serum potassium, magnesium and calcium during organ transplantation. *Int Surg* 1972;57:23-25.

**“An Opportunity to Stand up, be Counted and Salute”:  
Women Physician Anesthetists in World War I**  
Selma Harrison Calmes, M.D.

Work on the life of early physician anesthetist Mary Botsford of San Francisco led to documentation of her service as a World War I contract surgeon. This discovery led to the question of how many other women physician anesthetists served in WWI. This paper addresses this question and asks others. Specific questions were:

1. How many women physician anesthetists served in WWI?
2. What was their military status?
3. What did they do? Did they serve overseas in combat situations or stay in the U.S?
4. Did their situation as women physician anesthetists lead to unique military opportunities?

Because there were multiple ways American women physicians served in WWI (the Royal Army Medical Corps, the Scottish Women’s Hospitals, Women’s Hospital Corps, the American Women’s Hospitals, and the Red Cross), this study had to be restricted to women serving as contract surgeons in the U.S. military. Women physicians could not receive commissions but won the less-prestigious contract surgeon status after an extensive and passionate fight. The first woman contract surgeon signed on March 9, 1918<sup>1</sup>, nearly one year after the U.S. entered the war.

Fifty-five women physicians are on the list of those who served as contract surgeons in WWI.<sup>2</sup> One additional physician, an anesthetist, was found in other material. Total number of women contract physicians is then 56. The list was reviewed for the designation “Anes,” for the names known to be physician anesthetists, and the list was also checked against a 1920 list of physician anesthetists. Ten of the women contract surgeons were anesthetists, 18%. (Another source states there were 16 women physician anesthetists.<sup>3</sup> I was unable to confirm that number.)

Three are known to have gone overseas to combat situations. *Francis Haines*, from Presbyterian Hospital (PH) in Chicago, was the anesthetist for PH’s Army Base Hospital No. 13 at Limoges, France. Haines was the first female contract surgeon to go overseas and served 16 months, the longest of any women contract surgeon. *Elizabeth Van Cortlandt Hocker* of Cincinnati served on the Argonne front with an unknown unit. *Anne Tjomsland* served with the Bellevue Hospital unit, U.S. Army Base Hospital #1, in Vichy, France. Hocker and Tjomsland both had ties to Bellevue. Hocker took a post-graduate course in anesthesia there in 1918, and Tjomsland was an anesthetist at Bellevue from 1916-1917.<sup>4</sup> Four others may have served overseas, and information on them may become available later.

Dr. Bostford filled the other function of women contract surgeons by staying in the US and teaching anesthesia to nurses and other women physicians. This was at Letterman Army Hospital in San Francisco, allowing her to maintain her private practice to support her family. She originally volunteered to work without pay but the Army insisted on a contract. Botsford also volunteered for the different work situations for women physicians, first volunteering for the Royal Army Medical Corps as an instructor in anesthetics, then signing up with the Lakeside Unit but backing out at the last minute.<sup>5</sup>

The need for anesthesia manpower and service was clearly recognized by the U.S. military as WWI approached. No physician anesthetist was in the American armed services when WWI began in Europe.<sup>6</sup> Women physicians skilled in anesthesia were actively sought by the Army to meet this need, presenting opportunities that would not have been available without war. These opportunities included work in combat situations.

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## **The Third Bigelow: Unhappy Surgeon, Maecenas and Samurai**

Ray J. Defalque, M.D., and A.J. Wright, M.L.S.

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William Sturgis Bigelow, the only child of Henry J. and Susan Bigelow, was born in Boston on April 4<sup>th</sup>, 1850. His mother committed suicide when he was three, and he was raised by doting grandmothers and aunts.

Bigelow attended the Boston Latin School with future U.S. Senator Henry Cabot Lodge and future Harvard surgeon F.D. Chadwick. He entered Harvard College in the fall of 1869, joined all its clubs and graduated in the summer of 1871. He immediately entered Harvard Medical School and obtained his M.D. in 1874. He spent the next five years studying in Germany, Vienna and Paris, where Pasteur taught him bacteriology. While in Paris, he discovered and started collecting Japanese art.

Back in Boston he set up a bacteriological laboratory for Harvard (one of the first in the U.S.) and helped Henry P. Bowditch write his "Report on Bactericides" for the National Board of Health. His father, however, wanted him to follow in his footsteps, and had him appointed Assistant Surgeon at the Massachusetts General Hospital Out-Patient Department where he worked for the next two and-a-half years. Although a gifted surgeon, he soon came to hate the drudgeries of his trade. In early 1882, after attending a lecture on Japan by E.S. Morse, a zoologist then teaching at Tokyo University, Bigelow, unhappy with medicine, Harvard, and the coarseness of Boston, resigned his position and decided to accompany Morse to Japan for a few months' visit.

Bigelow reached Tokyo in the summer of 1882, immediately fell in love with Japan and its people, and stayed for the next seven years. He learned the language, adopted Japanese customs, including the practice of the martial arts. He traveled extensively with E.S. Morse, Ernest F. Fenollosa, and G.S. Weld, who taught in Tokyo; all three bought vast amounts of Japanese artifacts for their private collections, the Boston Museum of Fine Arts (MFA) and the Peabody Museum in Salem. Bigelow played host to visiting Boston friends, made generous contributions to various local institutions and sponsored Japanese scholars to come and study in the U.S. He dedicated much time to the study of Esoteric Buddhism at the Homoyo-in monastery near Kyoto under the master, S.K. Ajari. Along with Fenollosa, he took his priesthood vows in 1885, under the name of Genshin-kojii (Moon Mind). Bigelow nursed Ajari during the latter's terminal disease and immediately after his death in December, 1889, returned to Boston where he found his father fatally ill and disappointed with his son's way of life.

Henry J. Bigelow died in October, 1890, leaving his son an immense fortune, his house on Beacon Street, his lodge on Tuckernuck Island and his Massachusetts General Hospital and Museum of Fine Arts trusteeships. Bigelow moved to Beacon Street, joined the exclusive Boston and New York City clubs and embarked on a busy social and artistic life. As curator and trustee of the Museum of Fine Arts, he actively participated in its policies and intrigues. In 1897 and

1899 he traveled to Europe to visit his friends in Paris and London and attend the Bayreuth festivals.

An avid reader of medical literature to the end of his life, Bigelow kept a keen interest in medicine: he helped run the Massachusetts General Hospital, championed various medical causes and ideas and supported the work of such physician friends as HP Bowditch, FC Shattuck, RN Lovett, Harvey Cushing. He also created the Henry J. Bigelow Award for the Boston Surgical Society.

In 1896, Bigelow won the lawsuit initiated against his father's estate by a Mary E. Bartlett, who had accused his father of breach of promise of marriage. The two-year proceedings tormented Bigelow, who repeatedly requested the prayers of the Homoyo-in monks. He handsomely rewarded them after winning his lawsuit.

Bigelow's old friend "Cabby" Lodge had become a powerful Washington Senator. Bigelow had also become a very close friend of Teddy Roosevelt, whom he had met in Paris in 1889 (he introduced him to judo in 1901). Through personal contacts and frequent, persuasive letters to his two friends, Bigelow exerted a strong influence on many national policies and reforms, especially after Roosevelt became president in 1901. He pleaded Japan's cause during the Russo-Japanese peace treaty of 1905 and later helped oppose the anti-Japanese immigrant laws in Washington and in California (1906-9). A grateful Japanese government in 1909 made him a Commander of the exclusive Order of the Rising Sun. In 1908, Roosevelt named him to the U.S. Assay Commission for which he designed the famous "Bigelow" gold coin.

A fanatic Republican, Bigelow opposed Roosevelt's decision to leave the party, became a rabid foe of Woodrow Wilson, fought the U.S. entry in World War I and later, its participation in the League of Nations. In 1919, he advised the U.S. and Japanese delegations at the Versailles peace treaty, ensuring a fair deal for Japan.

The first decade of the 20<sup>th</sup> century was a period of intense Buddhist activity for Bigelow. He returned to the Homoyo-in temple in mid-1902 to advise its monks on various material and spiritual matters and dedicate Akakuri's statue. His trip was marred by severe dysentery and a painful attack of facial zoster. Back in Boston, he gave a series of lectures on Buddhism, including a famous Ingersoll lecture, "Buddhism and Immortality". He continued the private Buddhist education of his protégé George "Bay" Lodge, the senator's son, and had his Japanese friend K. Okakura named curator at the Museum of Fine Arts. In 1911, he donated 26,000 pieces of his Japanese art collection to the Museum.

The decade following World War I were sad years for Bigelow, with the deaths of Roosevelt, H. Adams, H.C. and "Bay" Lodge, and E.F. Fenollosa, the decline of the Republican party and the introduction of Prohibition. Except for brief visits to his Boston clubs, he became a gloomy recluse in his Beacon Street house, plagued with leg edema, headaches, throat infections and dependence on morphine and alcohol. Suffering what Cushing diagnosed as atasia-abasia, he spent the last four years of his life in bed, reading, dictating letters and listening to the radio. He stopped collecting and in 1921 gave the Museum the last 10,000 pieces of his Japanese

collection. In 1921 he had a bizarre mystical experience and tried to commit spiritual seppuku and to have his soul destroyed to prevent its reincarnation.

Bigelow underwent a prostatectomy in August, 1926 and he had to be re-operated on October 6<sup>th</sup>; the evening of his re-operation he suffered a massive, fatal stroke. He was 76. His body, dressed in a priest's kimono and covered with bay was taken to Trinity Church on October 8<sup>th</sup>, where the funeral service was led by his college friend and Episcopalian bishop, William Lawrence. After cremation, half the ashes were buried in the Bigelow plot on Mount Auburn Cemetery; the other half were interred at the Homoyo-in temple in 1928, along with those of Fenollosa.

Bigelow, a tall, handsome, elegant bachelor, with impeccable manners and grooming and exquisite taste, represented the ideal Brahmin. He was generous with his money and his time to support the arts and medicine. A free-thinker, even an iconoclast, with a mind open to many ideas, he, however was an obstinate conservative in politics and the policies of the institutions of which he was a trustee. Several of his friends suspected that he was a homosexual who masqueraded as a bluff and virile playboy and sportsman. His correspondence shows a man of immense culture and vast interests, and a facile, witty and gossipy writer. But, it also reveals him as a snob, a "poseur" who could be caustic and nasty towards his opponents. His letters include anti-Semitic comments, vulgar racial slurs, and sneering comments on foreigners. Only his Brahmin friends and the racially superior Japanese deserved his admiration.

William Bigelow's biography of his father shows how proud he was of the latter's role in the introduction of anesthesia. Like him, Bigelow also vigorously campaigned for the use of ether for all surgical procedures and for animal experiments.

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## **A Look at Pediatric Pain Management and the Father of Academic Anesthesia, Ralph M. Waters, MD**

Kathleen Larkin M.D., and David Waisel M.D.  
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Ralph M. Waters MD is considered the founding father of academic anesthesia. We recently came across an article from 1938 where he turns his attention to analgesia for children. To our knowledge, this is the only time he focused his academic prowess on pediatrics. In his article from the *American Journal of Surgery*, Waters outlined the five most common influences affecting children's perception of pain and response to analgesics. This list, surprisingly, views the patient in a holistic light by considering atmosphere and state of mind. More striking was his conclusion of tailoring the analgesia and sedation to the particular child, thus debunking the 'one size fits all' style of pediatric anesthesia during that time.

Waters defined pain suppression as dependent upon the "depression of the excitability of the cell protoplasm in portions of the CNS." As excitability of nervous tissue increased the susceptibility to drug depression decreased. Waters suggested that the most important factor influencing excitability is age. A colleague, Guedel, plotted metabolic activity versus age and suggested that there is a parallelism between metabolic activity and cell excitability. Thus, from birth to puberty, this cell excitability is in a state of rapid but inconsistent flux. Waters attributed these rapid changes early in life to rate of growth and beginning endocrine activity. He applied this clinically to the assessment of pain by stressing the importance of constructing an imaginary curve for each child that we aim to treat. This curve of metabolic activity or cell excitability is raised or lowered by factors influencing the patient's need of pain relief. The five most common factors according to Waters were:

- a. Strength
- b. Temperature
- c. Emotional state
- d. Bodily comfort
- e. Endocrine activity

Waters stated, "if an approximation to basal metabolic activity and cell irritability could be secured in every child before entrance to the operating suite, the choice of agent and technique of administration to produce anesthesia would be simple."

Waters emphasized that "the physician should never lose sight of the fact that non-medical treatment, such as a comfortable bed, hygienic atmosphere free from carbon dioxide and with ample oxygen, elimination of mental irritation, etc., decreases the need for sedation with this group of drugs." He urged a more modern technique of titrating subsequent doses of sedatives/analgesics to the individual child's responses to the previous dose. "Careful individualization of the choice of drugs as well as doses will develop in the physician a skill far more satisfactory than any attempt at routinization (sic)."

In conclusion, Waters postulated that dosing of a depressant drug in children should be based upon a parallel curve for cell irritability and metabolic activity rather than solely upon age and weight. He detailed five factors that elevate or depress the curve and must be considered in determining a child's cell irritability. Waters' holistic approach, unusual for the 1930's, taught anesthesiologists to tailor treatment to each child.

### **References**

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# Harvey William Cushing and Early Theories on Shock

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One of Harvey Cushing's earliest publications was based on an Address in Surgery read before the Wisconsin State Medical Society on 4 June 1902. Subsequently published in the *Annals of Surgery* in the same year, it was entitled "On the Avoidance of Shock in Major Amputations by Cocainization of Large Nerve-Trunks Preliminary to Their Division, with Observation on Blood-Pressure Changes in Surgical Cases."<sup>1</sup> Early theories on shock attributed the phenomenon to depression of the central nervous system; a number of etiologic factors were thought to play a role in the appearance of surgical shock. George Washington Crile recognized the role of blood loss and fluid therapy in surgical operations, but he did not connect the loss of intravascular volume with shock. He developed a "kinetic theory" to explain shock, based on perturbations of the central nervous system - he attempted to eliminate or at least minimize these perturbations through the practice of Anoci-Association.<sup>2</sup> William Cushing theorized that shock was the result of trauma to peripheral nerves that triggered a reflex arc in the vasomotor center in the brainstem; the efferent response depressed systemic vascular resistance and caused a fall in blood pressure. Cushing reported his experience avoiding shock by blocking major nerves with cocaine in large surgical cases where massive blood loss was anticipated. He blocked the brachial plexus in a case involving an amputation for a sarcoma of the humerus and he performed a lower extremity amputation with the assistance of a sciatic nerve block. Cushing credited Crile with the early experimental work on the physiological effects of cocaine on the peripheral nerves and its relationship to shock.

Cushing's report is important historically for several reasons: (1) it is an interesting discourse on the early theories related to the phenomenon of shock; (2) it is an excellent report on the use of cocaine for peripheral nerve blocks. Cushing differentiates regional anesthesia from local anesthesia and the limitations of specific blocks when complete anesthesia is needed. (Hence the need for ether in certain cases.); (3) it contains some of the earliest anesthesia records – "ether charts" that initially only recorded pulse rates but after returning from Europe with a replica of Riva-Rocci's blood pressure apparatus, both pulse arte and blood pressure curves were included; (4) it forces us to work through the issue of how the injection of cocaine into a nerve trunk might prevent hypotension during ether anesthesia for a major operation – most likely this was due to the vasoconstrictive properties of cocaine.

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## **Anesthesia in Arabic-Islamic Medicine**

Ashraf H Salem

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Little is known about the history of anesthesia in the period of more than 1000 years between Greco-Roman times and the sixteenth century when the renaissance started. In Europe, that period is usually referred to as the "Dark Ages" but by no means it expresses the state of affairs in the Arab world or the Islamic Empire at that time when science and medicine were as bright as the shining sun.<sup>1</sup>

The Arabic-Islamic Empire, unjustifiably, has been commonly neglected and over- passed, as if nothing happened in spite of important events which took place and the significant physicians who lived during that period.

This research focuses on the development of anesthesia in Arabic-Islamic medicine through reviewing published papers, researches and different related websites.

Arab-Muslim physicians described in details the pharmacology of important narcotics such as opium and other central nervous system depressants such as hyoscyamus, henbane, cannabis and mandrake. They were the first to use Al-Murquid (Anesthetic) during surgery. It was used either by ingestion, inhalation or rectally. They used particular types of solanum, cannabis, opium and mandrake by ingestion.<sup>2</sup> The Arabs invented "The Soporific Sponge" which was the precursor of modern inhalational anesthesia. It was a sponge soaked with aromatics and narcotics and held under the nostril to provide anesthesia prior to surgery.<sup>3</sup>

Anesthesia which lead to heavy sleep to achieve surgical operations by oral, nasal (inhalation) and rectal route was described by Avicenna (890-1037AD) who not only determined the exact dose, but also was able to fix the length of time which the anesthesia has to last with great precision to achieve three to four hour anesthesia necessary in an amputation surgery.<sup>1</sup>

It can be concluded that anesthesia in Arabic-Islamic Medicine was far beyond its time. With the use of Al-Murquid, invention of The Soporific Sponge and use of different anesthetics; the Arabic-Islamic Physicians revolutionized the science of medicine and laid a path and framework for the advances in anesthesia that exist in our world today.

### **References**

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2. Al-Mazrooa AA, Abdel-Halim RE. Anesthesia 1000 Years Ago, *Saudi Medical Journal* 1991;12(5):351-353.
3. Al-Fallouji M. Arabs were skilled in anaesthesia . *BMJ* 1997;314:1128.

## **Gwathmey's Debates with Lundy and Mayo Clinic Physicians to Use Colonic Ether Analgesia for Labor and Delivery**

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Tungpalan, et al. in this forum have presented Gwathmey's practice of using colonic ether analgesia for labor and delivery.<sup>1</sup> But Gwathmey was not content to only present this technic in his publications and presentations; rather, he fervently felt that other institutions should actively adopt his technic. This paper shows how Gwathmey first tried to persuade Lundy and, when this failed, how he then tried to persuade other physicians at the Mayo Clinic, including Will and Charlie Mayo, to embrace his method of colonic ether analgesia. The materials used in this presentation include published articles and correspondence between Gwathmey and Mayo Clinic physicians obtained from the Mayo Clinic Historical Archives.

The first letter pertinent to this topic is from Gwathmey to Lundy dated, May 12, 1924, approximately six weeks after Lundy arrived at Mayo. Gwathmey states that he will "send (Lundy) bottles for the rectal installation (sic) and the ampoules used for hypodermic use in painless childbirth." Also, ethylene can be used to provide additional analgesia as the infant's head passes over the perineum. Gwathmey describes his success with three to five hundred cases. Lundy, in reply on May 15, states that he will try the technic and that Dr. Mussey, an obstetrician, is willing to try new things.

Gwathmey's next letter, dated May 22, 1924, states that materials for six patients had been sent and, among other things, that the technic was being used more widely in New York. Lundy's response, dated May 29, states that the material had been taken to St. Mary's Hospital for Dr. Mussey to use. It is apparent that Lundy is trying to accommodate the pressures of an older and more established anesthesiologist within the confines placed upon him and his new status at Mayo.

Gwathmey, apparently not content with his unsuccessful efforts to get Lundy to adopt his technic, next writes Dr. Will Mayo on June 8, 1924. In this letter he has what some could call the impertinence to request that Dr. Mayo come to Chicago to meet Gwathmey and discuss this technic when the latter is there for a meeting. If Mayo cannot attend, then Gwathmey wants Mussey or another representative sent. In Mayo's absence from the Clinic, Dr. Donald Balfour (a prominent surgeon and son-in-law of Dr. Will) responds courteously on June 12 to Gwathmey and forwards the letter to Massey. Massey on June 16 writes a nice letter expressing regret in not being able to go to Chicago and requesting information about the technic.

Mayo Clinic did not adopt the technic as Gwathmey insisted, despite subsequent correspondence (which will be discussed in the presentation) not only to Lundy and Mussey, but also to Dr. Charles Mayo. However, Lundy used colonic ether for surgical anesthesia, describing his limited success in the Surgical Clinics of North America in 1927. Gwathmey then chided Lundy's technic for the less than favorable results, causing a polite but terse response. By now it is apparent that Gwathmey's self-assertive manner was having little, if any, effect on Lundy. Subsequent correspondence appears to be more of that between equals in their professions.

**Reference**

1. Tungpalan L, Bacon D, Mergens P, et al. James T. Gwathmey: An advocate for colonic analgesia during labor & delivery. Anesthesia History Association Spring Meeting. Boston, MA, 2003.

## **Ralph Waters And Kansas City: 1924-27**

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Much is known about Ralph Waters, M.D., while he was at the University of Wisconsin, but little information is available about his years in Sioux City, Iowa, or Kansas City, Missouri. This presentation describes material obtained from the Jackson County Medical Society (JCMS) (Missouri), the Jackson County Landmark Commission Archives, the Jackson County Library, and other sources in Kansas City. Numerous photographs of the period and, when appropriate, from the present time will be presented.

Waters and his family moved to Kansas City in the autumn of 1924.<sup>1</sup> However, he was not authorized to practice medicine by the Missouri State Board of Health until December 9, 1924. He registered with the county clerk of Jackson County on Jan 12, 1925, and his specialty was Anesthesia. His application to the JCMS was dated Jan 17, 1925, and his education, previous practice site, memberships, and other information are included in his JCMS application. (Of future interest is the fact that on his membership card is a note that his membership was transferred to Dane County, Wisconsin, on September 20, 1927.)

According to the City Directory and phone books, his initial residence was at the Buckingham Hotel, 31<sup>st</sup> & Forest, only a couple of blocks from his first office. But by early in 1925 he lived in a house at 6112 The Paseo, a small bungalow-style home at what was then the outskirts of the Kansas City metropolitan area. He and his family remained in this house for at least the next two years, and this was still listed as his residence in the 1928 City Directory.

His first office was in the Wirthman Building at 31<sup>st</sup> & Troost, a fairly trendy area at the time. A few years earlier this building housed Walt Disney's studio. Time has not been good to this part of KC, and the building was razed in 1997. In mid-1926 he relocated to a downtown office in the Argyle Building, 12<sup>th</sup> & McGee, and this building stands today.

His hospital practice was at Research Hospital, formerly called German Hospital before the First World War. Research Hospital has played a significant role in medical care and education in Kansas for almost a century, and it not surprising that Dr. Waters would choose this as the hospital for his practice. Unfortunately, communication with the Director of Medical Affairs and the librarian/archivist revealed the absence of any staff records from that era.

In 1926 Dr. Waters spent July through September with Dr. John Lundy at the Mayo Clinic learning regional anesthesia technics.<sup>2</sup> Upon his return he implemented some of these technics in his practice, but severe back pain limited his activities for several months.

Waters published three papers (one paper was actually published twice) on ether anesthesia and carbon dioxide absorption while in Kansas City. In December 1926, he interviewed at the University of Wisconsin and moved there in January 1927.

### **References**

1. Gillespie N. Ralph Milton Waters: a brief biography. *Br J Anaesth* 1949;21:197-214
2. Strickland R: Lundy's early correspondence with the patriarchs of anesthesiology. Anesthesia History Association Spring Meeting. Williamsburg, VA, 1997.

## **Anesthesiology in the United States: A History of Seeking Product Differentiation and Alignment**

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This paper proposes that an animating ethic for the profession of anesthesiology in the United States has been to seek product differentiation and alignment. Three struggles typify this ethic. A first struggle was seeking acceptance as anesthesia as a physician profession. Physician-anesthetists prominently sought differentiation from nonphysicians such as nurses and dentists who provided anesthesia. A second struggle was the attempts of anesthesiologists to ally themselves with physicians as compared to hospital workers in the eyes of hospitals. In the middle of the century, the American Society of Anesthesiologists held that accepting salaries from hospitals – as compared to the more professional fee-for-service relationship – was unbecoming a professional doctor. Such a position helped differentiate anesthesiologists from nonphysician employees. Fee for service was the hallmark of professional physicians. Hospitals did not want to lose the cash cow that was anesthesia. They wanted to either keep anesthesiologists as hospital employees, or employ nonphysician anesthetists. Thus, hospitals frequently blocked anesthesiologists from entering into practice in the hospital or hired anesthesiologists to maintain financial control of anesthesia. A third struggle is in achieving product differentiation with nurse anesthetists. Anesthesiologists spend a great deal of time and energy differentiating themselves from nurse anesthetists on individual, local, regional and national levels.

The desire for product differentiation has crept into the communal psyche of anesthesiologists. There are two ways in which this fighting for differentiation has affected anesthesiologists. The first is external to anesthesiologists: the time and money spent waging this battle, and defending against the harm – real or perceived – from a devaluation of professional status. The second is the psychological view of the individual anesthesiologist and the community of anesthesiologist of the profession of anesthesiology. A company or individual fighting for market share seeks to ingratiate itself to the market, through better, cheaper or more easily used products. Depending on the practice, anesthesiologists may have at least four masters: the surgeon, who in some situations may or may not request their services; the hospital, who similarly may hire or not hire individual anesthesiologists or contract with groups, other anesthesiologists, particularly in groups that fight to keep surgeons and hospitals in their good graces and finally, and often last, patients. This is not uncommon. Surgeons compete with other surgeons for referrals from internists, for example. But I would suggest that the power individuals have over anesthesiologists and their ability to influence the minutiae and direct delivery of the style of care is far greater than among others. The desire to achieve product differentiation may harm anesthesiologists' abilities to effectively care for their patients. Anesthesiologists, then, may not act as full-fledged physicians. This begets a cycle – on a population level, one acts as one is treated and one is treated as one acts. I would argue that anesthesiologists, as a collective profession, have not achieved full physicianhood in their own minds or in the minds of others. This immature development, caused in part by the preoccupation with product differentiation, limits the ability of anesthesiologists to be the best possible caregivers for their patients.

## **The Morton Monument at Mount Auburn Cemetery: For Dust Thou Art, and Unto Dust Shalt Thou Return**

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The quotation in the title of this talk from the Book of Genesis is certainly true of human beings but does it necessarily apply to the memorials erected in their memory?

The inscriptions on the monument to William Thomas Green Morton in the Mount Auburn Cemetery, Cambridge, are becoming illegible. The marble into which they are inscribed is crumbling. Details of this deterioration will be displayed.

The purpose of this paper is to briefly review the history of the monument and to enquire whether it is appropriate or even possible to restore it. In so doing, the structure and the materials from which the monument was made will be examined so that we can understand the reasons for its deterioration.

I have had discussions with the authorities at the Cemetery. I have learned that the monument and the enclosure in which Morton's wife and children are buried, belong to his descendants. They would have to give permission for any work done there. An attempt is being made to get in touch with any living descendants.

In the few similar instances that have occurred at the Cemetery, the best that could be done was to reproduce the words on a bronze plaque at the foot of the monument. Should we meddle with an historical monument? After all it has taken 138 years to reach its current state. Will our anesthesiological descendants care if these noble words disappear altogether? In an idyllic future will acid air pollution diminish and the deterioration stop?

It is hoped that by the time this paper is presented some information will be available to answer these questions. The opinions of the members of the audience will be solicited.

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