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Contact the ASA Executive Office at (847) 825-5586 to obtain the addresses and telephone numbers for state medical society programs and services that assist impaired physicians.

Whether you practice anesthesiology, teach anesthesiology or simply have relied on anesthetics during surgery, you owe much to the late Ralph M. Waters, M.D. This issue explores a seminal figure who made anesthesiology accessible, universally respected and, above all, safe.

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I'm Changing My Name to 'Cash'

Maybe something in men's brains change after age 50 that makes them question seemingly innocuous social policies — little issues such as being given a traffic citation for "speeding" at 38 m.p.h. in a 30 m.p.h. limit zone or filling out redundant paperwork. Certainly there are more serious life issues to tackle.

One particular peeve I have had for several years has been a source of amusement for my wife and children — bonus cards. Now, is there anything more innocent than signing up for a bonus card to save money on purchases? One simply provides basic personal information such as name, address, age, telephone number, Social Security number, driver's license, sometimes credit card numbers, income, e-mail address, educational degrees and hobbies or interests. As a result, considerable savings can be realized.

Few people give serious thought as to how this information can be used by the company offering these savings. Most often, they track one's usage of items to offer promotional sales or coupons. Sometimes, they sell lists to pharmaceutical, beverage and food companies who then offer savings through directed mass mailing. It is often assumed that this information is kept secure and confidential by these corporations. After all, it is not the type of vital statistics freely offered by an individual — or is it? Have you ever completed a limited warranty registration after purchasing an electronic product? Why is it important for a company to know one's hobbies, the magazines read, if one's spouse is pregnant or if one intends to buy a new home? The reason is obvious when you read the small print, which gives you the option of *not* receiving special deals periodically from their associates.

This issue, like bioterrorism, actually affects you. Consider that a pharmaceutical company accidentally sent its Prozac users' names and addresses to all customers using that product, or that 3,000 pages of confidential student information were easily accessible on the Internet due to an error made by university personnel in one southern state. I also know of a patient who received coupons from a pharmaceutical company for menopause hormones, and she never gave the pharmacy detailed information, except her address for the drug label. The pharmacy sold the list to the pharmaceutical company believing that EVERYBODY wants to save a few bucks — even at the expense of violating one's anonymity.

Let us briefly return to the bonus card issue. If I pay cash or even established credit payment (e.g., VISA) to buy groceries, why should I not receive the discounts on sale items *without* providing vital information? I may not wish to have my purchasing history linked to my name, especially if I also use their attached pharmacy. Would O.J. Simpson, Congressman Gary Condit, President Bush or the Pope want the public to know what they purchase in pharmacies, grocery stores and liquor stores? Consider that these stores can track one's purchases on beer, liquor, Viagra, birth control pills, condoms, diaphragms, adult diapers, cigarettes, hair dye and hemorrhoidal cream, to name a few personal products. One simply should not need to worry that their

Continued on page 32

Mark J. Lema, M.D., Ph.D.
Editor

Purpose and Passion

Candace E. Keller, M.D.
Vice-Speaker of the ASA House of Delegates

"In the midst of winter, I found there was, within me, an invincible summer."
— Albert Camus

Candace E. Keller, M.D.

The theme of the *ASA NEWSLETTER* this month is the Wood Library–Museum of Anesthesiology (WLM). Our WLM does a marvelous job of chronicling, preserving and displaying so much of the rich and important history and heritage of our medical specialty. Indeed, we owe a great debt of gratitude to our members who have devoted tremendous time and energy toward making the WLM a reality.

As we reflect upon our past, we must also consider and perhaps re-examine our purpose and passion in the present. Why are we here? What are our hopes and dreams? What are we most passionate about in our thoughts and deeds? Where are we going?

Each of us is unique. We each have a unique set of genes. We have each been molded and influenced by different circumstances, experiences and roots. Likewise, we each possess unique gifts and talents that, when carefully cultivated and utilized, allow us not only to accomplish our individual goals but also to achieve a greater good for society by joining our individual pieces together to form the big picture. And it takes each and every piece to complete the ultimate puzzle!

There will always be winter — such is the nature of life; but there is also within each of us an invincible summer. It is the light of that summer which will guide us through the winter, however dark, and through the storms, however tempestuous. We have what it takes to overcome and to prosper if first we look within and then outside to join our individual forces together. United we *will* stand and advance.

Our American Society of Anesthesiologists has changed considerably since its inception in 1905. We have grown from that small group of nine physicians who first met in Long Island, New York, to an organization of more than 36,000 physicians spanning 50 states and Puerto Rico. We not only cherish our past through the WLM, but we also are also making the most of the present through ASA's numerous educational and legislative endeavors as well as those of the Anesthesia Patient Safety Foundation. We are investing in our future through our Foundation for Anesthesia Education and Research. Though much has been accomplished, there remains more work to be done.

I am continuously amazed and often reminded of the vast expertise, knowledge and wisdom resident within our membership. One example of the ASA's commitment to our specialty and our patients is the outstanding work of the Committee on Performance and Outcomes Measurement, chaired by Ronald A. Gabel, M.D. This committee already has made considerable progress toward developing meaningful, reasonable measures based on scientifically valid data that can be used to document the performance and outcomes of anesthesiologists. These measures will also be useful in applying quality improvement and benchmarking techniques. Work such as this will be of great value to our specialty and our membership and will continue ASA's historic move into the future.

From the many members who serve on committees both at the national and state levels, to the hundreds that make up our House of Delegates and to the thousands of anesthesiologists who work in their local communities providing care to patients every day, may we propose to continue as an organization composed of physicians with great compassion, unparalleled character and unfailing vision. Let us rekindle the passion in our lives: passion for the people and patients for whom we care and love as well as passion for the causes and ideas in which we believe.

Candace E. Keller, M.D., is Assistant Clinical Professor of Anesthesiology, University of Mississippi Medical Center, Jackson, and is in private practice in Hattiesburg and Jackson, Mississippi.

House Passes Patient Protection Bill, Sets Up Difficult Conference With Senate

Michael Scott, J.D., Director
Governmental and Legal Affairs

In its final major action prior to adjournment for the Labor Day recess, the House of Representatives on August 2 adopted a patient protection bill after weeks of stalemate, principally over health maintenance organization (HMO) liability exposure. Because of strong 11th-hour pressure exerted by President Bush on the House GOP majority, the bill was much less aggressive in this regard than either the bill adopted by the House in the 106th Congress or the bill that passed the Democratically controlled Senate (S. 1052) two months ago.

In the last analysis, the House action was made possible by the President's ability to persuade Representative Charles Norwood (R-GA) — the premier sponsor of the House counterpart bill (H.R. 2563) to the Senate-passed bill — to offer a package of amendments designed to lessen HMO liability concerns while providing reasonable enforcement tools for patients' rights. Mr. Norwood was scorned by his House cosponsors as having capitulated to the President, but he responded by emphasizing the need to pass a bill that the President would sign.

Signaled as a major political victory for the President, the House action sets up what promises to be a contentious conference between the congressional bodies. Although most observers here believe that proponents of the Senate bill would truly like to find a formula for developing an agreed bill that the President would sign, it could be tempting to set up the matter as a campaign issue in 2002.

CMS Modifies CAH Rules for Pre-, Post-Op Exams

Last May, the Centers for Medicare & Medicaid Services (CMS, then HCFA) issued its annual proposed updates in payment rates for hospital inpatient services. Two provisions of the proposed rule were of interest to ASA: first, a proposal to extend the so-called nurse anesthetist "pass-through" payment system to include all critical access hospitals (CAHs); and second, to add nurse anesthetists to the list of anesthesia providers who could perform the required pre- and postoperative evaluation of the patient. ASA did not oppose the first proposal but expressed significant concern about the second.

As to the first issue, it tends to be a little-known fact (except to rural hospitals and nurse anesthetists) that nurse anesthetists working at rural institutions performing no more than 500 surgeries per year can be paid, not under the Medicare Fee Schedule, but on the basis of the reasonable cost of their services. In most instances, this latter standard is more generous than the former and is viewed as an inducement to persuading nurse anesthetists to work in rural areas. Administrators of CAHs have long sought to gain this favorable payment system for their institutions, arguing that for all practical purposes, they have the same characteristics as rural hospitals.

In its final rule dated August 1, CMS agreed to allow application of the "pass through" payment method to all CAHs, but subject to the 500-surgery limit. As noted, ASA did not oppose this change but instead suggested that there were equal shortages of physician anesthesiologists in rural areas. CMS took note of ASA's comment but noted that the Medicare law permitted the "pass-through" to apply only to nurse anesthetists' services.

As to the second issue related to performance of the pre- and postoperative anesthesia exams, CMS in its May 4 proposed rule noted that the Medicare conditions for CAHs permitted these exams essentially to be performed only by a physician. CMS proposed that the condition be amended to permit nurse anesthetists to perform the exams.

ASA commented that the CMS proposal was out of line in light of the May 18 notice by Health and Human Services Secretary Tommy Thompson further suspending the effectiveness of the Clinton "no supervision" rule and that CMS should wait until the current rule-making had been completed. Saying that it did not in any event intend to eliminate the concept that a nurse anesthetist may perform the exams only under supervision, HCFA/CMS stated its intent to finalize the rule.

ASA intends to pursue this issue further with the agency, pending completion of the current rule-making process.

The public comment period on the rule reinstating physician supervision closed on September 4; however, members of Congress will continue to forward their comments to CMS. A decision on the rule is expected within the next few months.

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Why Celebrate Ralph Milton Waters?

Douglas R. Bacon, M.D., Trustee
Wood Library-Museum of Anesthesiology

September 2002 marks the 75th anniversary of the arrival of Ralph M. Waters, M.D., in Madison, Wisconsin. From 1927 until 1949, a span of 22 years, Waters was able to revolutionize the practice of anesthesiology. Remembered most often for starting the first university-based residency training program, Waters' contributions are more extensive than that, but often his work has remained unknown. In a time when anesthesiology was just being defined as a medical specialty, Waters worked to ensure that it was set on an equal footing within the university with surgery, internal medicine and pediatrics as well as the traditional hospital- based specialties of radiology and pathology.

Within this *NEWSLETTER* issue are articles that help define Waters' contribution to American anesthesiology. Lucien E. Morris, M.D., trained by Dr. Waters, writes on Waters' contributions to education and the Waters legacy, respectively. Carlos P. Parsloe, M.D., another "aqua alumnus" writes about Waters' worldwide impact, while the Wood-Library Museum of Anesthesiology (WLM) Laureate, Thomas Boulton, M.B., describes Waters' influence on British anesthesia. Christopher M. Burkle, M.D., covers Waters' career as a medical politician, while Robert P. Sands, Jr., M.D., writes about Waters and regional anesthesia. John E. Steinhaus, M.D., covers Waters' enormous contribution to education in anesthesiology within the medical school setting. Yet all of this would not be possible without the support of *NEWSLETTER* Editor Mark J. Lema, M.D., Ph.D., and the vast resources of the WLM, the largest collection of literature and artifacts related to anesthesiology in the world and whose collections and activities are available to every ASA member.

Dr. Waters' career was an interesting one. He graduated from medical school at Case Western Reserve and established a thriving private practice in Sioux City, Iowa, and later in Kansas City. It was in these two cities where Waters established an ambulatory anesthesia clinic within an outpatient surgical center.[1] Even though his practice was flourishing, Dr. Waters took time to work on some of the problems of anesthesia. He researched and wrote on carbon dioxide absorbance[2] and developed a cuffed endotracheal tube[3] with Arthur Guedel. Dr. Waters looked to increase his skills, and enrolled as a voluntary resident at the Mayo Clinic for three months in 1926 to learn regional anesthesia from John S. Lundy, M.D. Later that year, Dr. Waters injured his back, and while recovering, he sought a less strenuous practice.[4]

The University of Wisconsin afforded him both a different type of practice and an opportunity to "…work toward bringing back anesthesia into the medical profession where it originally was and where it undoubtedly belongs. The only way I could see of really basically helping this movement was through the educational institutions."[5] The challenge Dr. Waters accepted in 1927 was to design and implement a residency training program in anesthesiology. Dr. Waters chose to make the training three years after the internship, with the first and third clinical and the second laboratory-based research. Dr. Waters preferred residents who had already been in general practice for a few years as these candidates were more mature.[6]

Dr. Waters' reception at the university was warm. Chauncey Leake, the Chair of Pharmacology and Toxicology, wrote a letter to Waters on February 2, 1927. In it, Leake states, "I want to express to you my great pleasure at the opportunity of cooperating with you. … We should be very happy to have you talk to our students at the 11 o'clock lecture, Thursday, March 8, on the general subject of practical anesthesia…"[7] The anesthesia community at large also was very receptive to what Dr. Waters was doing in Madison. Francis Hoeffer McMechan, M.D., the leader of organized anesthesia at the time and a recognized international figure, was addressing anesthesia meetings and "…talked most enthusiastically of the work you are doing in Madison. He described in considerable detail the organization you have worked out and the plans you have for the future. He also laid great stress on the actual achievement you have made and in general held up your work as an example for the whole country to follow."[8]

Once established, Dr. Waters' next greatest challenge

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Ralph M. Waters, M.D. (circa 1957)

was to transplant the residency training program to another site while keeping his program alive. A unique opportunity arose in 1934, and Dr. Waters' most experienced resident who had remained on the faculty after completing his training, Emery A. Rovenstine, M.D., accepted the position as director of anesthesia at Bellevue Hospital beginning in 1935. While Dr. Rovenstine had a difficult time changing surgical practice in the first few months, his results spoke for themselves. Mortality on the surgical service plummeted. Dr. Rovenstine then developed his own training program, molded after Waters'. Soon the two were sharing residents and looking for universities that wanted to develop academic programs in the specialty in which to place their graduates.[6]

Had establishing an academic department in anesthesia been Dr. Waters' only contribution to the field, his career would be worthy of study. Yet he was much more involved. In the years before arriving at Madison, he had become enmeshed with the new professional anesthesia societies and had become a close personal friend of Dr. McMechan. He presented numerous papers and published the results of his work long before he became associated with the basic scientists at the University of Wisconsin. Once established in Madison, however, Dr. McMechan relied on Waters to have papers for meetings and to keep a steady flow of young physicians interested in anesthesia coming to the meetings.[9]

When Dr. McMechan proposed certification for specialists in anesthesia Dr. Waters supported the initial proposal. Yet when Dr. Waters learned that physician anesthetists who worked with nurses were to be excluded, Dr. Waters broke with Dr. McMechan, strained their 20-year friendship and suffered virulent attacks by Dr. McMechan's close associates. In many ways, it was Dr. Waters who added the imprimatur of academic excellence to the founding of the American Board of Anesthesiology.[10] Dr. Waters also played a key role in the difficult mending of the relationship between organized anesthesia and the American Medical Association (AMA). Dr. Waters and his department developed exhibits at the AMA annual meeting that displayed for the professional medical community the importance of physician anesthesia.[11] In 1938, Dr. Waters' expertise was added to the 1939 New York World's Fair Exhibition Committee. Several of Dr. Waters' ideas were critical to the final exhibit, one that brought anesthesia to the general public.[12]

Why celebrate Ralph Waters' arrival in Madison, Wisconsin? It has been suggested that Henry K. Beecher, M.D., was responsible, more than any other, for introducing anesthesia into the university.[13] Yet Dr. Beecher was appointed in 1936 as anesthetist-in-chief at the Massachusetts General Hospital (MGH), nine years after Dr. Waters' appointment and a year after Rovenstine's appointment at Bellevue. Dr. Waters was considered a candidate for the Henry Isaiah Dorr Chair at Harvard. Waters proposed that he would be the departmental chair and that there would be a "first assistant" at the various hospitals, with Beecher being designated at the MGH. Both finances and Chair of Surgery Edward Churchill prohibited such an arrangement, and Waters declined the position. If Beecher, the great basic scientist, and Dr. Waters, the leading educator and clinical investigator, had pooled their talents in Boston, where would anesthesia be today?[14]

In historical writing today, the careers of outstanding individuals have been de-emphasized. Many authors argue that these individuals are no more than the product of their times and circumstances. Yet there is a fallacy in that argument because it negates the influence of the individual in changing his or her own destiny. Dr. Waters was an active

clinical investigator before ever considering his move to the university center. When the right opportunity arose, Waters grabbed at it. Was it because his youngest sister lived in Madison, being married to a professor in the department of agricultural bacteriology,[15] or was it because Waters wanted to do more for the specialty than simply being a sound practitioner? Did Waters share McMechan's vision of postgraduate medical education in anesthesiology?

Whatever the case, Waters' move to Madison was at some personal financial cost. Dr. Waters wrote: "…I persuaded my wife to forego the possibility of having anything in the way of finances other than bare living for the rest of my days in order that I might spend the rest of my life, if possible, in attempting to further the interest of anesthesia and to do my little bit to help to make the future [of] anesthesia professional anesthesia."[5] It is through this example of personal integrity and the desire to give back to the specialty which allowed Waters to make a living that makes him such a compelling figure. Waters did many things well and often was among the first to do them, including establishing residency training in a form well recognized today, integrating basic science and clinical research, administrating in both the department and national arenas and helping to establish specialty certification for physicians that is recognized around the world.

Waters was without doubt a product of his time, yet his career teaches that being involved in and chasing a vision for the specialty can and ought to be done. His example will be remembered on June 6-8, 2002, in Madison when the world gathers to pay tribute to Dr. Waters. The meeting is jointly sponsored by the Anesthesia History Association, the History of Anaesthesia Society of Great Britain, the University of Wisconsin Department of Anesthesiology and Continuing Medical Education, the Wisconsin State Society of Anesthesiologists and the Wood Library-Museum of Anesthesiology.

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The Investigator and His 'Uncompromising Scientific Honesty'

John E. Steinhaus, M.D., Ph.D.

Ralph M. Waters, M.D., began a general medical practice in Sioux City, Iowa, in 1912. After a short time, he limited himself to anesthesia and obstetrics. A year or so later, after returning from a year's military service in Mexico, he found serious conflicts in scheduling obstetrics and anesthesia practice, and he further limited himself to anesthesiology. Although he was a self-trained specialist, a common medical practice in those days, he recognized the serious shortcomings and inadequacies of early 20th century medicine, especially anesthesiology. He constantly raised questions about the scientific fundamentals of anesthesia practice and sought answers to these questions and problems by his own recorded observations and available medical publications. During his time in Sioux City, he published 10 papers and, after he moved to Kansas City in 1924, he published another four.

> "Dr. Waters realized that the medical school center with its cadre of basic scientists as well as skilled clinical faculty was needed to solve these problems."

One of his major interests was the role of carbon dioxide during anesthetic administration. The Heidbrink and other early anesthesia machines were designed with a yoke for a tank of carbon dioxide because some anesthesia authorities believed that this gas was necessary for good anesthesia. Dr. Waters was concerned about excesses of carbon dioxide as well as the wasteful partial rebreathing technique in common use. In 1924, he published his first paper on carbon dioxide filtration using the "Waters" canister[1] [Figure 1]. Dr. Waters maintained a strong interest in carbon dioxide during his career in anesthesia with publications in his last year before retirement. Two fascinating case reports in 1921 describe attempted resuscitations of two patients with high-pressure oxygen. In both instances, peripheral oxygenation was established and, in one, both pulse and spontaneous respiration, although both patients died. In his discussions, Dr. Waters suggests — many years before this cardiac compression became established — that the mechanical pressure of the gas in the chest could re-establish circulation.

Although private practitioners of anesthesiology can raise many questions concerning their observations during the administration of anesthetics, they are limited in their effort to find answers. Dr. Waters realized that the medical school center with its cadre of basic scientists as well as skilled clinical faculty was needed to solve these problems. In 1927, Dr. Waters joined the medical school faculty at the University of Wisconsin as director and assistant professor of anesthesia. Although patient care, education of medical students and training of residents were listed as the first three objectives of his program at Wisconsin, the fourth objective was "the encouragement of as much cooperative investigation as is consistent with the first three objectives."[2] A strong basic science faculty at Madison was part of the attraction to the University of Wisconsin. Among the nationally recognized experts in pharmacology and physiology were Drs. Loevenheart, Leake, Tatum, Meeks and Eyster whose research was on or related to anesthetic drugs and physiological change during the administration of anesthesia.

Ralph Waters was very modest about his role as a medical researcher, and yet, his name appeared with Leake and others in 1927, his first year at Madison. His interest in carbon dioxide continued in his work with Chauncey Leake on the anesthetic properties of carbon dioxide and with Dr. Loevenheart (pharmacology) and Dr. Lorenz (psychiatry) on its cerebral stimulation. In his paper, "Carbon Dioxide: Its Place in Anesthesia,"[3] Dr. Waters urges con-

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servative use of both rebreathing and the addition of this gas to the breathing mixture until more was known about fundamental physiological changes that were involved.

Dr. Waters' research interests expanded as his program became more established. His studies with Guedel in 1928 reported on a new technique with cuffed endotracheal tubes.[4] A few years later, however, they published a historical paper on these catheters in which they gave credit to Torrance, who first reported inflatable cuffs in 1910. The introduction of cyclopropane popularized the closed system and the cuffed endotracheal tube because this new gas was expensive and in short supply. Dr. Waters' children earned their pocket money making cuffed tubes. An interesting letter to the Duvall catheter company elicited a response that they saw no commercial future in cuffed endotracheal tubes.

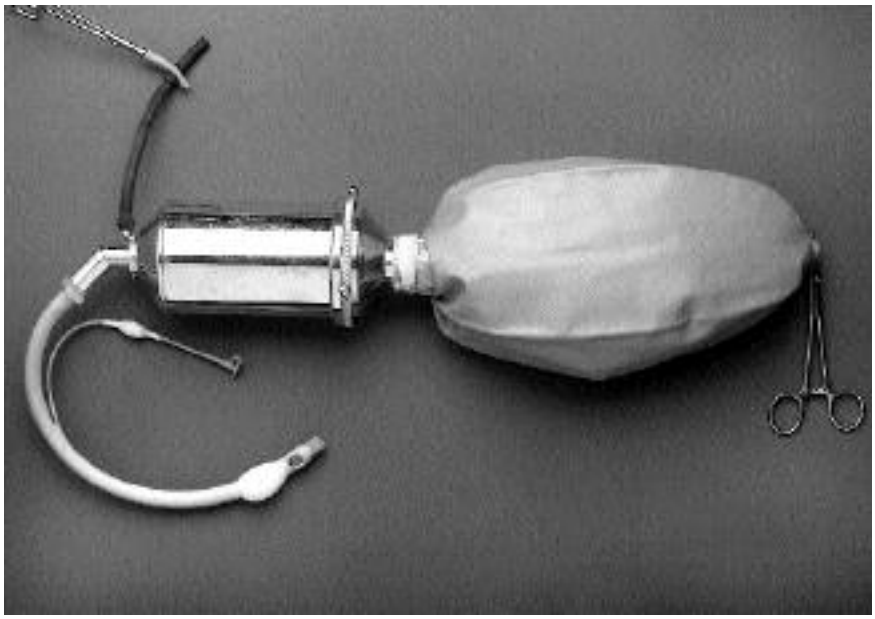

Figure 1: Waters' carbon dioxide absorbing canister and cuffed endotracheal tube, 1924 and 1928 innovations

In keeping with his original objectives, Dr. Waters was most productive in collaborative investigations with the pharmacology and physiology faculty. Studies were reported on a new anesthetic, tribromethanol, with Seevers and several surgeons. A new barbiturate, thiopental, was employed in an investigation with Tatum in 1934. This new anesthetic was reported to be satisfactory for short surgical procedures but lacking good analgesic properties.

Dr. Waters was widely known for his clinical introduction of cyclopropane, which had been investigated by studies in animals by Henderson from Toronto. His investigations led to extensive clinical studies[5] as well as basic science studies. The electrocardiac changes that were observed led to a number of basic science studies culminating in Meek's (physiology) Harvey lecture in 1941.[6]

Waters also reported studies on local and regional anesthesia. In 1932, Seevers and Waters reported a study on spinal anesthesia.[7] Influenced by Loevenheart and Tatum, both authorities on local anesthetic toxicity, he reported on the toxicity of procaine and its treatment. His interest in pain therapy, which he considered to be an important part of anesthesiology, is shown in his papers on labor pains and pain in children.[8]

A number of investigations and reports by Dr. Waters included oxygen deficiencies and the therapeutic use of oxygen both in the operating rooms and the wards. As a consequence of his interest and concern for the hypoxic patient, the Wisconsin General Hospital installed piped-in oxygen into the patient rooms on the surgical ward.[9] The nasal catheter for oxygen delivery was introduced and used routinely for patients recovering from anesthesia.

Since the skills of the anesthesiologist are very useful in resuscitation, he not only emphasized techniques of artificial respiration to medical students but also studied the accepted methods as to their effectiveness.[10] He emphasized the need for an unobstructed airway and a method of moving the oxygen into the lungs. He points out that the most simple and always available method is mouth-to-mouth, which became the most recommended technique 35 years later.

Dr. Waters' impact on laboratory research related to anesthesia at the medical school is demonstrated by comparing the resulting publications for the 15 years before his arrival, 1912 to 1926, during which time there were 15 publications predominantly from pharmacology. From 1927 to 1941, there were 90 laboratory publications. Dr. Waters was primary author on one and co-author on 13. In addition, there were 15 papers that had other anesthesiologists as co-authors.

The index of all publications from the department of anesthesiology from 1940 to 1948, his last years of practice, listed 65. Waters' name appeared on 30 of these, many as the sole author.

In a sense, Dr. Waters in his career was a lot like Tom Sawyer, who was adept at getting others "to paint his fence." He had questions about anesthesia and anesthetic drugs, and he stimulated other researchers to pursue the answers. He was very modest about his contributions and often gave priority to his residents and junior colleagues. Always ready to challenge currently accepted medical knowledge, he encouraged and eventually edited the centennial re-evaluation of chloroform (1947) in his final two years.[11] It was concluded in this study that chloroform was a reasonably safe agent, provided there was careful maintenance of oxygenation and other physiological variables.

In contrast to several national and international medical scientists of my acquaintance who had little tolerance for findings that did not fit their own significant contributions, Dr. Waters was modest and seldom pushed his own claim for priority and would question even medical knowledge that he had published.

An impressive description of Ralph M. Waters appears in the "Brief Biography" by Noel A. Gillespie, M.D., an anesthesiologist faculty colleague of his. Included is a statement from the late Geoffrey Kaye, M.D., of Melbourne, Australia, who had visited the department of anesthesiology at Madison. He stated that the department reflects the personality of one man. He followed with the comment: "The salient characteristic of Ralph Waters is his uncompromising scientific honesty." He goes on to write "that he has inspired in his department a high tradition of the inquiring mind, the scientific approach and absolute honesty as to the results."[12]

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The Influence of Ralph Waters on Regional Anesthesia

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1998 Fellow of the Wood Library-Museum

Ralph M. Waters, M.D. [Figure 1], professor and founder of the University of Wisconsin Department of Anesthesiology, is a key figure in anesthesiology for many reasons. His keen interest in the effects of general anesthesia on the human body is well represented in his impressive list of publications. He authored a landmark article in 1926 on carbon dioxide (CO_2) absorption.[1] He followed this up by publishing his paper on the physiologic and pharmacologic effects of cyclopropane on the human body.[2] Finally, as his *piece de resistance*, he penned *the* book on chloroform anesthesia in 1958.[3]

All of these accomplishments are known to most of those who have even a passing interest in the history of anesthesiology. However, many of those who consider themselves well-versed in the career of this great man are unaware that he had strong interests in regional anesthesia.

To say that Dr. Waters was an unknown in the field of regional anesthesia would be to do the man a disservice. Although his list of publications is not nearly as long in this area as it is in topics pertaining to general anesthesia, he did publish important work. In 1933, he authored a comprehensive paper dealing with the prophylaxis and treatment of procaine toxicity.[4]

Figure 1: Ralph M. Waters, M.D. (circa 1945)

Procaine had already been in use for about 30 years when Dr. Waters published his paper. He believed that even though the drug was utilized regularly by many nonanesthesiologists and considered to be the safest, most reliable local anesthetic, it was still important to review the side effects and treatment of toxicity. He outlined the five conditions that determined the potential for toxicity: susceptibility of the patient, total weight of drug injected, strength of the solution, rate of injection and vascularity of the body part injected.

As with his other published work, he went into much detail concerning signs and symptoms that could be exhibited by the patient who had received a toxic dose of procaine. A comprehensive treatment and prophylaxis section followed that outlined the risks/benefits of the addition of epinephrine to the procaine solution and delineated the advantages of using a barbiturate as a premedication.

Another paper by Waters, "Drugs and Methods for the 'Occasional' Anesthetist,"[5] also had a section dealing with local anesthetics, specifically procaine. The section dealt with the administration of the drug into the subarachnoid space. He cautions those using procaine in the subarachnoid space: failure may create the temptation to supplement with inhalational drugs, which may be dangerous in the hands of nonanesthesiologists. He goes on to say, "Anyone can inject through a hollow needle. Knowledge and experience are nevertheless necessary to foresee the physiologic and pharmacologic changes that may result in a patient following such injections."

The aforementioned publications can be obtained with a little digging and make for some interesting reading, but they do not tell the whole story. To bring this other facet of

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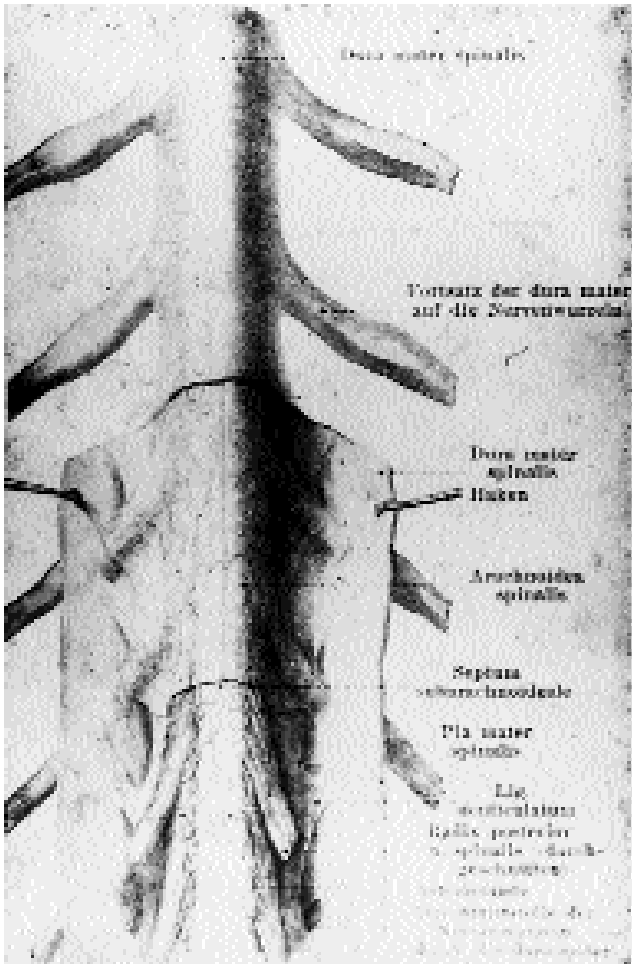

Figure 2: Anatomic diagram with German text from Waters' slide collection.

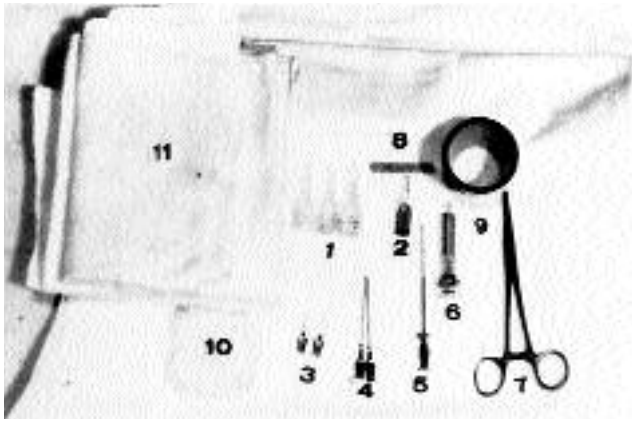

Figure 3: Sterile spinal kit from Waters' slide collection.

Dr. Waters' professional life into focus, one must closely examine his glass lantern slide collection housed at the Wood Library-Museum of Anesthesiology (WLM). The WLM has slide collections from many of the anesthesiologists who shaped the field: John S. Lundy, M.D., Albert M. Betcher, M.D., and Paul M. Wood, M.D., to name a few. Dr. Waters' collection, donated after his death by his son Darwin, contains more than 350 slides. The majority of the slides pertain to the topics most readily associated with Dr. Waters: cyclopropane, chloroform and CO_2 absorption. Approximately 10 percent of the slides are devoted to the practice of regional anesthesia.

Of the 36 slides dealing with regional anesthesia, a little more than one-third depict topics and techniques of subarachnoid block. There are basic anatomy slides demonstrating ligaments, bone and dura from different views, thus permitting Dr. Waters to stress to the audience the anatomic relationships that need to be understood in order to deliver the drug to the correct area. Three of the anatomic diagrams contain German text [Figure 2]. These were probably chosen over English versions because of the superior anatomic illustrations.[6]

A subset of the slides deals with the clinical aspects of the subarachnoid block. Two of the three demonstrate the effect of procaine administration on peripheral temperature control by graphing the skin temperature of the patients' feet versus time since procaine was administered. Another slide lists the frequently utilized local anesthetics of that era and the ratio of effectiveness when compared with the gold standard, procaine [Table 1]. The table also lists where the local anesthetics can safely be injected, what other solutions with which they can be mixed, the specific gravity compared to cerebrospinal fluid and the average dose administered. The last slide of the series depicts a sterile spinal kit that would have been utilized during that era [Figure 3].

A slide series pertaining to epidural and caudal blockade is also included in Waters' glass lantern collection, but it is smaller. The anatomic and clinical slides correlate with those from the spinal series. Of note is the slide which

Table 1. Local Anesthetics Used for Topical, Regional, and Spinal Anesthesia

Drug	Ratio of Effectiveness*	Topical	Regional	Maximal % Used	Solution	Specific Gravity Compared With Spinal Fluid	Average Dose
Procaine HCL	1.0	No value	0.50%–300 mL 0.75%–150 mL 1.0%–100 mL 1.5%–75 mL 2.0–50 mL	5%	Cerebrospinal fluid	Heavier	50–250 mg
Cocaine HCL	5.0	1–10%		Not recommended			
Metycain	1.25	5% paste	0.5%–500 mL 1.0%–100 mL	5%	Cerebrospinal fluid	Heavier	50–200 mg
Pontocain HCL	0.1	0.2%	Not recommended	1%	Cerebrospinal fluid-glucose	Varies with spinal fluid	8–18 mg
Nupercain	0.07	1% paste	Not recommended	0.075% (1–1,500)	1–1,500 commercially prepared	Lighter	10–18 mL
Butyn sulfate	4.0	1–2% 1% paste	Not recommended	Not recommended			
Metbane HCL	.025	1% sol. 1% paste	Not recommended	Not recommended			

* Comparative toxicity cannot be stated accurately since it depends on:
1. Quantity of drug. 2. Strength of solution. 3. Rapidity of application. 4. Rate of absorption (vascularity, vasoconstriction, etc.)

Table 1: This slide (circa 1933) compares the effectiveness of frequently used anesthetics to the "gold-standard," procaine.

demonstrates the technique utilized to locate the caudal space along with the proper hand and needle placement to correctly perform the block. The final slide in this series is the sterile epidural kit used by practitioners at that time.

The other 18 slides depict miscellaneous topics that Dr. Waters believed were important for regional anesthetists to understand. They include the dermatomes of the body, anterior and posterior views (10 slides) and hand placement to correctly perform a myriad of other nerve blocks, including brachial plexus, intercostals, abdominal field, anterior and posterior tibial and sacral (eight slides).

Although Dr. Ralph Waters is best known for his work with CO_2 absorption and chloroform, he also was an adept regional anesthetist, as can be corroborated by perusing his glass lantern slide collection and his publications in the area. Because of this facility with both general and regional techniques, Dr. Waters was able to offer all of his patients a highly personalized anesthetic that would optimize their surgical outcome.

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Ralph Waters' Visit to Great Britain in 1936

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Ralph Milton Waters, M.D., (1887-1979) [Figure 1] was appointed Assistant Professor of Surgery in charge of anesthesia at the University of Wisconsin at Madison in 1927, and he was elected as the first university Professor of Anesthesia in the world at Wisconsin in 1933.[1,2]

Professor Sir Robert Macintosh (1887-1989) [Figure 2] described Waters as "the outstanding personality in our specialty over the past hundred years."[3] Dr. Macintosh was the first physician anaesthetist (anesthesiologist) outside of the United States to become a professor. He was elected to the newly endowed professorial chair of the Nuffield Department of Anaesthetics at the University of Oxford in 1937.[4,5]

Figure 1: Ralph Milton Waters, M.D., F.F.A.R.C.S. (1887-1979).

Dr. Waters visited Great Britain in 1936.[1,3,5] He was still the only Professor of Anesthesia at the head of a clinical and academic department in the world at that time. He was received with adulation by his British colleagues who fell under "the spell of his simplicity, his friendliness, his keenness and his erudition."[1,3,5] Waters spoke on "The Status of Cyclopropane," then a novel agent, at the Annual Scientific Meeting of the British Medical Association at Oxford in July 1936, and he also gave a memorable demonstration of the agent using minimal improvised apparatus.[1,5] The following October, he addressed the Section of Anaesthetics of the Royal Society of Medicine (RSM) on "Carbon Dioxide Absorption From Anaesthetic Atmospheres."[1,3,5] Waters prefaced his lecture at the RSM with the sentence, "The greatest anesthetist was an Englishman — John Snow."[3] The life and works of the London general practitioner and pioneer specialist anesthetist John Snow, M.D., (1815-1858) [Figure 3] were an inspiration to Dr. Waters throughout his career.[1,3,6-9]

Dr. Waters was elected to honorary membership of the Section of Anaesthetics and of the Association of Anaesthetists of Great Britain and Ireland in 1936. In 1944 he was awarded the Henry Hill Hickman Medal of the RMS [Figure 4] and, in 1948, he was elected to one of the first Honorary Fellowships of the Faculty of Anaesthetics of the Royal College of Surgeons of England (F.F.A.R.C.S.). The Faculty was the predecessor of the Royal College of Anaesthetists.[1,5]

The reason why Dr. Waters, aside from his known clinical expertise and his pleasant personality, was received with such enthusiasm in Great Britain in 1936 is fairly obvious. British anaesthesia was established as a physician-based discipline, but it lacked an academic status.[5] Waters was greatly admired because he had developed a superlatively well-organized academic department of anesthesia at the University of Wisconsin.[1,5,7] This department integrated the best possible service to the patients of its institution with undergraduate instruction, postgraduate clinical and theoretical training (a concept unknown at that time in the United Kingdom), meticulous record-keeping and first-class research, particularly in joint projects with related departments such as those of physiology and pharmacology.[7] This department set a standard that British physician anaesthetists in 1936 could only dream about.[1,5,7]

Anesthesia in the United Kingdom in 1936

British anesthesia, although firmly physician-based, was only just beginning to emerge as a proper professional medical specialty in 1936. The British Diploma in Anaes-

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thetics had been introduced in 1935,[5] three years ahead of the American Board in 1938,[10] but the specialty in the United Kingdom was still almost exclusively based on practical expertise and, outside of the university hospitals attached to medical schools, it was a sideline practiced by general practitioners. Academic departments did not exist, and consequently, there was little basic research.[5]

The predominant voluntary hospital system in the United Kingdom expected clinicians to give their services free of charge to public patients. Therefore, they had to rely for an income on fees from middle- and upper-class patients operated upon in private hospitals. Both the general practitioner anesthetists and the few practitioners who specialized in anesthesia, who were usually attached to university hospitals, were dependent on fees collected by the surgeon and passed on to them. These relatively small fees were a welcome supplement to the income of provincial general practitioners, but were usually inadequate to enable a physician to limit his practice to anaesthesia.[5] The Association of Anaesthetists of Great Britain and Ireland had been inaugurated in 1933, primarily to improve the status of between 100 and 150 physician anesthetists who held appointments in university hospitals and who were exclusively eligible for membership.[5]

Figure 2: Sir Robert Reynolds Macintosh, D.M., F.F.A.R.C.S. (1887-1989).

Anesthesia in the United States in 1936

No one can detract from the great achievement of Dr. Waters in developing the University of Wisconsin Department of Anesthesia, but it was unique at the time.[7] Waters had seen the variable standard of anesthesia practiced in Sioux City, Iowa, during his gradual transition between 1913 and 1927, from general practice to the very unusual status for that time of "physician with practice limited to anesthesia."[1,7] In his first paper published in 1919, he described how anesthesia was generally administered by nurses or even by an "office girl." This was either for convenience or because of cost or (most importantly) because of the "lack of proficient anesthetists among available physicians."[1] He did not decry nurse anesthetists as technical administrators but recognized that a physician anesthetist should have some postgraduate training or, at the very least, should have a self-taught interest in anesthesia. His mission on taking up his post at the enlightened University of Wisconsin in 1927 was to train anesthesiologists on a proper scientific basis who would go out and found departments of anesthesia and teach others.[1,2,7] He did just that. "Hundreds of academicians throughout the world and more than 80 departmental chairmen in medical schools in the United States alone have been of the Waters lineage."[2] (See pages 22-23.) In 1936, however, his first disciples were only just leaving Wisconsin, and the general provision of anesthesiologists throughout the United States had only improved marginally.[1,7,10] It was not until after World War II (1939-1945) that the demand for qualified medical anesthesiologists really accelerated in the United States.[10]

Ralph Waters and John Snow

Dr. Waters referred to Dr. Snow as "my idol, the more I try to do various things, the more respect I have for him."[3] Dr. Waters wrote a biographical paper on Snow in 1936.[6] This contains an excellent review of Dr. Snow's extensive scientific investigations and his clinical work. Dr. Waters concludes, "We need not hesitate to say that John Snow was and remains the greatest anesthetist as well as the first."[6]

Dr. Snow was 33 years old in 1846 and was enjoying a rising reputation in the medical circles of the capital when the news of Dr. Morton's successful demonstration of ether anesthesia at the Massachusetts General Hospital reached London in December 1846.[6,8,9] Snow was intrigued by the early reports of successful ether anesthesia in London by the dentist James Robinson and by the eminent surgeon Robert Liston, M.D., (1794-1847) and he attended a demonstration of ether anesthesia by Dr. Robinson on

December 28, 1846.[8,9] However, by the early weeks of 1847, it was evident that some attempts by Dr. Robinson and others to produce anesthesia sometimes resulted in partial or total failure. Such failures occurred so frequently that Dr. Liston himself and many other leading surgeons in the United Kingdom ceased to use anesthesia in the early months of 1847.[9] Dr. Snow also tells us that "considerable opposition was made to etherization in America soon after its introduction and it seemed that it was likely to fall into disuse."[9]

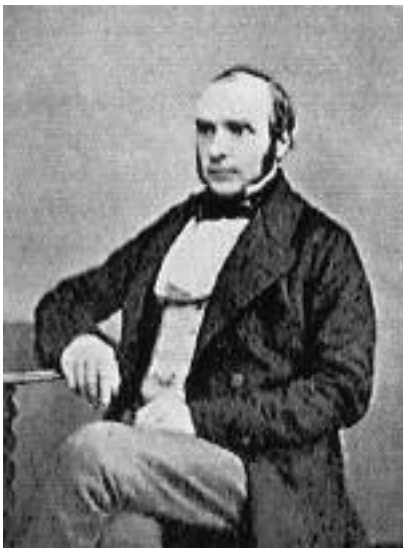

Figure 3: John Snow, M.D. (1813-1858)

Dr. Snow quickly deduced that the failures were "due to imperfections on the apparatus employed and in the method of administration."[9] Dr. Snow realized that the empirically manufactured inhaler employed by Dr. Morton, as well as those used by Dr. Robinson and Dr. Liston, had proven to be unreliable because they were not scientifically designed, even though they had been initially fortuitously successful.[9] Dr. Snow, after careful laboratory and animal studies, constructed an inhaler that delivered a known and constant concentration of ether. It incorporated a water jacket for temperature stabilization.[8,9]

John Snow's results were such that he had established himself as the leading exponent of ether anesthesia in London by May 1847. The confidence of Dr. Liston and other surgeons was restored, and anesthesia became firmly established in the United Kingdom. Dr. Snow published his first monograph, "On the Inhalation of the Vapour of Ether in Surgical Operations," in September 1847.[8] There is little doubt that news of the successful and established use of ether in Great Britain did much to revive its use in America.[9]

Dr. Snow, like Dr. Waters three quarters of a century later, insisted that for anesthesia to be successful and safe, administration should be by medical practitioners.[1,7,9] Dr. Snow was further confirmed in this view when he began to employ chloroform as his main anesthetic after it was introduced by James Young Simpson of Edinburgh (1811-1870) in November 1847.[9] Chloroform was a more potent and potentially more dangerous anaesthetic than ether and consequently required more skill for its administration. Dr. Snow felt justified in using it, however.[9] It is interesting that one of the last clinical publications edited by Dr. Waters in 1951 (before halothane was introduced in 1956), was the report of an investigation by the Wisconsin department titled "Chloroform: A Study After 100 Years." Rightly or wrongly, the report concludes: "Chloroform does not deserve to be abandoned as a surgical anesthetic" but added "no one can administer chloroform safely when he is not keenly aware of what he is doing." It also is possible that nurse anesthesia developed in the United States rather than physician anesthesia partly because the less elegant but safer ether remained the predominant agent in New England for many years.

Snow continued to publish a prodigious amount of outstanding anesthetic-related research during his lifetime.[6,8,9] His animal and self-experimental studies included the use of carbon dioxide absorption.[8] This was a technique that Dr. Waters developed for practical reasons in his Sioux City, Iowa, days before he took up his appointment at the University of Wisconsin.[1]

Dr. Snow suffered a fatal stroke as he was writing the last sentence of his major work, "On Chloroform and Other Anaesthetics: Their Action and Administration."[9] This volume records the work of a lifetime. His friend Benjamin Richardson, M.D., edited the book and added a valuable and moving account of Dr. Snow's life.[9]

There are many parallels in the careers of Dr. Snow and Waters; for example, both were clinicians as well as research workers, both kept meticulous records of their cases and both advocated trained physician anesthesia.[1-9] It is therefore easy to see why Dr. Waters admired Dr. Snow. Circumstances dictated that Dr. Snow could only promote his ideas as an individual to a relatively small audience. Dr. Waters, on the other hand, was able to organize a prestigious department both clinically and academically that could introduce undergraduates to anesthesia and train

Figure 4: The Henry Hill Hickman Medal of the Royal Society of Medicine. Henry H. Hickman, M.R.C.S. (1800-1830) was a general practitioner in Shropshire, England. In 1824 he anesthetized small birds and mammals by asphyxia and carbon dioxide to produce "suspended animation" in an attempt to find a solution to the problem of surgical pain.

postgraduates. Many senior physician anesthetists from all over the world also came as visitors to learn from his experience.

Postscript

Robert R. Macintosh, D.M., was rather unexpectedly appointed to the newly endowed Nuffield Professorship of Anaesthetics at Oxford in 1937, from a nonacademic background.[4,5] He wisely, almost immediately, took academic leave to spend time with Dr. Waters, who became a lifelong friend. Macintosh subsequently incorporated many of the concepts developed by Dr. Waters into the structure of his department at Oxford.[3,4,5,7]

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Ralph Milton Waters: His Influence on the World and Me

Carlos P. Parsloe, M.D.

The purpose of this essay is to present two of my most poignant memories of "the Chief" and to describe the impact of his professionalism and leadership on the practice of anesthesiology throughout the world.

Two revealing personal episodes:

On a cold and wet Saturday afternoon in April 1946, I arrived in Madison, Wisconsin, for an interview with Ralph Waters, M.D. I was a candidate for a residency in anesthesiology. Correspondence from Chicago, where I was an intern, informed Dr. Waters that my schedule permitted only two opportunities to visit Madison. His short answer was "Come when you can." I had no letters of recommendation and had no idea what to expect. The naivete of youth generally diminishes eventual difficulties. Once in Madison, I called him at home. The reply was, "Can you come to the hospital tomorrow at 1 p.m.?" "Yes," I said, but I thought to myself, "Tomorrow is Sunday. How can a professor leave his home to interview a young unknown candidate from far away Brazil?"

I found him at his small office smoking a pipe, a relaxed, self-confident person. After five minutes of conversation, I decided that if accepted, I would go to Madison. That was the impact of his personality on a young man with little knowledge of anesthesia. I had given a number of general anesthetics in Rio de Janeiro with the Ombrédanne inhaler but without any real knowledge of what I was doing. Thankfully, human beings are resilient to nonphysiological assaults. That the world's first and foremost professor of anesthesia (something that I did not realize at the time!) left his home on a Sunday to interview a candidate from a remote country, with no special gifts of any kind, is testimony to the generosity of his personality.

I was accepted, but I never asked Dr. Waters the basis for his decision. That one-hour interview literally changed my whole life. Fifty-five years have elapsed and never for one moment have I had reason to regret my decision. I went to Madison with no particular direction in life and left with a rosy future, a finite background of knowledge, a crowd of life-long friends, a good Wisconsin wife and the most pleasant memories of two unforgettable years, working and learning in a most hospitable atmosphere.

The second episode occurred on a fateful morning during my second year. I started to anesthetize a very young girl with bronchiectasis for lobectomy. She was frightened, repeating, "I am going to die." I did not believe her until her heart stopped. Resuscitation with an open thorax proved useless, and after an hour, we gave up. I was extremely upset and did not know what to expect.

Later in the day, I met with the Chief. I had made meticulous notes of the whole unfortunate accident. I was greeted with, "Carlos, tell me what happened." After listening without interruption, he told me, "Well, those things unfortunately can happen, you should not blame yourself. We will discuss this death at the Wednesday conference."

I was one of the last to arrive at the room. To my surprise, the professor of thoracic surgery, who was the patient's surgeon, was sitting at Dr. Waters' side. Dr. Waters began, "There was an unfortunate death on induction. Would the surgeon describe the patient's condition?" The patient was a chronic bronchiectatic with profuse secretions that could not be controlled. She needed removal of the affected lung to improve her condition. I then explained how I started giving cyclopropane to a very frightened girl while she was crying. The heart had stopped before induction was complete. Profuse secretions prevented proper ventilation, and all efforts at resuscitation had failed. Dr. Waters then thanked the surgeon and excused him. While I had expected the worst, Dr. Waters aimed no recriminations or blame at me. In retrospect, hypoxia and catecholamine surge combined with cyclopropane stopped the heart. The lesson was learned. What could have been a remorseful episode turned out to be a learning one, benefiting everyone and relieving my guilty feeling.

These two episodes tell a great deal about how Dr. Waters conducted his training. In an emotionally charged situation, he persuaded the surgeon to come to the meeting and to alleviate my utter discomfort. I felt protected and could continue my training without feeling despair. Those

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two episodes, which remain vividly clear in my memory after 55 years, have generated a profound humility and gratitude for the wisdom and leadership of Dr. Ralph Waters.

I vividly remember seeing the Chief daily in the operating rooms administering anesthesia. I do not remember hearing him tell me or anyone else what to do. Residents needed only to imitate his demeanor and activities. We watched him gently apply a mask and proceed with a smooth cyclopropane induction. Then we tried as hard as we could to emulate him, realizing all the time that this was no small task. Of course, those were the days of a mask, a to-and-fro canister and a five-liter rebreathing bag. Cyclopropane and sometimes nitrous oxide with oxygen were the "joy" of our practice. The "joy" included adapting the mask to the patient's face, often over a nasogastric tube and using controlled manual ventilation assisted by an oropharyngeal airway.

He gave a few lectures to the student classes. The residents' didactic teaching consisted of the Monday evening literature review and the Wednesday afternoon case discussions. In addition to Dr. Waters, Sidney Orth, M.D., from pharmacology always had answers to many questions about drug effects, and Noel A. Gillespie, M.D., originally from England, had dissenting views on just about every clinical situation. The frank and lively exchange of opinions provided for a rich learning ambiance.

Dr. Waters' International Projection

The international stature of Dr. Waters at the time was most remarkable. Madison was the mecca of anesthesia during the 1930s and 1940s. Travel was difficult, and correspondence by mail was the best available means of communication. The Waters archive at the Department of Anesthesiology, University of Wisconsin, is full of revealing letters. Most notable, perhaps, is the correspondence with Arthur E. Guedel, M.D., and Geoffrey Kaye, M.D., from Australia. It conveys insight into important problems of the time, such as arrhythmias with cyclopropane.

The Anesthetists Travel Club was formed early and provided an opportunity to gather the few anesthesiologists in the United States and Canada to meet and exchange opinions. Large congresses did not exist. As a consequence, Waters did not travel much. Instead, colleagues from many countries came to Madison to imbibe the Chief's simple and basic teachings. These are expressed in the book that he edited, *Fundamentals of Anesthesia,* published by the American Medical Association. The book, which was my first source of information, emphasizes airway and ventilation as fundamental to patient safety.

Sir Robert R. Macintosh, D.M., visited with Dr. Waters prior to becoming the first professor of anesthesia in the United Kingdom and starting a new department at Oxford. He came to exchange ideas with Dr. Waters and to absorb the concept of a triad of clinical practice, teaching and research as the basic tenet of a university department. M. Digby Leigh, M.D., from Canada was a resident with Dr. Waters before establishing the subspecialty of pediatric anesthesia and becoming a professor in Montreal. The first four Swedish anesthesiologists were trained by Dr. Waters, who received the Vasa Medal from the Swedish government for this achievement in 1948. Eric Nilsson, M.D., from Lund and Karl-Gustav Dhuner, M.D., from Gothenburg were fellow residents with me. Torsten Gordh, M.D., and Olle Friberg, M.D., finished before I started. We residents learned about the Vasa Medal by reading the local newspaper the day following the presentation by the Swedish Consul in Chicago. This reveals the modesty of

Continued on page 27

Courtesy of Leo V. Hand, M.D./WLM Collection

Ralph M. Waters, M.D., right, with Torsten Gordh, M.D., from Sweden at the Third World Congress of Anaesthesiology, September 20-26, 1964, in São Paulo, Brazil.

The Political Career of Ralph M. Waters: 'This Is Your Society for the Future'

Christopher M. Burkle, M.D.

Ralph M. Waters, M.D., is well remembered for his scientific contributions and educational achievements. Having joined the faculty at the University of Wisconsin in 1927 as an assistant professor of surgery in charge of anesthesia, he was the first physician to develop a university-based resident training program in anesthesiology.[1] Throughout his years of clinical practice, he has been noted among others for studies related to pharmacology of cyclopropane and toxicology of chloroform. What Ralph Waters is not well known for is the fascinating role he played in medical politics at the time [Table 1].

The early 1930s were an interesting and telling time for anesthesiology and its quest for recognition as a specialty.[2] Physicians who practiced anesthesia were making discoveries into the complex technology of providing safe and effective anesthesia. Gas machines were incorporating new and improved agents, regional anesthesia was gaining in importance, and intravenous methods were entering into the practice. At the same time, however, the world was in the midst of a depressed economy. Hospitals were employing nurses and house staff to provide anesthesia for profit.[3]

Physician anesthesiologists were now looking for strong support from their national organizations to help protect the practice of anesthesia from being diluted by inadequately trained medical personnel.[3] Francis H. McMechan, M.D., a friend of Dr. Waters and member of the American Medical Association (AMA), had long been attempting to secure physician-only anesthesia in AMA-approved hospitals. This was a concept that AMA had no interest in at the time. Frustrated by this impasse, Dr. McMechan sought to model a certification board based on requirements similar to the American College of Surgeons and the American College of Physicians. Through these means he wished to gain independence from AMA. Requirements for certification were extensive and difficult to achieve by many physicians, especially in this early stage of the specialty. Dr. Waters was concerned that such extreme requirements would stratify physician anesthetists and subsequently limit their ability to come together to tackle other more pressing topics in the field of anesthesia. Dr. McMechan did not take kindly to these criticisms. Although the initial clinical requirements were lessened, development of the International College of Anesthetists took place in 1935.

While final plans were being laid out by Dr. McMechan for the birth of the International College, three physician anesthetists were coming together to help unite fellow physician anesthetists by a means different than their more aggressive counterpart McMechan. In the spring of 1933, Paul M. Wood, M.D., traveled to Wisconsin to visit Dr. Waters and then onward to Rochester, Minnesota, to visit John S. Lundy, M.D. Of importance was exploring a means for gaining specialty status in anesthesia. All three men were in agreement that before the issue of "technicians" providing anesthesia could be tackled, certain guidelines related to organization and representation of physician anesthetists must first be instilled. Having visited the headquarters of AMA to discuss criteria for plans leading to specialization, Dr. Waters' ideas were met favorably but not without fear by AMA that Dr. McMechan would attempt to gain control of the section.

At the time, Dr. Wood was secretary of the New York Society of Anesthetists, a New York City-based organization that included members not only in New York State but also Pennsylvania and New England. The New York society initiated a plan to create a new membership class based on strict AMA requirements. Fellows were required to show evidence of 2,500 performed anesthetics or 500 hours of advanced postgraduate training in anesthesia. The proposal of Drs. Waters, Wood and Lundy was placed before the AMA board for approval as an independent specialty board. In February 1936, the New York society changed its name to the American Society of Anesthetists. This change in nomenclature was in part to make it more palatable to AMA but also to reflect its growing national membership base.

Shortly after the change was made to the American Society, Erwin Schmidt, M.D., Dr. Waters' surgical chief from Wisconsin, came to the three physician anesthetists with a proposal. Rather than independence from AMA, Dr.

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Table 1: Political Positions Held by Ralph M. Waters

1928-1932	Executive committee member of the Mid-Western Association of Anesthetists
1928	President of the Associated Anesthetists of the United States and Canada
1929-1937	Member of the Council of Teaching and Hospital Service
1937	First Vice-President of the American Society of Anesthetists
1938	Member of the Board of Directors of the American Society of Anesthetists
1940	President of the Board of Anesthesiology
1945	President of the American Society of Anesthetists

Schmidt was offering AMA recognition as a sub-board of the American Board of Surgery. This proposal was met with great favor by Drs. Waters, Wood and Lundy, as AMA was still apprehensive about granting a full, independent board status given their concerns over Dr. McMechan. It would perhaps be easier to gain sub-board status under the American Board of Surgery than attempt independent criteria for an American Board of Anesthetists under AMA. The finer points of the proposal continued to be discussed by Dr. Waters and Dr. Schmidt while at the scrub sinks in Madison. The final preparations were then made and presented by Dr. Waters and Wood in a speech lasting over two hours before the American Board of Surgery. In February 1938, the time had finally come for granting meaningful certification to the practice of anesthesia.

In June 1939, Dr. McMechan died. Dr. Waters and many others traveled to pay their respects to a colleague whose politics they may not always have agreed with but for whom they respected as a person and physician. With concerns about Dr. McMechan now gone, AMA was subsequently able to give more independence to the sub-board of anesthesia. In June 1940, AMA voted to establish a section on anesthesia, followed by a separation of anesthesia from the surgical board in 1941. Dr. Waters was at the forefront during this exciting transition, having been named President of the Board of Anesthesiology in June 1940.

Waters served in the American Society of Anesthetists from its inception in 1936. Among other accomplishments, he played an integral role in establishing an editor for the journal *Anesthesiology*. He was rewarded by his fellow physician anesthetists by being named President of the American Society of Anesthetists in 1945 and recipient of their second Distinguished Service Award in 1946.[4]

Dr. Ralph M. Waters was not only an extraordinary scientist and clinician but also a gifted politician. He was devoted to the Society that he had helped to develop. There is perhaps no better means of highlighting this point than to quote from his 1945 Presidential Address before the Society, "… This is your Society for the future." [5]

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Ralph M. Waters' Legacy: The Establishment of Academic Anesthesia Centers by the 'Aqualumni'

Lucien E. Morris, M.D.

Although the discovery and introduction of inhalation anesthesia is clearly an American contribution to the world history of medicine, it is astounding how slow the physicians and surgeons in the United States were to recognize the potential contributions of anesthesia to medical practice and how reluctant the medical schools were to include even the basic principles of anesthesia within the curriculum for medical students! Consequently even in the first 25 years of the 20th century, anesthesia remained a much neglected area of medical education and medical practice.

There seems to have been a general attitude that perceived the administration of anesthesia to be a somewhat menial technical exercise not worthy of attention by serious-minded physicians. After all, anyone could give open drop ether, although chloroform required a little more experience. Therefore, administration of an anesthetic was usually relegated to the least experienced available physician or often a nurse or technician. Fortunately, surgical procedures were neither lengthy nor complicated in that era, and anesthesia was correspondingly of short duration so that patients usually survived the assault of somewhat asphyxial anesthetic techniques.

Despite the general attitude of deprecation, there were a few physicians in various regions of the country who developed a special interest in anesthesia. Among this group are the notable pioneer names of Drs. Adolph F. Erdmann, Francis H. McMechan, Louis Harding, Elmer I. McKesson, Arthur E. Guedel, Dennis E. Jackson and James T. Gwathmey. Prior to World War I, anesthesia was not only a neglected area of medical practice but also had been denigrated by a lack of status accorded by organized medicine: The American Medical Association in 1911 had rejected a request for an anesthesia section, ignoring the activities of these and other outstanding physician anesthetists and the existence of some regional, organized anesthesiology societies.

An important historical event occurred in Madison, Wisconsin, 75 years ago when Ralph Milton Waters, M.D., after more than 10 years of medical practice limited to clinical anesthesia, accepted an academic appointment to the medical faculty of the University of Wisconsin. Dr. Waters came to Wisconsin with not only the obligation of teaching medical students about the subject of anesthesia but also with the stated intention of developing a postgraduate program "to teach doctors who would go out to teach other doctors the scientific basis for safe practice of clinical anesthesia."

I believe that his appointment to the medical faculty at the University of Wisconsin in 1927 was not just a fortuitous happenstance. Dr. Waters had seen the need for organized specialty education in anesthesia and set out to do something about it. In retrospect it seems probable that he was quietly but actively seeking a faculty position to use as a rostrum to implement some of his innovative ideas and from which to publicize his concepts about proper professional care of anesthetized patients. In several ways, the University of Wisconsin was an ideal place to accommodate his plans. The School of Medicine there had just expanded from a two-year basic science course to include the clinical years in a full four-year medical curriculum, and the basic scientists were eager to cooperate with the new, young and enthusiastic clinical faculty. The new hospital was only in its third year, not yet in full stride, and there were few if any bad precedents to overcome. Senior surgeon Erwin Schmidt, M.D., who was actually seven years younger than Dr. Waters, was amenable to physician anesthesia, and Dean Charles Bardeen, Professor of Anatomy, was receptive to new ideas. It was fertile ground for the development of professionalism in anesthesiology.

A detailed review of the professional genealogy of anesthesiology reveals the startling fact that hundreds of academicians throughout the world and more than 120 departmental chairs in 80 medical schools of the United States alone have been of the Waters' lineage. Few of the "Aqualumni" (Waters' own resident trainees) had the personal dynamics or the persuasive charm equal to that of

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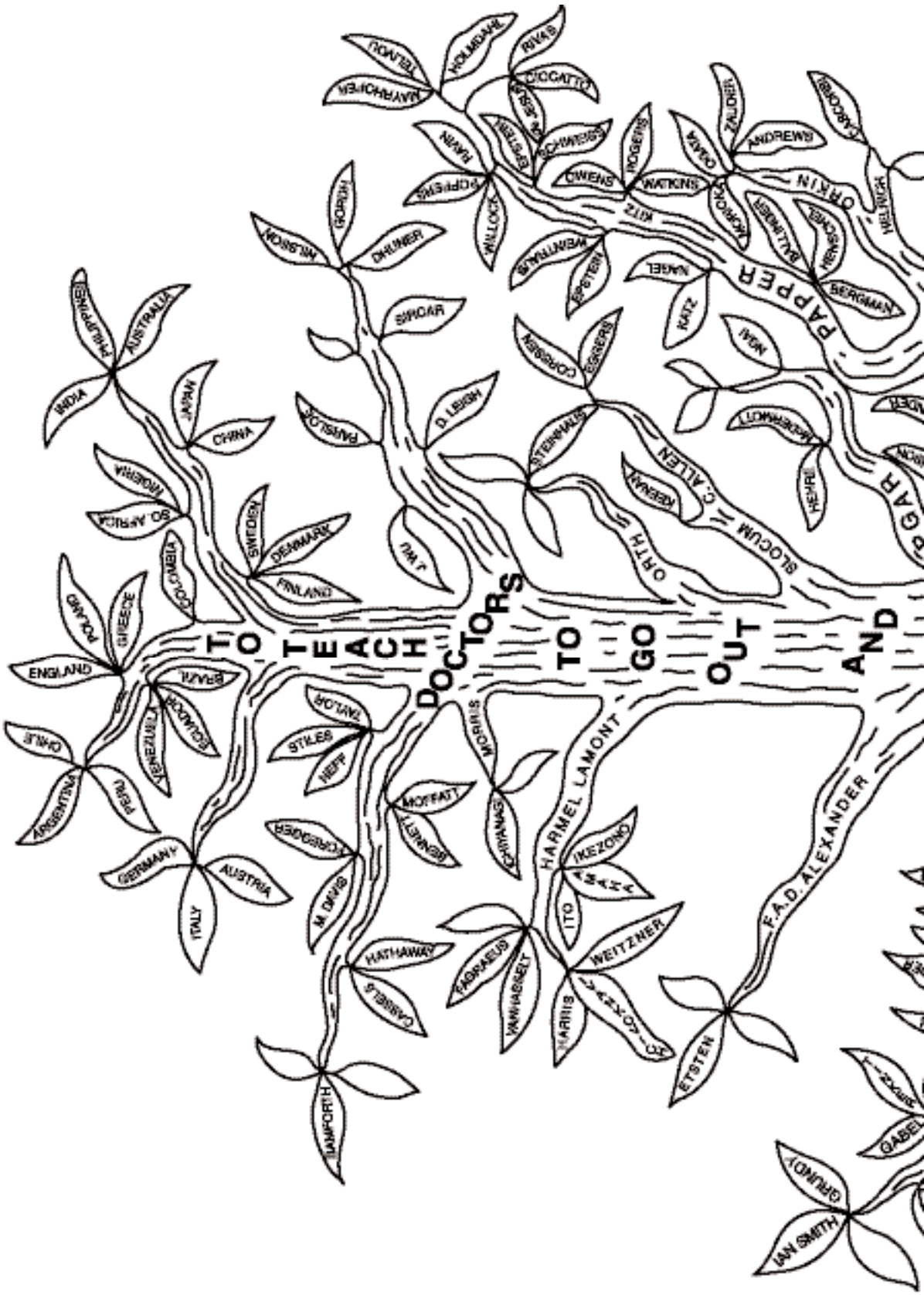
Can You Trace Your Professional Lineage to Dr. Waters?



The "Aqualumni Tree" was created by Lucien E. Morris, M.D.

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their mentor, but all who had been in the Wisconsin program left with a sense of purpose and determination to share with others their knowledge and professional approach to anesthesiology. Some were fortunate enough to obtain working relationships with sympathetic basic scientists that were productive in gathering new knowledge and led to establishment of programs that were successful in stimulating new individuals who subsequently became leaders in teaching centers for anesthesiology. Others, perhaps less fortunate in the environmental situation, had to be content with satisfying regional needs for providing well-trained physicians in the sophisticated management of patient care during clinical anesthesia. All of the Aqualumni made important contributions to the growth and development of modern anesthesiology; all raised the standards of medical practice of anesthesiology; and all exhibited either community or regional leadership, some attained national prominence, and a few became well-known international figures.

Not all environments to which the Aqualumni went were as receptive as that of Wisconsin to the new idea of professional medical practice of anesthesiology. Indeed, some areas were quite resistive. Consequently in several instances, the initial efforts to establish academic anesthesia centers comparable to the Wisconsin model failed because of inadequate support by surgeons or university administrators (e.g., University of Texas Medical Branch in Galveston, University of California-San Francisco, University of Cincinnati, Johns Hopkins University and the University of Washington in Seattle).

When Dr. Rovenstine went to Bellevue Hospital/New York University, Professor Waters was concerned that insufficient staff to cope with existing obligations might be a potential detriment to establishment of the new academic training center for anesthesia. To prevent this possibility, Dr. Waters effectively split his Wisconsin group, sending both staff and residents to New York City to ensure the success of Dr. Rovenstine at New York University. (These transfers included Drs. Ivan B. Taylor, Perry P. Volpitto, Bert B. Hershenson, F.A.D. Alexander, Virginia Apgar and Austin Lamont.) For the same reason, Dr. Waters also referred residency applications by former Wisconsin students to Dr. Rovenstine (among these was Stuart C. Cullen, M.D.).

The Anesthesia History Association has joined with the History of Anaesthesia Society (Great Britain) and several other sponsors for "A Celebration of 75 Years" in honor of Ralph M. Waters, M.D., on June 6-8, 2002, in Madison, Wisconsin. For more information, go to: <www.anes.uab.edu/aneshist/watersconf.htm>.

In the decade before World War II (1933-42), some few Aqualumni went out into private practice of anesthesiology, but a majority received appointments at university centers upon leaving Wisconsin (E.A. Rovenstine, New York University; J.A. Moffitt, University of Oklahoma; V. Apgar, Columbia; F.A.D. Alexander, Albany University; A. Lamont, Johns Hopkins; P. Volpitto, University of Georgia; H. Hathaway, University of California-San Francisco; W.B. Neff, Stanford; I. Taylor, University of Pennsylvania; R.D. Dripps, University of Pennsylvania; J. Bennett, University of Texas Medical Branch at Galveston; I. Taylor, Wayne State in Detroit; J. Bennett, University of Cincinnati; H. Slocum, University of Texas Medical Branch at Galveston; W. Cassels, University of Illinois in Chicago; T. Gordh, in Stockholm; and B. Sircar in Bombay).

The Aqualumni were a cohesive group, remarkably loyal to the Chief. Beginning at Easter in 1937, the Aqualumni returned to Madison for a scientific meeting, reunion and re-infusion of the Waters' spirit. This became an annual event for the following decade. Of the original 60 trainees at Wisconsin during the tenure of Dr. Waters, 40 did go on to teaching positions in academic centers for a major portion of their careers, and half of these became chairpersons or directors of academic programs in medical schools of the United States and elsewhere in the world.

The accompanying centerfold (pages 22-23) features a large tree-like portrayal of the Waters professional lineage, depicting only those Aqualumni who became chairpersons or directors of subsequent academic centers for education and research in anesthesiology. Literally thousands of currently practicing anesthesiologists can also claim linkage to the Ralph Waters' professional lineage through their own teachers and those teachers' teachers.

A Focus on History

James C. Erickson III, M.D.

WLM Collection

What is this?

1. A filter system
2. A Waters canister
3. A to-and-fro system
4. All of the above.

The Wood Library-Museum of Anesthesiology has an extensive collection of medical artifacts, which includes this device dating from the 1920s. (Answer to "What is this?" on page 26.)

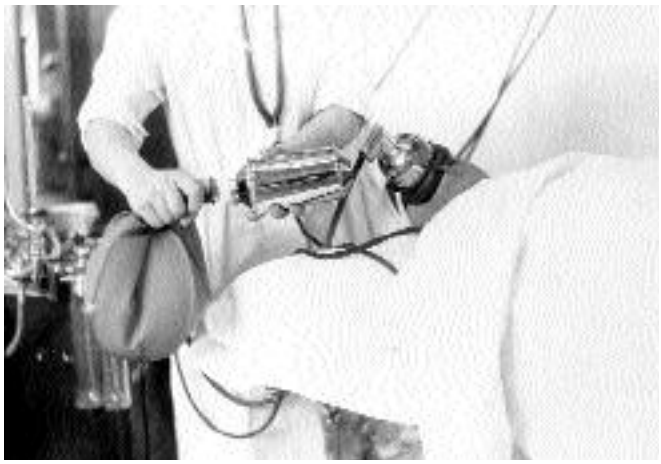
Inhalation anesthesia of the early 1920s consisted of either breathing anesthetic gases and vapors via a mask and bag, or by open-drop of volatile liquids (diethyl ether or chloroform) on a gauze mask. There were no intravenous agents to speed induction. One-hundred percent nitrous oxide was administered for gas induction and attainment of maximum anesthesia. Induction was usually accomplished within two to three minutes and was followed by addition of 10 percent to 15 percent oxygen, or more, to avoid cyanosis. "Too much oxygen" was shunned to avoid diluting the nitrous oxide. If deeper anesthesia or relaxation was needed, diethyl ether, chloroform or ethyl chloride were added. High flows of the gases were maintained to avoid accumulation of carbon dioxide and the consequent "pushing" respiration that hindered abdominal surgery.[1]

Ralph M. Waters, M.D., applied the strategy of carbon dioxide absorption to his practice of anesthesia while in Sioux City, Iowa, from 1920 to 1921.[2] He familiarized himself with an experiment described by Dennis E. Jackson, M.D., in 1915.[3] Jackson kept two dogs anesthetized in a closed cabinet for 24 hours. It was initially filled with a given volume of nitrous oxide, with oxygen added in amounts sufficient to meet the metabolic needs of the animals. There was also a pump devised to recirculate the exhaled gases through an alkali in order to absorb carbon dioxide. The dogs emerged unharmed from this experiment.

Dr. Waters adapted this technique by introducing a canister filled with "granular sodium and calcium hydrate" between the mask and a five-liter rebreathing bag. The canister was added to the system after the induction. It was quickly inserted during an exhalation phase of respiration; some anesthetists of the era complained that this maneuver was too complex and were reluctant to accept it. Once induction was accomplished, very little additional anesthetic was added. Dr. Waters then decreased the gas flows and maintained an oxygen inflow sufficient to satisfy the patient's metabolic needs. The gases flowed "to and fro" from patient to the bag and returned to the patient, passing through the absorbent "filter system" twice per respiratory cycle. Dr. Waters determined that the best measurements for the cylindrical canisters were 9.0 cm in diameter and 13 cm long, containing 500 grams of absorbent.

It was common practice in that era for patients to receive generous doses of morphine as preanesthetic sedation, with more opiate often added just prior to induction. This strategy enhanced the ease of induction and the attainment of deeper anesthesia. Rectal tribromethanol was often added for this purpose. Intravenous barbiturates were not yet in use until a decade later.

James C. Erickson III, M.D., is Professor Emeritus of Anesthesiology and Pain Medicine at Northwestern University Medical School, Chicago, Illinois. Dr. Erickson is also a volunteer at the Wood Library-Museum of Anesthesiology at the ASA headquarters in Park Ridge, Illinois.



With the induction complete, the canister is quickly inserted into the system during the expiratory phase of respiration.[6]

In his first article about the to-and-fro system, Dr. Waters summarized its benefits as follows:

1. Marked improvement of economy for gases and vapors. "There is no waste of drugs into the operating room."
2. Greater convenience in administration of inhalation anesthesia because of the use of smaller containers of gases and drugs. The reduced weight and bulk of apparatus enhanced his practice by virtue of easing the transportation of his equipment into homes and offices.
3. The odors of the anesthetics are kept away from the operating teams, and potential explosion hazards are reduced.
4. Conservation of heat and moisture contributed to the benefits of the canister system and the improved state of his patients.[2]

He also emphasized its limitations and recommended these cautions for the closed system:

1. An airtight connection of the mask on the patient's face and between all components of the system is imperative. Surgery in mouth and nose is precluded.
2. The constant addition of oxygen to satisfy the patient's needs is necessary.
3. The absorbent must be replenished after prolonged use. Dr. Waters changed the filters after five hours of use, although others found that they lasted about 10 hours.
4. The filter can be sterilized in an autoclave.[2]

Philip D. Woodbridge added his recommendation that the fine alkali dust should be forcibly blown from the canister to avoid irritation of the patient's lungs.[5]

When Dr. Waters began his work with this system, fresh gases were fed into the tail of the rebreathing bag. His experience soon suggested the advantage of placing the inflow of fresh gases and vapors into the mask or the adjacent canister to speed the change of concentrations of fresh gases more efficiently.

Dr. Waters' innovations and his emphasis on carbon dioxide physiology and absorption and the rebreathing technique paved the way for the development of effective circle systems and for the introduction of cyclopropane several years later. The Waters canister was made by the Foregger Company and was still in commercial production during the 1960s.

Answer to "What is This?"

The answer to the quiz beginning this article is 4: all of the above.

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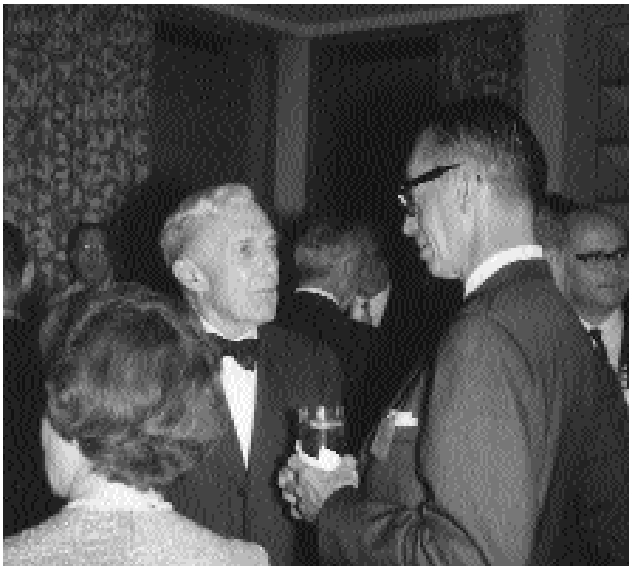
Ralph Milton Waters: His Influence on the World and Me

Continued from page 18

Dr. Waters. Jone Wu, M.D., a pharmacologist from Shanghai, became a resident during my time and returned to China to establish a department in Shanghai. He is the father and grandfather of all Chinese anesthesiologists. He, like Dr. Gordh in Sweden, was the first professor of anesthesiology in his country. Professor Juan Nesi from Buenos Aires was a notable visitor. Martinez Curbello, M.D., from Havana, Cuba, who had introduced continuous peridural anesthesia with a ureteral catheter in 1947, demonstrated the technique in Madison. Professor Edward Pask from the United Kingdom also visited. Olive Jones, M.D., from Oxford spent one year mostly engaged in neurosurgical anesthesia, her specialty. Colleagues from India, Brazil, Mexico, Peru and Uruguay learned the safe conduct of anesthesia with Dr. Waters in Madison. As a result, anesthesiology in Latin America became physician-based and well developed since 1940.

Waters did travel to England in 1936 at the invitation of the British Medical Association to lecture on cyclopropane and to receive honorary membership in the Royal Society of Medicine. That was the only time he left the United States during his professorship. After retirement in 1950, he traveled to Copenhagen to become a teacher in the World Health Organization training center for anesthesiologists. He then moved to Orlando, Florida, and refused all invitations to travel. Nevertheless, in preparation for the Third World Congress of Anaesthesiology in São Paulo, Brazil, in 1964, I was determined to have Dr. Waters give the opening lecture. Repeated invitations were nicely declined. Desperate to achieve my desire, I discussed the problem with Perry P. Volpitto, M.D. He advised me to invite Mrs. Waters. The Chief came to São Paulo and gave a short but incisive opening speech, which was later published in *Survey of Anesthesiology*. It illustrates his knowledge of the history of anesthesia as well as his concern for the training of physicians as anesthesiologists throughout the world.



Courtesy of Leo V. Hand, M.D./WLM Collection

Ralph M. Waters, M.D., left, conversing with Rudolph Frey, M.D., from Germany, at the Third World Congress of Anaesthesiology, September 20-26, 1964, in São Paulo, Brazil.

The golden days of the new specialty of anesthesiology produced many memories for those who were privileged to have met and worked with *the* Ralph Waters in Madison. The genealogical tree of Waters alumni prepared by Lucien E. Morris, M.D., (see pages 22-23) depicts the solid trunk and branches into most states in the United States and four continents of the world. This was the extent of the influence of this great pioneer in anesthesiology.

Betty P. Stephenson, M.D., Receives Distinguished Service Award

Ronald A. MacKenzie, D.O., Chair
Committee on Distinguished Service Award

By decision of the 2000 House of Delegates, the 2000 Distinguished Service Award will be presented to Betty P. Stephenson, M.D., during the 2001 Annual Meeting in New Orleans, Louisiana, on Monday, October 15, 2001. The presentation will immediately precede the Emory A. Rovenstine Memorial Lecture in the Morial Convention Center.

The Distinguished Service Award is the highest tribute the Society can pay to an anesthesiologist for lifetime achievement and meritorious service to the Society and to the specialty of anesthesiology.

Betty P. Stephenson, M.D.

Dr. Stephenson received her B.A. from Hardin-Simmons University in Abilene, Texas, in 1947. From there, she traveled to the University of Colorado for her postgraduate degree in biochemistry, which she received one year later. Dr. Stephenson then returned to Texas for her M.D. from the Baylor University College of Medicine in Waco. Her residency in anesthesiology was served at Baylor Affiliated Hospitals in Houston from 1955-57. In 1958 she spent one year of practice at St. Vincent's Hospital and Shriners Hospital in Los Angeles, California. After that, it was back to Texas where she practiced from 1959-70 at the Methodist Hospital in Houston. From 1970 until her retirement in 1996, Dr. Stephenson practiced at Memorial Hospital Southwest, also in Houston. Her other hospital appointments have included Sharpstown General, Rosewood Medical Center and the Woman's Hospital, all in Texas.

Dr. Stephenson was born and raised in Texas, and many of her accomplishments have come from her activity in that state. She was President of the Gulf Coast Society of Anesthesiologists in 1976, President of the Texas Society of Anesthesiologists in 1983 and has served as Secretary-Treasurer (1986-93) and President (1994-95) of the Texas Medical Association.

Despite her love for and service to the state of Texas, however, her influence has been felt the world over. Dr. Stephenson was First Vice-President of ASA in 1989 and became ASA's first female President in 1990. Current ASA President Neil Swissman, M.D., spoke of Dr. Stephenson's importance to ASA and to the specialty: "Betty Stephenson has been a pre-eminent figure in ASA since she made the choice to join our ranks. It may be significant that she was the first female ASA President, but I do not remember her this way. I remember her simply as a *great* ASA President." Dr. Stephenson also chaired several ASA committees and is a Diplomate of the American Board of Anesthesiology and a Fellow of the American College of Anesthesiologists.

Dr. Stephenson has touched the lives of countless individuals both inside and outside the realm of medicine. Her peers, associates and patients all are willing to laud her for her accomplishments in the field of anesthesiology. Yet, when talking about Dr. Stephenson, those closest to her speak not of the successes so clearly seen in her profiles and curriculum vitae, but rather mention her down-to-earth nature, her humor and her willingness to give.

"As a politician, she may be even more effective 'behind the scene' as on the scene. As a driver of a 'souped up' blue Corvette, she also was effective at schmoozing Texas patrolmen. Betty was as comfortable being a role model for young women physicians as she was sitting around a Texas campfire being one of the boys. But her most precious moments are those she and 'Steve' share on their ranch in the Hill Country," said friend, associate and fellow Texan James F. Arens, M.D., who also served as ASA President in 1989.

Dr. Stephenson and her husband, Charles T. Stephenson, M.D., have four children and reside in Sugar Land, Texas. She is now retired.

Any ASA member or component society may nominate an ASA member for the award. The nominations are reviewed by the Committee on Distinguished Service Award, which consists of the three most recent past presidents and the three most recent recipients of the Distinguished Service Award. The committee may then select one individual for nomination at the opening session of the House of Delegates, where the individual must receive a two-thirds vote of those seated in the House.

House of Delegates to Convene October 14, 2001

Eugene P. Sinclair, M.D.
Speaker of the House of Delegates

All ASA members are invited, in fact urged, to attend the reference committee hearings and both sessions of the ASA House of Delegates. All meetings of the House of Delegates and reference committees will be held at the New Orleans Marriott Hotel, New Orleans, Louisiana, from Sunday through Wednesday, October 14-17, 2001. Times and locations of these meetings will be listed on the hotel bulletin board.

How does the ASA legislative process work?

The voting members of the ASA House of Delegates represent constituencies that include the entire ASA membership. Each of the 30 districts elects a director, and the component and specialty societies elect delegates. There is approximately one voting member for every 100 ASA members. The legislative process permits these members of the House to hear the facts, give proper consideration to every item before the House and debate and vote on these items in an open and democratic deliberative assembly.

Materials are sent to delegates and alternates in a Handbook for Delegates in advance of the meeting. These materials constitute the agenda for the House of Delegates. The sources of these business items include reports from the officers, district directors and committee chairs and resolutions from individual delegates. The Speaker of the House of Delegates refers each item to a reference committee.

When participating in these deliberations, lack of familiarity with the Handbook for Delegates is probably the biggest obstacle for members who are unfamiliar with the operations of the House. ASA officers, particularly the Speaker and Vice-Speaker, and ASA staff are eager to explain to any member how to use the handbook to find issues in which the member is interested. The House of Delegates Office, which will be located at the New Orleans Marriott Hotel during the 2001 ASA Annual Meeting, is the best location to obtain such assistance.

The first session of the House of Delegates will convene at 9 a.m., on Sunday, October 14. ASA President Neil Swissman, M.D., and President-Elect Barry M. Glazer, M.D., will present their remarks and comments regarding the past and coming year at this first session. Officers will be nominated at this meeting, and candidates for office will address the entire House. Adjournment usually occurs by 11 a.m.

Sunday afternoon will provide the best opportunity for individual members to comment on any issue coming before the House. Again, officers and staff in the House of Delegates Office will assist members who wish to find out where discussion on the issues in which they are interested will take place.

Five concurrent reference committee hearings will be held on Sunday beginning at 1 p.m., with issues being divided among these five committees. Reference committees are composed of seven members who are appointed by the President with consideration to geographical distribution as well as experience with the issues and processes of the House.

At these open hearings, when an issue of interest is discussed, any member may step to the microphone and comment. All members are welcome and are encouraged to attend and participate. Discussion is rarely curtailed. The Chair will impose limits only when discussion is repetitive or if the extent of the committee's agenda demands it.

Open hearings will continue until 3 p.m. or until testimony has concluded, whichever is later. Hearings must adjourn or recess no later than 5 p.m. and will reconvene at 8 a.m. the next morning, if necessary. Then the reference committees go into closed (executive) session, at which time they will decide recommended action on each item of business that was assigned to the committee. The written reports of the reference committees' recommendations are usually available by 5 p.m., Tuesday, in the House of Delegates Office.

The second session of the House of Delegates will convene at 8 a.m. on Wednesday, October 17. Its adjournment time cannot, of course, be anticipated. Elections will be conducted, then the House will proceed to other business.

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Eugene P. Sinclair, M.D., is Medical Director, Healthsouth Surgery Center, Wauwatosa, Wisconsin.

Learn About Online Solutions for Your Practice

Millions of patients go to the Web to find answers to their medical questions, and the majority of consumers seeking health care information online are interested in getting it from their own doctor.

For physicians and patients, the Internet offers more than just an information resource. Harris Interactive reports that vast majorities of the online population would like to receive e-mail reminders for preventive care (81 percent) and follow-up e-mails after doctor visits (83 percent). Jupiter Research reports that 63 percent of consumers would switch to a doctor with a Web site that offered credible content and secure communications channels.

ASA is helping you streamline your practice with online solutions that also can help your practice grow and meet rising patient demand for credible online information and secure online communications. At this year's Annual Meeting, learn how ASA's *Your Practice Online* member benefit can help your practice and find out how to utilize

Resource Center at Annual Meeting

For the second year in a row, ASA will have a Resource Center at the ASA Annual Meeting in New Orleans, Louisiana. This is the one-stop area at the meeting to answer your questions and obtain information on services offered by ASA. The resource center will be located in Exhibit Halls I2 and J with hours of operation as follows:

Friday, October 12	3 p.m. to 9 p.m.
Saturday, October 13	7:30 a.m. to 5 p.m.
Sunday, October 14	8 a.m. to 5 p.m.
Monday, October 15	8 a.m. to 5 p.m.
Tuesday, October 16	8 a.m. to 5 p.m.
Wednesday, October 17	8 a.m. to 2 p.m.

The committees and organizations involved in this year's Resource Center include the ASA Committees on Communications, Electronic Media and Information Technology, Patient Safety and Risk Management, and Practice Management. The Anesthesia Patient Safety Foundation, the Foundation for Anesthesia Education and Research and the Wood Library-Museum of Anesthesiology (WLM) will present exhibits about their current and projected activities. Also available will be the ASA journal *Anesthesiology*. This is your chance to talk to members of the editorial board, find out how to access the journal online and review past issues of the journal.

Access to the scientific papers presented at the Annual Meeting will be available in the Resource Center. Attendees who wish to access the full text of all scientific abstracts may access them from this area of the Resource Center. Information on continuing medical education opportunities offered by ASA, including the SEE program and Workshops, will be available. Computers will be available on which to view the SEE Program.

There will be plenty of other services offered in the Resource Center. Stay in contact with your office or home via e-mail kiosks. Leave a message for a colleague or pick up a message left for you at the message center. If you are looking for an anesthesiologist for your practice or are an anesthesiologist looking for a position, the Placement Service will once again be offered. Notice of practice opportunities and positions being sought will be posted on interactive multimedia units. A meeting room will be reserved for people to meet informally to discuss practice opportunities.

Attendees with questions regarding membership and services offered by ASA will have the opportunity to meet with ASA staff to have their questions addressed.

The ASA and WLM publications will be on display and available for purchase in Book Sales. Attendees may access the book sales area through the Resource Center.

New this year is direct access to the technical exhibits from the Resource Center during exhibit hours on Sunday, Monday and Tuesday. Attendees may enter the technical exhibit hall from the Resource Center and vice versa.

the service and learn about these benefits of the Medem network:

Enhancing patient education: Provide patient education articles and trusted, peer-reviewed clinical information from ASA and more than 40 other leading medical societies.

Decreasing practice liability: *Your Practice Online* is compliant with *eRisk Working Group for Healthcare* guidelines, developed in collaboration with malpractice carriers representing more than 70 percent of insured U.S. physicians.

Accessing new patients: Many online physician finder services, including a growing number of health plan physician directories that currently represent more than 14 million covered lives, will point to the Medem network and your practice Web site when patients are selecting a physician. You get increased exposure to new insured patients at the time they are selecting a physician.

Medem staff at the booth can help you publish your site. While you are at the booth, they can also help you modify your site by: 1) Taking your digital photo to include on your site; 2) Adding practice announcements, patient safety materials and other information to your site; and, 3) Changing your Web site address (URL).

You can also learn about *Secure Messaging*, a secure solution for online communications with patients. Accessed from *Your Practice Online, Secure Messaging* is one of the safest and most confidential messaging systems available today. Unlike traditional e-mail, which is similar to sending a postcard in the mail and can be intercepted and read by others as it travels across the Internet to its intended recipient, *Secure Messaging* is encrypted and confidential, so only the intended recipient can read a message.

Find out about this tremendous ASA member benefit and learn more about online solutions for your practice at this year's ASA Annual Meeting.

Update Your Member Information and Pay Dues Online

ASA announces a new membership service for members to update and edit their individual member file and directory listing, including address, telephone and fax numbers and e-mail addresses. In addition, members can use this new online service to pay their membership dues each year.

To update your membership information, visit the ASA Web site at <www.ASAhq.org> and click "Members Only Login" under "Professional information." You will need your 6-digit membership I.D. number, which can be found on your membership card or on the address label on the back of the *ASA NEWSLETTER*. You will enter this number to obtain access to your file, but you are encouraged to change to a new unique logon password as soon as possible. The membership information entered in your membership record will update the ASA membership database in real time. You do not need to notify the ASA Executive Office about your updated information. This information will be used for the membership directory, which is expected to be online by 2002. You also may designate what information you would not want published in the ASA Directory of Members.

You also can pay your annual dues via the "member-only" system as well. To do this, login to the "Members Only" section and choose "Dues Renewal." Use your VISA or MasterCard to renew your membership safely and conveniently. Use the "Members Only" section to provide us with your e-mail address so that we can forward time-sensitive information to you electronically.

Ventilations: I'm Changing My Name to 'Cash'

Continued from page 1

common yet confidential purchases are being traded among corporate America.

This tirade may now make you have a different perspective on the new HIPAA[1] regulations designed to protect your patients, your family and you from bias, prejudice, blackmail and embarrassment should illnesses be discovered by unauthorized individuals. With the new "expanded" boundaries on investigative reporting, the free-flowing exchange of knowledge via the Internet and the public's need-to-know-everything mentality, even the mightiest politician will succumb to this exposé. While being exposed as having a bladder problem through the discovered use of adult diapers may be embarrassing, it would pale to being exposed as an ex-addict, alcoholic or hepatitis C carrier through unauthorized access of one's medical files.

— M.J.L.

1. *Health Insurance Portability and Accountability Act of 1996 (HIPAA). For further information, link to: <www.hhs.gov/ocr/hipaa/>.*

House of Delegates to Convene October 14, 2001

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Usually little debate occurs at this time because the reference committees will have provided ample opportunity for discussion and will have responded with appropriate and broadly acceptable recommendations for action based on all available information.

Should members differ with the recommendations, however, debate is heard, limited only by order of the House itself. Motions are received and considered for amendment, referral to committees or such other action as the House may desire to take. Because of the size of the House of Delegates (over 300 voting members this year), formal parliamentary procedure guides the actions under the direction of the Speaker and Vice-Speaker, who chair these sessions.

Those who have never participated in such an assembly and who wish to do so might find value in the new Delegates' briefing that will be held from 9 a.m. to 10 a.m., Saturday. The Speaker and Vice-Speaker conduct this briefing for new members of the House, and it is open to any other interested member. The hour consists of an introduction to the Handbook for Delegates, ASA Annual Meeting processes and a brief introduction to parliamentary procedure as used by the House of Delegates.

Just as in public legislative bodies, much of the work of the House of Delegates is done outside of the formal process, but these sessions are not secret; they consist of the meetings of the caucuses. Five geographical areas have been merged into unofficial but well-organized caucuses that usually meet on Saturday and Tuesday afternoons at the Annual Meeting. At these caucuses, issues and candidates are discussed in free and open discussions (sometimes more open than in the House because of the smaller size and more informal atmosphere). Your district director or delegates can be of great assistance in helping you participate in caucuses. The meeting locations are included in the House of Delegates handbook and will be posted in the House of Delegates Office at the New Orleans Marriott.

Attendance at the caucuses, sessions of the reference committees and the House of Delegates is open to all members of ASA. Opportunities exist for all Society members to participate actively in the affairs of ASA. It is not necessary be an elected official.

"SPOTLIGHT ON... "

... Maybe YOU?

The Committee on Communications has recommended a new section for the *ASA NEWSLETTER* with the enthusiastic support of the Editor, Mark J. Lema, M.D., Ph.D. The section will be titled "Spotlight On..." and will be utilized by ASA to salute members of our profession who have developed an avocation or extracurricular activity that focuses attention on our specialty and serves as an inspiration to all of us.

We need the assistance of all ASA members and our state component societies in identifying individuals to be considered for this unique recognition. We are seeking accounts of individuals who have enhanced the image of the medical specialty of anesthesiology through an unusual aspect of public service, hopefully but not necessarily related to medicine.

This recognition is intended for the grassroots level of our membership and is not meant to reward academic achievement or component society leadership. While these individuals are of great value to our profession, they receive recognition in other ways. "Spotlight On..." will be reserved for individuals or possibly groups who would not generally be otherwise recognized for their unique efforts.

Candidates for "Spotlight On..." should be nominated in writing to the *NEWSLETTER* Editor with a 500- to 700-word summary of the person's achievements, suitable for publication. A photograph also should be included whenever possible. Submissions will be reviewed by the Committee on Communications.

Fees Paid for Anesthesia Services: 2001 Survey Results

Karin Bierstein, J.D.
Assistant Director of Governmental Affairs (Regulatory)

Commercial anesthesia conversion factors (CFs), or unit payments, have increased modestly since 1999 when we last collected reimbursement data from ASA and Anesthesia Administration Assembly (AAA) members. The current national average CF is in the $45-$47 range.

As in our 1997 (September 1997 *NEWSLETTER*) and 1999 (August 1999 *NEWSLETTER*) fee surveys, the questionnaire asked for the CFs used by the practice's three highest-volume payers. Table 1 shows the national averages reported in each of the three surveys.

The CFs are more than $2.30 higher, on average, than the 1999 figures. A small part of this difference is attributable to a change in the survey questions that permitted us to normalize for 10- or 12-minute units so that all CFs are on the same 15-minute scale. For 2001, we have calculated quartiles and not just medians. The 75th percentile ranges from $50 to $52; the median from $42.50 to $44, and the 25th percentile from $38 to $39.

Table 1 also reveals that the response rate has improved by 50 percent. This year again we distributed the questionnaire at the February Conference on Practice Management and to the committees on Economics and Practice Management, as well as to the anesthesiologists serving on the Medicare Carrier Advisory Committees. We added the Committee on Quality Management and Departmental Administration. Most critically, the AAA helped us collect responses both at its annual meeting in Scottsdale, Arizona last May and through its electronic discussion group.

Capitation arrangements: These do not appear to have become any more common. Six practices reported an average Medicare Per Member Per Month (PMPM) rate of $5.49, up slightly from the $5.16 figure resulting from six responses in 1999. The average commercial PMPM rate ($2.12; 11 respondents) is lower than the $2.40-$2.47 1999 average. These changes are insignificant given the very small samples.

State and regional statistics: Average CFs in New York have surpassed the Georgia averages and taken the lead:

NY (7 respondents)	$62.29	$56.11	$52.49
GA (8 respondents)	$60.19	$54.50	$58.72

Texas and South Carolina both report average CFs higher than the national average. Pennsylvania and California averages are all lower than $40. The Northeast and

Table 1: National Average Conversion Factors

	1997			1999			2001		
Average	$44.41	$42.82	$41.28	$45.02	$43.10	$42.35	$46.98	$45.36	$44.93
Count	66	65	64	81	78	76	120	120	117
Minimum	$22.68	$24.08	$25.00	$28.00	$30.00	$23.80	$26.25	$23.34	$18.11
Median	$42.96	$41.00	$38.25	$42.00	$40.25	$39.46	$44.00	$43.50	$42.50
Maximum	$75.00	$67.50	$78.00	$81.00	$75.00	$69.00	$95.00	$90.00	$90.00

Midwestern regions are now very close, and the West continues to show the lowest reimbursement levels.

Further details: The complete set of state (Alabama, California, Georgia, New York, Oregon, Pennsylvania, South Carolina and Texas) and regional summary statistics and a full description of the survey methodology are available in Volume 1, Number 2 of the *e-PM Letter*, ASA's new electronic practice management newsletter, at <http://www.asahq.org/washington/newsletters/e-pmletterv1n2.pdf>.

Volume 1, Number 1 was published in July and may be found at <http://www.asahq.org/washington/newsletters/e-pmletter.pdf>.

Readers may subscribe to a distribution list and will be notified automatically by e-mail when subsequent issues are posted for downloading by sending a message with no subject and just the word SUBSCRIBE in the body to <e-pm-l-request@listserv@asahq.org>. You will need version 4.0 or higher of Adobe Acrobat software to view and print the *e-PM Letter*. If you do not have Acrobat Reader, you may download it for free from Adobe's Web site at: <http://www.adobe.com/products/acrobat/readstep.html>.

Benchmarking Productivity

The ASA Committee on Practice Management has been working in conjunction with the Anesthesia Administration Assembly (AAA) on several benchmarking surveys. The results of the committee's first survey are shown in Table 2. The committee's primary objective was to generate data that could be used by the ASA membership as basic guidelines regarding O.R. case volumes, physician work hours and vacation weeks for both academic and private practices.

David Fugate, M.B.A., AAA liaison to the committee, and William Montgomery, M.D., committee member, led the project. Mr. Fugate reports:

In August of 2000, we sent a one-page survey to all AAA members (approximately 575) requesting general information based on 1999 year-end statistics. Within two weeks, we received 108 responses, or an 18.8 percent return. Eighty-two of our respondents were in private practice and 26 were in academic groups. Eighty-five groups (78.7 percent) were primarily practicing in a care-team setting while 23 (21.3 percent) were practicing physician-only. There were 2,632.9 physician full-time equivalents (FTEs) represented in this data, or 24.4 FTEs per group. This is approximately 10 percent of the ASA active membership.

The survey reflected an average of seven weeks' vacation per physician annually with a range of four to 12

Table 2: Anesthesiologists' Productivity

Practice	Type of Care Practice		CRNAs/AAs Employed By			Dr. Vacations	# of Cases	Dr. Hours/ Week	Dr. FTEs	Cases/ FTE	Cases/ FTE	
	Care-Team	Dr. Only	Hospital	Dr. Group	Other	Weeks					Care Team	Dr. Only
Academic	23	3	11	11	1	125.6	601,738	1,365	861.2	699	752	599
Private	62	20	12	57	1	628.0	2,003,688	4,261	1,771.7	1,130	1,385	845
Total	85	23	23	68	2	753.6	2,605,426	5,626	2,632.9			
Average/ %	78.7%	21.3%	24.7%	73.1%	2.2%	7.0	24,124.3	52.1	24.4			

weeks. In addition, each physician worked, in-house, an average of 52.1 hours per week.

The committee attempted to obtain case volumes as well. After lengthy discussions, we agreed that the cleanest and most consistent data would be to request anesthesia cases only, i.e., "those cases where there was the induction of partial or complete loss of sensation, with or without loss of consciousness, by the administration of anesthetic agents by injection and/or inhalation for medical-surgical, obstetrical and certain diagnostic procedures." We specifically asked that the respondents exclude statistics associated with chronic and acute pain, critical care and all invasive monitoring lines. The total number of cases reported was 2,605,426, or 24,124 cases per group. Analyzing case volumes further, cases performed per physician ranged from 599/FTE (academic-physician-only settings) to an average of 1,385/FTE (private practice-care-team settings).

The ASA Committee on Practice Management, encouraged by the results of our first survey, decided to submit an additional survey to the AAA members. The second survey was sent out in June 2001 and also addressed productivity, this time focusing on nurse anesthetists and anesthesiologist assistants. We hope to review our results at the ASA Annual Meeting in New Orleans and publish our findings shortly thereafter.

Medicare Clarifies When You May Bill for Preoperative Visits and Tests

Anesthesiologists may bill Medicare for "medically necessary" preoperative visits and tests. The Centers for Medicare & Medicaid Services (CMS), formerly known as HCFA, recently issued an update to the Medicare Carrier Manual clarifying that "medical preoperative examinations performed by, or at the request of, the attending surgeon are payable if medically necessary" if fully documented and supported by the appropriate diagnostic (ICD-9) codes as well as the ICD-9 codes for preoperative services (V72.81-V72.84).

Your documentation must show how the specific visit for which you are billing separately differs from the usual preanesthesia evaluation. Also, the requirements for the level of Evaluation and Management (E&M) code chosen must be satisfied. Table 3 sets forth the differences between the separately payable visit and the visit that is included in the anesthesia base units.

The update notice also states that preoperative tests (e.g., electrocardiograms) ordered by or at the request of the physician performing the preoperative visit are payable

Table 3. Billable Preoperative Visits and Non-Billable Routine Preanesthesia Visits

Preoperative E&M Service	Routine Preanesthesia Exam and Evaluation
Specifically requested by attending surgeon	Performed on all patients receiving anesthesia
Medical necessity must be supported by ICD-9 code	Included in anesthesia base units
Documentation must support level of service and surgeon's request	ASA Standards approved by House of Delegates <www.asahq.org/Standards/02.html>
Rules for consults must be met in order to bill 99241-99245 or 99251-99255	Joint Commission on Accreditation of Healthcare Organizations standards have been defined (these include PE.1.8.1, PE.1.8.2, PE.1.7.3 and TX.2.1)

if medically necessary. Some local Medicare carriers have adopted policies denying or severely restricting the medical necessity of such tests, and it is not clear what effect the CMS clarification will have on such policies. If you are having difficulties with your own carrier, you should contact your representative on the Carrier Advisory Committee. The list of representatives is available from <m.omar@asawash.org>.

Additional information on the CMS update appears in ASA's newest publication, the electronic practice management letter, or *e-PM Letter*. A partial list of topics in the next issue appears in the box at right.

Source Material

Medicare Carrier Manual Notice and Update on Preoperative Evaluations: http://www.hcfa.gov/pubforms/transmit/R1707B3.pdf.

***e-PM Letter*, Volume 1, Number 2**
Topics

- Fee Survey Results (complete national, regional and state summary statistics)
- AAA Contribution: Benchmarking Anesthesiologists' Productivity (with links to raw data spreadsheets)
- Criminal Sanctions for Fraud (Assistant U.S. Attorney to speak at 2002 Conference on Practice Management)
- Critical Care Services Not to Be Included in Surgeon's Fee?
- Pain Medicine Economics (Government study under way)
- Costs of Billing for Pain Services

Questions and Answers From the Committee on Quality Management and Departmental Administration (QMDA)

Conscious Sedation

The QMDA Committee, like many others, receives questions from various members of the anesthesia community. Some of the questions appear to be of broad general interest, and the committee has agreed to publish Questions and Answers in the *NEWSLETTER* as appropriate. The first set involves the development of a hospital policy on conscious sedation. The answers were provided by Jerry A. Cohen, M.D.

Q. We are currently revising our Conscious Sedation Policy and Procedure, and many questions have come up. I was hoping you could give us some insight with regard to the new Joint Commission on Accreditation of Healthcare Organizations (JCAHO) standards. Should location as to where conscious sedation can be administered be identified in the policy?

A. *It could be if this is a special problem for a particular institution, i.e., if there are known locations in which safe sedation is difficult, or which are so remote as to delay rescue. In addition, one might restrict the number of locations while doing a controlled roll-out of the policy, making sure that each location is functioning before additional locations are added. That said, it is generally reasonable to describe the characteristics of an acceptable location for sedation in terms of minimum acceptable resources needed to meet the policy's standards.*

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Society for Pediatric Anesthesia: Growing Up Strong

Peter J. Davis, M.D., President
Society for Pediatric Anesthesia

The Society for Pediatric Anesthesia (SPA) continues to be an organization whose function is to provide educational and scientific opportunities for its members as well as advocacy support for pediatric issues. SPA serves as an educational resource for its members. SPA's one-day meeting in October, which precedes the American Society of Anesthesiologists (ASA) Annual Meeting, and SPA's three-day meeting in the spring, which is combined with the American Academy of Pediatrics (AAP) section on anesthesiology and pain management, provide members with a myriad of topics, learning formats and experiences. The educational presentations include scientific plenary sessions, clinical workshops, debates, evidence-based practice guidelines and interactive, computer-assisted, audience-polling response systems. The educational goals and objectives of SPA meetings are membership-driven and achieved through the Society's interaction with its membership.

The SPA Web site <www.pedsanesthesia.org> is becoming an integral communication vehicle for both SPA and its members. Not only does the SPA Web site provide the Society with an easy means to keep its members informed, but also the Web site allows its members to communicate directly with the Society. This interactiveness means SPA members can help to direct the educational content and educational mission of SPA. The SPA Web site is a vehicle that provides not only educational material and program development to members, but also provides other sources of information, i.e., membership directories, fellowship program directories, job postings and Third World missionary-type opportunities.

As the educational needs of members evolve, as the demands of continuing medical education change and as issues of recertification of anesthesiologists are discussed, it is the intent of SPA to maintain its role as a leader in educating the anesthesia community with respect to pediatric anesthesia. Because of SPA's strong educational commitment, the Accreditation Council for Continuing Medical Education (ACCME) has recently awarded the Society provisional accreditation for a two-year term (the maximum for first-time providers).

The research mission of SPA involves its contributions to the Foundation for Anesthesia Education and Research (FAER). Over the past several years, SPA has been a financial supporter of FAER. SPA has sponsored a number of young investigators whose research interests are related to pediatric anesthesia.

Last but by no means least, SPA continues in its support of child advocacy issues through its association with the anesthesiology and pain management section of AAP. The child advocacy issues are diverse and range from social matters such as child abuse prevention to clinical issues of pediatric trauma and governmental issues involving proper reimbursement for pediatric care. This broad range of advocacy concerns provides SPA members with opportunities to be involved at both local and national levels in efforts that foster better health care for children.

In summary, SPA, with its 1,600 active members and 2,000 resident/affiliate members, provides its members with direct involvement in the organization. As the needs of the members grow and evolve, so too will SPA.

Peter J. Davis, M.D., is Professor of Anesthesiology, Critical Care Medicine and Pediatrics, University of Pittsburgh School of Medicine, and Anesthesiologist in Chief, Children's Hospital of Pittsburgh, Pennsylvania.

A Call for Residents to Serve on ASA Committees

Carlos Leyva Moreno, M.D., Chair-Elect
ASA Resident Component Governing Council

It is once again time to alert all residents who are interested in serving on ASA committees to get their curriculum vitaes (CVs) and cover letters ready.

All applications should consist of a resume, a cover letter explaining the residents desire to serve on a specific committee and a preference list of three committees they have interest in serving on. Descriptions of all committees can be found in the ASA Bylaws section in the ASA Directory of Members. Remember that there are two types of committee appointments, regular and adjunct. Regular members are elected for three-year terms, while adjunct members are elected for one-year terms. ASA has approximately 70 standing committees and subcommittees. There are opportunities for residents to sit on many of these committees as adjunct members.

The ASA Executive Office must receive these applications by **January 1, 2002**, for committee appointment consideration. Committee appointments are made by the President-Elect to begin at the next Annual Meeting. So, you may no longer be a resident by the time you take your committee seat. All applications should be forwarded to: Ronald A. Bruns, Director of Administrative Affairs, ASA Executive Office, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

ASA has been proactive and committed to getting residents politically involved as evidenced by increased resident participation in ASA committees, subcommittees and ad hoc committees. As residents training in anesthesiology programs, we must remember that we are the makers of our own professional future. Resident involvement in these committees not only gives us a voice in forging ASA policy, it also allows residents the opportunity to become familiar with committee procedures that will only strengthen our organization and allow residents to be better informed.

Please feel free to contact any of the current resident committee members who can be located at <www.asahq.org/asarc/committees.html> for additional information. Any further questions can be forwarded to me at <clmoreno@umich.edu>. We are the makers of our own professional future, so do not let this unique opportunity pass you by. It is time to get involved in *your* ASA!

Ever Wished *You* Had Input on What's Printed Here…

You Could Be the Next Editor!

The ASA Resident Component Governing Council is pleased to announce the immediate opening for the position of Editor for the "Residents' Review" section of the *ASA NEWSLETTER*. This is a two-year position open to all anesthesiology residents and fellows with the appropriate background and experience. The Editor will be selected at the 2001 ASA Annual Meeting by the Chair of the ASA Resident Component Governing Council (now Chair-Elect) after review of all the applications received from interested candidates.

Responsibilities of the Editor include solicitation of suitable articles from residents, editing and compiling the articles, and serving as a liaison between the *NEWSLETTER* editorial staff and the resident readership. Interested candidates should immediately contact and forward their CV and a letter of interest to Carlos L. Moreno, M.D., Chair-Elect, ASA Resident Component Governing Council, 394 Village Green Blvd, #204, Ann Arbor, MI 48105; e-mail: <clmoreno@umich.edu>.

Carlos Leyva Moreno, M.D., is a CA-3 resident at the University of Michigan, Ann Arbor, Michigan.

Eight Candidates Announce for Elected Office

Eight ASA members recently have announced their candidacies for elected office. The anesthesiologists and the offices they seek are:

1. **President-Elect**
   James E. Cottrell, M.D.
2. **First Vice-President**
   Roger W. Litwiller, M.D.
3. **Vice-President for Scientific Affairs**
   Bruce F. Cullen, M.D.
4. **Secretary**
   Thomas H. Cromwell, M.D.
5. **Treasurer**
   Orin F. Guidry, M.D.
6. **Assistant Secretary**
   Peter L. Hendricks, M.D.
7. **Assistant Treasurer**
   Roger A. Moore, M.D.
8. **Vice-Speaker, House of Delegates**
   Candace E. Keller, M.D.

ABA Announces …

Pain Management Examination for Certification and Recertification

The American Board of Anesthesiology (ABA) will administer its Pain Management examination via computer at more than 350 test centers on Saturday, September 21, 2002. ABA will inform candidates of the test sites when the list is available.

All applicants for initial certification in the subspecialty must satisfactorily complete one year of training in a pain management program accredited by the Residency Review Committee for Anesthesiology by August 31, 2002; they also must be certified in anesthesiology by ABA or scheduled for ABA oral examination in 2002. Physicians whose ABA pain management certificate soon will expire may apply to recertify in the subspecialty. Applicants may use the ABA Web site <www.ABANES.org> to submit their application for the pain management examination. They also may download the application from the ABA Web site or request the form by fax (919) 881-2575, or they may write ABA at 4101 Lake Boone Trail, Suite 510, Raleigh, NC 27607-7506. ABA must receive completed pain management applications by **March 1, 2002**.

New Council Seeks At-Large Nominees

The newly formed Council for the Continuous Professional Development of Anesthesiologists (CCPDA) has been charged to develop a lifelong learning and self-assessment curriculum for anesthesiologists and to describe educational activities that would satisfy the curricular requirements for anesthesiologists participating in the American Board of Anesthesiology (ABA) maintenance of certification program. The Council will be made up of nine members, including two who will be representatives from ABA and two from ASA.

We are seeking applications and nominations for the five at-large positions on the CCPDA. Qualifications include ASA membership, ABA certification, a commitment to physician education and professional development and a history of service. Estimated time commitment for this Council will be at least five days per year for off-site meetings. In addition, an unspecified amount of time will be required for project development. Meeting expenses will be reimbursed by CCPDA, but there is no associated salary for this endeavor.

Please forward a current curriculum vitae and a letter of introduction that outlines your interests and qualifications and includes the name and telephone number of three physician references to: M. Jane Matjasko, M.D., Secretary, American Board of Anesthesiology, Attn: CCPDA, 4101 Lake Boone Trail, Suite 510, Raleigh, NC 27607-7506.

The ASA Board of Directors has approved the following regulations for the announcement of candidacies for elected office:

1. On or before August 1, any candidate for ASA office may send to the Executive Office a notice of intent to run for a specific office.

2. The Executive Office shall prepare a list of candidates submitted to be published in the September issue of the *ASA NEWSLETTER* and the Handbook for Delegates.

3. The announcement for candidacy does not constitute a formal nomination to an office nor is it a prerequisite for being nominated.

4. Nominations shall be made at the Annual Meeting of the House of Delegates for all candidates as prescribed by the ASA Bylaws.

As approved by the Board of Directors in August 2000, a Candidates' Forum is now available on the ASA Web site. ASA members can view candidates curriculum vitaes at <www.asahq.org/candidates>.

Questions and Answers From the Committee on Quality Management and Departmental Administration (QMDA)

Continued from page 37

Q. Should advanced cardiac life support (ACLS) be a part of credentialing physicians?

A. *ACLS may be a useful means initially to demonstrate proficiency with many of the skills necessary for rescue, but it is not a single substitute for evaluation of other factors in credentialing. Ongoing quality evaluation of the physician or other provider in a particular location and with a particular patient population, i.e., demonstrated safety in each sedation venue, is also essential. Further, the credentialing process must also evaluate the adequacy of the provider's pre-op assessment, informed consent and ability to predict and prepare for potential difficulties. Skills at avoiding or initiating ACLS are as important as resuscitation skills. Also, ACLS deals with the skills needed to resolve cardiopulmonary/airway problems from a slightly different perspective than those needed for conscious sedation. Participation in a continuing education program (in sedation), with appropriate simulator activities, might be as good as or better than ACLS.*

Q. Should specific medications be listed for use in conscious sedation?

A. *I prefer to mention the generic effect of the drugs on cardiac and ventilatory function and the mechanisms by which these effects are detected and whereby the dose is titrated to effect in a controlled manner. Included in this approach is a description of the methods and continuous nature of monitoring. Occasionally, one might specify a specific drug that tends to be used in a way that might be problematic, depending on the context of its use. For example, propofol may be appropriate for deep sedation in ventilated patients in an ICU, but not for sedation in a cath lab regardless of the way it is used. There is almost never a compelling need to describe the pharmacopia of sedating agents or their dosages. In fact this temptation is to be avoided because it gives a false sense of security to practitioners administering the drugs/dosages on the protocol when they should be monitoring and titrating to effect. There is a sample sedation policy on the ASA Web site at <www.asahq.org/ProfInfo/toolkit/sedmodelfinal.htm>.*

Procedural Sedation, Not 'Conscious Sedation'

I read with interest Dr. Lema's thoughtful discussion (April 2001 "Ventilations") of one of the challenging issues in credentialing nonanesthesiologists to administer sedatives and analgesics for procedures. While I agree with Dr. Lema's main point, I must state that using the generic term "conscious sedation," rather than the broader term "procedural sedation," may be misleading. It may also contribute to poor understanding and skills on the part of nonanesthesiologists who may administer sedatives and analgesics. As the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) now emphasizes (Standard TX.2, January 2001) and as we anesthesiologists well know, there is tremendous individual variability in response to these pharmacologic interventions, such that there is a continuous spectrum of levels of sedation. Below is a succinct summary of the levels of sedation as defined by JCAHO:

Level 1: minimal sedation/anxiolysis — no significant effect on respiratory or cardiovascular function; these interventions do not fall under the JCAHO procedural sedation guidelines

Level 2: moderate sedation (this one subcategory of procedural sedation is closest to what might appropriately be described as "conscious sedation") — respiratory and cardiovascular reflexes are usually maintained

Level 3: deep sedation — respiratory reflexes are often impaired; cardiovascular reflexes may be impaired

Level 4: "anesthesia" — general anesthesia and major regional anesthesia with attendant significant depressive effects on cardiovascular and/or respiratory function

Of particular importance is that the 2001 standards require that practitioners who administer sedatives and analgesics with an intended level of sedation must possess the skills to "rescue" patients who unintentionally slip into the next level of sedation. This "levels of sedation" approach, while not perfect, is long overdue and, in my experience overseeing this area in our medical center, has enhanced understanding, vigilance and skills on the part of nonanesthesiologists involved in procedural sedation.

In summary, I believe it is best to avoid the misleading and perhaps now obsolete generic term "conscious sedation" and instead use the term "procedural sedation " to refer to this important area of nonanesthesiologist practice where anesthesiology consultation and clinical/administrative oversight are critical.

John M. Freedman, M.D.
Santa Rosa, California

Editor's Note: *A rose by any other name would still smell as sweet. Regardless of how we partition sedation, the risk of poorly prepared practitioners delivering more than meets the definition is real. Patient protection is our primary concern. Sedation by nonanesthesiologists is at best a compromise that prioritizes practitioners' convenience, patients' convenience and profitability before safety. We, as hospital chairs, are the only safeguard for patients undergoing procedures in the absence of an anesthesiologist's presence.*

— M.J.L.

To Do or Not to Do

I liked your May "Ventilations," especially the suggested dress code. It reminded me that I once proposed that our Surgical Evaluation Committee improve the process of granting privileges. Instead of a lot of phony paperwork evaluations of new surgeons, they would ask the evaluator to check "yes" or "no": I would allow this surgeon to perform this procedure on me. Naturally, they paid no attention.

LeRoy Misuraca, M.D.
Long Beach, California

The views and opinions expressed in the "Letters to the Editor" are those of the authors and do not necessarily reflect the views of ASA or the NEWSLETTER *Editorial Board. Letters submitted for consideration should not exceed 300 words in length. The Editor has the authority to accept or reject any letter submitted for publication. Personal correspondence to the Editor by letter or e-mail must be clearly indicated as "Not for Publication" by the sender. Letters must be signed (although name may be withheld on request) and are subject to editing and abridgment.*

Show Me the Money

Eddy Fraifeld, M.D., (May 2001 "Letters to the Editor") is right on the money, so to speak, when he encourages us to train residents in coding and billing rather than wasting time on matters of professionalism. After all, anesthesiology is a business, is it not? Let us strip away the veneer and get right to the bottom line: How do we make the most money the fastest? Oh, and we should be grateful that Dr. Fraifeld did not waste time pulling a pair of pants (or even scrubs) over his bathing suit prior to showing up in the emergency room. At least he wasn't sunbathing in the nude!

Keep up the good work, Dr. Lema.

Steven A. Deem, M.D.
Seattle, Washington

San Francisco 'Niners' Question Residency Match Numbers

I have always enjoyed reading the wonderful summary that Alan W. Grogano, M.D., has provided year after year about the anesthesia medical student-resident match. Well done, as usual (May 2001 *NEWSLETTER*). However, I did have one issue.

Although likely technically accurate, we felt the University of California-San Francisco (UCSF) was misrepresented by stating that the top three schools, as far as the number of resident applicants match is concerned, contributed only 12 of the medical students who went into anesthesiology. We think the inference was incorrect as it relates to UCSF. That year, nine resident applicants were from UCSF. We have consistently and always recruited eight to 10 medical students into anesthesia, except for 1996. We also congratulate those departments who have recruited more than nine medical students per year into anesthesia.

In any event, there you are.

Ronald D. Miller, M.D.
San Francisco, California

Nix Executions From Medicine

Thank you for the July installment of "Ventilations." Quite apart from one's views on abortion, euthanasia or even capital punishment, one would think that *all* anesthesiologists could agree that the execution of criminals for the State is not an act of medical care. Physicians, by the nature of the profession, can and should help remedy some of the results of the failings of individuals, politicians and society as a whole. This is not one of them. Thanks again. Keep stirring the pot.

Terrence Webber, M.D., J.D.
Denver, Colorado

Locked Carts Open Pandora's Box

Recent institutional policies devised to address (perceived) accreditation standards may actually lead to disaster. For example, many hospitals have removed patients' names from operating room scheduling boards in the name of patient confidentiality, [using] first name only, initials, Social Security number or another scheme. This is both unnecessary and potentially catastrophic.

Of greater concern are policies that demand anesthesia carts and supplies be locked in areas such as obstetrics, where immediate access to equipment and agents is unquestionable. Within the secure confines of the operating room, noncontrolled agents must be secured and out-of-view because of the concern that unlicensed personnel such as scrub technicians, anesthesia-workroom and custodial staff represent a tampering risk. Securing agents at the end of each case distracts attention from the patient and hinders immediate access. Most importantly, anesthesiologists should take the lead in speaking out against the profiling of these dedicated employees as untrustworthy.

The Joint Commission on Accreditation of Healthcare Organizations states that its standards do not require these draconian policies. Its consultants and surveyors demand otherwise. I have asked the Anesthesia Patient Safety Foundation to take the lead in determining whether such policies are indeed dangerous.

Martin S. Bogetz, M.D.
Kentfield, California

FAER Activities at the ASA Annual Meeting

First FAER Honorary Research Lecture: "Thinking Out of the Box —Anesthesiology Research in the 21st Century"

Monday, October 15, from 2 p.m. to 3 p.m. in room 352 of the Morial Convention Center

We are excited to sponsor the first Foundation for Anesthesia Education and Research (FAER) Honorary Research Lecture. FAER has created this lectureship to recognize outstanding scholarship by anesthesiologists and to attract young anesthesiologists to rewarding and exciting careers in research and teaching that are essential underpinnings of a respected medical specialty.

Debra A. Schwinn, M.D., a former ASA/FAER award recipient, will deliver the first lecture. In choosing Dr. Schwinn to deliver the first lecture, the Foundation has set a high standard for its ensuing honorees. Dr. Schwinn is Professor and Director of the Molecular Pharmacology Laboratory in the Department of Anesthesiology at Duke University Medical Center. In 2000, she was awarded a Visiting Investigator Program award at the Human Genome Research Institute of the National Institutes of Health to study the role of adrenergic polymorphisms in hypertension.

Dr. Schwinn's research has made significant contributions to the basic understanding and clinical management of cardiovascular regulation and genitourinary pathophysiology, and she continues to work toward an understanding of how genetic differences between people relate to disease outcomes, particularly in the settings of cardiovascular surgery and anesthesia and intensive care. Most importantly, she has mentored 16 fellows who now hold positions in academic medicine and in pharmaceutical companies.

Dr. Schwinn personifies what the FAER Honorary Lecture was created to represent. She has combined her extraordinary energy and enthusiasm with solid training in research fundamentals, a supportive academic department and funding awards, including two FAER grants, to achieve an outstanding array of successes in her career as an anesthesiologist, scientist, teacher, mentor, musician, wife and mother. Please join us to hear Dr. Schwinn speak.

Then feel free to stay because, conveniently, immediately following the FAER lecture will be the FAER panel.

Panel

"Evidence-Based Medicine and the Clinical Practice of Anesthesia"

Monday, October 15, from 3 p.m. – 5 p.m. in room 352 of the Morial Convention Center

Sean K. Kennedy, M.D., University of Pennsylvania, will moderate the panel. A learning objective is "How to Approach Critically Medical Chapters and Journal Articles and Incorporate Results Into Your Clinical Practice." Panel participants and topic include Steven Slogoff, M.D., "Evidence-Based Medicine — An Overview"; Nathan L. Pace, M.D., "The Promise and Pitfalls of Systematic Reviews (AKA Meta-Analysis)"; Ronald D. Miller, M.D., "Applying Research to Clinical Practice"; and Robert A. Caplan, M.D., "Comprehensive Evaluation of Clinical Evidence — The ASA Guidelines Process." We hope to see you there.

Booth

Stop by the FAER booth, meet your friends there, say hello — it may be a valuable experience. The booth will be located in the ASA Resource Center, adjacent to the technical exhibits and near the ASA registration. We will have a computer hook-up, table and chairs, information about the grants and the Foundation and, of course, a credit card machine to make contributions easy. We welcome and need suggestions and feedback from the ASA membership.

Resident Scholars Program

Please take note of the 60 residents participating in the Resident Scholar Program sponsored by FAER and Abbott Laboratories. These residents were nominated by chairs of their departments. The institutions invited to participate vary each year. The program introduces residents to the educational, scientific and political activities affecting the specialty. The residents attend an orientation session, the House of Delegates meetings, dinner with ASA officers and participate in many other activities during the meeting.

Advisory Council

FAER board members, corporate and anesthesiology society representatives, award recipients, leaders in the anesthesiology community and friends of FAER will discuss improvements in patient care and enhancement of the specialty through research training of physicians.