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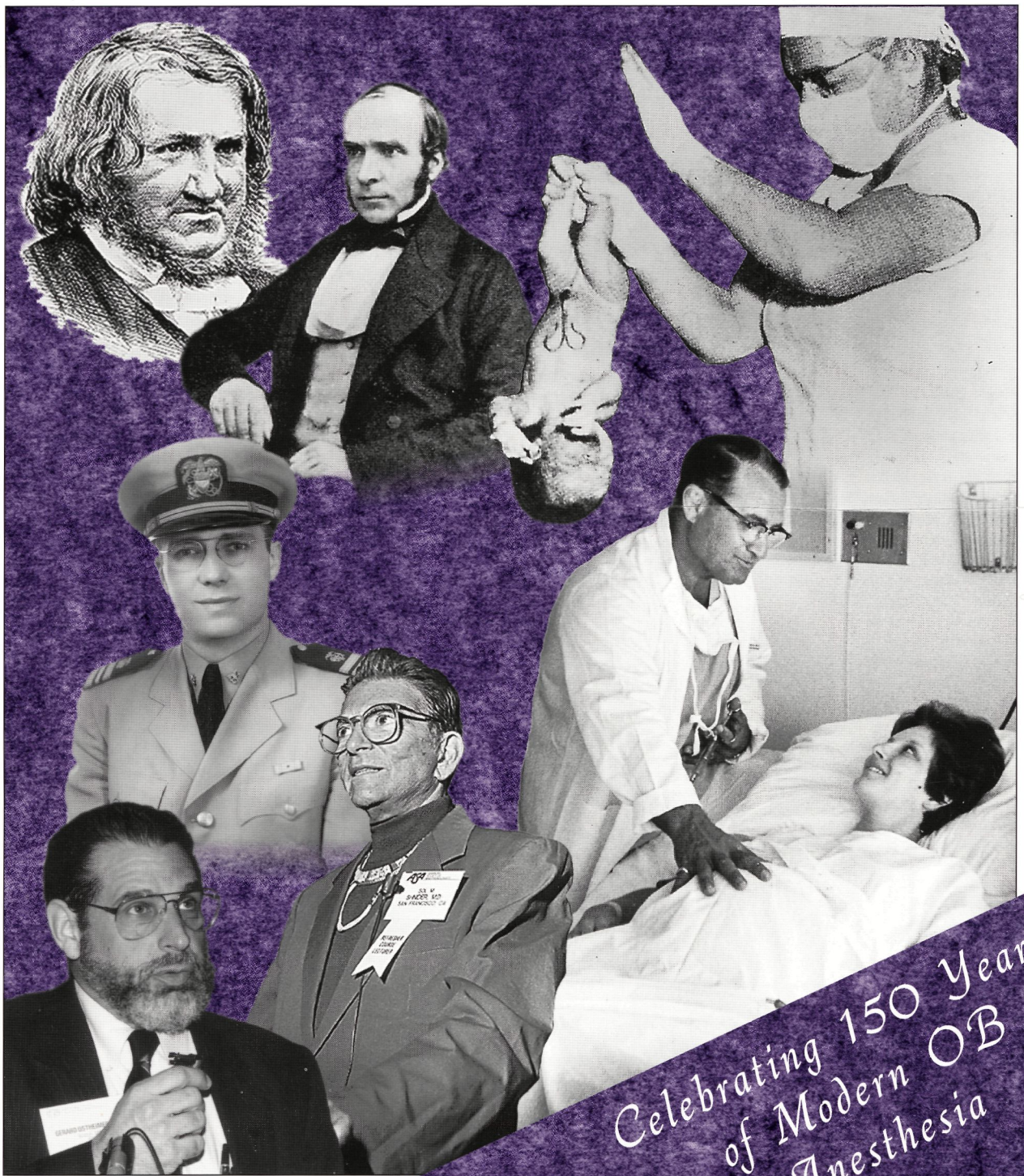

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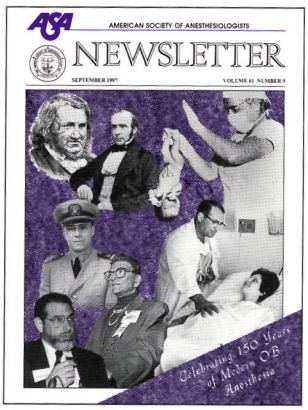

Many physicians have contributed greatly to the growth of modern obstetric anesthesia over the last century and a half. Some of the more notable pioneers are depicted on this month's cover with their contributions outlined on pages 17-19.

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Celebrating 150 Years of Modern OB Anesthesia

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DEPARTMENTS

SUBSTANCE ABUSE HOTLINE
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.

Obstetrical Anesthesia, à la Carte

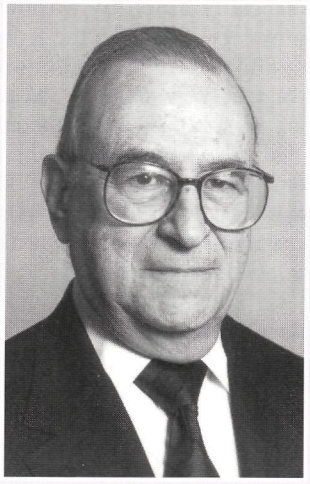
This historical issue of the *NEWSLETTER* recognizes the 150th anniversary of the introduction of modern obstetrical anesthesia. It is sheer coincidence that my first clinical experiences in anesthesia occurred in obstetrical clerkships as a medical student and long before I would consider a career in anesthesiology.

My first obstetrical clerkship, as a third-year medical student, was at a municipal institution. My first obstetrical anesthetic was a spinal for cesarean section; this was administered by me and supervised by a senior ob/gyn resident. Apparently all went well, as I have no negative recollections of the event.

Between my third and fourth years of medical school, a summer externship at a small community hospital led to my next encounter with obstetrical anesthesia. I was rudely awakened by a House Officer and told to report to the obstetrical suite where I was promptly handed a Schimmelbusch mask and a can of ether; my instructions were to drop ether on the mask until the patient was asleep for an episiotomy repair. Oblivious to laryngospasm, aspiration and the second stage of ether anesthesia, I poured. The patient, eager to be asleep, inhaled the vapor and, in surprisingly short order, was soundly asleep.

During my internship year (PGY-1 in today's terminology), a six-week rotation in obstetrics again tested my anesthesia skills. First came a low forceps delivery for which I administered open-drop chloroform on instruction from an obstetrical nurse. Then, once again, I was called to do a regional for an elective section. Since this medical school hospital had no anesthesiologist on staff, all sections were begun under field block. Once the infant was delivered, a nurse anesthetist administered general anesthesia.

The above experiences notwithstanding, the major portion of my PGY-1 year was spent in the Department of Medicine as I anticipated a medical residency.



Erwin Lear, M.D.

Erwin Lear, M.D.
Editor

Congress Adopts Budget Legislation; Anesthesia CF 46% Formula Included

Michael Scott, Director
Governmental and Legal Affairs

Immeasurably aided by a robust economy serving to trim the federal deficit all by itself, Congress sent historic budget reconciliation and tax legislation to the President at the end of July that was calculated to balance the federal budget by the year 2002 and to provide some $90 billion in tax cuts. President Clinton signed the bills into law on August 5.

Physician Payments

The reconciliation bill includes approximately $140 billion in net deficit reduction, of which $115 billion would be achieved by restraining Medicare growth and providing more managed care opportunities for seniors. Restraints on physician reimbursement will be relatively mild in comparison to other provider groups; approximately $5 billion to $7 billion in savings will be achieved by introduction of the new single conversion factor for all specialties (except anesthesiology) and in establishing a new "sustainable growth rate" formula for annual updates in the conversion factor.

For ASA members, the reconciliation bill marks a major legislative accomplishment. Instead of cofronting a 9-percent cut in the Medicare anesthesiology conversion factor (CF) effective next January 1, as proposed in the President's FY1998 budget, the 1998 national CF has been set at 46 percent of the new single CF for all other specialties, meaning approximately a 2.4-percent increase for anesthesiologists next year. Except as adjusted for changes in relative value unit values for other specialties, this 46:100 relationship will continue in future years; that is, the same annual percentage update in Medicare reimbursement will be applicable to anesthesiology as is applied to all other specialties.

Some anesthesiologists contacting the ASA Washington Office have expressed skepticism that establishment of the anesthesiology CF at 46 percent of the new single CF for other specialties can be regarded as a legislative accomplishment, whatever the President may have proposed. The fact is, however, that because Medicare reimbursement for the specialty is based upon the ASA Relative Value Guide, utilizing base and time units, the anesthesiology CF must be scaled to the CF for all other specialties, which is multiplied by "relative value units" to determine appropriate payment. The new 46-percent rate preserves the relative relationship of the specialty to all other specialties that is currently in effect as a result of the 22.76-percent increase in anesthesiology work values placed into effect on January 1, 1997.

Practice Expenses

ASA supported efforts of the Practice Expense Coalition to gain postponement by Congress of the proposed January 1, 1998, effective date for budget-neutral implementation of resource-based practice expense values under the Medicare Fee Schedule. The reconciliation bill postpones effectiveness of the new values until January 1, 1999, requiring that the Health Care Financing Administration (HCFA) engage in further study of the validity of proposed practice expense values published last June and requiring that the new values be phased in over four years beginning in 1999.

In the end, however, Congress exacted a price for the postponement. Next January 1, some $390 million in payments for nonprimary care procedures and services will be arbitrarily allocated to the primary care codes as, in effect, a "down payment" on what Congress expects to be the outcome of the overall revaluation of practice expenses.

Funds for the down payment will be derived from reducing 1998 practice expense relative values for virtually all nonprimary care codes to not more than 110 percent of the respective physician work values for those codes. These funds will serve to increase 1998 practice expense values for office visit codes by a correlative amount. Because practice expense relative values of only three nonprimary care codes historically billed by anesthesiologists exceed physician work values by more than 10 percent, the impact of this reallocation on the specialty should be almost nil. The major impact will be felt by ophthalmologists performing cataract surgery, certain other specialist surgeons and cardiologists.

Nonphysician Providers

ASA was also successful in persuading Congress not to include a provision in the reconciliation bill that was advanced by the American Association of Nurse Anesthetists (AANA), by which the requirement of physician supervision of nurse anesthetists, currently contained in the Medicare Conditions of Participation for Hospitals, would have been eliminated. This issue has been under consideration by HCFA for many months as part of an overall administrative review of the Conditions of Participa-

tion, and ASA argued successfully that adoption of the AANA proposal would amount to inappropriate micromanagement of the Medicare program by Congress.

Nonphysician providers *were* successful, however, in gaining inclusion of a provision in the bill forbidding Medicare and Medicaid managed care organizations from discriminating, *solely* on the basis of state licensure or certification, in selection of participants for their provider panels. ASA opposed this provision as amounting to unwarranted interference with the right of managed care plans to select their panel participants. Neither the managed care industry nor any other physician group expressed any willingness to join in that opposition, and the provision finally included in the bill was one which the managed care industry found acceptable during debate on the Clinton health plan four years ago. In the last analysis, however, the provision is of little meaning: nothing in the provision prevents a managed care organization from discriminating on the basis of education or experience, e.g., having completed a residency in anesthesiology.

Managed Care Issues

Notwithstanding the efforts of the Patient Access to Specialty Care Coalition, of which ASA is a member, few significant patient or provider protections against managed care abuses were included in the reconciliation bill, other than a prohibition against so-called "gag" clauses, protection of physicians against managed care indemnification requirements and a requirement that any denial of benefits based on medical necessity be made only by a physician. Inclusion of most patient protections supported by the Coalition simply ran contrary to the philosophical bent of many members of the Republican congressional majority, which disfavors government interference in the marketplace whenever the need for government regulation does not appear overwhelming.

While stopping well short of the "freedom of entry" provisions advocated by the American Medical Association, the reconciliation bill does create a legislative framework, making it easier for provider service organizations (PSOs) to form and compete with traditional managed care entities. Specifically, the bill calls upon the Secretary of Health and Human Services (HHS) to establish federal solvency standards for PSOs and authorizes HHS to waive state licensure standards in certain limited circumstances.

Beneficiary Provisions

In addition to the right of a limited number of beneficiaries to establish medical savings accounts, the reconciliation bill also includes a new option for obtaining the services of the physician of the beneficiary's choice, albeit at greater expense. This option would permit a beneficiary and a physician to contract privately for provision of a medical service, outside the Medicare program, and as long as the physician had agreed not to file any Medicare claims, with respect to any patient, for two years. Given the

ASA At Work For You

- ***Conversion factor.*** Instead of a 9% cut as proposed by the President, the anesthesiology Medicare conversion factor will increase next year by 2.4%. ASA persuaded the Congress that in light of the history of treatment of the specialty under the Medicare Fee Schedule, the proposed cut would be unfair.

- ***Practice expense.*** ASA joined with other specialist physicians in convincing Congress that implementation next January 1 of resource-based practice expenses under the MFS would have been arbitrary. Congress voted a one-year delay in implementation, pending further study by HCFA, and a four-year phase-in of resource-based values. The congressionally enacted $390 million 1998 "down payment" to primary care does not adversely affect the specialty.

- ***Nurse anesthetist supervision.*** ASA succeeded in persuading the House Ways and Means and Senate Finance Committees not to adopt an AANA-sponsored proposal to eliminate the requirement that nurse anesthetists be supervised by a physician in Medicare-approved hospitals.

- ***Pain management practice expenses.*** ASA filed comments with HCFA August 18 attacking the arbitrariness of proposed HCFA practice expense edits that would improperly limit recognition of real administrative and clinical costs involved in delivery of pain management services.

fact that most anesthesiologists are not in a position to remain outside the Medicare program, whether by virtue of contract or economic necessity, this option would seem to be of limited benefit to the specialty.

Perhaps the biggest disappointment to the provider community regarding the reconciliation bill was the unwillingness of federal legislators to require that Medicare beneficiaries "share the pain" of the increasing costs of the program. Thus, in the end, the proposals to charge higher Part B premiums to wealthy seniors, to increase the Medicare eligibility age from age 65 to age 67 and to require a modest $5 co-payment for home health services all fell by the wayside. The only provision of the bill affecting Part B premiums was the repeal of existing law that, without repeal, would have reduced beneficiary cost below the current 25 percent of current program cost.

In political terms, there perhaps will be no better time than 1997, a year of significant prosperity, for Congress to take even these tiny steps toward facing up to the looming Medicare crisis, and the fallout early in the next century will be all the more painful as a result. Unfortunately, all that the current Congress could muster is a requirement that a federal commission be appointed to make recommendations for fundamental revisions in the Medicare program and the future financing of physician and nonphysician education. Recommendations are to be made within two years from the time of enactment of the bill, meaning, of course, that they will be presented to the next Congress, not this one.

Fraud and Abuse

The Administration failed in its effort to gain repeal of the right to obtain an advisory opinion with respect to antikickback matters; to the contrary, the reconciliation bill newly authorizes obtaining advisory opinions with respect to physician self-referral. The bill also authorizes permanent exclusion from the Medicare program after an individual has been criminally convicted three times for program violations, but in general, the bill only tinkers at the margins of the fraud provisions of last year's Portability Act.

Other Issues

Other provisions of the reconciliation bill of interest to physicians is the authorization of a four-year medical savings account demonstration project involving up to 390,000 Medicare beneficiaries, a gradual ratcheting-down of the indirect medical education adjustment from the current 7.7 percent to 5.5 percent by 2001 and authorization of direct medical education payments to nonhospital settings. *Not* included were the MICRA-based professional liability reforms that had been approved by the House or authorization for establishment of a permanent center of excellence program as sought by the Administration.

FY96 Audit of HCFA Discloses $23.2 Billion in Payment Errors

In mid-July, the HHS Office of Inspector General released its report on the first audit of HFCA's financial statements covering fiscal year 1996. The report included the auditor's estimate that net HCFA overpayments for beneficiary care amounted to $23.2 billion, or about 14 percent of HCFA's $168.6 billion in fee-for-service payments for the year.

Insufficient or lack of documentation was reported to have accounted for almost half of the improper payments, with a lack of demonstrated medical necessity representing the next leading cause of overpayment, at about 37 percent of the total. Type of service, inpatient prospective payment system claims (PPS) and physician claims were listed as the leading causes of overpayments (about 23 percent and 22 percent of the total, respectively), followed by home health (16 percent), outpatient (12 percent), skilled nursing facility (10 percent) and laboratory claims (6 percent).

The audit report concludes that in view of the foregoing, HCFA needs to consider stronger deterrents to reduce improper Medicare benefit payments, enhance prepayment and postpayment controls by updating computer systems and software, and direct intermediaries and carriers to step up their efforts to deter improper payments.

Audit personnel emphasized that their review of HCFA's financial statements was not a fraud-and-abuse audit and that no conclusions had been drawn as to the intent involved in the

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Management of Childbirth Pain Before Anesthesia

Donald Caton, M.D., Trustee
Wood Library-Museum of Anesthesiology

James Young Simpson's administration of ether to an obstetric patient on January 19, 1847, began a new era in the management of the pain of childbirth. Early attempts at pain management had been crude and largely ineffective. In fact, childbirth did not warrant the attention of a physician unless special problems existed.

One of the earliest references to the management of childbirth pain appeared in a gynecologic text written in the first century C.E. by the Greek physician Soranus of Ephesus. He suggested that the physician "soothe the pains (by) touching with warm hands and afterwards drench pieces of cloth with warm, sweet olive oil and put them over the abdomen as well as the labia and keep them saturated with the warm oil for some time, and one must also place bladders filled with warm oil alongside." Fourteen hundred years later, Cotton Mather, who was a Puritan minister but also well-versed in medicine, advised women to use potions such as the "livers and galls of Eeles, dried slowly in an Oven," or "Date, Stone, Amber and Cumin seeds."

Even in the first decades of the 19th century, American physician and statesman Benjamin Rush still recommended bleeding. Rush reasoned that the pain of childbirth stimulated a woman's central nervous system to the point of causing serious side effects. In accordance with accepted medical theory of his time, Rush recommended copious bleeding, as many as three or more pints of blood. This was thought to depress the nervous system and thereby counteract the danger from the pain.

"In the first decades of the 19th century, it was thought that copious bleeding (of the patient) depressed the nervous system, thereby counteracting the danger from pain."

Better methods for pain relief existed even during these early times. For centuries, physicians had administered opium. After 1809, when the German pharmacist Sertürner isolated some of opium's active principles, they had "morphium." During the 18th and early 19th centuries, however, physicians had been reluctant to use either opium or morphine for labor. They believed that either compound diminished uterine contractions and depressed the child and, therefore, constituted an unacceptable risk for normal labor. Later, in 1847, physicians used the same arguments against the use of ether or chloroform to treat the pain of childbirth.

Physicians felt no compulsion to relieve the pain of childbirth because they believed it to be a normal component of a physiological process. Even a

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"The use of anesthesia for childbirth appeared at a time when physicians were coping with several major changes in medical theory and practice. They were emerging from an era of herbal medicine to confront the problems of modern pharmacology."

strong proponent of anesthesia such as Nicolai Pirogoff once argued, "Haven't midwives and parturients and indeed all others always viewed the agonies of delivery as an indicator of safety and a well, nigh holy accompaniment of childbirth?" A further complication was the fact that the midwives who attended most deliveries were not authorized to administer opium or morphine even had it been thought to be appropriate therapy.

The use of anesthesia for childbirth appeared at a time when physicians were coping with several major changes in medical theory and practice. They were emerging from an era of herbal medicine to confront the problems of modern pharmacology. Physicians were just beginning to displace midwives in the birthing chambers, and they were beginning to suggest that the pain of childbirth was neither necessary nor beneficial.

The transition was both rapid and challenging. Many of the papers contained in this issue of the *ASA NEWSLETTER* describe the contributions of anesthesiologists who, for the past century and a half, have worked to resolve the technical, medical and social issues that appeared during this period of transition.

Any member of the American Society of Anesthesiologists who wishes to learn more about the medical and social development of obstetric anesthesia may call the librarians of the Wood Library-Museum of Anesthesiology. They maintain an extensive file of pertinent books and papers that can be loaned or copied. They also have a list of speakers who can address your local or regional medical societies on subjects dealing with the history of our specialty.

Fanny Longfellow and Nathan Keep

Richard B. Clark, M.D.

The first obstetric anesthetic administered in the United States was given on April 7, 1847, in Cambridge, Massachusetts.[1] The patient was Fanny Appleton Longfellow [Figure 1], wife of the famous poet and scholar, Henry Wadsworth Longfellow. Fanny was attended by Nathan Cooley Keep, M.D. [Figure 2].

Dr. Keep, a prominent physician and first Dean of Dentistry at Harvard (he considered dentistry a medical specialty) was experienced in the administration of "letheon" in dental surgery cases, but until then, it had not been used in obstetric deliveries in the United States.[1,2] Keep had published a letter, dated April 3, 1847, in which he described this apparatus.[3] All of the participants were undoubtedly aware of the demonstration in the Ether Dome at Massachusetts General Hospital the previous October. Henry had written in his journal (April 1):

"Went to town the first time for several weeks and had a conversation with Dr. Keep about the sulphuric ether and its use."[4]

Figure 1: Fanny Appleton Longfellow. Courtesy of the National Park Service, Longfellow National Historic Site, Cambridge, Massachusetts.

Dr. Keep probably advised the Longfellows of the experimental nature of the procedure, and they agreed to its use. During her labor, Fanny inhaled from the apparatus designed by Keep and "the sufferings of the last moments were greatly mitigated," her husband wrote. Fanny delivered a healthy girl; "no unpleasant symptoms occurred, all the results were highly satisfactory."[5] The experiment was a success, and mother and child did well. Fanny was enthusiastic and vocal. She wrote:

"I am very sorry you all thought me so rash and naughty in trying the ether. Henry's faith gave me courage and I had heard such a thing had succeeded abroad, where the surgeons extend this great blessing much more boldly and universally than our timid doctors. Two other ladies, I know, have since followed my example successfully and I feel proud to be the pioneer to less suffering for poor, weak womankind. This is certainly the greatest blessing of this age and I am glad to have lived at the time of its coming and in the country which gives it to the world, but it is sad that one's gratitude cannot be bestowed on worthier men than the joint discoverers, that is, men above quarreling over such a gift of God. As one of my brother's lady friends abroad, a

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Figure 2: Dr. Nathan Cooley Keep. Courtesy of Mr. Richard Wolfe, Countway Library of Medicine, Boston, Massachusetts.

pious, noble woman, says, one would like to have the bringer of such a blessing represented by some grand, lofty figure like Christ, the divine suppresser of spiritual suffering as this of physical."[6]

Henry, in his journal (April 7) stated, "This morning was born in the Craigie House a girl, to the great joy of all."[4]

This was Fanny's third confinement. She and Henry had six children, two boys and four girls. Fanny and Henry are pictured in Figure 3 with their boys, Charles and Ernest. The four girls were Fanny (born 1847), Alice (1850), Edith (1853) and Allegra (1855).[7] The episode described here involved the birth of Fanny. Unfortunately, their long-awaited girl, Fanny, lived only a year, her demise causing her parents much grief. Equally tragic, her mother Fanny (who was Longfellow's second wife) suffered severe burns after she accidentally set her dress on fire while sealing packages, and she died in 1861.[8] Henry had tried to save her by wrapping a rug around her, but was unsuccessful.[9] Her passing was long mourned by Longfellow and poignantly described in the "Cross of Snow" in 1879.[8] Longfellow never remarried. The Longfellow home, then called Craigie House, is now the Longfellow National Historic Site in Cambridge, Massachusetts.

Longfellow's first wife, Mary Storer Potter, of Portland, Maine, died of a miscarriage in Rotterdam in 1835 while Longfellow was on his study tour.[10]

Nathan Cooley Keep was not present at the ether demonstration in Boston on October 16, 1846,[11] but he must have been inspired by this event. In his communication of April 3, 1847, he stated he had administered ether in 200 dental cases.[3] He insisted that the ether must be "perfectly pure." He stated, "The apparatus should have a reservoir, a mouth-piece of convenient shape and a valve near it, admitting the vapor freely from the receiver to the mouth and lungs, but perfectly preventing the expired gasses from again entering it." He also administered ether on the night of April 18 to a patient who was suffering from intense pain in the abdomen.[3]

Henry himself tried the ether (administered by Keep, perhaps?) on April 8, 1847. He wrote:

"Fast-day. Went to town to see Dr. Elliott about my eyes. Stepped into Dr. Keep's and had a double tooth extracted under the ethereal vapor. On inhaling it, I burst into fits of laughter. Then my brain whirled round and I seemed to soar like a lark spirally into the air. I was conscious when he took the tooth out and cried out, as if from infinitely deep caverns, "Stop," but I could not control my muscles or make any resistance and out came the tooth without pain."[4]

There are anecdotes and undocumented reports that Crawford W. Long, M.D., of Jefferson, Georgia, administered ether for obstetrics in the early 1840s. Of course, Sir James Young Simpson gave the world's first obstetric anesthetic (ether) in Edinburgh, Scotland, on January 19, 1847.[12]

Very little more is heard of Dr. Keep. Unlike Walter Channing,[12] he is not known for obstetric anesthesia, perhaps because of his dental orientation. But on April 7, 1947, he, Fanny and Henry made history!

References:

1. Pittinger CB. The anesthetization of Fanny Longfellow for childbirth on April 7, 1847 (Letter). *Anesth Analg.* 1987; 66:368-369.
2. Pitcock CD, Clark RB. From Fanny to Fernand: The development of consumerism in pain control during the birth process. *Am J Obstet Gynecol.* 1992; 167:581-587.
3. Keep NC. Inhalation of ethereal vapor for mitigating human suffering in surgical operations and acute diseases. *Boston Med Surg J.* 1847; 36:199-201.
4. Longfellow S. ed. Life of Henry Wadsworth Longfellow, with extracts from his journals and correspondence. Vol II. Boston, New York: Houghton, Mifflin & Co.; 1891:85.
5. Keep NC. The letheon administered in a case of labor. *Boston Med Surg J.* 1847; 36:226.
6. Wagenknecht EC. Mrs. Longfellow: Selected Letters and Journals of Fanny Appleton Longfellow (1817-1861). New York: Longmire Green & Co.; 1956:129-130.
7. Clark M. Telephone conversation. Longfellow National Historic Site. March 26, 1997.
8. Encyclopedia Britannica: Longfellow, Henry Wadsworth. Vol. 14, 1965:298.
9. Wagenknecht EC. Henry Wadsworth Longfellow, Portrait of an American Humanist. New York; 1966:237.
10. Naylor J. The Photographic Discovery of a Lifetime, *New England Journal of Photographic History*. Numbers 148/149, A double issue, issue 1, issue 2; 1996:28.
11. Vandam LD. Robert Hinckley's "The first operation with ether." *Anesthesiology.* 1980; 52(1):62-70.
12. Caton D. Obstetric anesthesia: The first ten years. *Anesthesiology.* 1970; 33:102-109.

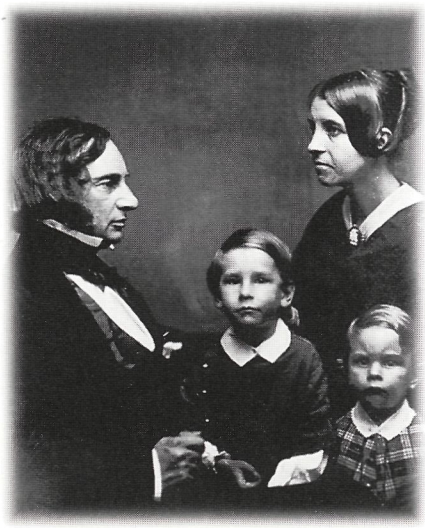

Figure 3: Henry, Fanny, Charles and Ernest Longfellow, circa 1849. Courtesy of the National Park Service, Longfellow National Historic Site, Cambridge, Massachusetts.

Analgesia in Labor Becomes Respectable: The Role of John Snow

David A.E. Shephard, M.B.

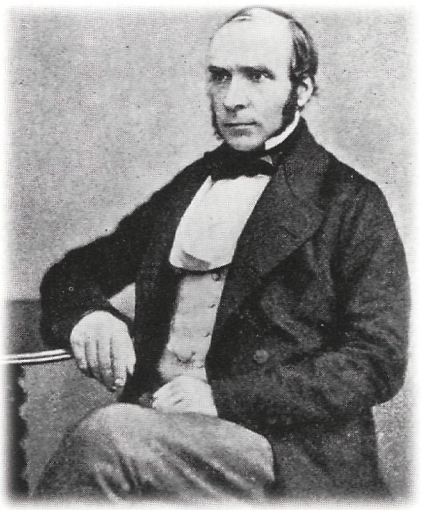

Figure 1. John Snow (1813-1858) at the height of his career.

In 1591, Lady Euframe MacAlyane of Edinburgh, Scotland, was bold enough to ask a midwife to relieve the pains of labor.[1] So roundly was analgesia in labor condemned then that she was put to death. Physicians, of course, had long sought to relieve the pains of labor, but it was not until an event of catalytic import occurred on April 7, 1853, that opposition to labor analgesia began to fade. That event was the administration of chloroform by John Snow, M.D., [Figure 1] to Victoria, Queen of England [Figure 2] for childbirth. All went well, and the Queen's approval of "that blessed chloroform"[2] sent the message that pain relief was acceptable, even respectable, for women in labor.

In celebrating the 150th anniversary of the use of chloroform in obstetrics, it is timely to consider how John Snow became an agent of change in the acceptability of analgesia in labor.

Objections to Analgesia in Labor

Why apparently intelligent physicians and churchmen should have objected to analgesia in labor is not easy for us to appreciate today. These objections, which raged on both sides of the Atlantic, cannot be detailed here, but the two major aspects were the opposition to anesthesia itself and the opposition to analgesia in labor.

Opponents of anesthesia had two main arguments: first, in its initial decade, anesthesia was hazardous and sometimes fatal (particularly in inexpert hands); and second, in abolishing pain, which was regarded as the main stimulator of life and healing, the manifestations of anesthesia seemed to be uncomfortably like those of death. As for analgesia in labor, pain was held to be necessary for the normal progress of labor, while churchmen (and some physicians) held that anesthesia, in abolishing the pains representing God's punishment on womankind for tempting Adam's fall, was sinful because it circumvented the chastisement inflicted by a Higher Power.

One of the first to use anesthetic agents to relieve the pains of labor was Sir James Young Simpson of Edinburgh. He gave ether as early as January 19, 1847,[3] and chloroform on November 8 that year.[4] He was the prime target of the anesthesia critics, who branded him as a heretic. But Simpson most capably refuted the opponents' arguments, most of which were based on an inter-

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pretation of the Bible that differed from Simpson's. Among the points he made, two are memorable.[5] First, the word "sorrow" in *Genesis* 3:16 ("in sorrow thou shalt bring forth children") should be properly translated as meaning labor, toil or physical exertion rather than pain, so that to use the quotation as an argument against analgesia was invalid. Second, the fact that the Lord had permitted Adam to sleep while undergoing the first operation in history meant that anesthesia was surely respectable. With his agile mind and broad shoulders, the outgoing Simpson blunted the attacks of the critics and so made easier the path for his London compatriot, John Snow, to trod when he, albeit unwittingly at the time, became an agent of change in obstetric anesthesiology.

Figure 2. Queen Victoria (1819-1901), a woman who with John Snow played an important role in bringing respectability to analgesia in labor.

How John Snow Came to Be an Agent of Change

It was not by chance that John Snow, with Queen Victoria, became the agent of change whereby analgesia in labor became acceptable. Snow's work in anesthesia had begun at the beginning of 1847. His clinical competence, his ready understanding of the problems of the new discipline and particularly his research, conducted from 1848 to 1851,[6] established him as the leader of the new discipline. Quietly and systematically, he had laid the scientific foundations of anesthesia[7] long before he was called to Buckingham Palace, and the knowledge he thus gained contributed to his clinical mastery, mastery reflected in the fact that only one of his 4,000 patients died under chloroform. No one else, anywhere, was in so strong a position to rebut the few complaints and criticisms that were leveled at him and at anesthesia, and no one else was so well-fitted to be an agent of change.

The nature of Snow and his enormous contributions to medicine have been discussed elsewhere,[8] and comments here will be restricted to Snow's work in obstetrics. Three points should be made. First, Snow was the "complete" physician, with a deep knowledge of medicine and the training and credentials of an internist, which were confirmed when he solved the problem of the transmission of cholera in 1854. Second, for all of his 20 years in practice, he was a general practitioner and was familiar with obstetrics, delivering many of his own patients. And, third, as his great text *On Chloroform*[9] so clearly shows, he had an acute understanding of the anesthesiologist's role in obstetrics.

In particular, he knew when chloroform should be used to induce anesthesia (to facilitate operative procedures such as version) and when it should be used to produce analgesia (which he did in the majority of cases of uncomplicated labor). Of special note is his ability to use, equally well, his own inhaler, which he favored overall because he could accurately estimate the delivered concentration, or just a handkerchief, also with uncanny accuracy (or chloroform *a la reine*, so termed because this was the way he administered it to the Queen on April 7, 1853, and again on April 14, 1857). It was his preeminence, born of a profound knowledge of all aspects of anesthesia, that enabled him to help make analgesia in childbirth acceptable and, together with the Queen of England, even respectable.

Snow as an Obstetric Anesthesiologist

To highlight this commentary on Snow as an agent of change in obstetric

analgesia, three excerpts are taken from the three casebooks in which he recorded the details of virtually all the cases he saw from 1848 until his death in 1858.[10] Many of these records related to the anesthetics he gave, and a significant number related to the use of chloroform in childbirth.

The first excerpt is from a record of a patient he saw on November 1, 1848:

I found the os uteri thrown backwards and as large as half a crown, the head lying above the brim. The pains were irregular and distressing. I went backwards and forwards till about twelve o'clock when she was still in much the same state, the pains being increased in force and regularity and the os uteri in the same state. She was very much distressed, out of patience and wished to know if something could not be done for her relief.

Of course it could, particularly by Snow, who was much more liberal in his use of anesthesia, even in patients who were very ill. High-flown objections to analgesia in labor carried little weight with Snow; in contrast, the well-being of his patients carried a great deal of weight.

The next entry is for a patient he treated on January 24, 1849. The patient:

... complained very much of the pain ... and the administration of chloroform was commenced in small quantity with each pain with very good relief. Consciousness was not removed at first but in the second state of labour, what began about 9 when the pains were stronger, a larger quantity was given and consciousness was once or twice removed for a short time ... [She] was much pleased with the effects of the chloroform.

Snow's patients were all satisfied with the effects of chloroform. His careful administration of chloroform, tailored to the demands of his patient's condition, met with great success.

The final excerpt related to a patient Snow saw on October 20, 1853, not long after he had anesthetized Queen Victoria. His patient was ill, with:

... extensive cavities of the lungs ... [and] had been kept alive for some time by cod liver oil ... She sent me word that she was likely to want me and a little before six I was sent for ... The os uteri was about half dilated and the pain getting rather severe. The chloroform was commenced at once. The patient had a little difficulty in breathing it at first, on account of the tendency to cough, but in a few minutes she experienced and expressed, great relief from it ... Her convalescence was very favourable.

This record is a significant one, overshadowed only by the historic one of April 7, 1853. The patient was the daughter of one of the most respectable citizens in the land, the Archbishop of Canterbury. The Queen's approval of labor analgesia had undermined the disapproval of analgesia based on flimsy obstetric arguments and it stood for what childbearing women wanted. The Archbishop's approval now discounted the disapproval of the clerics' Pecksniffian arguments.

Conclusion

By 1853, objections to analgesia in labor could no longer be seriously enter-

tained, and the provision of analgesia in labor by anesthesiologists had become respectable. As the doyen of anesthesiology, John Snow had taken the lead in this aspect of anesthesiology. By applying what he knew to be right, he helped bring about a victory for society over the dark forces of prejudice and hypocrisy.

About the Author:

Dr. Shephard's historical interest during his visits to the Wood Library-Museum as a Paul M. Wood Fellow centered on John Snow's influence on the development of anesthesia and on the influence of American anesthesiology on organized anesthesiology in Canada. As a result, Dr. Shephard published a biography of John Snow (*John Snow: Anaesthetist to a Queen and Epidemiologist to a Nation - A Biography*. Cornwall, PE: York Point Publishing; 1995). He is currently Chair of the Committee on Archives of the Canadian Society of Anaesthetists. On display at the Wood Library-Museum is Dr. Snow's ether vaporizer, a rare treasure described in great detail by the late Roderick Calverley, M.D., in an article published in the *Proceedings of the 3rd International Symposium on the History of Anesthesia* (Park Ridge, IL: WLM, 1992:91-99).

References:

1. Heaton CE. The history of anesthesia and analgesia in obstetrics. *J Hist Med Allied Sci.* 1946; 1:567-571.
2. Royal Archives. Queen Victoria's Journal, April 23, 1853.
3. Simpson JY. *Notes on the Inhalation of Sulphuric Ether in the Practice of Midwifery*. London, Edinburgh: Sutherland & Knox; 1847.
4. Simpson JY. On a new anaesthetic agent, more efficient than sulphuric ether. *Lancet*. 1847; 2:549-550.
5. Simpson JY. *Answer to the Religious Objections Advanced Against the Employment of Anaesthetic Agents in Midwifery and Surgery*. Edinburgh: Sutherland & Knox; 1847.
6. Snow J. *On Narcotism by the Inhalation of Vapours*. Facsimile Edition with an Introductory Essay by Richard H. Ellis. London: Royal Society of Medicine Services, Ltd.; 1991.
7. Shephard DAE. From empirical craft to scientific discipline: The contributions of Claude Bernard and John Snow to the foundations of anesthesia. In: Fink BR, Morris LE, Stephen CR. eds. *The History of Anesthesia: Third International Symposium*. Park Ridge, IL: Wood Library-Museum of Anesthesiology; 1992:360-366.
8. Shephard DAE. *John Snow: Anaesthetist to a Queen and Epidemiologist to a Nation - A Biography*. Cornwall, Prince Edward: York Point Publishing; 1995.
9. Snow J. *On Chloroform and Other Anaesthetics: Their Action and Administration*. London: 1858:318-329. Facsimile Edition: Park Ridge, IL: Wood Library-Museum of Anesthesiology; 1989.
10. Ellis RH. ed. *The Case Books of Dr. John Snow*. London: *Med Hist.* (Suppl. 14) and Wellcome Institute for the History of Medicine; 1994.

'To Give Birth Without Pain!' The First Cases of Mesmeric Pain Relief for Obstetrics

By Patrick P. Sim, Librarian
Wood Library-Museum of Anesthesiology

"The body's numb state during magnetic sleep gave me the idea of magnetizing a pregnant woman sometime before delivery and of having her give birth while asleep. This would be a good thing if it were possible, which I am not far from believing. ***To give birth without pain!! Imagine such a discovery.*** *Unfortunately, Genesis doesn't want this."*

—Dr. Grubert, Lyons, France, April 19, 1836*

In 1836, French physician/mesmerist Dr. Grubert of Lyons wrote to his colleague, Henri Chapelain, suggesting the induction of magnetic sleep on the parturient to provide pain relief in labor. The suggestion was made more than a decade before the introduction of chemical anesthesia and almost 11 years before James Young Simpson introduced obstetric anesthesia. Grubert was confident that mesmeric pain relief for obstetrics would be effective and good for both parturient and the newborn, but he felt society was not ready for its introduction. Victorian Europe did not advocate pain relief in labor.

Mesmerism had always been very closely associated with pain relief before the introduction of chemical anesthesia. This was evident in an era when possible pain relief might only be affected by influencing the patient's mind and when surgical expertise was measured by the speed of an operation. It took British surgeon Robert Liston [Figure 1] only 25 seconds to amputate an ailing limb of his patient's during the historic first case of surgical anesthesia in Europe. The efficacy of ether anesthesia was so overwhelming to the surgeon that Liston stammered in his proclamation, "This Yankee dodge, gentlemen, beats mesmerism hollow!"[1] This utterance reveals that mesmerism had been actively tried in pain relief before 1846. Dr. Grubert's statement confirms that it had also been seriously considered for the relief of obstetric pain a decade earlier, in 1836.

Figure 1: Robert Liston

The episode about Eve's disobedience in *Genesis* had hitherto been often quoted to retard the movement of obstetric pain relief. Dr. Grubert could have been accorded the honor of being the first to apply mesmerism for obstetric pain relief, were he not hampered by prevalent Victorian attitude on the subject. Subsequently, two successful cases of mesmeric pain relief for obstetrics were reported since Grubert's prophetic proclamation; the cases took place in 1844 and 1846.

Manchester mesmerist J.P. Lynell induced a 22-year-old Irish woman to mesmeric sleep during labor when she delivered her first child at the Manchester Lying-in Hospital on January 25, 1844, and he reported it on February 23, 1844. The attending surgeon, Dr. Whitehead, verified Lynell's report. Mesmeric sleep was induced about a week before delivery, primarily for therapeutic pain relief and restful sleep during labor. The patient was induced to a sleep-waking state and brought back to wakeful state occasionally to anticipate delivery. After her safe and painless delivery of a healthy child, she was again mesmerized for comfortable recovery.[2]

Patrick P. Sim, M.L.S., has served as Librarian of the Wood Library-Museum of Anesthesiology for 26 years.

* Scheff R., trans. *Henri Chapelain Archives.* [English translation of the Chapelain archives from original documents in French.] *Wood Library-Museum Archives Collection;* [1988]:176-177.

Two years after the case in Manchester, American physician Dr. William Baker Fahnestock [Figure 2] of Lancaster, Pennsylvania, induced mesmeric trance on his patient, Mrs. Susan Herr of Lampeter township in Lancaster County, Pennsylvania, for painless delivery of a male baby on March 5, 1846, almost a year before Sir James' experience and more than six months before the introduction of surgical anesthesia.[3]

Fahnestock's case report had originally been submitted for publication to the *New York Journal of Medicine*, but was forwarded by its editor to the *Boston Medical and Surgical Journal* to expedite dissemination.[4] His method of mesmeric anesthesia was quite distinct from the prevalent practice of the art. First of all, for Fahnestock, the terms mesmerism, animal magnetism and somnambulism were used interchangeably. His theory departed from traditional mesmerism in which he believed that the mesmeric subject, in this case the patient, retains control to be in a trance or somnambulistic state and is free from the absolute influence of his/her operator, the mesmerist.

Dr. Fahnestock differentiated somnambulism in natural and artificial states, and he advocated the former. Accordingly, under natural somnambulistic state, the operator is able to induce his subject to a state of *somnus a voluntate,* or "statuvolism," meaning a state produced by the subject's own will, free from the command of the mesmerist. He published his theory in the *Lancaster Intelligencer and Journal* on October 16, 1843, exactly three years before Morton's public demonstration of chemical anesthesia.[5]

The case of Mrs. Herr's obstetric delivery to rid labor pain under mesmeric influence was neither the first for Fahnestock's patient, nor was it the first of his patients. It was Susan's third delivery, and she was Fahnestock's eighth obstetric patient.[3] Fahnestock tried mesmeric anesthesia in labor in his search for therapeutic means to relieve labor pain and the debilitating consequences caused by it. Previously, he had attended to Mrs. Herr's two earlier deliveries in which the parturient had suffered protracted difficult labors. She lost her eyesight and became totally immobile in her lower extremities as a consequence of severe labor pain.

Dr. Fahnestock resorted to mesmerism by inducing his patient to a somnambulistic trance in search for a cure. To his surprise, under mesmerism, his patient regained her eyesight and lower body movement in total recovery. The practice of inducing mesmeric trance became so natural to Mrs. Herr that her doctor found it an effective modality again at her fourth labor. She was suffering from severe labor pain on March 5, 1846, which occurred intermittently at intervals of 15-20 minutes. Fahnestock induced her into somnambulistic state in a matter of seconds, and for two hours, the parturient experienced regular contractions of the uterus without pain. As delivery approached, the patient threw herself back and forth, at will, in a mesmeric state until she delivered a large male baby.

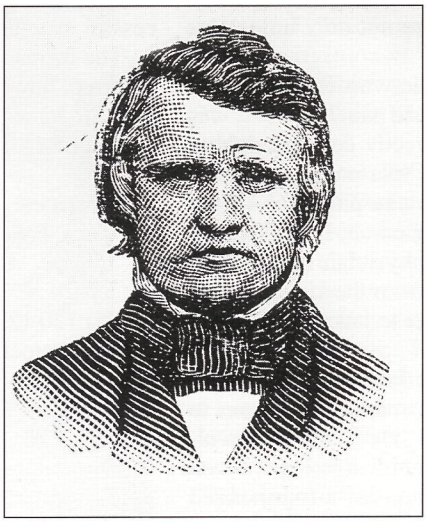


Figure 2: William Baker Fahnestock

Throughout his practice, Fahnestock observed that mesmeric obstetric pain relief is beneficial to the parturient in many ways, pain relief being the most important. It conserves the patient's strength which would otherwise be spent during labor. Upon waking, the patient will experience no soreness or debility, and full recovery is always faster to attain than in cases under any other circumstances. Furthermore, a pain-free patient during labor is always assured better health later in life than those who have struggled through labor pain.[3]

Reaction to Fahnestock's report was scathingly negative. It was considered "sublimated humbug," "absurd" and "contemptible folly." It was criticized as being a "divorce of science from common sense." Even the editor of the *New York Journal of Medicine*, who had forwarded Fahnestock's report for early publication, could not escape reproach. He was labeled a "sycophant" of Fahnestock's by willingly serving as the conduit to this hoax. The negative sentiment ran so deep that the critic admonished the editor of the journal for allowing its pub-

lication to deface the pages of a highly respected medical journal.

With all of the harsh comments, the critic faulted mesmerism and its advocates for their assumption that metaphysical causes could bring forth desired physical effects. To the scientific mind, such an assumption was both absurd and fraudulent. It argued that to suspend the vital aspects of life at will was absolutely impossible. Furthermore, abiding by the mainstream Victorian credo, pain and sorrow were adherent to childbirth. Defeating such elements in obstetrics was simply a mystery espoused by mesmerists. Attempts for pain relief were not only unimaginable, but blasphemous.[6]

Who, then, were these individuals who espoused and practiced mesmerism to relieve obstetric pain? Grubert was the product of French mesmerism directly descended from Anton Mesmer. Englishman Lynell was not a physician. Fahnestock was apparently an American physician of the Renaissance tradition. A native of Lancaster, Pennsylvania, Fahnestock was born in 1804 to a physician family. He received his medical degree in 1825 from the University of Pennsylvania and returned to Lancaster to practice medicine with his father.

Fahnestock's interest in mesmerism began in 1833 when he witnessed mesmeric experiments and began to investigate the phenomenon himself. By 1843, he developed his theory of "Statuvolism," meaning a state produced by the will, which explains the freedom of a mesmerized subject in inducing mesmeric trances independent of the mesmerist. By 1869, he elaborated his theory and practice in a book titled *Artificial Somnambulism*. In the mid-1850s, he extended his interest to homeopathy and practiced it with great success.[7]

Fahnestock's inquisitive mind brought him to investigate the new art of photography in the early 1840s, soon after Frenchman Louis J. M. Daguerre had made public his photographic process to produce "sun pictures" in Paris in 1839. With the cooperation of his engineer friend, Fahnestock devised his own equipment, the equivalent of a camera, with lenses he personally ground, and successfully produced the first sun pictures popularly known as "daguerreotypes" in his native Pennsylvania. He was also active in his own professional organization, being a founder of the Lancaster City and County Medical Society in 1844. In the twilight years of his life, due to failing health, he moved to South Carolina where he died in 1886.[8]

Attempts to relieve labor pain have been recorded since antiquity in many civilizations, and the effective care of the parturient has long been considered an accurate gauge in measuring the advancement of any civilization. The forms of therapy for labor pain were invariably pharmacological and psychological.[9] Despite the faithful adherence of the mesmerists to the practiced principles of animal magnetism, mesmeric pain relief in obstetrics apparently was always psychological. In both cases described, mesmerism was applied as a therapy to cure illness resulting from excruciating pain. Both Lynell and Fahnestock were successful in achieving the goals they had set.

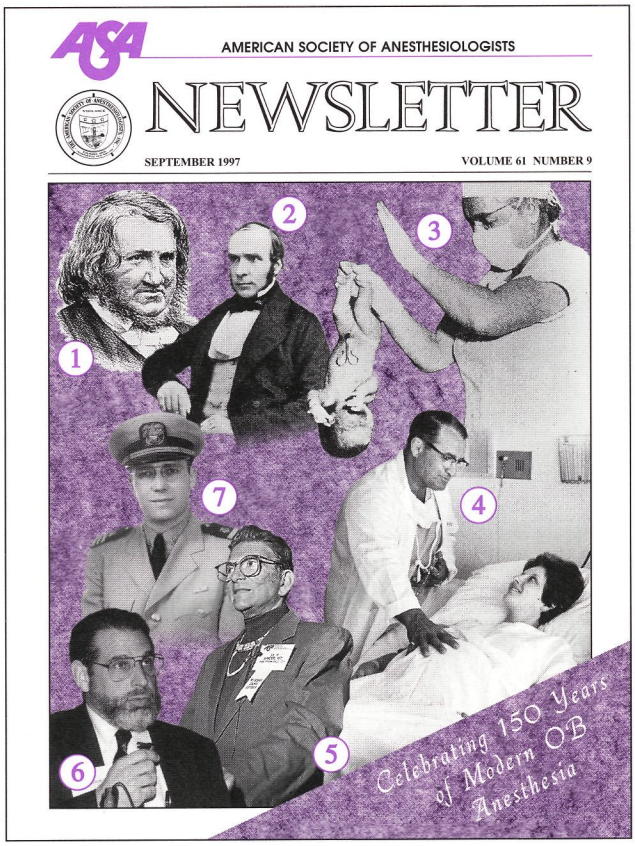
The formal introduction of obstetric anesthesia had to be deferred, however, until the discovery of chemical anesthesia. Sir James Young Simpson's expertise and personality, among other factors, hastened its acceptance.

References:

1. Cock FW. The first major operation under ether in Europe. *Am J Surg (Anesth Suppl).* 1915; 29:98-105.
2. Lynell JP. Labour in Mesmeric State. *ZOIST II* , 1844; (5):120-123.
3. Fahnestock WB. Artificial somnambulism in Pennsylvania. *Boston Med Surg J.* October 1846; 35(10):194-203.
4. Lee CA. Artificial somnambulism in Pennsylvania. *Boston Med Surg J.* October 1846; 35(10):194.
5. Fahnestock WB. *Artificial Somnambulism.* Philadelphia: Barclay; 1869:75-80.
6. [Anon.] To the editor from an old subscriber. *Boston Med Surg J.* October 21, 1846; 35(12):240-241.
7. *Cleave's Biographical Cyclopaedia of Homeopathic Physicians and Surgeons.* Philadelphia: Galaxy Publishers; 1873:260-261.
8. Heisey ML. The art of photography in Lancaster. In: *Papers of the Lancaster County Historical Society.* 1947; 60(4):93-97.
9. Schaer HM. History of Pain Relief During Parturition. In: *Obstetric Analgesia and Anesthesia.* Marx GF, Bassell GM. eds. New York: Excerpta Medica; 1980:1-19.

150 Years of Obstetric Anesthesia: A Pictorial Overview

George S. Bause, M.D., Trustee
Wood Library-Museum of Anesthesiology



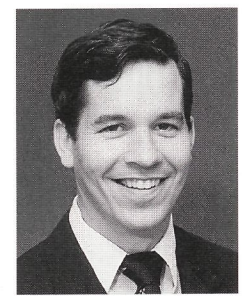
About the Cover:

Clockwise from upper left: ①James Young Simpson (mid-1800s); ②John Snow (mid-1800s); ③Virginia Apgar, M.D. (mid-1960s); ④John J. Bonica, M.D. (mid-1960s); ⑤Sol M. Shnider, M.D., (1993); ⑥Gerard W. Ostheimer, M.D. (1995) and ⑦Robert A. Hingson, M.D. (1947).

To his credit, **James Young Simpson** advocated labor analgesia in the face of stiff opposition from many clergy and even obstetricians who felt that women were biblically condemned to pain during childbirth. By February 1847, he had published accounts of inhalational ether in obstetrics. As Professor of Midwifery at the University of Edinburgh, Simpson soon became disenchanted with etherizing his patients. After self-experimenting with a host of volatile agents, including acetone and iodoform, Simpson focused on chloroform, which possessed "an agreeable, fragrant, fruit-like odor and a saccharine pleasant taste." In contrast to ether, chloroform was more potent, swift in onset, pleasant and economical. As pleasing as chloroform was to surgeons, anesthesiologists and patients, the agent had an unexpectedly high incidence of sudden death.

Having successfully defined five degrees of etherization by 1847, **John Snow** popularized chloroform usage when he administered the gas to Queen Victoria for the 1853 birth of her eighth child, Prince Leopold. As the world's first full-time anesthesiologist, Snow was even more remarkable in fathering epidemiology, the search for causes of illness and death. In 1849, Snow published not only his solution of the Broad Street pump as a point-source for one of London's cholera outbreaks, but that same year his classic article "On Fatal Cases of Inhalation of Chloroform" also was published.

Having studied Snow and epidemiology, Columbia University's **Virginia Apgar, M.D.**, furthered the science of obstetric anesthesia by publishing "A Proposal for a New Method of Evaluation of the Newborn Infant." She set forth five objective signs for a 10-point evaluation of infants at one minute and five minutes after birth. Dr.



George S. Bause, M.D., is Honorary Curator for the Wood Library-Museum of Anesthesiology, Park Ridge, Illinois.

Decades of Progress

Apgar's signs were 1) heart rate; 2) respiratory effort; 3) reflex irritability; 4) muscle tone and 5) color. For the first time, obstetric anesthesiologists were able to quantify the risks and benefits of their art on neonatal outcome.

Distant as the deaths of the above Scotsman, Englishman and American now seem, we must pay homage to some recently passed colleagues who began or ended their careers in obstetric anesthesia: John J. Bonica, M.D., Sol M. Shnider, M.D., Gerard W. Ostheimer, M.D., and Robert A. Hingson, M.D.

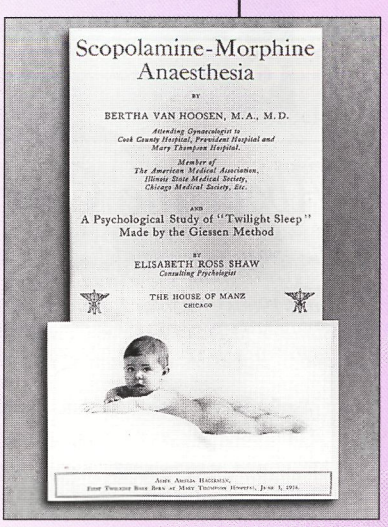
- Before fathering multidisciplinary pain management, Seattle's **John J. Bonica, M.D.**, began by exploring analgesia for obstetrics. Having witnessed his wife suffer difficult labor and delivery, Dr. Bonica pursued obstetric anesthesia as his labor of love.
- Another West Coast professor we must acknowledge is **Sol M. Shnider, M.D.** Enthusiastic lecturer, author and experimental physiologist, Dr. Shnider helped pioneer fetal lamb models for understanding the effects of medications/anesthetics on human fetuses.
- The East Coast experienced the sudden death of **Gerard W. Ostheimer, M.D.** Author, editor and master organizer, Dr. Ostheimer's passing left a vacuum in the realms of both regional and obstetric anesthesia.
- The most recently deceased of our giants in obstetric anesthesia, **Robert A. Hingson, M.D.**, transcended our specialty. He popularized clinical use of Xylocaine. Dr. Hingson's continuous caudal and, later, lumbar epidural helped the obstetric anesthesia world to waken from the twilight sleep of scopolamine combined with morphine and to abandon inhalational/rectal ether administration. Using tiny, compressed gas cylinders of cyclopropane and of oxygen, Dr. Hingson made possible portable administration of these agents for analgesia/resuscitation not only for obstetrics, but also for the Third World. Dr. Hingson's hypospray jet injector inoculated millions against eight different diseases worldwide.

The American Society of Anesthesiologists is proud to salute 150 years of obstetric anesthesia and all those who seek safe relief of stress for mother and newborn.

1900s

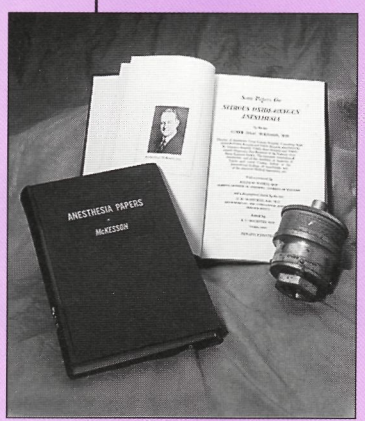
Young Chloroform Flask: At the turn of the century, Edinburgh's Young produced a metal flask capped with a regulator for adjusting chloroform drop rate.

1910s



Twilight Baby: Before the Great War, Americans flocked to German clinics to be "twilighted" through labor and delivery with scopolamine. ▶

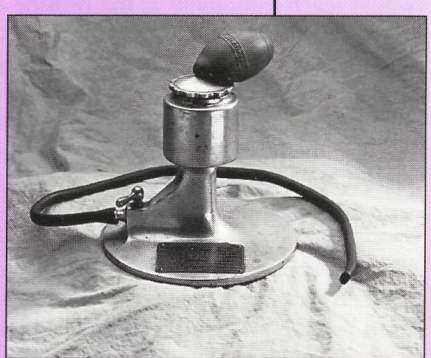
1920s



McKesson Special OB Vaporizer: Toledo physician, author and manufacturer, Elmer I. McKesson designed this ether vaporizer for obstetrical use.

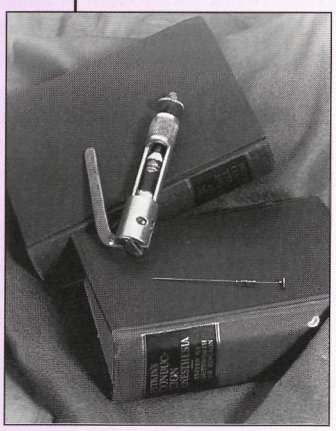
1930s

Robert Hingson Sampler: Author and inventor, Hingson's prolific contributions included portable gas delivery units and the Edwards-Hingson needle. ▶

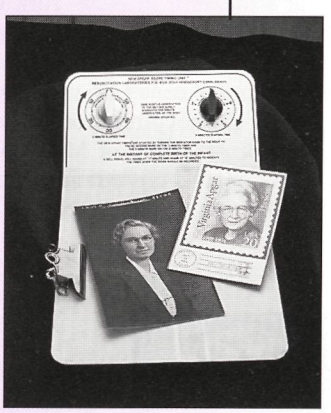


McCormack Rectal Ether Apparatus: One of the many inelegant techniques for enema-style administration of ether-oil mixtures to obstetric patients.

1940s



1950s



Apgar Score Timing Unit: Miguel Colón-Morales designed this device to accurately time newborn assessments as first proposed by Virginia Apgar in 1952.

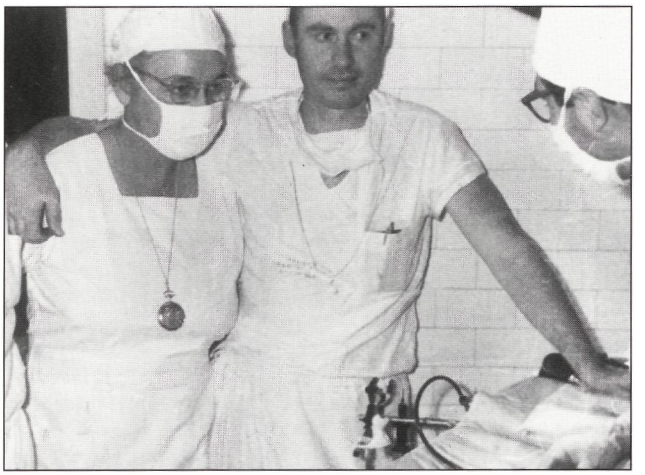
And What About The Baby? Virginia Apgar and the Apgar Score

Selma Harrison Calmes, M.D.

Newborn babies were often neglected in the delivery room until the Apgar Score was introduced in 1952 by anesthesiologist Virginia Apgar, M.D., (1909-1974). The Apgar Score was developed to determine which babies needed resuscitation but also led to many studies of possible factors causing poor neonatal outcome. So, the Apgar Score laid the groundwork for modern neonatology and our current practice of obstetric anesthesia. This article briefly reviews the pivotal studies and the many changes in practice which resulted from the Apgar Score.

A previous *ASA NEWSLETTER* article documented Dr. Apgar's life.[1] Briefly, she graduated from Columbia University's College of Physicians and Surgeons in 1933, started anesthesia training in 1936 and became Chief of the Division of Anesthesia at Columbia in 1938. After she established medical anesthesia at Columbia, research became a critical issue. Researcher-anesthesiologist E.M. Papper, M.D., came from Bellevue in 1949 as Division Chief, and Dr. Apgar entered obstetric anesthesia.

Dr. Apgar entered obstetric anesthesia at the right time and in the right place. At that time, obstetric anesthesia was a very neglected area. There were not enough anesthesiologists to meet obstetrical needs. Few, if any, residencies required training in obstetric anesthesia. Little was written on obstetric anesthesia so there was a great need. Apgar's location in New York City was also fortuitous. From 1915 through 1933, maternal mortality in the United States was among the worst in the world, and New York City was at the center of efforts to improve this. The 1933 report by a Subcommittee on Maternal Mortality of the New York Academy of Medicine was especially influential. Columbia's obstetricians were deeply involved in the subcommittee and the report.[2] Although the study was over by the time Dr. Apgar went into obstetric anesthesia, the atmosphere at Columbia's Sloane Hospital for Women had to be one of concern for improving maternal mortality from all causes.



Dr. Virginia Apgar with Dr. L. Stanley James in a delivery room.

Once Dr. Apgar entered obstetric anesthesia in 1949, anesthesia residents began rotating in obstetrics. Apgar would teach informally at the bedside or in the hallway in her enthusiastic, outgoing teaching style. Teaching tools were a battered pelvis, a skeleton and Dr. Apgar's own anatomy. Palpating her caudal canal, which had an unusual angle, was standard. There were few reading assignments because there was little to read. No didactic teaching took place until 1958 when Frank Moya, M.D., who had rotated with Dr. Apgar in 1955, became head of obstetric anesthesia.

During this time, obstetric anesthesia practice at Columbia was spinal anesthesia or cyclopropane ("cyclo") by mask for cesarean sections. Caudals were occasionally used for labor. Saddle blocks, caudals and mask cyclo were used for vaginal delivery. Curtis L. Mendelson had published his report on aspiration of gastric contents in pregnant patients in 1946, and Dr. Apgar realized the risk of aspiration. She and most anesthesiologists of the time, however, felt that the airway could be managed adequately by competent anesthesiologists using cyclopropane, even if the patient was vomiting. It took another 10 years before intubation was common.[3]

The idea for the Apgar Score came in 1949 at breakfast in the hospital cafeteria. A medical student rotating in

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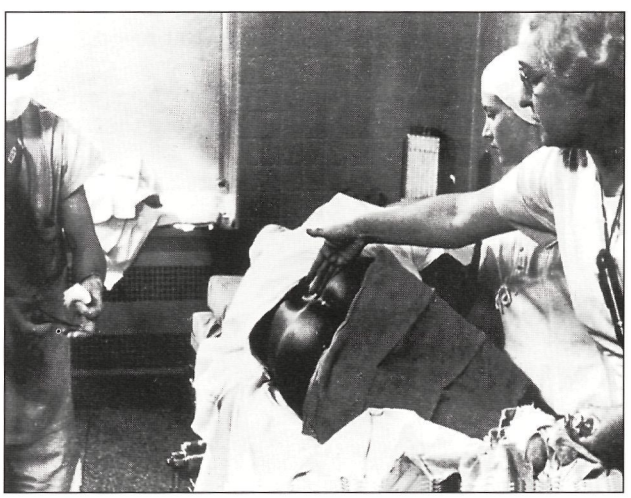
anesthesia made a chance remark about the need to evaluate the newborn. Dr. Apgar said, "That's easy, you would do it like this." She grabbed the nearest piece of paper, jotted down the five points of the Apgar Score and then rushed off to OB to try it out. The Apgar Score was presented at an International Anesthesia Research Society meeting in 1952 and published in 1953.[4] Dr. Apgar originally intended that measurement be done one minute after birth to see how the infant was making the transition to extrauterine life. Others started measuring it at longer intervals to see how the baby had responded to resuscitation, and the one- and five-minute Apgar Scores became standard.[1] She also intended that it be measured by the anesthesiologist or circulating nurse. She felt the obstetrician always gave 10s and so should not score.

Ever curious and always dreaming up new projects, which she called "arbeits," Dr. Apgar identified other neonatal problems. She developed a test using a suction catheter to rule out choanal atresia, tracheo-esophageal fistula, duodenal atresia and imperforate anus soon after birth. This led to her observation that polyhydramnios was usually associated with congenital defects. This association was documented for the first time in a 1960 article.[4,5]

Dr. Apgar was joined in 1955 by a New Zealand pediatrician, L. Stanley James, M.D. Their first project was to study acid-base and oxygenation in normal and asphyxiated newborns, with laboratory support from researcher-anesthesiologist Duncan A. Holaday, M.D. He had developed a more precise method to measure blood pH. (The Astrup pH meter was not available until 1960.) Dr. James said:

"People were astounded at how low the (pH) values were. The newborn infant had a metabolic acidosis as well as respiratory acidosis ... people did not even believe you could have both together! Of course you have both of them together in asphyxia! But those were the days when we were just finding that out. And we realized that all of these babies at birth were asphyxiated. No one had appreciated that before. The cord blood at birth was regarded as the normal intra-uterine environment, (so) it was concluded that there was no need to correct this state, as it was normal for the fetus. There was (also) a strong belief in the protection offered by anaerobic metabolism. Our observations played a major role in changing our approach to acid-base and how well we should be oxygenating."[6]



Dr. Virginia Apgar teaching caudal anesthesia technique at Sloane Hospital.

Other studies followed. Their placental transfusion study led to important observations. One study baby was born screaming, then received placental blood and promptly stopped breathing. The mother was getting cyclopropane, and they realized it had to be the effect of the cyclopropane.[6] Further studies on the effect of maternal anesthetics clearly demonstrated that cyclopropane was more depressant to the baby than other anesthetics. These led to the end of cyclo in obstetrics and also documented for the first time that regional anesthesia is safest for mother and baby.[7,8]

The placental transfusion study also led to our present use of umbilical artery catheterization in neonates. Dr. James wanted to measure venous pressure in relation to placental transfusion. He said:

"We decided we would like to see what happened to the venous pressure at 24 hours. So we recatheterized some infants after the first day. The cord is somewhat dry at that time, and Virginia was poking around trying to locate the umbilical vein. Finally she inserted the catheter. I was recording. My god! The pressure went off the paper. It was just jumping off of the ceiling! I said, 'You are in the aorta!' And she said, 'Nonsense! Of course I'm not!' She pulled out the catheter and there was a great gush of blood. So we got the first recording ever of an umbilical artery catheterization. We demonstrated these tracings when vis-

iting the neonatology group in Boston. Shortly after we had made these observations, the Boston group used the method for monitoring sick babies and we followed shortly after that. But there was a great deal of resistance from the pediatricians and cardiologists."[6]

Infant resuscitation was poorly understood, and many bizarre methods were used, as indicated by Dr. James' description:

"In 1955, ***half*** *the world believed that the only thing you needed to do to resuscitate a baby was to give him intragastric oxygen. We proved that intragastric oxygen was not effective. (We) taught (proper) techniques. Virginia took me along to the meetings of a special committee on Infant Mortality of the New York County Medical Society. We set out to review all resuscitation procedures. A monograph was prepared and published by the American Medical Association (AMA). Then we had an AMA convention in New York. We had a whole booth on resuscitation. Several hundred physicians went through to learn how to use the laryngoscope. Then we made the movie (on newborn resuscitation, sponsored by a drug company and widely circulated nationally)."*[6]

These educational efforts led to improvement in infant resuscitation throughout the country.

In 1959, Dr. Apgar became Director of the new Division of Congenital Defects at the March of Dimes National Foundation. Her legacy lives on, however. Previous residents Frank Moya, M.D., and Sol M. Shnider, M.D., went on to become leaders in obstetric anesthesia. Every day, clinicians throughout the world use concepts developed from the research team's work. For example, "depressed babies are acidotic and hypoxic and should be resuscitated," "neonatal resuscitation should include airway management, including tracheal intubation" and "regional anesthesia is safest for mothers and babies" were all concepts developed by Dr. Apgar and her team. The effectiveness, simplicity and low cost of Dr. Apgar's standard evaluation of the newborn and her check for common congenital defects are other examples of this legacy. Dr. Apgar received many awards for her work, including the ASA Distinguished Service Award in 1966.

References:

1. Calmes SH. Virginia Apgar, MD: At the forefront of obstetric anesthesia. *ASA NEWSLETTER*. 1992; 56(10):9-12.
2. Antler J, Fox DM. The movement toward a safe maternity: Physician accountability in New York City, 1915-1940. *Bull Hist Med.* 1976; 50:569-595.
3. Interviews with Drs. Frank Moya and Sol Shnider (deceased); transcripts in possession of author.
4. Apgar V. A proposal for a new method of evaluation of the newborn infant. *Curr Res Anes Anal.* 1953; 32:260-267.
5. Moya F, Apgar V, James LS, Berrien C. Hydramnios and congenital abnormalities. *JAMA*. 1960; 173:1552-1556.
6. Interview with Dr. L. Stanley James (deceased); transcript in possession of author.
7. Apgar V, Holaday DA, James LS, Weisbrot IM. Evaluation of the newborn infant — second report. *JAMA*. 1958; 168:1985-1988.
8. Apgar V, Holaday DA, James LS et al. Comparison of regional and general anesthesia in obstetrics. *JAMA*. 1957; 165:2155-2161.

Obstetric Anesthesia: The Last Five Decades

Gertie F. Marx, M.D.

Beginning with the 1950s, obstetric anesthesia has made remarkable strides: emergence as a subspecialty, foundation of a society and institution of a multitude of clinical improvements. Obstetric anesthesia developed as a *subspecialty* because of concern for the well-being of the mother.

Accordingly, in 1958, ASA established a Committee on Maternal Welfare to achieve better communication and closer cooperation with the American College of Obstetricians and Gynecologists (ACOG). A liaison between the two organizations was initiated in 1963 and led that same year to the publication of a manuscript on "Pain Relief in Labor and Childbirth," prepared by ASA and distributed by ACOG. Standards for obstetric analgesia/anesthesia and infant resuscitation were formulated in 1964 and included in the ACOG Manual of Standards.[1]

At this time, anesthesia-related maternal mortality was declining steadily, attributable primarily to the "number of qualified individuals who administer anesthesia."[2] Consequently, in 1966, the ASA committee was appropriately renamed Committee on Obstetrical Anesthesia to join fetal-neonatal concerns with those of the mother. Further accomplishments of this committee included a survey on Residency Training in Obstetric Anesthesia[3] as well as academic conferences and clinical workshops, often in cooperation with ACOG. The ASA Committee on Obstetrical Anesthesia also played a major role in the ACOG Technical Bulletin titled "Obstetrical Analgesia and Anesthesia." The introductory sentences of the revised bulletin read:

"Pain relief during labor and delivery is an important aspect of modern obstetrics. It consists of more than providing personal comfort to the mother; it is a necessary part of good obstetric practice."

The second paragraph is a quotation from the Accreditation Manual of Hospitals (Joint Commission on Accreditation of Hospitals, March 1971) and states:

"Obstetric anesthesia must be considered as emergency anesthesia demanding a competence of personnel and availability of equipment similar to or greater than that required for elective procedures."

Organizing a Society With Special Interest in Peripartum Period

As the recognition of the value of expert obstetric anesthesiologists increased, the roster of specialists started to grow. Soon, the need to discuss common problems became evident, leading to the foundation of an informal *society*. The first meeting in 1969 attracted more than 50 physicians with special interest in maternal and/or neonatal well-being who chose to name the new organization the "Society for Obstetric Anesthesia and Perinatology" (SOAP). The Society was formally organized at its third meeting in 1971. The Organization and Bylaws then stated that:

"The Society does not seek corporate status nor legal identity ... The purpose of the organization is to provide a forum for discussion of problems unique to the peripartum period. This includes clinical practice of medicine, basic research, practical business and public health aspects of this important phase of life ... Any physician or scientist particularly interested in the problems of the perinatal period may become a member of the organization."

The Society has continued to grow steadily with its membership reaching 1,200 in 1997. From the onset, SOAP has featured an annual meeting as well as a quarterly newsletter. The meetings have had planned scientific sessions. Formal presentations and reviews of "What Is New in Obstetrics," "What Is New in Neonatology" and "What Is New in Obstetric Anesthesia" have been delivered by experts in these fields. The newsletters contain scientific articles, research columns, committee reports as well as a news box.

In 1988, the Obstetric Anesthesia and Perinatology Endowment Fund (OAPEF) was established. The fund allows SOAP to award one or two grants for research annually in the specialty. Research findings resulting from the investigations are presented at the following SOAP meeting. In addition, through the generous support of industry, SOAP has instituted a Traveling Scholar Program

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that arranges for obstetric anesthesiologists from underdeveloped countries to attend the annual meeting and spend one week in a major U.S. medical center hosted by a SOAP member.

Introducing New Equipment, Drugs, Innovations

Clinical improvements in the management of obstetric analgesia/anesthesia within the last five decades have included new equipment (e.g., pencil-point spinal needles) and new drugs (e.g., ropivacaine); none has been more impressive than those leading to a "new look" in childbirth, that of "family-oriented" obstetrics. Prior to this event, most vaginal deliveries and preceding labor periods were conducted either with no pain relief or under twilight sleep, the combination of morphine and scopolamine.

Eventually, the potential hazard to mother and/or fetus of both methods was recognized. The adverse effect of untreated pain was confirmed experimentally in pregnant ewes; a brief, minor stress such as a bout of loud noise, movement of personnel or application to the skin of mild electric stimulation decreased uterine blood flow secondary to release of norepinephrine.[4] Maternal hyperventilation, often a reaction to pain, was shown to harm the fetus in two ways: 1) by the development of an oxygen debt in the mother and 2) by a shift of her hemoglobin-oxygen dissociation curve to the left, i.e., in the baby's disfavor.[5] The sequelae of twilight sleep were even more pertinent. In addition to the potential of producing neonatal narcotic depression, the drug combination rendered the parturients amnesic and incoherent. Although screaming with every contraction, the women were unaware of their plight as were their husbands who, banned from the labor-delivery area, were pacing up and down in a distant room.[6] (This author clearly remembers a young lady who climbed over the bedrail, delivered the baby on the floor and did not realize for the next 24 hours that she had become a mother.)

Anesthesia, frequently indicated to maintain the uncontrollable parturient in lithotomy position, was generally provided by nonanesthesiologists administering nitrous oxide, open drop ether or chloroform. For complicated cases, an anesthesiologist was summoned from the operating room. Infant resuscitation was then undertaken by the anesthesiologist/anesthetist present in the delivery room; the specialty of neonatology had not yet been conceived.

The picture began to change with the introduction of continuous regional analgesia/anesthesia into obstetrics. Although single injection blocks were already employed (spinal blocks since 1900, caudal blocks since 1909, lumbar extradural blocks since 1938), they were given solely for the period of parturition. In contrast, continuous tech-

niques (spinal introduced in 1940, caudal in 1942, lumbar extradural in 1949), permitted the expectant father to become a true partner in the birth process.[7]

Initially, men were allowed only in the labor room. Some time later, they could also be present during uncomplicated vaginal delivery and eventually during cesarean section. At the onset, a few fathers fainted in the delivery room, placing an added burden on the anesthesiologist. (This author recalls a handsome young man sitting in a chair to my left while attending his wife's vaginal delivery, who fell unconscious onto my shoulder leaving me no choice but to secure him with my left arm while continuing to administer nitrous oxide analgesia with the right.) Since then, however, childbirth education has eliminated the uncertainty and reduced the anxiety associated with childbirth.

A second important development in this time span was the return of spinal anesthesia to obstetrics, the first regional technique employed for childbirth. Its effect was early on described by the young Swiss obstetrician[8] who initiated its use: "The impression gained from the medullary narcosis in parturients is remarkable. Loss of sensation to pain with maintained mobility and unclouded sensorium is most unusual." The method remained popular for both vaginal and abdominal deliveries until the late 1950s, when lumbar extradural anesthesia took over as the preferred regional technique. The presumed advantages of the extradural method first included lack of a potential dural puncture headache and, second, ability to employ separate blockade of the differing segments involved in the two stages of labor, thereby reducing the dose of local drug as well as the extent of motor and sympathetic blockade. The disadvantages of slow onset of action and relatively large doses of drug were ignored.

Because of the delayed onset, it became the edict of the 1970s to perform general anesthesia for all emergency cesarean sections. In turn, this led to an unacceptable increase in maternal mortality from intubation difficulty and/or aspiration of gastric contents.[9] Fortunately, two later reports demonstrated advantages of spinal anesthesia for both mother and fetus. A review of 442 cases of the technique in gravid women led to the conclusion that "spinal block was particularly valuable when anesthesia was required urgently in the labour and delivery suite and may even be regarded as the anaesthetic of choice in such circumstances."[10]

A comparison of fetal and neonatal blood-gas data showed faster recovery of depressed fetal values when the emergency delivery took place under spinal or extradural block as compared to general anesthesia, and the one-minute Apgar scores were significantly ($p < 0.01$) better in the former group.[11] Spinal block has had a further rebirth since use of the new pencil-point needles has decreased the incidence of post-dural puncture headaches, and the addition of narcotic to a smaller dose of local anesthetic has lessened the magnitude of motor and sympathetic involvement.

In conclusion, the last five decades have witnessed impressive strides in obstetric anesthesia, not only as a clinical practice, but also as a family experience.

References:

1. Marx GF. Obstetric anesthesia organizations in the United States. *Anesthesiology.* 1974; 41:308-310.
2. Klein DM, Clahr J. Factors in the decline of maternal mortality. *JAMA.* 1958; 168:237-242.
3. Shnider SM. Training in obstetric anesthesia in the United States. *Am J Obstet Gynecol.* 1965; 93:243-252.
4. Shnider SM, Wright RG, Levinson G, Roizen MF, et al. Uterine blood flow and plasma norepinephrine changes during maternal stress in the pregnant ewe. *Anesthesiology.* 1979; 50:524-527.
5. Bassell GM, Marx GF. Optimization of fetal oxygenation. *Internat J Obstet Anaesth.* 1995; 4:238-243.
6. Levinson G, Shnider SM. Systemic Medication for Labor and Delivery. In: *Anesthesia for Obstetrics*, 3rd ed. Shnider SM, Levinson G. eds. Baltimore: Williams & Wilkins, 1993:128-129.
7. Marx GF. Die historische Entwicklung der geburtshilflichen Anaesthesie. *Anaesthesist.* 1987; 10:537-540.
8. Kreis O. Ueber Medullarnarkose bei Gebärenden. Ctrbl Gynäk 1900; 28:724-729.
9. Bassell GM, Marx GF. Anesthesia-Related Maternal Mortality. In: *Anesthesia for Obstetrics*, 3rd ed. Shnider SM, Levinson G. eds. Baltimore: Williams & Wilkins, 1993:458-460.
10. Brownridge P. Spinal anaesthesia revisited: An evaluation of subarachnoid block in obstetrics. *Anaesth Intens Care.* 1984; 12:334-342.
11. Marx GF, Luykx WM, Cohen S. Fetal-neonatal status following caesarean section for fetal distress. *Br J Anaesth.* 1984; 56:1009-1013.

John J. Bonica Makes Obstetric Anesthesia an Academic Concern

John S. McDonald, M.D.

Fifty plus years ago, a young father was excitedly awaiting the imminent birth of his first child. However, his excitement soon changed to horror when, as a physician, he was called upon to resuscitate his wife who aspirated while receiving open drop ether. Little did this young physician know that this near tragedy would mold him to become one of the world's greatest advocates for the safety of mothers and their babies. John J. Bonica was that father.

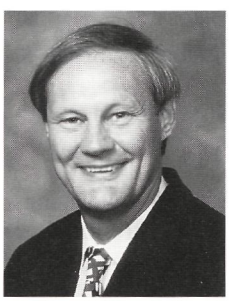
Although he was not the first to work in the area of obstetric anesthesia, this author believes that he was the father of modern obstetric anesthesia. What Dr. Bonica did is remarkable. He brought the work being done in this area to the masses. He often said, and firmly believed, that "passion was the fuel of history." Throughout his life, he diligently applied his passion to the pursuit of excellence for two of the most important members of our society, mothers and their children.

About the same time that Robert A. Hingson, M.D., was promoting regional anesthesia for obstetrics, not so much for the mother's benefit but for the fetus, Dr. Bonica recognized its great value for mothers as well. He vigorously joined in the campaign for the use of regional anesthesia in childbirth.

At Tacoma General Hospital, he instituted the first Obstetrical Anesthesiology Service in the United States offering 24-hour, seven-days-a-week coverage, including regional analgesia. In today's eyes, that does not seem so impressive, but in the 1950s, it was unprecedented. The prevailing mood put the care of the pregnant patient way down on the list of importance. This attitude was hard for Dr. Bonica to comprehend considering that about one-fourth of all anesthetics administered were for the relief of childbirth pain, that obstetric anesthesia is in many cases

"emergency" anesthesia, and that not one but two lives are at stake. He could not acquiesce to the fact that in many communities this important function, deserving the skill and devotion of the best specialists, was often relegated to poorly trained medical and paramedical personnel. The best, most skilled anesthesiologist would spend half a day caring for a moribund octogenarian who was doomed, while in the delivery room, a student anesthetist was giving general anesthesia, without an endotracheal tube, to a woman who had just eaten!

When he became Chair of the Department of Anesthesiology at the University of Washington in 1960, the ball really got rolling. He could now mold young minds, contribute meaningful research to the field and participate in the political arena, which set the tone and tenor for the practice of anesthesiology. And participate he did! He was a founder of the World Federation of Societies of Anaesthesiologists, the founder of the International Association



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"Obstetric anesthesia is finally an established, and even respected, part of the delivery of anesthesia health care in today's environment. After so many years of attempting to be recognized as a valid entity and attempting to recruit interest from the specialty of anesthesiology, it now is fully accepted as one of the most vital and vivacious subinterest areas in the entire specialty."
— John J. Bonica, M.D.

for the Study of Pain, and President of ASA in 1966. Because of his untiring work, residency programs that had considered obstetrics a stepchild soon began to provide months of obstetric anesthesia experience to their residents. Now, of course, a rotation in obstetric anesthesiology is a requirement for certification by the American Board of Anesthesiology. He also honed his skills at convincing hospital administrators that the delivery rooms should not be the last resting place for obsolete anesthesia equipment.

Dr. Bonica was also one of the leaders in studying the physiology of pregnant women. He published many articles, especially on changes in the respiratory and circulatory systems during pregnancy and parturition.

He authored the first complete textbook on pain treatment, *The Management of Pain,* which was published in 1953. His outstanding book, *Principles and Practice of Obstetric Analgesia and Anesthesia*, was published in 1967. For many, many years, this was considered "the Bible" on the subject. Why did he write this book? He said, "My motivation in writing this book is an intense desire to contribute to the prevention of needless deaths and to contribute to the well being of the mother and her infant."

In his preface, he expounded on his lifelong belief in teamwork by writing, "It is intended to serve both as a textbook and reference work for anesthesiologists, anesthesia residents, nurse anesthetists, obstetricians, obstetric residents, general practitioners, obstetric nurses, pediatricians and others involved in the care of the parturient and her newborn." In other words, he knew and spread the gospel that delivering a baby is a multidisciplinary endeavor not to be practiced by amateurs.

In 1994, just months before his death, this author was privileged to co-edit the second edition of this textbook. At that time, he wrote, "Obstetric anesthesia is finally an established, and even respected, part of the delivery of anesthesia health care in today's environment. After so many years of attempting to be recognized as a valid entity and attempting to recruit interest from the specialty of anesthesiology, it now is fully accepted as one of the most vital and vivacious subinterest areas in the entire specialty."

John J. Bonica was truly a citizen of the world. He was a public figure who had the ear and the respect of presidents, governors, corporate heads, professors and even the Pope. In 1956 and 1957, he worked with his friend, Pope Pius XII, on drafting this statement: "Man retains the right of control over the forces of nature. The Christian is never obliged to will suffering for its own sake. The doctor … is seeking, in accordance with the ordinance of the Creator, to bring suffering under man's control." Keep in mind this was written at a time when many clergy still felt it was Divine will to let nature take its painful course in childbirth. Did Dr. Bonica have a hand in changing the Pope's mind?

On behalf of the women and children of the world, we thank Dr. Bonica and all of the "pioneers" of obstetric anesthesia for their love and dedication in making childbirth a safe, humane and happy experience.

Breaking Down the Barriers to Pain Management

Just about everyone experiences pain sometime in their life. It afflicts one in three Americans for weeks, months or even years at a time and is estimated to cost the public $120 billion annually.

On July 17, 1997, in New York City, the American Medical Association (AMA) sponsored a media briefing titled "Pain: How to Take Control and Stop the Agony." Anesthesiologists on the panel of pain experts included ASA President Phillip O. Bridenbaugh, M.D., University of Cincinnati School of Medicine, Cincinnati, Ohio, and F. Michael Ferrante, M.D., University of Pennsylvania School of Medicine, Philadelphia, who served as the program's moderator.

ASA President Phillip O. Bridenbaugh, M.D., answers questions from reporters following his presentation at the AMA's briefing on pain.

More than 40 print and broadcast journalists attended the briefing, which covered such topics as "How Pain Differs in Men and Women" presented by Dr. Ferrante, "Barriers to Receiving Appropriate Pain Treatment" presented by Dr. Bridenbaugh, "New Options and Trends in Pain Management," "Loss of Pro-

ductivity Due to Pain" and "Awareness of the Side Effects of Pain Medications."

Dr. Bridenbaugh told the assembled journalists that patients face and sometimes create several barriers in obtaining appropriate and effective pain treatment. One barrier is created by those patients who fail to take their prescribed pain medications out of fear of becoming addicted. Other health care professionals can create barriers if they do not have the knowledge to assess and properly treat the patient's pain. Other barriers imposed on patients come from managed care organizations that, all too frequently, refuse coverage to pain patients or give a low priority to patients in need of cancer pain treatment, he said. State and federal regulatory agencies also set up barriers through the restrictive regulations physicians face concerning the dispensing of narcotics.

A number of background materials were given to the medical writers and journalists attending the briefing, including ASA's patient education brochure "The Management of Pain" and "Practice Guidelines for Cancer Pain Management."

Many of the journalists in attendance write for magazines, and it is anticipated that pain-related articles may be appearing in many consumer magazines in the months ahead. Several newspapers have already run articles on the topics covered at the briefing. The national cable television network MSNBC did a live interview with anesthesiologist Patrick K. Birmingham, M.D., from Children's Memorial Hospital, Chicago, Illinois, about pediatric pain management.

Other panelists presenting information at the media briefing were: Nelson Hendler, M.D., Johns Hopkins Hospital, Baltimore, Maryland; Michael B. Kimmey, M.D., University of Washington Medical Center, Seattle, Washington; and Norman J. Marcus, M.D., Lenox Hill Hospital, New York, New York.

Anesthesiologist F. Michael Ferrante, M.D., at the podium, served double-duty as moderator and presenter at the pain briefing.

Practice Options: Considerations in Setting Up an Office-Based Anesthesia Practice

Rebecca S. Twersky, M.D., Chair
ASA Committee on Ambulatory Surgical Care

Marc E. Koch, M.D., Chair
SAMBA Ad Hoc Committee on Office-Based Anesthesia

In this and following issues, the ASA NEWSLETTER *will be publishing articles about some of the various practice options available to anesthesiologists today — inside the operating room and in other venues.*

"The essentials for office anesthesiology closely parallel the basic ASA standards for monitoring during anesthesia."

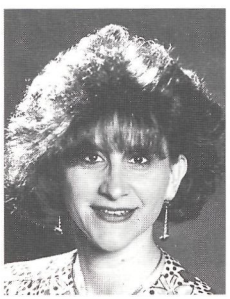
The growth of office-based surgery has provided an opportunity for anesthesiologists to further expand their diverse role as perioperative physicians. The office anesthesiologist must be aware of other issues that heretofore have not been under the purview of the hospital- or surgery center-based anesthesiologist. It is incumbent upon our profession to provide the necessary education and skills for anesthesiologists to function adeptly in this venue.

The underlying premise of this charge is the tenet that the office be held to the same stringent standards expected of traditional anesthetizing locations such as the hospital or ambulatory surgery center (ASC). Unfortunately, this is not a uniform finding. In fact, a recent survey of aesthetic surgeons found that 5 percent of respondents did not monitor blood pressure, 7 percent neglected to use pulse oximetry, and 11 percent did not continuously monitor an electrocardiogram tracing.[1]

The office anesthesiologist's role as a patient advocate includes both medical and nonmedical duties. These responsibilities may include confirming that the surgeon has the appropriate credentials to perform the surgery, helping to determine or assist with the accreditation of the facility and equipping an office for surgery or anesthesia. It will certainly include developing emergency protocols, prescreening patients appropriately, supervising the recovery of patients after anesthesia and gathering quality improvement data. Also, it is important for the office anesthesiologist to provide assurances to the surgeon that anesthesia services will not leave them exposed to additional liability. Regrettably, not all anesthesiologists' malpractice carriers provide coverage for office-based practice.

The essentials for office anesthesiology closely parallel the basic ASA standards for monitoring during anesthesia. The office must have the ability to deliver positive pressure ventilation with an ambu-bag or, if indicated, an anesthesia machine. It is also imperative to assure that a safe and reliable source of oxygen be available. A motor-driven suction device should always be present, and along with monitoring equipment, the need for back-up power should be considered.

Although a fiberoptic bronchoscope in every location would be financially prohibitive, less costly emergency equipment such as laryngeal mask airways, light wands and tracheotomy kits may be valid inclusions. An office is usually devoid of technicians, biomedical engineers or



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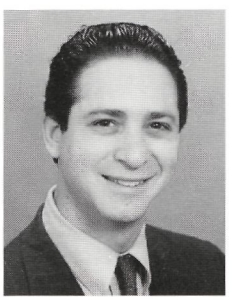

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even colleagues to help in the event of an equipment failure. Therefore, it is imperative that the anesthesiologist be aware of the need for timely service checks and documentation of prevention and maintenance programs according to manufacturer specifications.

Inventory and supply concerns can easily be forgotten. Rather than remember when your cart is missing a supply at a crucial moment, a computerized system to track usage of medications and supplies can alert you when an item needs to be re-stocked. It is important to view your cart as a mobile intensive care unit and have it replete with all of the standard, advanced cardiac life support medication. If agents that can trigger malignant hyperthermia are used, then the inclusion of dantrolene is mandatory. There is at least one documented death in the office setting attributed to its unavailability.[2] When controlled substances are stored in multiple sites, it is required that each location have a unique Drug Enforcement Agency Certificate kept on site and that special ordering forms (DEA Form 222) be completed correctly.

Developing alliances with companies that lease surgical and anesthesia equipment will bolster an office's reliance on the anesthesiologist's services and promote the value of the anesthesiologist as a perioperative manager. The purview of the office anesthesiologist can extend far beyond even these limits. For instance, having the knowledge to advise surgeons on the various requirements necessary to obtain accreditation and having the resources to answer questions about certificates of need (both of which can lead to facility fee reimbursement) further broaden the importance of a perioperative anesthesiologist-manager. An affiliation with medical architects, construction companies, health care accountants and attorneys may prove to be as valuable to a surgeon as sound anesthesia skills.

Reimbursement trends in office anesthesiology are in a state of flux. Studies need to be completed to demonstrate that shifting particular procedures to less intensive settings leads to heightened value. In the interim, it should not be surprising that some third-party payers resist adding office-based anesthesiologists to their reimbursement plans. Their concerns are partly attributable to issues surrounding quality of care as well as the unsubstantiated proposition that easier access to anesthesia services will translate into increased utilization of surgical resources. Some insurance companies will not credential office-based anesthesiologists unless they first acquire hospital privileges, a definite problem for those practitioners who have dedicated their entire practice to office-based services.

"As anesthesia and surgical services have evolved, so have the selection of appropriate patients for the office setting. ... As this practice venue increases in popularity, more quality assurance data will become available to guide in the selection of appropriate patients for office-based procedures."

Notwithstanding, some companies are aware of the enhanced value of office-based anesthesia and with documentation of quality care, patient satisfaction, prudent utilization and reasonable efficiency, it is likely that other third-party payers will follow.

Once the site visit is completed by the anesthesiologist, an emergency medical services (EMS) verification should be documented; that is, the responding EMS team must be located and their estimated response time documented. It is also wise to review the local EMS policy and protocols regarding responsibilities at a scene when a physician is present. This will help avert misunderstanding during critical periods. The local hospital emergency room (ER) director also should be contacted and informed that anesthesia services will be provided in the community. To best protect patients, it is wise to offer an in-service to the local EMS and hospital ER staff on common and serious anesthetic morbidity. This also is an opportunity to promote public awareness of anesthesia services and improve our visibility in the community.

As anesthesia and surgical services have evolved, so have the selection of appropriate patients for the office setting. A preoperative telephone call, completed by the anes-

thesiologist providing care, will allow for sound judgment in selecting patients. As this practice venue increases in popularity, more quality assurance data will become available to guide in the selection of appropriate patients for office-based procedures. ASA physical status remains a major element in patient selection,[3] but other factors are less clear. Age limits and morbidity associated with specific disease states such as asthma and morbid obesity need to be better defined.

A review of closed claims involving anesthesia morbidity and mortality in dental offices suggests that pre-existing conditions such as obesity, cardiac disease, epilepsy and chronic obstructive pulmonary disease should be taken very seriously, especially if an anesthesiologist is not present.[4] Advances in surgical techniques as well as safer and shorter-acting medications may broaden the patient population appropriate for office procedures, as they have done for ambulatory surgery. In addition, as anesthesia equipment and machines become better adapted to the office environment, it is likely that even more patients will be able to undergo office-based anesthesia.

Although our new role in the office setting has many implications, the loss of control over our environment and practice style are two drawbacks that have tempered growth of this practice opportunity. Nonetheless, by expanding our medical and administrative knowledge and skill, we can promote safety and patient satisfaction while enhancing professionalism in our specialty and creating greater reliance upon our services. It is incumbent upon us to provide the educational framework to accomplish these goals and tirelessly educate the public on the virtues of our involvement in perioperative care.

Author's Note: *This article was adapted in part from a panel presentation on office-based anesthesia at the Society for Ambulatory Anesthesia (SAMBA) 12th Annual Meeting on May 3, 1997.*

References:

1. Phero JC, Driscoll KM, MacDonnell WA. Appropriate selection of anesthesia personnel for office dental anesthesia. *Dent Clin North Am.* 1987; 31:21-35.
2. American Society of Anesthesiologists, Closed Claims Project Database Case 779, 1982.
3. Courtiss EH, Kanter MA. The prevention and management of medical problems during office surgery. *Plast Reconstru Surg.* 1990; 85:127-136.
4. Jastak TJ, Peskin RM. Major morbidity or mortality from office anesthesia procedures, a closed-claim analysis of 13 cases. *Anesth Prog.* 1991; 38:39-44.

A Survey of Conversion Factors, Capitation Rates

Karin Bierstein,
Practice Management Coordinator

This spring, at the request of the ASA Washington Office, representatives of 66 anesthesia practices completed a brief survey of conversion factors and capitation rates.

Fee-for-Service Conversion Factors

The survey instrument asked for the conversion factors used by the practice's three largest commercial payers, indemnity or managed care. The overall national average conversion factor for anesthesia services runs in the range of $41 to $44.50 for a 15-minute unit. Table 1 summarizes the responses:

Table 1

Conversion Factors (CF) for the Three Highest-Volume Commercial Payers Reported by 66 Anesthesia Practices

	CF #1	CF #2	CF #3
Average	$44.41	$42.82	$41.28
Median	$42.96	$41.00	$38.25
Minimum	$22.68	$24.08	$25.00
Maximum	$75.00	$67.50	$78.00
Count	66	65	64

To judge the validity of these numbers, it is important to note the threefold variation between minimum and maximum conversion factors. Also, the respondents were not evenly distributed geographically. There were six questionnaires returned from Texas, five each from Georgia, Florida and Pennsylvania, and only one from California. A response rate from California that was more consistent with the proportion of anesthesiologists practicing in that state might have lowered the average and median numbers — and perhaps even the minimum conversion factors — significantly. The fact that 20 out of the 66 respondents were from the Southeast conversely would tend to inflate the conversion factor statistics.

For states with at least five practices responding, the antitrust rules (see synopsis of the Statements of Antitrust Enforcement Policy in Health in the box) permit us to publish summary statistics for those states [Table 2].

Table 2

Conversion Factors for Four States

TEXAS	CF #1	CF #2	CF #3
Average	$45.07	$43.32	$40.57
Median	$45.70	$43.50	$39.25
Minimum	$31.50	$36.00	$34.00
Maximum	$59.00	$53.10	$50.00
Count	6	6	6
FLORIDA			
Average	$54.10	$48.30	$49.44
Median	$48.00	$49.50	$51.00
Minimum	$35.00	$30.50	$34.00
Maximum	$75.00	$64.50	$60.21
Count	5	5	5
GEORGIA			
Average	$58.00	$54.80	$53.70
Median	$67.50	$60.00	$57.00
Minimum	$38.00	$40.00	$35.00
Maximum	$75.00	$67.50	$78.00
Count	5	5	5
PENNSYLVANIA			
Average	$31.45	$36.28	$32.60
Median	$32.00	$32.00	$30.00
Minimum	$26.25	$26.00	$25.00
Maximum	$35.00	$56.00	$46.00
Count	5	5	5

Grouping states by region produces the data shown in Table 3. The regions and their associated states are: West Coast (WA, n = 3; OR, n=1; CA, n=1; AZ, n=1); Midwest (MO, n=2; KS, n=2; IN, n=2; IL, n=3; IA, n= 2; MI, n=2; MN, n=1; SD, n=1); New England (MA, n=4; ME, n=1; NH, n=1); Mid-Atlantic (NY, n=3; PA, n=5) and Southeast (VA, n=3; WV, n=1; TN, n=1; NC, n=1; MS, n=1; KY, n=1; GA, n=5; FL, n=5; AL, n=2).

Table 3

Conversion Factors by Geographic Region

WEST COAST	CF #1	CF #2	CF #3
Average	$35.16	$35.24	$36.03
Median	$37.00	$35.00	$38.00
Minimum	$22.68	$24.08	$25.00
Maximum	$41.25	$45.63	$43.75
Count	6	5	5
MIDWEST			
Average	$44.08	$41.40	$40.80
Median	$44.00	$38.00	$37.00
Minimum	$28.08	$25.25	$30.00
Maximum	$66.60	$63.38	$70.73
Count	15	15	15
NEW ENGLAND			
Average	$40.74	$40.83	$34.60
Median	$39.80	$40.00	$37.00
Minimum	$27.81	$39.00	$25.00
Maximum	$58.00	$45.00	$38.00
Count	6	6	5
SOUTHEAST			
Average	$50.08	$46.99	$45.90
Median	$47.00	$43.75	$43.00
Minimum	$31.00	$30.50	$31.50
Maximum	$75.00	$67.50	$78.00
Count	20	20	20
MID-ATLANTIC			
Average	$38.52	$40.68	$37.75
Median	$33.50	$41.20	$39.00
Minimum	$26.25	$26.00	$25.00
Maximum	$57.00	$56.00	$53.00
Count	8	8	8

Consistent with our anecdotal information, the highest values are in the Southeast, and the lowest are in the West. In between the extremes, the Mid-Atlantic region and New England trail the Midwest. Several practices in the Southeast and the Midwest reported that they used 10-minute units, which were converted to the more common 15-minute units, but which may nevertheless have some connection with the relatively higher payment levels in those regions.

Capitation Rates

Eleven practices indicated that they had at least one commercial contract that based reimbursement upon capitation, using a "per member per month" (PMPM) payment system. The maximum PMPM rate reported was $4.06, which was paid for the greatest average number of "covered lives," i.e., patients in the plan: 400,000. This rate did not include chronic pain procedures, nor did the lowest PMPM rate, $1.75; however, the next two lowest PMPM rates did encompass pain services. Seven of the 11 rates were between $2.40 and $2.85.

The smallest capitated population was 8,000. A much larger population is desirable from the point of view of spreading the risk of a spike in utilization of services. If a practice is receiving only $22,400 (8,000 x $2.80) per month, it is easy to imagine a combination of obstetrical and surgical cases among 8,000 people that would have brought in much more than the capitation rate if paid by base and time units. Eliminating the outlier capitated plan size of 400,000 in our sample, the average population was 39,310.

There were five capitated contracts for Medicare patients, generally with even smaller numbers of covered lives. The highest PMPM rate ($7.50) did not encompass pain services, but again, the two lowest rates did. The average Medicare PMPM payment was $5.93. Table 4 summarizes the capitation rate data supplied by the survey respondents.

The PMPM rates listed in Table 4 should be viewed with great caution in determining a prospective PMPM for an anesthesia practice. A figure of $4 may not be profitable if the group of patients in the particular health plan utilizes anesthesia services at an exceptionally high rate. A $2 PMPM may be an excellent rate for a young, healthy population. To establish acceptable rates for your own practice, you need to understand the utilization patterns of the group to be covered as well as your costs of delivering services. For further information, you may wish to consult the monograph published by ASA last year, *Calculating Anesthesia Capitation Rates*, available from the ASA Publications Department (847) 825-5586.

Table 4

Capitation Rates - Per Member Per Month (PMPM)

	Commercial PMPM	Medicare PMPM
Average	$2.79	$5.93
Median	$2.62	$5.75
Minimum	$1.75	$4.18
Maximum	$4.06	$7.50
Count	11	5

Do the antitrust rules allow ASA to publish fee information?

Most readers are well aware that price-fixing is strictly prohibited under the antitrust laws, and that the enforcement authorities can and do infer illegal agreements to fix prices from the exchange of price information. Nevertheless, the rules provide a "safety zone" (within which the federal agencies will not charge businesses with an antitrust violation) for publication of fee data as long as certain conditions are met.

In their August 1996 joint "Statements of Antitrust Enforcement Policy in Health," the Department of Justice (DOJ) and the Federal Trade Commission (FTC) acknowledged that surveys of prices for health care services (or of salaries and benefits) "can have significant benefits for health care consumers. Providers can use information derived from price and compensation surveys to price their services more competitively and to offer compensation that attracts highly qualified personnel. Purchasers can use price survey information to make more informed decisions when buying health care services." [Statement Number 6, Enforcement Policy on Provider Participation in Exchanges of Price and Cost Information]

The DOJ and FTC balanced the need to make competitive price information available against the need to prevent price discussion and coordination by requiring that surveys meet three conditions in order to come within the safety zone:

1. The survey is managed by a third party (e.g., a trade association or health care consultant, among others);
2. The information provided by survey participants is based on data more than three months old; and
3. There are at least five providers reporting data upon which each disseminated statistic is based, no individual provider's data represents more than 25 percent on a weighted basis of that statistic, and any information disseminated is sufficiently aggregated such that it would not allow recipients to identify the prices charged or compensation paid by any particular provider.

The survey described in this column was designed to satisfy these requirements, and the data have been reported in accordance with the conditions. As is evident, this achievement was not especially difficult. Component societies may wish to undertake similar surveys to give their members information that will help them to determine more competitive fees.

Resident Component Provides Forum for Discussion, Education

Mary Beth Wieneke, M.D., Secretary
Resident Component Governing Council

Ignorance is bliss and apathy is easy, but together they are extremely dangerous. As hardworking, dedicated physicians, we have committed years to our careers and our profession. Thus, it is imperative that we protect and strengthen our profession and its reputation. The first step toward this goal is education. For nearly a decade, the ASA Resident Component has made resident education one of its primary goals.

The specialty of anesthesiology and the medical profession as a whole are in a state of flux. During these changing times, we need to ask how residency programs are handling the shifts in resident application numbers and how their priorities have changed. We need to ask:

- How will shifts in the number of new and graduating residents affect our current training and our future profession?
- What part will nonphysician anesthesia providers play in the future?
- Will there be a change in the quality of training programs and applicants?
- Is there a way to expose medical students to the exciting world of anesthesiology earlier in their medical careers?

These questions reveal simply the tip of an iceberg. The ASA Resident Component provides a unique forum in which residents can compare notes with their colleagues and educate themselves about the issues weighing heavy on their minds.

Of course, after education comes action, action through effective leadership. The annual meeting of the ASA Resident Component provides a unique opportunity to help us put our education to work for us.

Last year at the ASA Annual Meeting in New Orleans, Louisiana, the Resident Component Governing Council offered a Resident Leadership Training/Grassroots Advocacy Workshop. This workshop set out to guide residents in their quest to become effective and successful leaders at their institutions and in their communities. Last year's workshop was so successful that it will be offered again at this year's ASA Annual Meeting in San Diego, California. This workshop is just one example of how the ASA Resident Component can help guide interested residents into becoming more involved on the local and national levels.

The ASA Resident Component has scheduled its annual meeting to coincide with the ASA Annual Meeting activities. The four planned functions of the ASA Resident Component are:

1. **Leadership Training/Grassroots Advocacy Workshop**: Friday, October 17, from 5 to 8 p.m. in Columbia 2, San Diego Marriott.
2. **Resident Reception:** Friday, October 17, from 8 to 10 p.m. in Torrey 1-2, San Diego Marriott.
3. **Resident Component House of Delegates Meeting**: Saturday, October 18, from 4 to 7 p.m. in the Regency Ballroom, Hyatt Regency San Diego.
4. **Resident Forum**: Sunday, October 19, from 11 a.m. to 1 p.m., in Manchester Ballroom G, Hyatt Regency San Diego.

Residents are also encouraged to attend the two meetings of the ASA House of Delegates, which will begin at 9 a.m. on Sunday, October 19, and at 8 a.m. on Wednesday, October 22.

Other events that may be of interest to residents include the "Panel on New Practice Opportunities" scheduled for 9 a.m. until noon on Tuesday, October 21; "Panel on Managed Care Update" scheduled for 9 a.m. until 12 noon on Tuesday, October 21; and "Panel on the Changing Face of Anesthesia Care," also scheduled for 9 a.m. until noon on Tuesday. In addition, the American Board of Anesthesiology will hold an information session between 5:30 p.m. and 6:30 p.m. on Saturday, October 18, in Room 6F of the San Diego Convention Center.

Mary Beth Wieneke, M.D., is a CA-4 Cardiac Fellow in the Department of Anesthesiology and Critical Care Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland.

Candidates Announce for Elected Office

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

- **President-Elect**
  John B. Neeld, Jr., M.D.
- **First Vice-President**
  Thomas H. Cromwell, M.D.
  Ronald A. MacKenzie, D.O.
- **Vice-President for Scientific Affairs**
  James E. Cottrell, M.D.
  Thomas W. Feeley, M.D.
  Bradley E. Smith, M.D.
- **Secretary**
  Joanne Jene, M.D.
- **Treasurer**
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- **Assistant Secretary**
  Peter L. Hendricks, M.D.
  William D. Hetrick, M.D.
  Marcelle M. Willock, M.D.
- **Assistant Treasurer**
  Orin F. Guidry, M.D.
- **Vice-Speaker, House of Delegates**
  Eugene P. Sinclair, M.D.

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

Phoenix Workshop on Interventional Pain Management

The ASA Workshop on Interventional Pain Management will update the participant on invasive management techniques as they relate to clinical practice and the management of pain. This program will be held on November 22-23, 1997, at the Hyatt Regency Phoenix in downtown Phoenix, Arizona.

This workshop includes patient selection criteria, implantation techniques and post-implantation management strategies for implantable pumps and stimulators. Additionally, continuous peripheral nerve blockade techniques in the management of acute and chronic pain will be discussed. Particular emphasis will be placed on the hands-on hardware workshops to familiarize the participants with the equipment used to perform these invasive techniques.

John M. Huffman, M.D., is the program chair. The other faculty and their topics are:

- Steven M. Rosen, M.D., "Patient Selection/Indications and Contraindications," "Spinal Pump Selection and Implantation Techniques" and "Post-Implantation Management and Adjuvants";
- Susan M. Steele, M.D., "Continuous Upper Extremity Nerve Blockade," "Continuous Lower Extremity Nerve Blockade" and "CPNB: Conquering the Administrative Issues";
- Barry Straus, M.D., "Patient Selection/Indications and Contraindications," "Implantation Techniques: A Simplified Approach" and "Post-Implantation Patient Management: Tricks of the Trade."

Each speaker will present a half-day of lectures, followed by a question-and-answer session moderated by Dr. Huffman and a hardware workshop offering the chance to try the equipment that has been described in the lectures.

ASA is approved by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education programs for physicians.

ASA designates this continuing medical education program for 12 credit hours in category 1 of the Physician's Recognition Award of the American Medical Association.

Registration is suggested by October 22, 1997. Registration fees are $200 for ASA active members, $100 for resident members and $550 for nonmembers.

A block of rooms is being held at the Hyatt Regency Phoenix until November 1, 1997. A room reservation form will be sent to registrants upon receipt of registration. The form should be returned to the hotel by the above date.

ASA Web Statistics and Midyear Update

ASA continues to keep statistics on the number of "hits," or visits, that the ASA Web site receives. Here is a list of the top four hits for the month of July as well as a running total for the period of January 1 through July 31:

Page	July Total	Running Total
ASA Home Page	5,874	33,878
Physician Information	2,615	16,468
What's New	887	6,377
Patient Education	693	5,028

These statistics give just some of the information that ASA has compiled regarding the ASA Web site. Recent useful updates to the Web site include the addition of new pages that are portable document format (pdf) versions of the ASA Standards, Guidelines and Statements and the ASA Bylaws, which allow the documents to be downloaded by the user. Check out the ASA Web site at: <http://www.asahq.org>.

ASA Expands Annual Meeting Message System to Internet

In an effort to make it easier for meeting attendees to exchange messages and plan informal get-togethers for the 1997 ASA Annual Meeting, we will be offering a comprehensive, Internet-based electronic bulletin board/message system as a companion to the traditional paper system. Users of the electronic system will be able to access it 24-hours a day and be able to post or retrieve messages from virtually anywhere in the world.

Prior to arriving in San Diego, attendees and exhibitors can access the system via the Internet to coordinate their schedules and plan meetings. Upon arrival in San Diego, they will be able to access the system via the Internet or via computers in the registration area in the Convention Center and the ASA booth in the exhibit hall. Attendees will also have the option of accessing the message board from their personal laptops or dial-up Internet access accounts using their own Internet Service Provider.

The URL for this service is <http://asa.adnc.com> and it will be available as of October 1, 1997.

Washington Report

Continued from page 4

various categories of overpayment. Medicare providers can assume, nonetheless, that the audit will provide impetus for increased scrutiny of Medicare claims and that if next year's audit does not show substantial improvement, critical review of the situation by congressional committees will be almost inevitable.

Medicare Compliance Manual Soon Available

Pursuant to action of the ASA Administrative Council this past spring, ASA has prepared a new monograph in its practice management series for ASA members. "Billing for Anesthesiology Services: Compliance with Medicare and Other Payer Billing Requirements" has been prepared by Judith Jurin Semo, Esq., and Scott T. Kragie, Esq., of Squire, Sanders and Dempsey, ASA legal counsel. It describes federal statutes dealing with fraud and abuse, discusses pitfalls in billing for anesthesiology services and contains a model compliance program for anesthesiology groups wishing to implement such an initiative.

Check the ASA Web site or contact the ASA Publications Department for ordering information.

LETTERS TO THE EDITOR

Apologies to the Welsh

Regarding the article about Michael J. Cousins, M.D., on page 10 of the July *ASA NEWSLETTER*, we Welsh Americans, an acknowledged oppressed minority and victim group, would prefer that our great national university in Cardiff, Wales, be referred to as the "Welsh National University" rather than "Welch." An early correction of this error will obviate the necessity of remedial action by the Welsh Nationalist Army. Thank you.

C.M. Andrew Bell, M.B.
Tacoma, Washington

Editor's Note: *With due apologies to our Welsh colleagues, I accept responsibility for a most grievous oversight. Please be assured that all future references will be spelled correctly. Please withhold "remedial action."*

— E.L.

Hockey Puk-Chaser

A substantial number of investigations concerning postoperative nausea and vomiting appear in the peer-reviewed literature. I write to recount a humorous moment that may bring the readers a smile while at the same time confirming the relevance of these investigations.

Our family has a substantial interest in hockey and, as a result, we decided to adorn our van with a "vanity plate" that revealed our interest: "PUK CHSR." On the day that the plate appeared on the back of the vehicle, a neighbor approached me and said with sincerity, "What a perfect license for an anesthesiologist, 'Puke Chaser.'"

I see anesthesiologists first and foremost as purveyors of pain prevention/relief. There is obviously something else that comes quickly to mind when my neighbor contemplates anesthesia.

John C. Drummond, M.D.
Del Mar, California

From an Eagle-Eyed Reader

There is an incongruity in the otherwise wonderful cover of the July 1997 issue, which depicts Balboa Park in San Diego.

The hummingbird in the lower right corner feeding from the flowers bears the markings of a Ruby-Throated Hummingbird. This species is not found in the western United States, according to the Peterson Guide. The Broad-Tailed Hummingbird, which also has a red chin, is found in the Rocky Mountains, not the San Diego area.

The most likely hummingbird to be seen in San Diego would be Anna's Hummingbird, the male of which has a bright red crown as well as a red chin. Birdwatching, a wonderful avocation, also encourages vigilance.

C. David London, M.D.
Stratham, New Hampshire

WLM — A Truly Unique Gem

As a member of the Board of Trustees and Treasurer of the Wood Library-Museum of Anesthesiology (WLM), I appreciate very much the letter from Gerald L. Zeitlin, M.D. [July *NEWSLETTER*]. It is a shame that so few members of ASA realize the "Gem" that they support, which is housed at the Park Ridge (Illinois) home office.

The Wood Library-Museum is truly unique. It is recognized throughout the world as constituting a center of anesthesia knowledge and artifacts. Where else can you find the works of Mesmer or ether masks used by John Snow?

Let me encourage and invite all members of ASA: If you are in the vicinity of Chicago, do yourself a favor and visit your Wood Library-Museum. It exists for your use.

Franklin B. McKechnie, M.D.
Winter Park, Florida

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. The Editor has the authority to accept or reject any letter submitted for publication. Letters must be signed (although name may be withheld on request) and are subject to editing and abridgment.*

FAER
FOUNDATION FOR ANESTHESIA
EDUCATION ■ RESEARCH

Grant Review Process and Committees

The Foundation for Anesthesia Education and Research (FAER) is grateful to the members of the ASA Committee on Research and the FAER Education Study Section, two grant review committees who critique grant submissions for the five programs that FAER offers. The members, who are experts in various fields of clinical and laboratory research as well as in education relating to anesthesia, contribute valuable time and constructive feedback. FAER thanks these physicians and appreciates their commitment to developing future scientists.

Grant proposals are accepted by FAER twice a year on July 31 and December 1. After each deadline, the committee chair assigns two or three proposals to each committee member based on the reviewer's expertise. The review process is rigorous. The committees use the National Institutes of Health (NIH) criteria and methods to evaluate the proposals. Every grant proposal is reviewed by at least two committee members who provide insightful, thorough comments.

A score from 1.0 (highest) to 5.0 (lowest) is given by all members of the committee for each proposal. This process evaluates the scientific merit, fit within ethical guidelines, importance, quality and presentation of the application. It is hoped that the critiques will help applicants understand the processes and precision involved in grant submission and review. FAER strives to fund excellent current research projects and seeks to develop future investigators who will compete successfully for future grant supporters.

Once the proposals have been reviewed, the committee members meet to discuss each application. The result of this meeting is that a rank order of the applications is submitted to the FAER Board of Directors. The FAER Board then determines the number of applications that can be funded. This number is dependent upon the funds received from the contributors. The applicants are notified of their funding status within about four months of the submission date.

The ASA Committee on Research reviews the Clinical Research Starter Grant, Research Starter Grant, New Investigator Award and Anesthesiology Research Fellowship applications. This is a standing ASA committee composed of six members who serve staggered three-year terms. Currently, there are 14 adjunct members; they are appointed annually. The chair and the adjunct members are chosen by the ASA President-Elect the year before his/her term begins.

FAER thanks Julien F. Biebuyck, M.D., Ph.D., and the committee for their dedication and major contributions to the development of future scientists.

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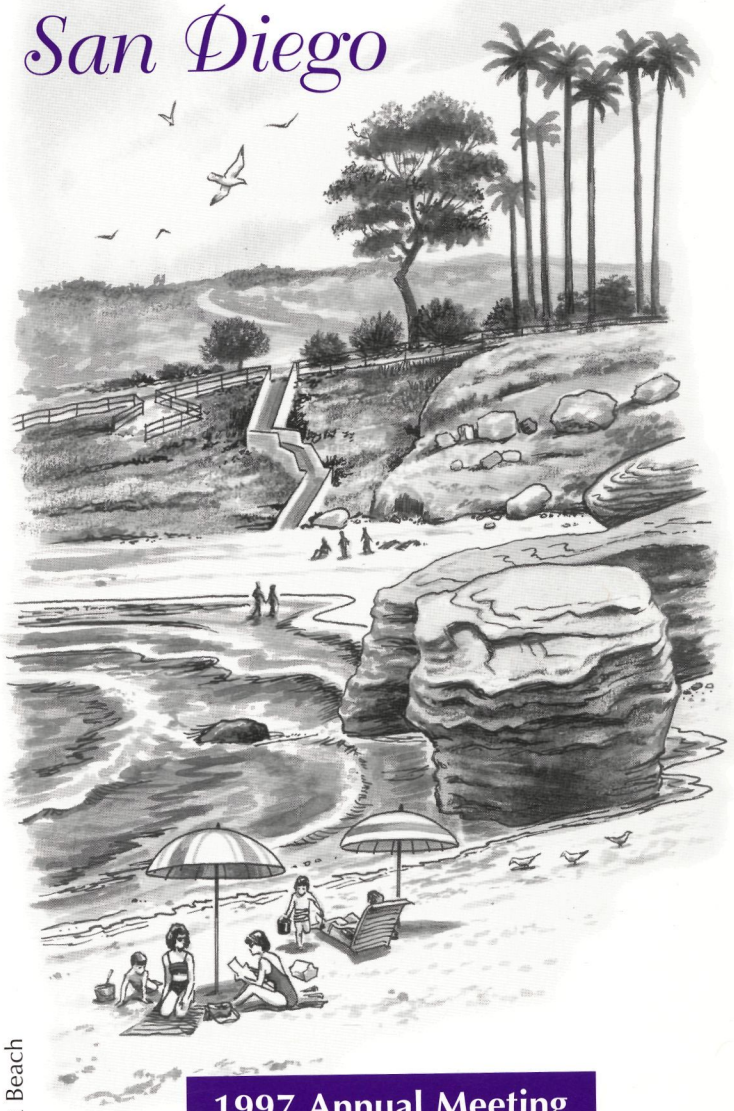

La Jolla Beach

1997 Annual Meeting
October 18-22

Registration opens at 3 p.m. on Friday, October 17, 1997, at the San Diego Convention Center.