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Manuel Martinez Curbelo And Continuous Lumbar Epidural Anesthesia

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Seldom are new techniques in anesthesia the product of serendipity. Davy, Wells, Morton, Snow, Simpson, Waters and others, to mention a few, spent considerable time in "bench research" and/or clinical observations before they announced their discoveries. However we mostly know of their most relevant contributions and somehow their other work is unappreciated. This situation is also the case with Manuel Martinez Curbelo, a Cuban anesthesiologist who is known for first having produced continuous lumbar epidural anesthesia through the publication of an article written during one of his visits to the Mayo Clinic.¹ However, how this came about has not been known, nor have some of his other contributions to our specialty been identified.² A search and review of this author's medical career development were conducted to further gain an insight into the events and the leading characters of the time that led him to the idea of inserting a urethral catheter into the lumbar peridural compartment. We also wanted to know how he gained the insight to apply this technique not only for surgical anesthesia but also its application for chronic pain conditions outside of the op-

erating room.

Pio Manuel Martinez Curbelo, as was his complete name, was born in la Havana, Cuba, in 1905. He completed his medical education at the National University of La Havana in the late 1920's. Not much is known of his motives for choosing anesthesia as his specialty but his inclination for new modifications and improvements of established techniques was evident early in his career as an anesthesiologist. He described a modification of the supraclavicu-

lar approach to the brachial plexus block as it was described by Kulenkampff. He performed this block with the patient sitting on a chair and rationalized it by indicating in a diagram (Figure 1) that in this position the shoulder falls, making the plexus more accessible as it crosses over the first rib, with less possibility to injure the lung.³

Before embarking on this enterprise

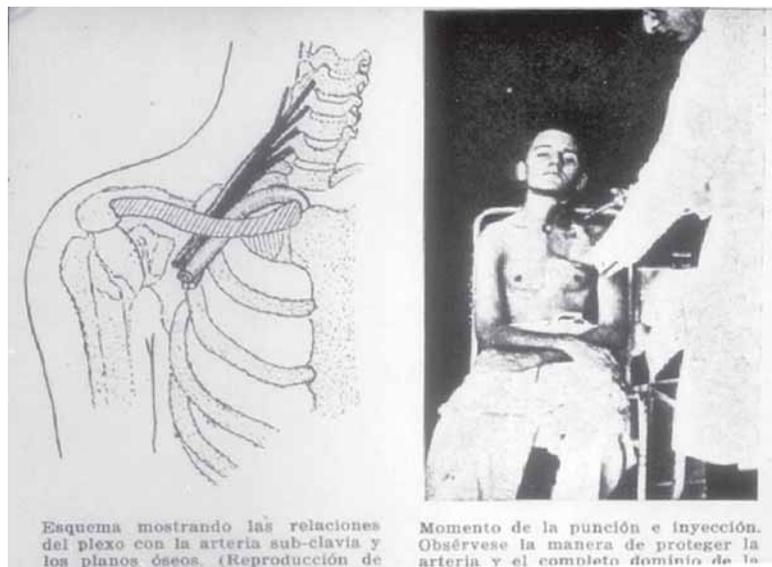


Fig. 1. Photograph including a diagram of the brachial plexus (after Labat) and on the right Manuel Martinez Curbelo demonstrating the position of the syringe held in his right hand, while his left hand steadied the needle.

History at the ASA 2004 Annual Meeting

Forum on the History of Anesthesia

The ASA at 100: A History
October 25, 2004
2:00 - 4:00 PM
Las Vegas Hilton - Pavilion 4

Objectives: The learner will understand several important points in the history of the American Society of Anesthesiologists and how those decisions affect the current structure of the ASA.

Moderator
Douglas R. Bacon, M.D., M.A.
Professor of Anesthesiology and History of Medicine
Mayo Clinic College of Medicine
Rochester, Minnesota

In the Beginning: The Long Island Society of Anesthetists and Adolph Frederick Erdmann

James C. Erickson, III, M.D.
Emeritus Professor of Anesthesiology
Northwestern University
Chicago, Illinois

The Creation of ASA

Douglas R. Bacon, M.D., M.A.

The 1960s - The ASA Comes of Age

Adolph H. Giesecke, M.D.
Former Jenkins Professor of Anesthesiology
University of Texas Southwestern Medical Center
Dallas, Texas

The American College of Anesthesiology

Peter L. McDermott, M.D., Ph.D.
Past President
American Society of Anesthesiologists
Camarillo, California

The Issues of the 1980s - The ASA and Professionalism

Bradley E. Smith, M.D.
Professor of Anesthesiology, Emeritus
Vanderbilt University School of Medicine
Nashville, Tennessee

History - Foundations of Anesthesiology

October 26, 2004
3:15 - 5:15 PM
Las Vegas Hilton - Ballroom E

Objectives: The learner will understand the importance of the Foundations to the specialty of Anesthesiology in the United States.

Co-Moderators
Douglas R. Bacon, M.D., M.A.
Professor of Anesthesiology and History of Medicine
Mayo Clinic College of Medicine
Rochester, Minnesota

Maurice S. Albin, M.D., M.Sc.
Professor of Anesthesiology
University of Alabama at Birmingham
Birmingham, Alabama

From Roslyn Boat House to Showplace of Park Ridge - The Wood Library-Museum

George S. Bause, M.D., M.P.H.
Associate Clinical Professor
Case Western Reserve University
Cleveland, Ohio

Anesthesia Patient Safety Foundation: History of a Success Story

Robert K. Stoelting, M.D.
President, Anesthesia Patient Safety Foundation
Indianapolis, Indiana

The Foundation for Anesthesia Education and Research: Taking A Long Bet on the Future

Alan D. Sessler, M.D.
President, FAER
Rochester, Minnesota

Caring for Residents - The Anesthesia Foundation

William D. Owens, M.D.
Professor of Anesthesiology
Washington University School of Medicine
St. Louis, Missouri

Why Bother? The Importance of the Foundations to the ASA and the Specialty

Douglas R. Bacon, M.D., M.A.

AHA 2004 Resident Essay Award Winners

Each year the Anesthesia History Association conducts a resident essay contest, offering \$500 and publication in the *Bulletin of Anesthesia History* to the winning essay's author. Other entries may be published in the Bulletin as well.

At the AHA's annual dinner meeting, to be held October 25, 2004, in Las Vegas, Nevada, during the ASA, the following winners of the 2004 contest will be announced by William D. Hammonds, M.D., M.P.H., Chair of the Resident Essay Contest Committee:

First Place

Matthew Mazurek, M.D.
"Sir William Macewen, a History of Oral Tracheal Intubation for Anesthesia, and a Missed Opportunity"

Second Place

George A. Mashour, M.D., Ph.D.
"Altered States: The Psychedelic Research of Henry Knowles Beecher"

Third Place

George A. Swanson, M.D.

"The Religious Objections and Military Opposition to Anesthetics, 1846-1848"

Letters to the Editor

To the Editor:

Dr. Peter McDermott has long been an excellent reviewer of publications for the *Bulletin of Anesthesia History*. However, I must take some exception to his recent opinions on **World Federation of Societies of Anesthesiologists—50 Years**. Most especially, I am deeply troubled by his allegation that documentation was lacking on the assertion that fear of communism was one of the factors in the American Society of Anesthesiologists' reluctance to join the WFSA. The best known argument was used for the essay—letters to the editor from the *Bulletin of the New York State Society of Anesthesiologists* at the time. The letters are referenced and sections are quoted directly from their published text. The argument clearly centered on both money and the fear that the WFSA was some sort of communist organization. While this may not speak to the mood of the entire ASA, the New York Society, like the California and Texas societies, is large and of enormous influence. I wonder what more documentation our intrepid reviewer desires.

As to the charge of young men venerating their elders, I do plead somewhat guilty. However, as authors of the chapter we were asked by the editors to sum up “the American character” that led to the reluctance of the ASA to join the WFSA. This is a dangerous essay to write, and as Dr. McDermott has rightly pointed out, there is much contradictory evidence to the broad brush strokes painted by Dr. Papper and myself. One of my Professors of History, in graduate school, gave a lecture on the American character at the Sorbonne. As my professor related the story, he related that each point he made he had reams on contradictory evidence as well as reams of supporting evidence. As dual authors, Dr. Papper and I chose themes we thought might help others from outside the United States understand the American character.

It is my hope that Dr. McDermott continue his sanguine reviews as I find them most helpful in picking out those books which to purchase for my personal history of anesthesiology library. Long may he continue his sterling efforts!

Douglas R. Bacon, M.D., M.A.

To the Editor:

I am grateful for Dr. Bacon's response to my review of the Papper/Bacon essay in the recently published **World Federation of Societies of Anesthesiologists – 50 Years**. His view, as I understand it, is that I erred in saying “the assertion that ASA was reluctant to join WFSA because of fear of communism is without documentary support.” In reading (and re-reading) the article, I looked for citations to support the assertion that “any society that admitted communist groups was inappropriate for American participation.”¹ What I found was a reiteration of the claim that centuries of American isolationism was manifested in the reluctance of American anesthesiologists in the 1950s to associate with any organization that admitted communists. (The United Nations?)

The evidence presented supports the view that American concerns, particularly those of the New York Society, were about the dues assessment, the haste with which membership was urged, the need to secure prior approval by the ASA House of Delegates, and the “socialist structure” of WFSA organization.² None of this speaks to either fear of communism, which is distinctly different from socialism, or of chronic isolationism. I repeat, the United States has been deeply engaged in relationships, exchanges, associations, and alliances since its inception. It is true that Americans reacted by withdrawal from European political affairs after World War I, failed to join the League of Nations (the proposal, by the way, of an American, Woodrow Wilson), and retreated behind the illusory safety of its two large oceans to pursue its domestic self-interests. This was transient, exceptional, and not at all representative of America's involvement with the world.

I am more concerned by Dr. Bacon's claim that the goal of the article was to portray “the American character” in response to editorial demand. That is odd. A history of the WFSA on its 50th birthday demands an American contribution based upon a supportable historical record, not the mushy subjectivity of personal opinions. More worrying to the historian is the con-

fession that the authors “mined” their sources to support their pre-conceived notion of the American character. With this approach, one only finds what one is looking for. If the evidence would support different views of the American character, as Dr. Bacon asserts in his response, then it is a disservice to the historical record to present a partial truth as a whole truth. Historical integrity requires that the past do more than serve the interests of the present. It must be allowed to speak for itself. To fashion an American character that endures over centuries with consistent qualities is to fashion myth, not history.

I have said nothing that Dr. Bacon does not already know. As he knows, and you should too, he has been a valued friend and much-admired colleague of mine for many years. He is tireless in his efforts on behalf of the history of anesthesiology and the scholarly pursuit of excellence. My criticisms are reluctantly directed, I suspect, at the attempts of Dr. Papper to present a universalist view of the American character and the course of American history.

Peter McDermott, M.D., Ph.D.

¹WFSA– 50, p.48. In the period after World War II, the US was a member of the United Nations, an organization that included communist nations. NATO included many countries with socialist governments.

²Ibid., 50.

Curbelo. . . Continued from Page 1

Martinez Curbelo studied the techniques described by Pages,⁴ Dogliotti,⁵ Gutierrez⁶ and Odom,⁷ who visited Alberto Gutierrez in Buenos Aires in 1935. Martinez Curbelo became acquainted with their techniques of peridural anesthesia; he cited all of them in his publications. In addition, he had first hand instruction from A. H. Ferro,⁸ the physician who introduced this technique into Cuba in 1937. He began to use it in 1942, and by 1944, together with Perez Valdez and Mesa Quinones,⁹ they reported on their earlier experience with single shot epidural anesthesia for a variety of surgical procedures at a surgical meeting held in La Havana describing 648 cases in patients ranging from 10 to 100 years without any apparent serious complications.

Martinez Curbelo was aware of the metameric sensory blockade concept introduced by Pages,⁴ as he had realized that in order to obtain an optimal visceral blockade, he had to obtain a continuous sympathetic blockade as first proposed by Eugene Aburel, a Romanian, who in 1931, had advocated blocking first the lumbo-aortic plexus at an early stage of labour followed by a caudal injection for the expulsion phase¹⁰ to achieve complete obstetric anesthesia. He produced the first block by introducing an elastic silk catheter through a needle inserted at the left flank, leaving the catheter after removing the needle and repeatedly injecting 0.5% percaine.

Clinicians realized that to provide continuous anesthesia for long lasting surgical procedures, there had to be a way to repeatedly inject local anesthetics. Lemmon¹¹ achieved it by using malleable needles to prolong spinal anesthesia, even to the point of making special mattresses and OR tables that would permit placing the patients supine with the bent needle in their backs. This need was addressed in obstetric anesthesia by Hingson and Southword¹² after trying malleable needles inserted caudally, in 1942 used continuous epidural anesthesia by the caudal route, injecting local anesthetics through urethral catheters.

Edward B. Tuohy tried the malleable needles too,¹³ but then decided to modify Lemmon's approach by adapting a 3.5 inch-long Becton-Dickenson 15 gauge trocar-needle to a Huber tip already in use (Figure 2). This technique allowed him to insert a urethral catheter into the sub-arachnoid space and to direct it either cephalad or caudad.¹⁴ In this scenario it was obvious that a reliable, simple and safe method to prolong peridural anesthesia

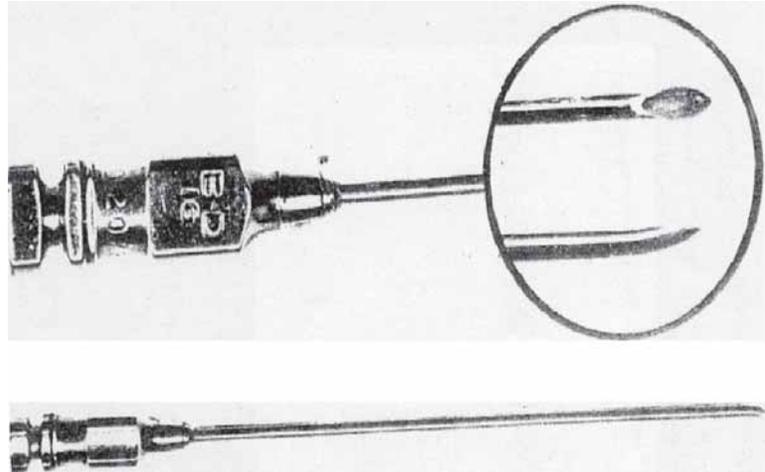


Fig. 2. Tuohy's needle made out of 16 gauge trocar attached to a "Huber point" (seen from frontal and lateral views).

was needed; Martinez Curbelo, visited the Mayo Clinic in November 1946. He observed Ed Tuohy using his recently developed needle to allow for the insertion of urethral catheters intrathecally and noted that by injecting small, fractionated dosages of local anesthetics, repeatedly, long term analgesia could be achieved (Figure 2).

Armed with a number of needles and catheters given to him by Tuohy, he returned to Cuba in December 1946. On January 13 1947, at the Hospital Municipal de la Havana, he inserted a catheter into the lumbar epidural space in a 40 years old woman about to have a laparotomy for removal of a giant ovarian cyst.¹⁵ He found the epidural space by the "loss of resistance" method, then passed a No. 3.5 urethral catheter through the needle (Figure 3) then injected 15 ml of 1% procaine after diluting the crystals produced by Winthrop Laboratories in ampules containing 150 mg diluted in normal saline. An injection of a supplementary dose was

given 40 minutes later. On January 26, he reported his success in a meeting of the Surgical Society of La Habana.¹⁵

Eventually he tried 0.1% tetracaine from the same manufacturer, containing either 10 or 20 mg in ampules, to be diluted in 0.9% NaCl solution. However, because the catheter allowed him to reinject as many times as necessary, he used procaine crystals dissolved at the time of injection, without epinephrine.¹⁶

In those days, young doctors trained in anesthesia by spending months or years working with experienced anesthesia practitioners; those who knew Martinez Curbelo remember him as a compulsive perfectionist, insisting that for the procedure, patients had to be placed in lateral decubitus with complete flexion of the spine; he emphasized the need to have the shoulders even to prevent rotation of the lumbar spine, which will make the puncture difficult. The side to be operated was to be dependant. The tray that he used contained:

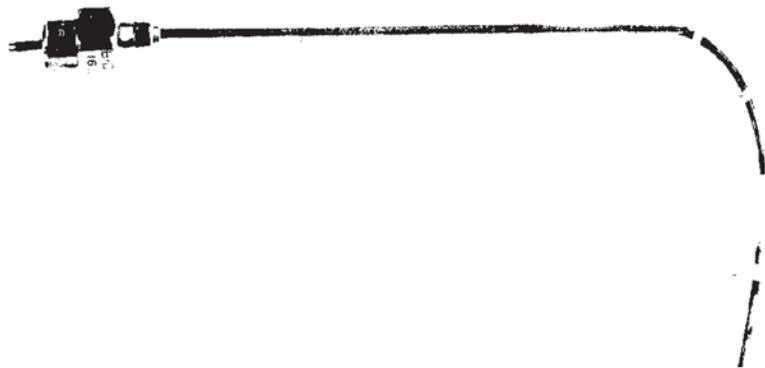


Fig. 3. Urethral catheter threaded through Tuohy's needle

- "A- Special Becton-Dickenson trocar of Tuohy, 16 gauge, with a Huber point"
- "B-One urethral No. 3.5 catheter with guide"
- "C-Two syringes: one of 2 or 3 cc and another of 10 cc capacity"
- "D-Two one inch B-D needles, one with sharp bevel to anesthetize the skin and the interspinous space and the other a 23 gauge with dull tip to adapt it to the distal end of the catheter."¹

The instruments were sterilized by autoclave or by boiling them in distilled water. He mentioned that the "trocar designed by Tuohy was 9.5 cms, in length, of an approximate caliber of 3.5 mm in outer diameter; adapting to it, in the distal point, a Huber tip bevel made by following a parallel cut to the length of the needle, placing a lateral bevel that allowed to orient the catheter in a perpendicular plane to that of the needle, and longitudinal to that of the spine and the epidural space."

The No. 3.5 catheter was made of nylon, had a 1.6 mm of internal diameter with external centimeter marks, it was "opaque to X-rays, flexible and resistant" (Figure 3). Martinez Curbelo made the puncture at the L₁-L₂ intervertebral space after having infiltrated the skin and the interspinous ligament with "one cc of procaine, each." He used the "Pages-Dogliotti method of the loss of resistance" to identify the epidural space utilizing the 2 cc syringe containing 1.5 cc of normal saline (Figure 4). Occasionally he lubricated the

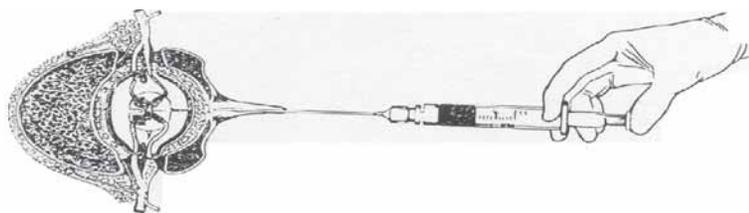


FIGURA 4.—Signo de pérdida de resistencia de Pagés-Dogliotti, antes de la perforación del ligamento amarillo.
(Cortesía Dr. M. Martínez Curbelo)

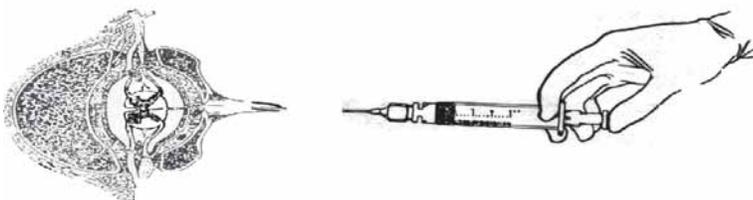
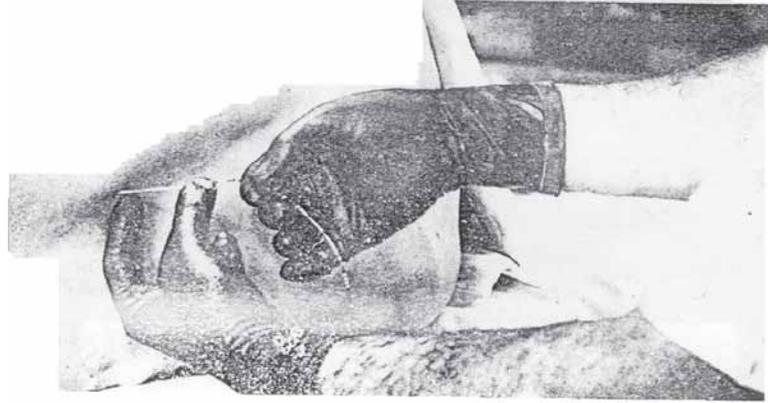


Fig. 4. Finding the epidural space using a 2 ml syringe, by the loss of resistance technique, as illustrated by Martinez Curbelo, (above) before penetrating the ligamentum flavum and (below) in the epidural space.



Técnica de introducción del catéter No. 3.5, a través del trocar, dentro del espacio peridural.

(Cortesía Dr. M. Martínez Curbelo)

Fig. 5. Advancing the catheter through the needle.

outside wall of the needle with sterile vaseline and advanced it millimeter by millimeter. In addition, he was known to place a drop of chloroform on the plunger of the syringe to obtain optimal seal while allowing free movement. Specifically, he made the point to always "feel the three opening steps, when the needle approached it, when it contacted it and finally when it penetrated" the *ligamentum flavum*, perceiving then a sudden disappearance of the resistance.

Some may consider that the L₁-L₂ intervertebral space, was too high; however Martinez Curbelo felt that in order to have a "quiet abdomen" the origin of the splanchnic and the solar plexus (the sixth dorsal sympathetic nerve) needed to be blocked. For thoracotomies, he felt that the sympa-

thetic system ought to be blocked from T₁ to T₁₀.

After negative aspiration, he advanced the needle one more mm to "make sure that the whole bevel was in the peridural space." He then described¹⁶ the insertion of the catheter as follows:

The guide is introduced up to one cm from the tip of the catheter, which is inserted into the needle 9.5 cm, then placing the index finger of the left hand at the entry point of the needle into the skin and holding its hub with the left thumb and middle fingers (Figure 5), the catheter is advanced with the right hand one more cm and the guide was removed one cm at a time, alternating this move with the advancing of the catheter, the same distance, until 12.5 cm indicating that the catheter is 3 cm in the epidural space. Slowly, the guide is removed and the 23 gauge needle, connected to a syringe is adapted to the catheter. First, aspiration is done, if negative, one or two cc of normal saline are injected to determine its patency. At that point the needle and syringe are removed from the catheter while holding the trocar with the left hand rested on the patient's back. The needle is then removed soft and gradually, while the right hand holds on to the catheter closed to the hub, maintaining gentle inwards pressure. Once the trocar is removed, 5 cc of the anesthetic solution is injected, with the patient, in the same position, then the patient was ob-

Continued on Page 6

Curbelo. . . Continued from Page 5

served for five minutes. If there are no signs of anesthesia and no suppression of the muscular function of the lower extremities, all been a sign that the injection was done in the peridural and not in the subarachnoid space, 10 cc more are injected, making a total of 15 cc followed by 0.5 or 1.0 cc of distilled water to keep the lumen of the catheter from becoming obstructed. The needle and syringe are re-attached to the proximal end of the catheter. A wide strip of sterile adhesive tape is applied over the entire length of catheter fixing it to the skin of the back making it accessible for ulterior supplementary doses; thereafter, the patient is placed in the supine position.

Apparently the first needles devised from the trocars to which a Huber tip was attached, ended up being 9.5 cm whereas now both the spinal and epidural needles have a length of 9.0 cm. The onset of anesthesia was expected to be between 10 and 20 minutes. The volume of the local anesthetic injected did not surpass 50 ml.

On January 26, 1947, at the Annual Congress of Cuban Surgeons held in La Habana, he presented a paper entitled "Continuous, segmental, peridural anesthesia with a urethral catheter utilizing a 16 gauge Tuohy needle with Huber point."¹⁵ A few months later, on September 9, 1947, at the 22nd Joint Congress of the International Anesthesia Research Society and the International College of Anaesthetists, held in New York City, Martinez Curbelo¹⁶ lectured on "Continuous peridural, segmental anesthesia by means of a urethral catheter."¹⁶ He then returned to the Mayo Clinic in 1948, where he presented his experiences; from that visit and with the help of Ed Tuohy and Tom Seldon, his classic publication appeared in the 1949 January-February issue of *Anesthesia and Analgesia*.¹ This technique was promptly tried by others and resulted in publications by Umstead and Dufresne,¹⁷ who were present at the lecture given by MMC in 1947, in New York City, and applied this technique in obstetrical patients in labour, followed by Nunziata from Buenos Aires,¹⁸ and then Foldes¹⁹ and Bonica²⁰ in the U.S.A.

Soon after his initial experience, Martinez Curbelo realized that the sympathetic blockade obtained from the epidural injections of local anesthetics could be applied to treat cases of chronic pain.

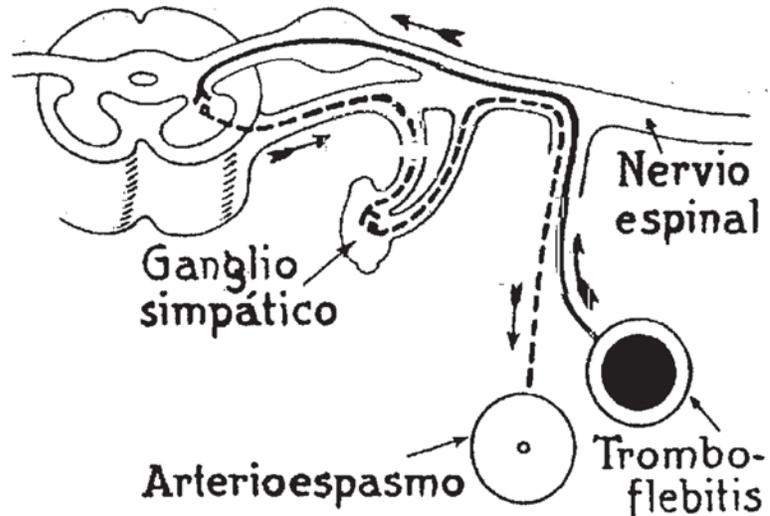


Fig. 6. Diagram, by Martinez Curbelo depicting how nociceptive stimuli originated in a thrombosed vein and transmitted through the pre-ganglionic axons, may produce reflex arteriospasm, in cases of thrombophlebitis

So on July 10, 1947, he proceeded to treat a young woman with postpartum thrombophlebitis²¹ "for one week, administering a total of 15 supplementary doses of 10 to 15 cc of 1% procaine with an average of two injections per day, at intervals of 9 to 14 hrs in between"; his rationalization for this approach was that by blocking the nociceptive stimuli coming from the thrombosed vein, the reflex vasospasm will be prevented (Figure 6). With a great sense of prediction, he subsequently treated patients with chronic pain from peripheral vascular dis-

ease,²² indicating that this approach was more effective and practical than repeated lumbar sympathetic blocks.

His method became well known in other countries and in October 17, 1954, he presented his work at a conference held in the Hospital Espanol in Buenos Aires; then he went to Sao Paulo, Brazil, as one of the lead speakers at the 2nd Latin American Congress of Anesthesia. Furthermore, on November 13, 1957, at the Miami Beach Auditorium, at the 51st Congress of the Southern Medical Association, as a dis-

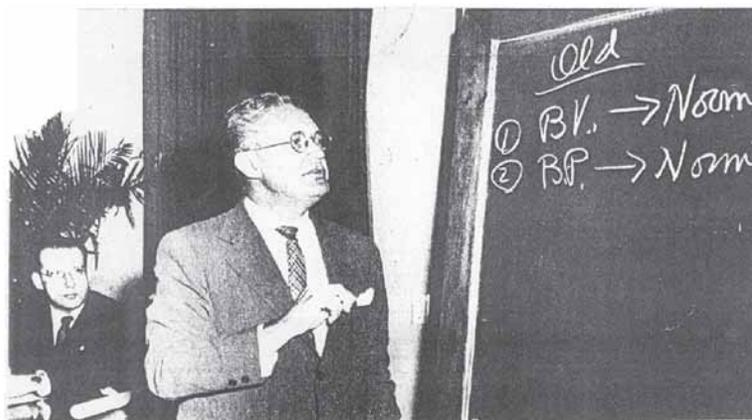


Fig. 7. Dr. Fernando J. Polanco receiving a diploma and a check as the recipient of the Celestino Somoano prize for his paper on "Hypobaric spinal anesthesia, of long duration, for rectal surgery." Manuel Martinez Curbelo is handing the prize and the witnesses are Dr. Celestino Somoano (on the right) and Prof. Henry Beecher (on the left).

tinguished guest speaker, he showed ten lantern slides and a 16 min. movie entitled "Lumbar sympathetic blocks by continuous peridural anesthesia as treatment of lower extremity vascular diseases." In this study, the author reviewed the pathophysiology of peripheral vascular diseases, rationalized the application of "continuous lumbar sympathetic block obtained by the repeated administration of local anesthetics into the epidural space by reaching the pre-ganglionic axons" (Figure 6). In this conference he showed femoral angiograms before and after treatment and described a patient who was about to have an A-K amputation from gangrene of the foot with severe pain and edema on the leg. He then wrote, "After 11 blocks, the final operation consisted only in the amputation of the foot." Photographs of histological specimens revealed "an old organized and canalized thrombus in the posterior tibial artery with duplication of the internal elastic lamina of the arteries and an inflammatory collection of lymphocytes in the medial layer of the muscle fibers, as well as adventitia."²¹

This recognition to Manuel Martinez Curbelo cannot be concluded without describing some of his personal characteristics and personality. These traits likely led him to achieve the contributions herein listed. Those that knew him insisted that he was always thriving for the best, demanding time, dedication, and study of those who trained under him. Martinez Curbelo gained the respect and admiration of the surgeons and other colleagues who recognize the advantages of continuous epidural anesthesia.²⁰ Moreover, in 1950, in a separate observation, he confirmed that the size of the spinal needles was the main causative factor for postdural puncture headaches and advocated the use of 24 gauge needles to prevent them.²¹

Together with Alberto Fraga who had trained in Wisconsin under Ralph Waters and Celestino Somoano, they founded the Cuban Society of Anesthesiology and Resuscitation in 1952. In 1955, he became the president and was instrumental in fostering clinical research instituting the "Dr. Celestino Somoano" annual prize (sponsored by the Compañía Cubana de Oxígeno) consisting in a 500.00 dlls awarded to the best clinical research project. That year, the recipient of the award was Dr. Fernando J. Polanco who in Figure 7 is seen receiving the diploma and the check, handed by Martinez Curbelo.²² To his right is Dr. Somoano and to his left is Prof. Henry K. Beecher from Harvard University who in Figure 8 is shown (chalk in



pasado viernes tuvo lugar, en el local de la Sociedad Nacional de Anestesiología, el acto de entrega del Premio "Dr. Celestino Somoano, 1955", consistente en \$500.00 donados por la Compañía Cubana de Oxígeno; y un diploma otorgado por la Sociedad. Fue entregado al doctor Fernando J. Polanco, por su trabajo "Anestesia Raquídea Hipobárica de Larga Duración, en Cirugía Torácica". En la misma noche, el profesor de Anestesiología de la Universidad de Harvard, doctor Henry K. Beecher, ofreció una interesante conferencia: "Cuidados Inmediatos del Herido Gravemente Injuriado". En la primera foto, el doctor Celestino Somoano; el doctor M. Martínez Curbelo, presidente de la Sociedad; el profesor Beecher y el doctor Polanco; la otra foto, el presidente doctor Martínez Curbelo y el profesor Beecher ofreciendo su conferencia.

Fig. 8. Newspaper clipping from 1955, showing Prof. Henry Beecher, from Harvard University (chalk in hand) lecturing on "Immediate Care of the Gravely Injured." Martinez Curbelo is in the background.

hand) giving a conference entitled "Immediate Care of the Acutely Injured" for which he was named Honorary Member of the Cuban Society of Anesthesiologists; Martinez Curbelo is in the background.

His participation in meetings in the U.S., Latin America and Europe gave him considerable pre-eminence in anesthesia circles and he was elected First Vice President at the World Federation of Societies of Anesthesiologists' first Congress held in 1955,²³ precisely the year that he presided the Cuban Society of Anesthesiol-

ogy, in The Netherlands (Figure 9). An anecdote that confirmed his strong patriotic character has been passed from generation to generation among anesthesiologists in La Havana. Apparently when at the opening ceremony, Martinez Curbelo realized that the Cuban flag was missing on the terrace, where the flags of all the countries represented were being flown. He promptly took a taxi to the Cuban embassy where he obtained a flag and returned to the Congress Hall; since there was no one in the immediate surroundings who could rise it,



Fig. 3. The Inauguration of the World Federation of the Society of Anaesthesiologists; Meeting of National delegates during the 1st World Congress of Anaesthesiologists, 1955; The Hague, The Netherlands (courtesy Mrs. Van 't Oever)

Fig. 9. Opening Ceremony at the First W. F. S. A. Congress held in September 1955, in The Hague, Holland. Pio Manuel Martinez Curbelo is shown at the main table (under vertical white arrow and behind horizontal black arrow).

Curbelo. . . Continued from Page 7

nor was there the usual "wire on a poly" gizmo to elevate it, it is said that he climbed the pole and tied his flag to it, just before the opening ceremony.

In 1964, at the III World Congress of the WFSA, held in Sao Paulo, Brazil, posthumously Pio Manuel Martinez Curbelo was officially recognized as the initiator of continuous lumbar epidural anesthesia.²⁴ The precise date of his death is not known.

Throughout his career it is evident that Manuel Martinez Curbelo was a special individual reluctant to accept the status quo, an attitude that most likely motivated him to challenge old theories and traditions. He insisted on professionalism in the care of patients, was on the outlook for new developments, believed that established techniques could always be improved and settled for nothing but the best that could be obtained in his time.

Acknowledgements

Though some of the information herein described had been available in the classic article by MMC published in *Anesthesia and Analgesia* of 1949, several colleagues kindly provided valuable information. Included were Dr. Fernando J. Polanco, who received direct instruction and the 1955 Award from MMC, and Dr. Mirta Abad, who also was partly trained by him. Others included Dr. Alberto Gonzalez Varela, Director of the Anesthesia Museum of the Argentinian Federation of Associations of Anesthesiologists in Buenos Aires, Argentina; Dr. Carlos Parsloe, Past President of the WFSA who knew MMC during one of his visits to Minnesota and later in his visits to Sao Paulo, Brazil. Mrs. Manuel Martinez Curbelo gave a great deal of information and documents and the set of lantern slides to one of the authors (HSC) who cared for her until her passing; and Dr. Jorge Yera, Algologist from La Havana, who provided anecdotal information.

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AHA2005 Call for Abstracts

Anesthesia History Association
12th Annual Spring Meeting
April 6-7, 2005
Sheraton Birmingham Hotel
Birmingham, Alabama

Call for Abstracts

Abstracts for 20-min. papers are invited on historical aspects of anesthesia, critical care medicine and pain medicine. Abstracts on medical humanities or ethical topics that relate to the history of one or more of these broad areas are also invited. Abstracts should be no longer than two or three pages in length; text should be in 12-point font size. If possible, abstracts should indicate the research problem, sources used, methodological approach and should contain no more than fifteen references. An excellent guide/bibliography for abstract preparation is available on the annual meeting page of the American Association for the History of Nursing.

Abstracts may be submitted by regular mail, fax, or electronic mail [in plain text format]. Disc submission in Word is also permitted. Abstracts submitted in electronic format may be made available to registrants in advance of the meeting and on the AHA WWW site as decided by the Organizing Committee. ALL accepted abstracts will be included in material distributed to meeting registrants.

Individuals who wish to organize a paper session around a theme should contact the committee as soon as possible.

Further updates, tentative program, and other material can be found on the conference web page at www.anes.uab.edu/aneshist/aha2005.htm.

WHEN: Deadline for submission of all abstracts is 31 January 2005.

WHO: Send abstracts, inquiries, etc., to: A.J. Wright, MLS
Dept of Anesthesiology Library
University of Alabama at Birmingham
619 19th Street South, JT965
Birmingham AL 35249-6810
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The History of the Midwest Anesthesia Residents' Conference -- MARC*

By Silas N. Glisson, Ph.D.

Introduction

Each year anesthesiology residents across the United States gather at regional meetings to present and discuss their research activities and to become part of a collegium of fellow residents and faculty. Shared experiences at these meetings form the foundations for life-long friendships, both academic and personal. Had such meetings not been started, anesthesiology residents would not have been exposed to the full breath of anesthesiology beyond clinical practice.

As a pharmacologist who's career involved research into the mysteries of anesthesia, and as a mentor since 1973 to residents who presented their studies at the Midwest Anesthesia Residents' Conference (MARC), I have observed first hand the positive impact of resident's participation in the MARC on their overall perspective of anesthesiology and their approach to caring for patients. The importance of resident research meetings to the specialty of anesthesiology cannot be overstated. I believe the history of the MARC including why it was started, what were its objectives, and the details of that all important first meeting is a significant contribution to the legacy of anesthesiology and should be preserved. With this as my goal, I have compiled historical information, both written and verbal, from several anesthesiologists who were personally involved in the MARC beginning. I have included scanned copies of several original documents about the MARC beginning that I retrieved. As a historian in this quest I have experienced a real excitement reading over these original documents. It is almost like being there when plans and decisions were made about that first Midwest residents meeting. I can only hope that as you read this historical account, you too will have that sense of being there. It is not often that such original documents are preserved after so many years have passed.

In compiling this historical information I am deeply indebted to William Hamilton, MD, "Bill," who served as Chair of the Department of Anesthesiology at the University of Iowa and was the individual who with the help of Jack Moyers, MD,

**Meeting participants and other speeches and programs available from the author on request.*

conceived and started the Midwest Anesthesia Residents' Meeting, as it was originally called. Dr. Hamilton who now enjoys 81 years of age provided me with a vivid personal account of the MARC's early history and supplied the original documents on its founding. Adel A. El-Etr, MD, who was the third resident presenter at that first MARC and later Chair of the Department of Anesthesiology at Loyola University Stritch School of Medicine, Maywood, IL, provided me with a resident's perception of presenting his paper at that first meeting. Alon Winnie, MD, who was the first resident enrolled into the Anesthesiology residency program at the University of Illinois Medical School, Chicago, IL, and a participant at early MARC meetings provided me with valuable details on those early meetings. I have been fortunate to have received detailed information from many of the residency programs that participated in the first Midwest Anesthesia Residents' Meeting in 1961. Without these first-hand accounts this endeavor to record the history of the MARC would have been far more difficult and I am grateful to all who shared their time and memories with me.

Original Concept for a Midwest Residents' Meeting

According to Bill Hamilton, MD, the Midwest in the late 1950's had only a limited number of academic anesthesia programs with few faculty. Mayo Clinic and the University of Iowa were among the bigger programs. In 1960, at Iowa, the anesthesia program was formally listed as the Division of Anesthesia. William Hamilton, MD, succeeded Stuart "Stu" C. Cullen, MD, as Chair at Iowa later to be followed by Jack Moyers, MD. Their program at that time included four faculty and twelve residents and there were twelve operating rooms. Because of the increasing demand for anesthesia service, the department was continually expanding in size, as new residents and staff became available. The residency program for the most part focused on clinical training, although whenever possible Stuart Cullen, MD, encouraged research studies by his residents and staff. Only at Mayo Clinic was there a regular program of resident research with studies lasting up to a year during their residency training. The lack

of research training by anesthesia residents was due in part to the limited availability of financial support for such endeavors. In the early 1960's, N.I.H. programs were providing very little support for medical research and clinical income was just enough to maintain the faculty. Anesthesia faculty attending national meetings had informally talked about the idea of a regional anesthesia residents' meeting from time to time. However, the idea became more than wishful thinking as a result of direct efforts by Bill Hamilton and Jack Moyers. Over the years Bill had conducted a variety of research studies and he was impressed with the beneficial effects of research on graduate medical education. Following in Stuart Cullen's footsteps, Bill, as Chair, encouraged his residents to become involved in anesthesia research. And from time to time, prior to 1960, Bill took some of his Iowa residents to present their research findings at the residents' meeting associated with the New York PGA. He remembers his Iowa residents winning first prize for their research presentations one or two times. It was apparent to Bill that the East Coast was ahead of the Midwest in its scope of resident involvement in research and having an annual event where the residents could present their findings. It was in 1960 that Bill and Jack Moyers decided that a residents' meeting was needed in the Midwest and steps were taken to organize such a meeting. They began working on the idea of a Midwest meeting where residents from Iowa and nearby anesthesia residency programs could present their research papers. A key concern in planning a resident meeting was the cost. At that time residency programs had few budget dollars available to send resident's to scientific meetings. National meetings were costly and to ensure wide participation by Midwest residents, Bill and Jack envisioned that the Midwest residents' meeting should utilize local resources to keep the expense to a minimum.

Area anesthesia Chiefs were contacted by Bill in May of 1960, by phone and letter, to get their input on the feasibility of an annual residents' meeting. His initial idea was that the meeting should be held at the University of Iowa. Iowa was geographically central to the other Midwest anesthe-

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sia residency programs. It would keep transportation costs low allowing groups of residents to drive there within a day. Campus housing was cheap and being an academic setting and holding the meeting on campus would facilitate focus on the meeting per se. In his letter to those residency program Chiefs, Bill presented his vision for the meeting and asked for their feedback.

The result of Bill's initial query was a consensus that a Midwest anesthesia residents meeting should be developed along the lines that Bill's letter proposed. Based upon the positive response from the Chiefs queried, a follow up planning meeting of anesthesia residency program Chiefs throughout the Midwest was organized by Duncan Holaday, MD, and Jack Moyers, MD, representing Iowa, to discuss Bill Hamilton's (affectionately known as "Hambone") letter and the proposal for a Midwest residents' meeting. The planning meeting was held during the 1960 American Society of Anesthesiologists annual meeting in New York at 17:00 hours on Tuesday, October 4, 1960, in the Statler-Hilton hotel in New York City.

Other individuals and residency programs were invited to the meeting but were unable to attend. (see minutes below) The topics discussed by those present were (1) the overall purpose of an annual residents' meeting, (2) the geographic boundaries of residency programs to be included in the Midwest meeting, (3) an appropriate time for the meeting relative to conflicts with other national meetings of anesthesiologists, (4) details of the meeting itself, and (5) how the meeting was to be organized. Jack Moyers served as the unofficial recorder at the meeting. His minutes of that meeting are duplicated below:

Summary of Meeting Called by Dr. Holaday to Discuss a Midwest Residents' Meeting

The meeting was held on Tuesday, October 4, in the Statler-Hilton in New York City. It was attended by the following: Bamforth and Siebecker (Madison), White (Oklahoma City), Greifenstein (Detroit), Van Bergen (Minneapolis), Jacoby (Milwaukee), Sweet (Ann Arbor), Moyers (Iowa City), Frederickson (Kansas City), McQuiston (Peoria), and Holaday (Chicago). Others invited but unable to attend were: Dr. Mary Karp, Chicago; Dr. Paul Dumke, Detroit; Dr. Vergil K. Stoelting, Indianapolis; Dr. Kenneth Keown, Columbia; Dr. Albert Faulconer, Rochester; and

Dr. Max Sadove, Chicago.

The original intent and purpose were explained and discussed. It appears that, although this particular session was instigated by Hamilton, the idea of a Midwest meeting has been informally mentioned by several in the past few years. Moreover, a rather common agreement exists that there is a need for a meeting which residents could relatively easily attend at modest expense, the format of which would clearly encourage participation of those in their formative years in anesthesiology. Rather unanimous sentiment was expressed that our various programs could be enriched by visits from teachers in other centers. Although no specific program for such visits was outlined general cooperation appears predictable.

Getting to specific aspects of a residents' meeting, these thoughts emerged:

1) Purpose: This would be an annual meeting designed to improve the training of residents. A general announcement would be made in various journals. Although the "member schools" would furnish the bulk of those attending, residents from other places would be welcome. Directors of individual residency programs would decide which of his group would attend. In some instances it appeared that only second year men would attend; all available would attend; and in at least one instance residents who "deserved to go" would be sent. Estimates of total attendance ranged from 50-80. Obviously, the site of the meeting and other factors would determine the number in any given year. Practicing specialists would not be specifically invited, but undoubtedly would be allowed to attend. Participation by senior staff personnel would be encouraged.

2) Location of meeting: As a start, the first meeting will be held in Iowa City, and Holaday has invited us for the second meeting. A look at the map will quickly show that we are talking about an area that is bounded by Detroit, Indianapolis, Oklahoma City, Kansas City, Minneapolis, and Milwaukee. From "corner to corner" is quite a distance. One could expect transportation difficulties, in terms of money and time, if meetings were held in Oklahoma City or Detroit, for example. On the other hand a meeting in Chicago would offer easier transportation of a shorter mean dis-

tance and probably better attendance. To allow full participation by all in sponsoring and planning meetings, and yet to avoid great distances, it was suggested that some of the peripheral schools join more centrally located schools as hosts but that the latter be the sites of the meetings. General acceptance of this idea was gained.

3) Date of meeting: This in the final analysis would be the decision of the hosts based upon local acceptance and with an eye toward the weather, state medical meetings, and national meetings such as the International Anesthesia Research Society. As a generalization it appeared that the last week in April or the first week in May might be optimum. Meetings would start about Saturday noon and end Sunday noon.

4) Local arrangements: When possible, inexpensive housing and food services should prevail. In most instances hospital dining facilities could be used and in many locations there are dormitories available for such conferences. With the exception of perhaps a Saturday night "social" session, gatherings should be held in hospital or medical building classrooms or auditoria.

5) Format of meeting: It was agreed that the host would be the final authority regarding program planning. Several thoughts, however, should flavor his thinking. (a) This is primarily a meeting for residents and they should participate when possible. (b) It is equally true that there is great value in having residents hear presentations, discussion and comment by senior men with whom they are not in daily contact and the silent attendance of a number of good teachers would be unwise. (c) Although one school is serving as host, it would be expected that papers would be sought from other schools. Other residency training directors should make the host aware of residents who have acceptable work to present. The basic idea is to acquaint our residents with what some other residency programs think about anesthesia, how they are investigating some of its problems, and how they are applying it to clinical and academic situations.

In such a short preliminary meeting there are certain to be only a small number of problems solved and even these with only modest success. It would be fair to say, however, that the group assembled was enthusiastic toward the idea of a residents' meeting and felt a need for such undertaking. This is an encouraging attitude and will make for easier solution of the detailed problems ahead. Your comments and criticism are now solicited.

Jack Moyers, M.D.
Temporary, Self-appointed
and Unpaid Secretary

JM/mj

The First Midwest Anesthesia Residents' Meeting

William Hamilton, MD, and the faculty of the Department of Anesthesiology at the University of Iowa University Hospital agreed to organize and host the first Midwest Anesthesia Residents' Meeting, March 18-19, 1961, at Iowa City. A "call for papers" sent out to area residency programs generated a response of twelve scientific papers and one scientific movie from anesthesiology residents. Bill Hamilton and Jack Moyers created the program schedule of presentations. Forty-five minutes were allotted per paper. The resident presenter had 15-20 minutes for his formal presentation. It was decided that a formal discussion of the paper by a faculty/staff member would enrich the experience of the speaker and offer additional information to the audience. Each resident presenter was assigned a discussant in advance of the meeting. Residents were encouraged to send their discussant a copy of their paper several weeks before the meeting. The inclusion of a formal discussant for each scientific paper was a practice also employed by the International Anesthesia Research Society until the 1980's at their annual scientific meeting. Following the resident and discussant's presentations, the paper was opened for discussion and comment by the audience.

A letter outlining the arrangements for accommodations, meals and the program along with a timetable of presenters and their discussants was sent out to individuals and residency programs thought to participate. It should be noted that the meeting was open to private practice anesthesiologists in the Midwest. It was thought that by attending, they would learn of the latest trends in the practice of anesthesiology.

In addition to the collegial interaction

of residents and staff from different residency programs during the paper presentations, a social hour and dinner was planned on Saturday evening for the attendees. This social program was held at the University Athletic Club in Iowa City. Following cocktails and the dinner, a talk was made by Thomas Hornbein, MD, an anesthesiology fellow at Barnes Hospital, St. Louis, on his climb of the Masherbraum, elevation 7821 ft., on the Pakistan/India border not far from Mt. Everest. Dr. Hornbein was an avid mountain climber and a few years later he successfully made the climb to the summit of Mt. Everest. I have no doubt that his talk was very stimulating because during my interviews with Dr. Hamilton, Dr. Winnie, and Dr. El Etr they each vividly remembered Dr. Hornbein's mountain climbing talk at that first Midwest residents' meeting. I would add that this first Midwest residents' social affair was sponsored by Ayerst Laboratories, the distributor of Halothane. Among the original documents is a letter from Dr. Hamilton to John Jewell, MD, Ayerst Laboratories, New York, New York, thanking Ayerst for supporting the cocktail hour of the gala social affair. I find it of interest that the cost for all drinks and the chips and dip was \$175.00 for the 96 plus attending the affair. The cost for the dinner was \$3.75 each including tip and tax and was collected from each person at the dinner table.

The scientific program covered a wide range of topics. There were papers on methoxyflurane usage, hypothermia during neurosurgery, blood gas distribution during thoracic surgery, and pulmonary physiology to name a few. The complete list of papers is included in the meeting information mailed out (see above). Of the twelve papers and one movie submitted, two papers were withdrawn at the last minute: "Cholinesterases" by Ray Green, MD, University of Kansas, discussant Charles Pittinger, MD, and "Effect of IV Urea on Blood Volume" by Thomas Subitch, MD, University of Wisconsin, discussant John Hanson, MD.

Reading over the list of resident presentations I was curious about what was the personal experience by the residents presenting their papers at that first meeting. I was surprised to find that Adel A. El Etr, MD, who was my Chair during my years at Loyola, was the third resident presenting. Interviewing Adel, he had fond memories of his experience at that first residents' meeting. In 1961 he was a first year anesthesia resident at the University of Chicago. I asked him how he got involved

in research and the methoxyflurane study on cardiac catheterization. Remember that not only were there few anesthesiology residents at that time, but research activities by residents was not commonplace. Adel explained that at the University of Chicago they were having difficulty measuring shunt fraction in children with congenital disease. Dr. Holaday got Adel interested in the problem and they developed a methoxyflurane and air anesthetic insufflation technique that was effective and allowed for accurate shunt measurement in the children. Adel collected data using this anesthetic technique and when the "call for papers" came, Dr. Holaday suggested he present his findings at the Midwest residents' meeting. Although I have not been able to interview other resident presenters, I would assume that there is a similar account behind each of their studies. Fortunately for the specialty in those early days faculty and staff took it upon themselves to mentor some of the residents in research about anesthesia. Those early seeds contributed to the surge in anesthesia research from the 1960's to the present that has provided answers to the many questions about anesthetic mechanisms and their safe use. Adel remembers being anxious as his time to speak approached. The discussants and audience were persistent in their questioning of the speakers. He remembers well the complex questions advanced by his discussant, Richard Theye, MD, a faculty at Mayo Clinic and by Max Sadove, MD, Chair at the University of Illinois, Chicago. It was a grilling experience shared by each resident as they stepped to the podium to present their papers. Slides were occasionally used and for the most part they were simple black and white pictures and graphs. Some residents even used the old 4-inch x 4-inch glass lanternslides. Color slides, even the blue diazo slides, were not yet in common use. I remember in the 1970's using a reverse black and white slide with colored transparent film overlaid on the slide to give an appearance of colored slides. It seems primitive compared to today's vibrant PowerPoint slides, some even with embedded movie segments. Adel remembers that he and two other residents piled into a car and drove to Iowa City for the meeting and staying at campus housing, "the dorm." He emphasized the collegial atmosphere of the meeting and from that first meeting the life-long friendships he developed with John Michenfelder, MD, Tom Hornbein, MD, and other residents who presented at that meeting. This tradi-

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tion continues to this day and it is a major attribute of the annual MARC meeting. I am sure that the list of friendships begun at a MARC meeting is longer than one would care to list. I know that I personally have made many friends over the years attending the MARC, many who have positively impacted my career in anesthesia research. There is no question that residents, their mentors, and participants benefit from the MARC. It is of historic interest that among those 11 resident presenters and their discussants at that first Midwest residents' meeting, 4 went on to become academic Chairs. They were: Thomas Hornbein, MD, Chair at the University of Washington, Seattle; Richard Theye, MD, Chair at the Mayo Clinic; Adel A. El Etr, MD, Chair at Loyola University Stritch School of Medicine; and Jack Moyers, MD, Chair at the University of Iowa. In addition, Charles Pittinger, MD, who was a discussant of one of the scratched papers, became Chair at Vanderbilt University. Several resident attendees also became Chairs. Wendell Stevens, MD, became Chair at Iowa and later at Oregon, Ernest Henschel, MD, became Chair at Marquette University, and Ramez Salem, MD, became Chair at Illinois Masonic, Chicago. Eight chairs from that first Midwest residents' meeting, quite a record. Many of those attending achieved impressive careers in anesthesiology. In particular, John Michenfelder, MD, achieved international recognition for his accomplishments in neuroanesthesia and Kai Rehder, MD, became a well-known researcher in anesthesia.

After that successful first Midwest residents' meeting, Jack Moyers compiled a list of particulars about the meeting. What worked and what didn't, final expenses and possible changes that could improve the next meeting. Clearly, the need for more resident participation in the paper's discussion was noted. Having residents' as the formal discussants instead of faculty and limiting the amount of questioning by faculty and staff seemed important for the future success of the meeting. That the Midwest Anesthesia Residents' Meeting be a meeting for the residents and conducted by the residents was an important conclusion. Those notes written by Jack Moyers are of unique historical value. All successful endeavors require an honest evaluation of whether the objectives were met and if not, why. And what changes are necessary to fully achieve the objectives envisioned. It was true in 1961 and it is true today in

2004. We have Bill Hamilton, Jack Moyers and those initial organizers to thank for today's highly successful MARC.

In addition to the post-meeting analysis by Jack Moyers and Bill Hamilton, Bill received follow-up letters from nearly all of the participating program Chairs on their experience at the first annual Midwest residents' meeting. I have included two of the letters below (Figures 8 and 9) as examples of the feedback he received. In general there were congratulations to Bill and his department at Iowa for an outstandingly well-organized meeting. Overall the Chairs forwarded a sweepingly unanimous opinion by their residents and faculty in attendance that the first meeting was very educational, enjoyable, and definitely worthwhile continuing. Only Dr. Faulconer raised a question about the long-term survivability of such a resident meeting. There were comments about having the event every year or every other year, about whether the high caliber of papers could be maintained in succeeding years, and about the geographic location of future meetings. Several considered Iowa the ideal location and were concerned that a Chicago site would be too far East and a long trip for the residents. Interestingly, by the 1980's the participation by residency programs in Chicago had grown to the point that Chicago was preferred as a frequent MARC host site.

Following that 1st Midwest Anesthesia Residents' Meeting, Bill Hamilton embarked on a one-year research sabbatical in California. Working on a problem in cardiovascular research under the mentorship of respiratory physiologist, Julius Comroe, Ph.D., Bill's experience reinforced his belief on the importance of research for graduate education in Medicine. During his career, Bill was a strong proponent of the need to develop research skills in residents during their residency training.

Among the original documents saved by Jack Moyers were the names of the 1961 attendees from each participating residency program, along with private practice anesthesiologists attending that first meeting.

From an idea to a structured vision by Bill Hamilton, the Midwest Anesthesia Residents' Meeting had become a reality. Without that first residents' meeting and the enthusiasm it generated this new opportunity in anesthesia resident education might not have happened in the Midwest.

Name Change from the "Midwest Anesthesia Residents' Meeting" to the

"Midwest Anesthesia Residents' Conference"

For some years anesthesiology residents in the East were able to present their research findings at the Post Graduate Assembly in Anesthesia (PGA) held each year by the New York Society of Anesthesiology. Duncan Holaday, MD, who became Chair at the University of Chicago was familiar with the resident research presentations at the PGA when he was on the staff at Columbia University in New York. He had been involved in the PGA program while there and was instrumental with Bill Hamilton in promoting a residents' research meeting in the Midwest. Another individual active in the PGA was Vince Collins, MD. In 1961 he was recruited from New York University's Bellevue Hospital to Chair the anesthesia department at Cook County Hospital in Chicago. He was active in the Midwest Anesthesia Residents' Meeting in the early 1960's because of its similarities to the resident experience at the PGA. Historically it is interesting that at the time the Midwest Anesthesia Residents' Meeting was created for resident education, an annual meeting in Chicago was being developed for faculty and staff similar to the New York PGA. Vince Collins spearheaded that effort. In 1961 the first meeting of what was called the "1st Post Graduate Assembly in Anesthesia" sponsored by the Illinois Society of Anesthesiologists was held in May at the Continental Plaza Hotel in Chicago. In 1962, Edmond I. Eger II, MD, introduced the concept of Minimum Alveolar Concentration (MAC) into the anesthesia literature. That year Alon Winnie, MD, suggested that the name of the Illinois Post Graduate Assembly meeting be changed to Midwest Anesthesia Conference or "MAC." Thus the second meeting held in 1962 was called "MAC 2" and it has been so named ever since with only the meeting number changed each year. Dr. Winnie told me that in order to attract well-known anesthesiologists to speak at the MAC, a special award was created to be given to a distinguished anesthesiologist each year. The awardee would be presented the award and give a talk during the MAC. The award created was to be called "The Ralph Waters Award" with a \$1000 prize. However, when asked for permission to use his name, Ralph Waters, MD, at Wisconsin asked that the award not be named after him. Dr. Waters thought the award should be named after Henry Ruth, MD. Dr. Ruth was a prominent anesthesiologist who was a member of the 1937 American Society of Anesthesiologists subcommittee on the

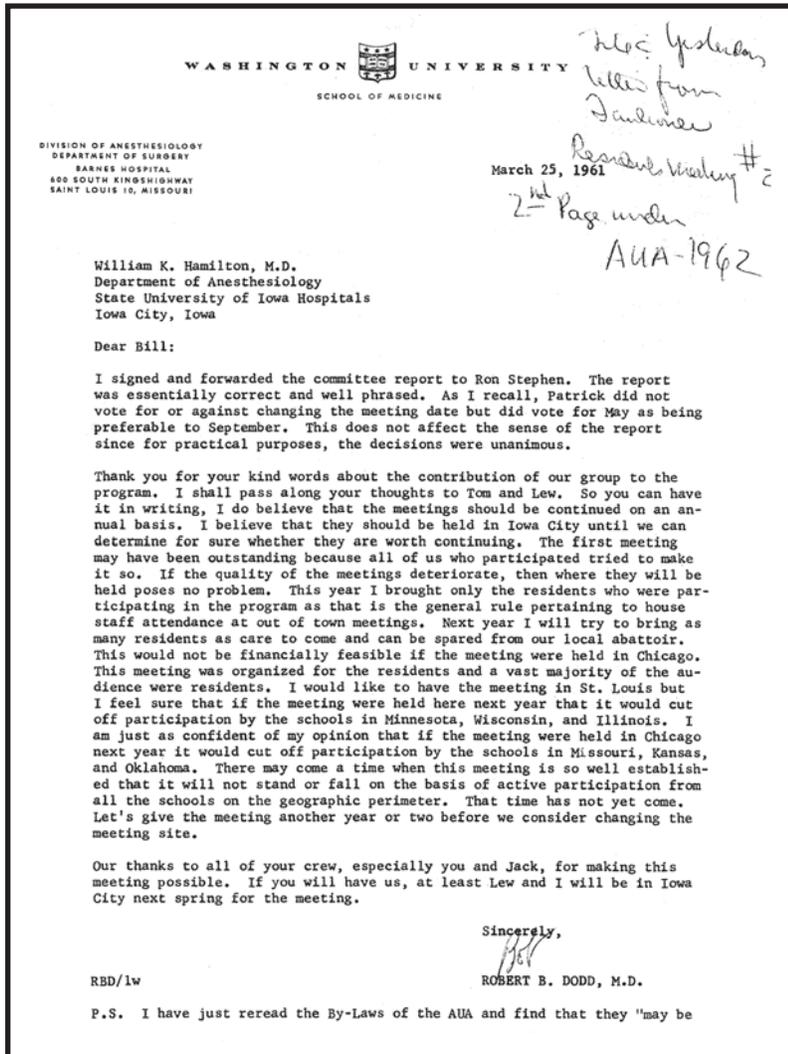


Figure 8.

late 1970's due to the large number of papers submitted to the MARC and the limited time available to present during the day and one-half. Initially, oral presentation was the only format used. The resident had approximately 15 minutes to present the paper, the discussant had up to 15 minutes and the audience could ask questions for an additional 15 minutes. Later in the MARC the presentations were limited to 10 minutes with 5 minutes discussion and questions. In the 1980's poster presentations became part of the format along with the oral presentations. As the number of residents participating in the MARC grew the format was changed to include multiple simultaneous oral sessions and one or more poster sessions. A limited number of poster-discussion format presentations were used from time to time. The poster-discussion differed from viewing a poster and directly asking questions to the author to a format where posters were viewed for a period at the beginning of the session, the audience was then seated for a short overview of their study by each resident author. Following their presentation, the resident author fielded questions from the residents in the audience and from the session faculty/staff moderators. This format allowed for more papers to be presented at the MARC than the oral only format and provided a better scientific experience for the resident author compared to the poster-viewing format. Various mixes of these presentation formats were used until the 2000 MARC when only the poster-discussion format was used. A single poster-viewing session was included for resident's who submitted their paper late, after the formal deadline date. This MARC presentation format has continued to this date, 2004.

Creation of a Formal Host Site Rotation Schedule

The host residency program and site for the next years' MARC was decided at the Saturday faculty meeting. Residency programs would volunteer to serve as the next years' host. The MARC had no formal site rotation schedule until at the 1980 faculty meeting Edward Brunner, MD, and Silas Glisson, Ph.D., were appointed by the faculty to construct a draft rotation schedule for the years 1982 to 1995. Dr. Brunner was Chair at Northwestern University, Chicago and Dr. Glisson was an anesthesiology research faculty at Loyola University Medical Center, Maywood, IL. There was a genuine need for a formal rotation schedule to facilitate planning for the meet-

hazards of fires and explosions in anesthesia. In 1940 Dr. Ruth and Paul M. Wood, MD, oversaw the commencement of the ASA journal publication, *Anesthesiology*. The MAC organization committee wanted the award to honor Ralph Waters and he in the end consented to the use of his name for the award. To this day The Ralph Waters Award is presented each year at the MAC in Chicago.

From 1961 through 1967, the Midwest residents' meeting was called "The Midwest Anesthesia Residents' Meeting." In 1968 the Department of Anesthesia, Cook County Hospital, Chicago, was the host program. At that residents' meeting the host program changed the word "Meeting" in the name to "Conference" with the notation "MARC" associated for the first time with the Midwest residents' meeting. The Midwest Anesthesia Residents' Conference (MARC) has remained the name of the annual Midwest residents' meeting ever

since.

Evolution in the Format of the MARC Presentations

In the early years of the MARC the faculty/staff attending would be invited to a faculty meeting on Saturday to discuss the organizational aspects of the meeting. At the second 1962 meeting the faculty unanimously agreed to restrict faculty questioning of the residents about their research. It was established that the meeting was a meeting of residents, for the residents and by the residents. The role of faculty and staff mentors would be only in support of the meeting. This principle has survived to this day. The faculty and staff serve as moderators of the sessions, as judges and as meeting organizers. Resident participation in the discussion of papers was and is strongly encouraged. Formal discussants of each paper were assigned to residents. The use of formal discussants ended in the

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MARC. . . Continued from Page 13

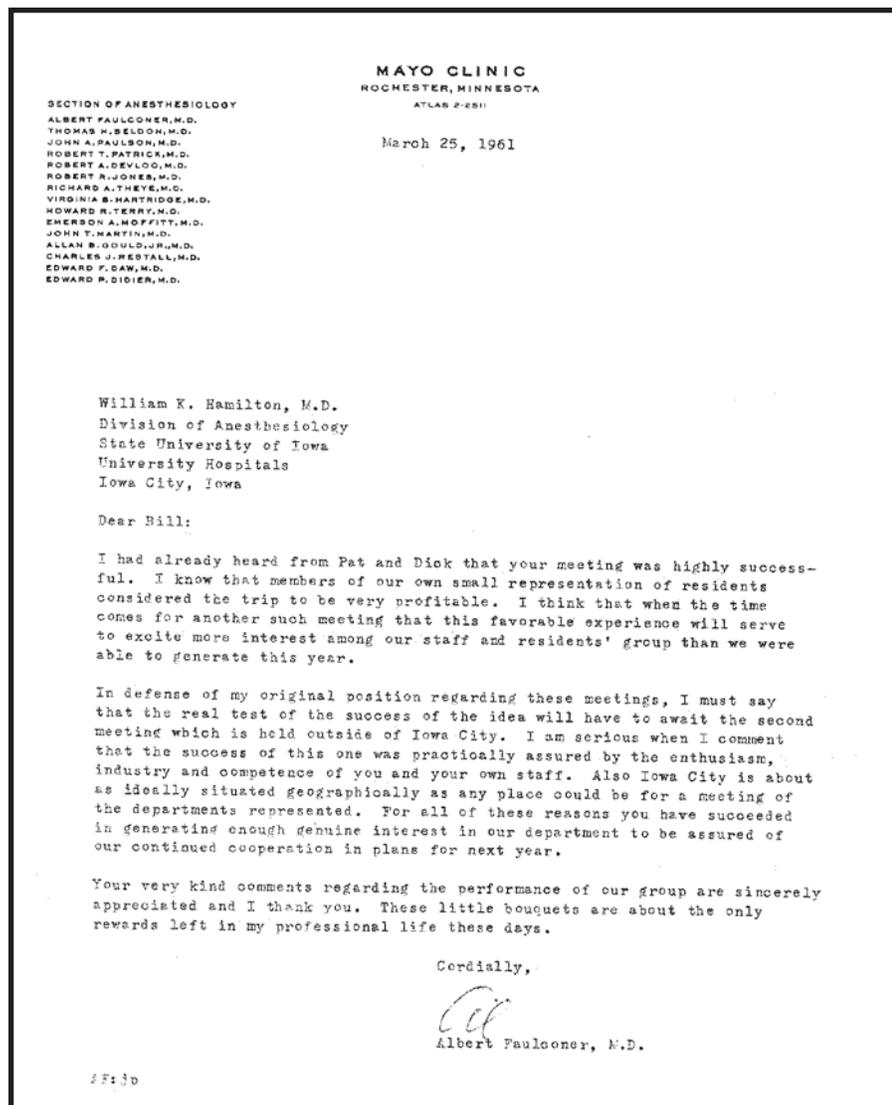


Figure 9.

ing. The MARC had grown so large that campus housing for attendees was no longer possible. In 1979 the Department of Anesthesiology at Loyola University Medical Center was the first program host to hold the MARC entirely off campus at a hotel in Oakbrook, IL. After that, the MARC was held more often off campus than on campus. I have included the original map below used by Dr. Brunner and Dr. Glisson to establish the 1982-95 rotation list. The structure of a star across participating States was drawn. The design was for the MARC to rotate back to Chicago every third year because of the large number of participating residents enrolled at that time in anesthesiology residency programs in Chicago. The MARC host rotation sites represented the core of all States

involved. There were a limited number of participating residency programs that were not included as host sites because they were too distant from the center or had too few residents. Dr. Brunner and Dr. Glisson presented the draft host rotation schedule to the faculty at the 1981 MARC held at Columbia, MO, and it was unanimously accepted. Having a formal host rotation schedule allowed residency programs sufficient time to plan for hosting the MARC and to make hotel arrangements well in advance of the meeting. It was also agreed at the faculty meeting that should a residency program desire to be considered as a host program for the MARC, it would be added to the end of the rotation list upon acceptance by the MARC faculty. Occasionally a substitution of the host site had to be

made by Dr. Brunner and Dr. Glisson due to an unforeseen problem at a scheduled host program. Fortunately there have been few substitutions needed. In 1994 the MARC faculty again appointed Dr. Brunner and Dr. Glisson to create a new MARC host site rotation list for the years 1996-2015. The participating program States had increased as can be seen below in the map used by Dr. Brunner and Dr. Glisson. The core rotation concept was maintained except for the addition of two Ohio and one Michigan host programs. Unfortunately I have been unable to determine who served as the MARC host during some of the years 1968 through 1980. That information may become available in the future, perhaps by a resident of a host program reading this report who participated in the MARC in one of the years missing. The information could be forwarded to the Woods Library at the ASA headquarters.

The Saturday Night Social

A special time at each of the MARC meetings was the Saturday night social affair and dinner. After a long day of scientific papers and discussions, a drink or two, a fine dinner with your resident friends, and entertainment was just what the doctor ordered. The social affair was a time to be casual, to meet with old medical school friends at other anesthesiology residency programs, and of course to make new friends. I personally attended MARC meetings from 1973 to 2003 only missing three. If there is one thing you can say about anesthesiology residents and faculty it is that they are friendly. At the social affairs you were never a stranger for very long. It was almost like one big residency program. Laughter and fun were the "order of the day," although those residents presenting their papers on Sunday always wished they had presented on Saturday, were done with the ordeal, and could really relax and kick up their heels that Saturday night. But they all made it through Sunday's presentations, maybe a little sleepy from Saturday nights festivities. Each year the Saturday night social affair was different often utilizing local attractions to make for a very special event. Tom Hornbein spoke about his experience climbing the Masherbraum mountain at the first social affair in 1961. The "Mutual of Omaha's Wild Kingdom Zoo" after the television show of the same name was a special treat in 2002 at Nebraska. The social affair was held at the zoo with the dinner in the jungle dining room. There were puffins, penguins, and a

Continued on Page 20

walk through the center of an ocean with sharks and manta rays swimming overhead. Brightly colored tropical birds and jungle animals were seen on the safari walk. In 1985 Michael Reese Hospital, Chicago, took everyone to the comedy play "Sheer Madness" and in 1982, Northwestern took the residents to dinner at the 95th restaurant in the Hancock Building and after dinner to the Water Tower Theater for a performance of Neil Simon's musical play "They're Playing Our Song." In 1980 at Indianapolis we enjoyed an Indianapolis 500 race night at the Indy 500 speedway with the announcer of the Indianapolis 500 race reminiscing about the great Indy races. The Saturday nights were all special and enjoyed by all. "Las Vegas Casino Nights" were popular, sports nights with every type of participation game, comedy routines by local comedy club performers, a roaring 20's mystery program held in a real cave in Minneapolis, disco dance lessons in 1979, a remember the 50's night in 1987, at Nebraska where the comedian got Ed Brunner, Northwestern's Chair, to dress up in a motorcycle jacket and leather flight cap with goggles in the persona of Marlin Brando and ride around the dining room with him on a pretend motorcycle, and a memorable night when a physician at the host program's hospital gave one of the all time funniest talks that I have ever heard. He reviewed published medical research studies that were actual hoaxes, but were written well enough to slip past the medical journal editors. He showed us how the actual hoax was done with fake data and it was not only hilarious but also amazing that the authors got away with it. The list goes on and on, but I think the examples above make my point that the MARC Saturday night affair was a fun time enjoyed by one and all. Our hats are off to all the host programs that provided us such a good time.

Prizes for the Best Resident Presentations

There were no awards or prizes for best scientific paper at the first MARC meeting. In fact, there was no discussion of a best paper award in any of the early planning documents. The educational experience gained by the presenting residents was its own reward. As the MARC grew in size with more and more papers presented, the idea of acknowledging those residents presenting the best papers became part of the MARC program. By the early 1970's, awards were presented for the 1st, 2nd, and 3rd best resident presentations. Several faculty attending were asked to serve as judges

and they would select the three best papers from all presented. Just before the meeting closed there would be a short awards ceremony where the best papers would be announced and the residents would receive a special MARC certificate of their award. For a time, cash prizes were added to the certificate usually in the amount of \$150, \$100 and \$50 for each level. Later, anesthesia textbooks donated by a vendor were awarded in place of cash. Each year's host would decide the number of awards and prizes. By the mid- to late 1980's the prizes were dropped as more awards were given out. Currently, over 300 residents present their scientific studies and case reports at multiple simultaneous scientific sessions covering a variety of subspecialty topics.

The best paper awards vary from best paper per session to the 1st, 2nd, and 3rd best paper per session. Approximately 20-30% of residents receive acknowledgement for their fine work and presentations each year. Having served as a faculty judge many times I know first hand the difficulty in selecting the best three papers in a session. The quality of papers and their presentation by the residents has improved over the years such that if it weren't for fractions it would be hard to single out the best three papers in each session. This speaks well of the quality of medical students who have entered the field of anesthesiology and their dedication as residents to the future of the specialty. Each resident participating in the MARC can consider as his or her award the experience gained at the MARC.

The MARC in 2004

Over the past fifteen years the attendance at the MARC continues to increase from 300 to the more than 600 presently. The total cost of hosting the MARC currently is about \$115,000.00 not counting travel or lodging costs borne by the individual participating residency programs. In 1961 the total cost was approximately \$800.00. Support from sponsoring anesthesia vendors helps to underwrite the cost of this educational experience. The MARC is the largest single gathering of anesthesiology residents in the United States and is said to be the fourth largest annual meeting of anesthesiologists behind the ASA, IARS and PGA meetings. From that early vision of William Hamilton, MD, and the 96 participants at that first Midwest Anesthesia Residents' Meeting in Iowa a mighty oak tree has grown. I can only hope that what has become a premier experience for anesthesiology residents and faculty mentors will continue forever.

Other Resident Research Meetings

In addition to the PGA and MARC there are two other annual resident research meetings that serve the residents of the Gulf Atlantic and Western states. Interestingly, both meetings were begun as the result of efforts by two former Iowa residents and by Stuart Cullen's direct participation at University of California San Francisco. The Gulf Atlantic Anesthesia Residents' Research Conference known as "GAARRC" held its 30th annual meeting this year on March 12-14, 2004, at the Royal Palm Crown Plaza Resort South Beach in Miami, FL, hosted by the Department of Anesthesia, University of Miami School of Medicine. The GAARRC states "the purpose of the conference is to provide a forum for resident presentations in the field of anesthesiology, give participants an opportunity to meet in both an academic and social environment and encourage inter-departmental communication and cooperation among participating programs". Annually the GAARRC has approximately 100 scientific presentations by residents. The Western Anesthesia Residents' Conference (WARC) held its 42 annual meeting this year on May 7-9, 2004, at the Hyatt Regency Hotel in Denver, CO, hosted by the Department of Anesthesiology, University of Colorado. There were 92 resident presentations at the WARC, 58 poster and 32 oral.

The End of My Story

This project to record the history of the Midwest Anesthesia Residents' Conference, I must say, has been truly enjoyable. This record reflects my personal experience of the MARC, informative, educational, collegial, and fun. And if you participated in the MARC I hope it was yours too. Forty-three years have passed since that first Midwest residents' meeting. Some of those who participated have left us and many others have scattered across the country. Had it not been for William Hamilton, MD, and Jack Moyers, MD, who saved many of the original documents, my task would have been much more difficult and the history of the MARC less complete. The vivid memories of Bill Hamilton, Alon Winnie, and Adel El Etr added so much to my being able to answer the long list of questions I had about the MARC in its earlier days. I am forever grateful to each of them. I can only hope that on some future day someone will pick up a pen after reading this historical account and begin, "Since 2004 the Midwest Anesthesia Residents' Conference has"

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The Anesthesia History Association (AHA) sponsors an annual Resident Essay Contest with the prize presented at the ASA Annual Meeting.

Three typed copies of a 1000-3000 word essay written in English and related to the history of anesthesia, pain medicine or critical care should be submitted to:

William D. Hammonds, M.D., M.P.H.
Professor of Anesthesia
Director of Pain Outcomes Research
Department of Anesthesia
University of Iowa
200 Hawkins Drive, 6JCP
Iowa City, IA 53342-1079
U.S.A.

william-hammonds@uiowa.edu

The entrant must have written the essay either during his/her residency or within one year of completion of residency. Residents in any nation are eligible, but the essay **MUST** be submitted in English.

This award, which has a \$500.00 honorarium, will be presented at the AHA's annual dinner meeting to be held in October, 2005, in New Orleans, LA This dinner is always held during the annual meeting of the American Society of Anesthesiologists. The paper will be published in full in the *Bulletin of Anesthesia History*.

All entries must be received on or before August 23, 2005.



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All papers and presentations are to be in English which will be the language of the Symposium. All papers must be received by Dr. Adams by 11th January 2005

Further information from:

Dr. Neil Adams, Honorary Secretary, History of Anaesthesia Society, Department of Anaesthesia, West Suffolk Hospitals NHS Trust, Hardwick Lane, Bury St. Edmunds Suffolk IP33 2QZ, United Kingdom

adams118@keme.co.uk

Dr. Douglas Bacon MD MA, Mayo Clinic Department of Anesthesiology, 200 First Street SW, Rochester, MN 55905, United States of America

bacon.douglas@mayo.edu

The winner will receive a cheque for £1000 and an item of engraved glass, the runners up will receive £300 and £200 respectively. These awards have been kindly donated by Mrs Regina Bullough to commemorate her late husband, Dr. John Bullough. A Consultant Anaesthetist at the Dartford Group of Hospitals in 1963 he successfully resuscitated a young woman at the road side following a traffic accident, an event which gained national media coverage.



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Professor of Anesthesiology and Obstetrics and Gynecology

Director of Obstetric Anesthesia

Vice Chair, Dept. of Anesthesiology

The University of North Carolina at Chapel Hill

Anesthesia today is in a sad state for two reasons, and this is not my idea but the anesthesiologist's idea: Anesthesiologists make anesthesia complicated and tricky instead of simple. Why? Anesthesia has long been in the hands of nurses and nurse technicians, and like midwives, they do a splendid job. Now, in order to justify the long period of training, anesthesiologists feel they must do something nurses can't do. All sorts of things, like novocaine, pontocaine, pentothal and curare, are injected into the vein while the patient breathes cyclopropane, nitrous oxide, ether, and so on. When an emergency arises nobody knows what to do, and, of course, there is trouble.

—William J. Potts
Annals of Surgery 140:627, 1954

The sharp difference between the mortality in white and Negro subjects has been noted by many observers. There are several explanations. It has been said that the Negro is particularly susceptible to apprehension, fright, and panic. The physiologic symptoms which accompany the state of anxiety interfere with the anesthetic management in these patients.

—Mary Frances Poe
Anesthesiology 14:85, 1953

Small, low cost cardiac monitors are appearing in many hospitals throughout the country. These are limited in the information they reveal and may tend to borrow from the watchful care of the anesthesiologist. A finger continuously on the pulse is more informative than the cardiac monitor which only records an electrical activity.

—Mary Karp
Surgical Clinics of North America 39:219, 1959

Contrary to common opinion, the so-called Trendelenburg posture, in reality originated by Bardenhauer, of Cologne, is not the most favorable for the anesthetized patient. Trendelenburg, indeed, first described its danger and advised against its use for fat patients.

—Albert H. Miller
New England Journal of Medicine

218:385, 1938

The inseparability of anesthesia from the total care of the surgical patient is to us the compelling reason why surgeon and anesthetist, engaged as they are in a common task, cannot with profit pursue separate goals.

—Henry K. Beecher
Annals of Surgery 140:2, 1954

Occasionally, one meets with patients who reveal a pathologic fear of the anticipated ordeal. The seasoned anesthesiologist regards them with caution. There are few who have not experienced or heard of the patient who assured those about her that she would not recover from the anesthetic and actually did not. These deaths are believed due to excess secretion of adrenalin upon a heart sensitized by the anesthetic agent.

—Walter J. Reich
American Journal of Surgery 78:231, 1949

Bad subjects for anesthesia are most generally robust, healthy, muscular individuals; the spare, swallow women are more generally the ideal patients for anesthesia.

—Frederic W. Hewitt
Journal of the American Medical Association 40:339, 1903

Since the earliest days in anesthesia, respiration has provided helpful signs for those who conduct fellow human beings on journeys through unconsciousness. We have no reason to suspect that the last secret has been revealed; that no more useful information is forthcoming. Let us then apply ourselves with renewed vigor to the study of respiration, and progress in anesthesia will surely result.

—H. J. V. Morton
Anaesthesia 5:112, 1950

When, during the progress of an operation, symptoms of approaching morphine intoxication present themselves, as has occasionally happened, we are in the habit of allowing the patient to drink one or more cups of strong black coffee on the operating table.

—William Bartlett
Surgery, Gynecology and Obstetrics 33:27, 1921

Even though procedures (regional anesthesia) are followed exactly and to the letter, one must not be disappointed at occasional failures. We must bear in mind that too often originators of a given block technic become overenthusiastic about their contribution and overrate its efficiency.

—John Adriani
Southern Medical Journal 42:923, 1949

The impressions which a child receives during his first sojourn in the hospital usually remain with him for the rest of his life. Therefore it is necessary that these impressions should be as pleasant as possible. We believe that the child should be admitted to hospital at least 24 hours before operation so that he may become accustomed to his surroundings.

—C.R. Stephen
Canadian Medical Association Journal 60:566, 1949

The physician who refers a patient for a surgical operation requiring the use of an anesthetic, must be as vitally concerned in the kind of anesthesia employed and the competency of the anesthetist as in the qualifications of the surgeon who is to perform the operation.

—A.H. Waterman
Current Researches in Anesthesia and Analgesia 6:109, 1927

From the Literature

by A.J. Wright, M.L.S.

Associate Professor of Anesthesiology

Director, Section on the History of Anesthesia

University of Alabama at Birmingham

Note: I have examined most of the items listed in this column. Books can be listed in this column more than once as new reviews appear. Older articles are included as I work through a large backlog of materials. Some listings are not directly related to anesthesia, pain or critical care but concern individuals important in the history of the specialty [i.e., Harvey Cushing or William Halsted]. I also include career profiles of living individuals. Non-English materials are so indicated. Columns for the past several years are available as "Recent Articles on Anesthesia History" in the "Anesthesia History Files" at www.anes.uab.edu/aneshist/aneshist.htm. I urge readers to send me any citations, especially those not in English, that I may otherwise miss!

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