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150 Years of Pediatric Anesthesia

Infant airway management

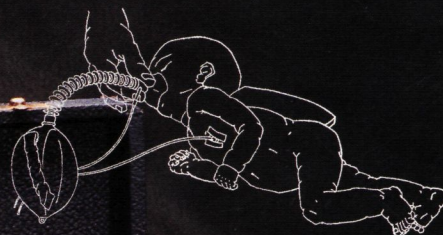
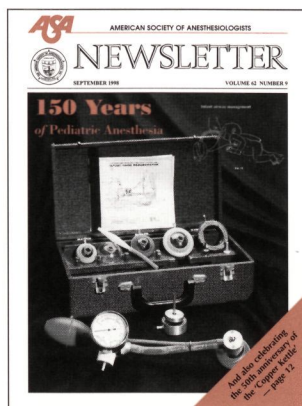


FIG. 15



And also celebrating
the 50th anniversary of
the 'Copper Kettle'
— page 12



Inset: Fig. 15 © 1967 Lea & Febiger/Lippincott Williams & Wilkins. Reprinted with permission.

Pediatric anesthesia, including the devices used for infant resuscitation and airway management, has made tremendous strides during the last 150 years, due in large part to dedicated researchers and anesthesiologists who have worked to advance the safety and care of their small patients.

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The Emperor's New Clothes

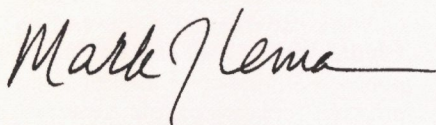
I remember reading the story about an emperor who was so vain that he believed his apparel was the most elegant in the land despite being dressed in his undergarments. He could not *see* his undressed state because he was too egotistical to admit that he had been deceived. A young boy in the crowd shocked the emperor back into reality by announcing that the emperor was in his underwear.

This little parable reminds me of the current work attire worn by a significant minority of practicing anesthesiologists. They come to work inappropriately dressed in tee shirts, shorts (or jeans) and designer sunglasses, vainly believing that the world sees them for who they are ... talented physicians. In truth, it is often difficult to distinguish them from the nontechnical work force supporting the hospital. In the meanwhile, their surgical counterparts arrive in the usual professional attire, ostensibly the mark of a physician. Unlike the anesthesiologists, they can easily be distinguished from the maintenance workers.

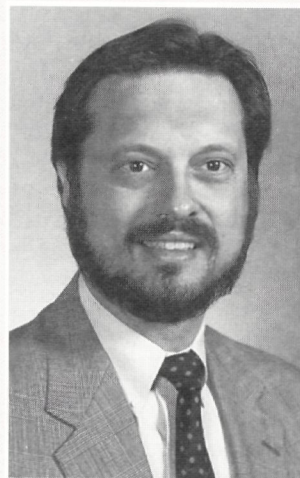
If you question these *dressed-down* physicians about their attire, they will often remark that it is early and no one sees them, or they will say scrubs are their "real" professional attire. It is quite possible, however, that their patient's family, other physicians and even administrators are also arriving at the same time. Upon observing their attire, negative opinions can easily be formed by these distant observers even to the extent that one's clinical acumen may be questioned.

As medical practice adopts more business principles, it is reasonable to expect that professional attire will also follow suit (pardon the pun). Even though clothes do not make the person, they impact heavily on one's image. When the line between success and failure is so fine that we seldom know when we cross it, why risk career success and advancement by dressing down? Our professional image forms the basis for another person's first impression.

Two principles should guide our *selection* of how we want to be seen professionally. First, you never get a second chance to make a first impression. Second, while first impressions can be favorable or catastrophic, they are always lasting. Do not be so willing to sacrifice your professional respectability for an undisciplined, nonprofessional, *relaxed* look. You may believe that people should respect you for your knowledge, but they are more apt to respect you based on your external image. If your parents had not already told this to you, I am telling you now.



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



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

House Passes Managed Care Bill, Senate Vote Due in September

*Michael Scott, Director
Governmental and Legal Affairs*

In a pre-election effort to take political center stage on public concerns about managed care, the House Republican leadership brought its patient protection bill (H.R. 4520) to the House floor on July 24, just a week after its introduction, and squeezed out a 216-210 affirmative vote. Ten Republicans, including surgeon Greg Ganske (R-IA), voted against the measure.

The competing Democratic bill (H.R. 3605), sponsored by Congressman Ganske and Congressman John D. Dingell (D-MI) and supported by the American Medical Association, narrowly failed by a 212-217 vote.

To supporters of effective patient protection legislation, the GOP bill represents a major disappointment. Its provision on a guaranteed point of service (POS) option — the principal goal of the Patient Access to Specialty Care Coalition — is written so as not to apply to self-insured plans protected by the Employee Retirement Income Security Act (ERISA); these are the same plans that are insulated from state regulation by the terms of ERISA.

The GOP plan falls short of the terms of H.R. 3547, sponsored by Congressmen Dave Weldon (R-FL) and Sherrod Brown (D-OH) and supported by ASA, which, in addition to mandating a POS option for all plans, would require timely in-network access to medically necessary services. The GOP bill would mandate in-network direct access only to obstetricians/gynecologists and pediatricians, and would not ban payments to gatekeepers as an inducement to reduce or deny care.

The GOP bill does contain provisions on a number of issues dealt

with in the Weldon/Brown bill, including a prohibition against gag clauses, a requirement that plans disclose adequate information to applicants and enrollees, and a mandatory mechanism for appealing denials of care.

In floor debate, the GOP bill was savaged by Congressman Ganske and many Democrats who characterized it as a capitulation to the insurance industry. GOP leaders defended the bill as representing the best that could be achieved in this Congress, and as providing for significant expansion of coverage to the uninsured through its proposed expansion of medical savings accounts and establishment of pooling opportunities for small employers.

With passage of the GOP bill in the House, the patient protection debate now moves to the Senate where both a counterpart to the House Democratic bill (S. 1890) and a Republican Leadership bill (S. 2330) are now pending. On the issue of POS, the Senate Republican bill is remarkable in that it requires such an option in ERISA plans, whereas the House bill excludes those plans from its POS requirements. The Senate bill, however, exempts small (2-50 employees) ERISA plans from its mandate.

For supporters of access to specialist care, the Republican Senate bill appears to offer real opportunity because, although its coverage is restricted to most ERISA plans, other private plans can be reached through state legislation. More than 30 states have already enacted POS requirements for non-ERISA plans.

The Senate recessed at the end of July without taking up the patient

protection bills, and it remains to be seen at this point whether sufficient time (and GOP leadership commitment) will remain after the August recess to pass the bill in the Senate and successfully steer it through conference. President Clinton has already promised to veto the House-passed bill, and many speculate that there is little opportunity that a bill, satisfactory to the President or immune from Presidential veto, can be crafted.

One sideline on the debate is of special interest to ASA members: The coalition of nonphysician providers failed in their efforts to gain inclusion of a provision in either the House or Senate GOP bills barring discrimination on the basis of licensure by managed care organizations in selection of their provider panels. This had represented the major reason for their support of Congressman Charles Norwood's (R-GA) Patient Access to Responsible Care Act (H.R. 1415). There is some indication that an attempt will be made to add the provision in conference, when and if one occurs following the recess.

ASA Files Comments on Medical Direction

As noted in this column in July, the Health Care Financing Administration (HCFA) on June 5 proposed a number of modifications in its rules relating to reimbursement for medical direction of nurse anesthetists, anesthesiologist's assistants and residents. Those modifications, many of which were based on ASA recommendations, would introduce somewhat greater flexibility into the

existing HCFA requirements and, for the first time, would provide limited guidance as to documentation.

Although some ASA members may have filed comments on the proposed rule directly with HCFA, less than two dozen communications were received from ASA members in the Washington Office in response to the invitation by ASA President William D. Owens, M.D., contained in the *President's Update* (July 10, 1998). Virtually all of those comments criticized the proposed easing of the

requirement that the anesthesiologist personally provide the preanesthesia examination and assessment or postanesthesia care.

Some expressed the concern that elimination of the existing mandate that the anesthesiologist personally participate in induction and emergence, as distinct from the proposed more general requirement that the anesthesiologist participate in the most demanding aspect of the procedure, would represent an abdication of the anesthesiologist's role in the

provision of anesthesia care. A few criticized the limited documentation guidance provided by the proposed rule.

ASA's letter of comment, which reflected input by the ASA Administrative Council and the chairs of three ASA committees, was filed with HCFA on August 4. A copy of the letter can be obtained from Marissa Valeri in the Washington Office; excerpts appear on pages 3-4 of this issue. In essence, the letter argues for retention of the existing provisions

ASA Comments on Medical Direction Proposal

(Excerpts from August 4 Letter to HCFA from ASA President William D. Owens, M.D.)

Preoperative examination and evaluation. In HCFA's preamble to the proposed rule, the statement is made that ASA and the American Association of Nurse Anesthetists (AANA) have reached consensus on a revised set of medical direction requirements. This statement is not correct: although the two organizations reached substantial consensus on several points, limited serious differences remain.

The principal substantive difference between ASA and AANA relates to the first condition for medical direction payment. At our meeting with HCFA officials in February of this year, ASA supported continuation of the existing requirement that a physician perform a preanesthetic examination and evaluation. AANA would have permitted, as an alternative, that the physician ensure

that the examination and evaluation be performed by a qualified licensed practitioner.

ASA strongly believes that there should never be a permitted alternative to the physician performing the preanesthetic examination and evaluation. This requirement, as currently prescribed, goes to the very heart of the physician-individual patient relationship that the Tax Equity and Fiscal Responsibility Act (TEFRA) requires as a condition for Part B reimbursement, and represents the basis upon which all remaining physician anesthesia responsibilities are defined.

Personal participation in induction. HCFA's new standards require the anesthesiologist to personally participate in the most demanding aspects of the anesthesia plan and to specific-

ly document participation in those aspects. That requirement is drawn in precisely the terms that ASA recommended, but ASA now believes — based on comments from its members — that the proposed standard can be loosely construed as a license not to personally participate in any aspect of the procedure. ASA doubts that this was HCFA's intention; it certainly was not ASA's intention.

In order to avoid misunderstanding, ASA recommends that this requirement be amended to read as follows: "Personally participates in the most demanding aspects of the anesthesia plan, including, if applicable, induction and emergence of the patient." Such an amendment would take account of

Continued on page 4

related to the preanesthesia and postanesthesia phases, and continued reference to induction and emergence in the requirement related to personal

participation. It also seeks a number of clarifications from HCFA as to its intentions, including clarification of documentation requirements and the

continued existence of the current limited exceptions to the medical direction restrictions.

ASA Comments on Medical Direction Proposal

Continued from page 3

the absence of induction and/or emergence in some types of anesthetics, while reaffirming the requirement of personal participation in these aspects when general anesthesia is administered.

Postanesthesia care. HCFA proposes to change this standard by adding the following words to "Provides indicated postanesthesia care:" "... or ensures that it is provided by a qualified individual [as specified in operating instructions]." ASA had recommended this change essentially in recognition of the very common practice, in many institutions, by which patients are discharged by resident physicians from the postanesthesia care unit (PACU), or alternatively by qualified nurses by reference to a defined scale of patient characteristics (discharge criteria).

Several ASA members have suggested that this proposed change appears to represent an abdication by the anesthesiologist of an important medical function, necessarily involving medical judgment, and that the language of the existing standard is sufficiently flexible to account for existing accepted PACU discharge practices. We agree: Inclusion of the word "indicated" in the standard appears to provide all the flexibility in postanesthesia

care as is reasonably required, and we therefore recommend that no change in this standard be made.

Exceptions. The proposed rule provides that "The physician ... does not perform any other services while he or she is directing the single or concurrent services so that one or more of the conditions in paragraph (a) (1) of this section are not violated." The current rule, of course, provides only that the physician shall not perform "any other services" while engaged in medical direction. As HCFA knows, however, a number of limited exceptions to this prohibition were identified in the preamble to HCFA's final TEFRA regulations, and considerable confusion has existed over the years whether this list of exceptions was exclusive or whether other, similar services of short duration could be performed without violating the medical direction reimbursement standards.

In light of this confusion, ASA supports the more flexible language of the proposed rule, which makes clear that other services can be performed if, and only if, they would not cause the physician to violate any of the medical direction conditions. Inherent in this support was the assumption that the existing exceptions would continue to be per-

missible under the new rule, as would other limited services of short duration — again as long as any of these services could be performed without violating the medical direction requirements. Confirmation by HCFA of its intention in this respect would assist our members.

Documentation. The proposed rule for the first time refers to the documentation necessary to justify reimbursement for medical direction, permitting the physician to "inclusively" document satisfaction of the medical direction standards, and requiring specific documentation of participation in the most demanding aspects of the anesthesia plan.

ASA interprets this provision as allowing an anesthesiologist to state in the medical record that the medical direction standards have been met, without enumerating each such standard, and as requiring the anesthesiologist to specify in the record those demanding aspects of the case in which he or she personally participated. ASA would again appreciate HCFA's confirmation of this interpretation.

Pediatric Anesthesia Celebrates Its 150th Birthday!

This year marks the 150th anniversary of the inception of modern pediatric anesthesia.

❁ Since 1848, the advances in this complex and often delicate area of anesthesiology have grown tremendously. ❁ The articles that follow explore some of these feats, including a look at the research in children's pain responses, developments in the field of pediatric cardiac anesthesia, the use of rectal anesthesia for children and the accomplishments of pioneer M. Digby Leigh, M.D.

❁ In fact, all of the accomplishments of the last one and one-half centuries would not have been possible without the dedication and tireless efforts of many anesthesiologists who recognized the special needs of infants and children. ❁ Additional articles on other pioneers such as Margo Deming, M.D., and Robert M. Smith, M.D., will be included in future issues of the *NEWSLETTER*, but it must be noted that there were countless others who also gave of themselves selflessly in achieving the advances that today's anesthesiologists — and their young patients — now enjoy.

Pediatric Anesthesia in the United States: Coming of Age

1840-1940:

Open-drop ether and later chloroform were the principal agents used during the first 100 years. There were few references in the medical literature of the time and little formal training specific to pediatric anesthesia. The sentiments of the scientists and philosophers of the day vacillated on the issue of whether infants felt pain; regardless, they knew little about how to control it. The introduction of cyclopropane in 1934 brought about the first major change in the administration of pediatric anesthesia.

1940-1960:

Post-World War II, pediatric surgery surged, bringing with it the demand for improvements in the anesthetic management of infants and children. Research focused on sedatives to control fear and psychological trauma, new forms of administration (oral, I.M., I.V., rectal) and new agents that would control pain and movement without serious side effects. This led to the need for airway management and ventilatory control and the adaptation of adult devices. Ether was replaced by other safer, nonflammable agents.

1960-1980:

Teaching and communication came to the forefront, augmenting the growing

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Pediatric Anesthesia in the United States: Coming of Age

Continued from page 5

base of clinical research. Ways to control children's (and parents') fears were explored, and more predictable medications were developed. Rapid I.V. sedation and tracheal intubation became firmly established practices. Safety was enhanced by the precordial stethoscope, BP cuff (or arterial line), ECG, constant temperature monitoring and fluid management. Greater control of blood volume and pain management allowed for ever more complex, lifesaving surgeries.

1980-present:

Though introduced in the 1970s, pulse oximetry became the national standard of care, enhancing patient monitoring and greatly reducing morbidity and mortality in children (and adult patients). Teaching programs, pharmacological research and medical forums specific to pediatric anesthesia have multiplied. Outpatient surgery and patient/child-controlled analgesia are now commonplace, and organ transplantation and surgery on the neonate (and more recently, the fetus) are on the cutting edge.

Reference:

Smith RM. History of pediatric anesthesia in the United States. *Anesthesia History Association Newsletter*. 1993; 11(2):1-6.

Neonatal Pain: The Evolution of an Idea

*Doris K. Cope, M.D., Trustee
Wood Library-Museum of Anesthesiology*

The International Society for the Study of Pain defines pain as "an unpleasant experience, sensorial and emotional, associated with tissue damage, actual or potential, described in terms of their damage." Since prehistoric times, the emotional component of pain or meaning of the sensory experience of pain has been interpreted in the cultural context of the time. This has been particularly true for infant children who are unable to articulate their pain.

St. Augustine, in the fifth century C.E., described pain in the newborn as thus: "All diseases of Christians are to be ascribed to demons, chiefly do they torment the fresh baptized, yea even the guiltless newborn infant." The Aphorisms of Hippocrates include the axiom, "Those who are used to bearing an accustomed pain, even if they be weak and old, bear it more easily than the young and strong who are unaccustomed." In caring for infants undergoing surgical procedures, an important if not the quintessential question an anesthesiologist must answer is, "Does a neonate feel or experience pain?"

Until the 20th century, physicians believed that children experienced more pain than adults. In 1656, Felix Wurtz in *The Children's Book*, expressed the idea that the less mature the infant, the greater degree of pain was experienced:

"If a new skin in old people be tender, what is it you think in a newborn Babe? Doth a small thing pain you so much on a finger, how painful is it then to a Child, which is tormented all the body over, which hath but a tender new grown flesh? If such a perfect Child is tormented so soon, what shall we think of a Child, which stayed not in the wombe its full time? Surely it is twice worse with him."

Pain in the mid-19th century was considered very real in the infant. Some practitioners of the day believed that the



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source of pain could be localized based on the infant's response. This theory was debunked by J. Forsyth Meigs, M.D., in his textbook, *Practical Treatise on the Diseases of Children*, published in 1853. He describes pain in infants in the following way:

"Pain may almost always be detected by the expression of the face. It gives to the countenance various shades of expression, according to its degree of severity, and its permanency or recurrence at intervals. Pain in the head is said, by Dr. M. Hall, to produce a contracted brow, pain in the belly to occasion an elevation in the upper lip, whilst pain in the chest is chiefly denoted by sharpness of the nostrils. I doubt, however, whether pain in any particular organ imparts an expression to one part of the face rather than to another ..."

In 1898, A. Jacobi's *Therapeutics of Infancy and Childhood* was published and became a standard American pediatric handbook. In the chapter, "General Therapeutics," the author cautions against chloroform producing superficial respirations and ether anesthesia producing a detrimental effect on kidneys and the "respiratory organs." He certainly was aware not only of the need for anesthetic in the newborn, but the difficulty of accomplishing it successfully:

"The difficulty in obtaining a complete narcosis is particularly great in the newly born. The stage of excitement is brief, the pulse becomes frequent and the pupils contract. However, after a short time the pulse becomes slow and the pupils dilate. The after-effects are not so inconvenient as they often prove in the adult; children vomit less frequently and less profusely, and certainly with greater facility and ease than adults. They are liable to remain under the influence of the anaesthetic a long time after an operation has been completed. After tracheotomies, which I never performed without chloroform unless the children were asphyxiated by carbonic acid poisoning, the patients are apt to sleep long and undisturbed. Thus they require a ceaseless watching until the effect has surely passed away. Through the opened trachea, children will become under the influence of chloroform very easily. Five or six drops on a sponge or on some absorbent cotton held in the mouth of the tube by means of a pair of pincers has an almost instantaneous effect."

When did the transition in common wisdom from infants being perceived as hyper-analgesic to hypo-anal-

gesic occur? One interesting possibility is that the shift occurred at the time of the development of experimental embryology with its applications to development of the nervous system and the experience of pain. This theoretical framework was reinforced by the popularization of Darwin's theories leading to the conclusion that infants and neonates experience little pain.

In 1872, Paul Emil Flechsig, working in a laboratory in Leipzig, noted that the myelination of nerve fibers occurred at different rates during development and that in the newborn baby both myelinated and nonmyelinated fibers were present with only myelinated fibers believed to be fully functional. The conclusion was that, biologically, newborns were not completely "wired," and thus, their experience of sensory input such as pain was likewise less than completely functional.

Also in the same year, Charles Darwin, in his work, *The Expression of Emotions in Man and Animal*, adamantly refused to believe that children's facial expressions, cries and tears, convulsive movements, and vascular and breathing changes reflected the sensory or emotional experience of pain, but were just reflex actions, reinforced by habit. Indeed, he said that expressions of pain in the select tribe including "animals, children, savages, and the insane" could under no circumstances imply the awareness of pain. These new scientific theories based on Darwin's theories and the anatomical and histological data from embryology were applied to clinical practice by surgeons and neurologists.

In the late 19th century, when Darwin expressed his views, infant mortality was high and there were very few operations in children. With increased pediatric surgical procedures, it was quite common, even up until the 1950s, to perform antrotomies in the auditory canal, paracenteses, connect spermatic-cord torsions, or even perform abdominal surgery without any anesthesia.

In the 20th century, however, the view that neonates experienced less pain was not strongly advanced. M. Thorek, in his textbook, *Modern Surgical Technique*, published in 1938, described his views of adequate pediatric anesthesia: "Often no anesthesia is required. A sucker consisting of a sponge dipped in some sugar water will often suffice to calm a baby." Learning theorists pointed to additional proof that infants did not experience pain, including: 1) the general absence of childhood memories, 2) the conviction that infants' tracts linking the thalamus to

the cortex were not functional and 3) experimental animal data on “thalamic” animals showing reflex activity when exposed to noxious stimuli. The practical consequence of these advances in science resulted in undertreatment or no treatment of pain in infants.

However, in 1952, a French neurologist, André-Thomas, advocated caution regarding the exact function of the myelin sheath based on studies in young animals demonstrating that nonmyelinated fibers could be excited.

Such entrenched theory dies hard, so that as late as 1968, surgeons L.I. Swafford, M.D., and D. Allen, M.D., contended, “Pediatric patients seldom need medication for the relief of pain after general surgery. They tolerate discomfort well.”

The idea of infants not experiencing pain after noxious stimuli was still prevalent in conventional wisdom as seen in the popular press. There was no clearer demonstration of this than in the advice given to parents circumcising their male newborns. In 1982, Proctor and Gamble promoted Pampers to parents by providing Expectant Parents’ Information Kits, which included the statement: “You may be surprised to learn that circumcision will not be painful to your baby because, at this early stage of development, the penis does not yet have functioning pain nerve endings.” *Mother’s Manual*, published the same year, argues against local anesthesia for circumcision: “It swells the area to the extent of making an unsatisfactory circumcision too likely.”

Medical opinion began to change in the 1980s. Studies in neonatal pain measured behavioral, physiologic and biochemical responses to pain. While the behavioral changes had been explained as simple learned reflexes, the changes in physiological parameters and O₂ saturation after endotracheal intubation were more difficult to explain. Perhaps the most convincing studies demonstrating the real phenomenon of neonatal pain were a series of papers, published in the late 1980s, showing the hormonal and metabolic responses in infants undergoing surgery that were attenuated by general anesthesia. Since that time, numerous pain scales have been proposed to assess pediatric pain.

Today, the concept of neonatal and pediatric pain is well-established, and the lesson to be learned by the medical community is the need for caution in applying experimental findings in isolated animal proposals and philosophical theorems to clinical practice. It is ironic to note that at one time in our medical history, a simple unlettered parent could more accurately diagnose pain in their infant child than the most advanced experimental scientist or state-of-the-art philosopher.

References available on request from the author and the ASA Web site.



Unsung Heroes: The Pediatric Cardiac Anesthesia Story

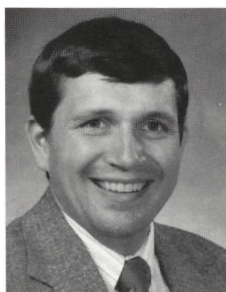
*Douglas R. Bacon, M.D., Trustee
Wood-Library-Museum of Anesthesiology*

Imagine working in a time when there are no antibiotics to combat bacterial infections. Monitoring is limited to a blood pressure cuff, stethoscope and a “finger on the pulse.” Inhalation agents are few; ether, nitrous oxide and the “new, revolutionary” cyclopropane, and calibrated vaporizers are still in the future. The heart and great vessels are thought to be inviolable, and surgical trespass will result in death for the patient. Yet, all around the pediatric wards, children are dying of “simple” diseases such as patent ductus arteriosus and coarctation of the aorta.

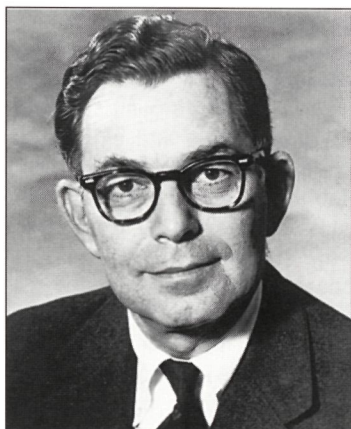
This was the environment in which the first pediatric cardiac anesthesiologists worked. In 1937, at the Massachusetts Memorial Hospital in Boston, Massachusetts, John Streider, M.D., a thoracic surgeon, ligated a patent ductus arteriosus that had become infected in a 22-year-old woman. While the details of the anesthetic remain unknown, the patient died on the fifth postoperative day. Yet, the case proved that the operation was possible and the anesthetic survivable. Eighteen months later, Robert Edward Gross, M.D., ligated the patent ductus of a 7-year-old that was not infected. She survived!¹ Cardiac surgery had begun.

In 1943, during the midst of the second World War, cardiologist Helen Taussig, M.D., asked thoracic surgeon Alfred Blalock, M.D., if he had anything to offer surgically in the correction of pulmonary stenosis in children. Dr. Blalock quickly described the experimental work he had been doing in the lab, anastomosing the left subclavian to the pulmonary artery. On November 29, 1944,¹ as allied troops marched across Hitler’s “Fortress Europe,” Merel Harmel, M.D., and Austin Lamont, M.D., used a miniaturized Waters “to and fro” canister to anesthetize a “blue baby.”² While that first anesthetic has been recorded as ether and oxygen,¹ subsequently, cyclopropane was used.²

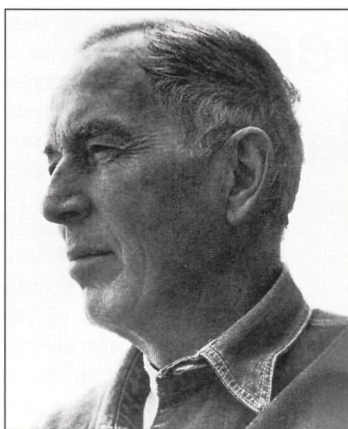
After the war and the success of the Blalock-Taussig operation, others began to search for ways to support the circulation of the child with congenital heart disease while the defects were repaired. At the University of Minnesota, Ralph T. Knight, M.D., and his department had to struggle with two simultaneous anesthetics as C. Walton Lillehei used the father of a 1-year-old boy as the surrogate heart while the child underwent ventricular septal defect repair. In the end, the father survived, but the child died of pneumonia. This did not deter the surgeons who went forward and performed eight other cases, with only two deaths. Realizing that there was the chance of a 200-percent mor-



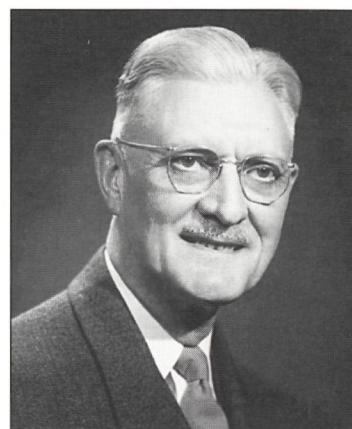
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Ralph T. Knight, M.D.

tality from one operation, the search for a mechanical heart and lungs intensified.¹

In 1955, the University of Minnesota team successfully used the heart-lung machine with a bubble oxygenator. James H. Matthews, M.D., Joseph J. Buckley, M.D., and Frederick H. Van Bergen, M.D., were among the first anesthesiologists to inform their colleagues of the effects of low flow extracorporeal circulation on humans.³ The effects of hypothermia were also noted and applied to these patients. In long-term follow-up of 106 patients operated on for Tetralogy of Fallot, more than 30 percent had graduated from college, including two who had completed medical school.¹ Working to save these children seems to have its rewards.

The heart-lung machine revolutionized pediatric cardiac surgery. For the first time, bloodless operating fields inside the heart were possible. Surgeons could fix what nature had mistakenly created. Perhaps most importantly, surgery on the heart could take place in very young children. There was no need for them to wait until adulthood for surgery. For the first time in history, there was real hope for babies born with congenital heart disease.

The heroic struggle of the operating team in congenital heart surgery has not been fully told. Surgeons have their history books filled with the technical details of the operations and who did what first. Anesthesiologists are rarely mentioned. Within the anesthesiology literature, this story has not been fully told. How does it feel to lose two out of eight patients operated upon? What input, if any, did the

anesthesiologist have with the surgeon in these cases? What techniques were fully used? It is the duty of anesthesiologists everywhere to preserve this history, and the Wood Library-Museum of Anesthesiology stands ready to support and preserve our unique history.

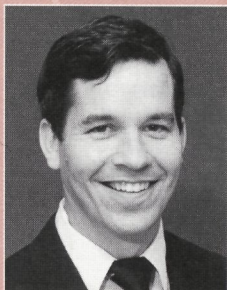
References:

1. Westaby S. Landmarks in Cardiac Surgery. Oxford: Isis Medical Media, 1997.
2. Harmel M, Lamont A. Anesthesia in the treatment of congenital pulmonary stenosis. *Anesthesiology*. 1948; 7:477.
3. Matthews JH, Buckley JJ, Van Bergen FH. Acute effects of low-flow extracorporeal circulation on cerebral circulation. *Anesthesiology*. 1957; 18:169. **ASA**

A Pictorial Review of Pediatric Anesthesia Artifacts

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

Postpartum to 1997's "Obstetric Anesthesia" theme, the Wood Library-Museum of Anesthesiology salutes "150 Years of Pediatric Anesthesia" in 1998. In addition, we are saluting the 50th anniversary of the conception of the world's first precision vaporizer: Dr. Lucien Morris' Copper Kettle. The following pictorial review was photographed from materials at the Wood Library-Museum of Anesthesiology.



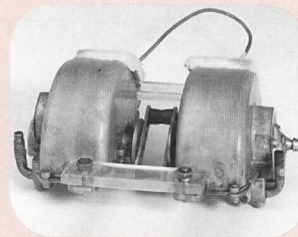
George S. Bause, M.D., is Honorary Curator of the Wood Library-Museum of Anesthesiology, Park Ridge, Illinois.



Life Saving Devices (LSD) Infant Lungmotor (c.1914)

Donor: Anonymous

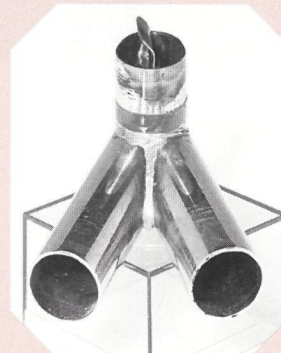
Patterned after Germany's Drager 1907 Pulmotor for resuscitating miners, the United States LSD Infant Lungmotor was a scaled-down version of the 1914 LSD Lungmotor for adults.



Revell Trico Motor Circulator Prototype (c.1946)

Donor: Daniel G. Revell, M.D.

An innovative Canadian, Dr. Revell adapted automobile windshield fans/wiper-motors to eliminate under-mask deadspace, which contributed to rapid, deep ventilations in spontaneously breathing children under general anesthesia.



Revell Divided Chimney-piece (1946)

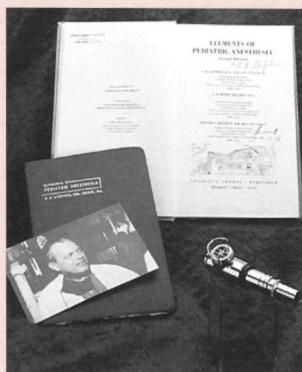
Donor: Daniel G. Revell, M.D.

Copied by mass-producer Heidbrink, the Revell divided chimney-piece was the one consistent component of the Revell circulator as it evolved through a series of prototypes for preventing under-mask deadspace during pediatric anesthetics.

Stephen-Slater Nonrebreathing Valve (1948)

Donors: Drs. Ronald E. Peacock and James D. Shadoan

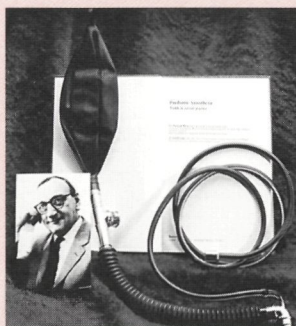
Designed by Drs. Harry M. Slater and "extremes of life specialist" C. Ronald Stephen, the Stephen-Slater valve could 1) prevent rebreathing of expired gas in the spontaneously ventilating child and even 2) control ventilation if the anesthesiologist held the expiratory valve closed while squeezing the bag.



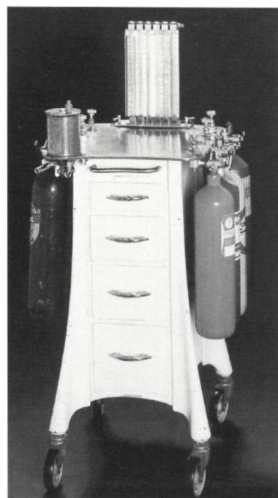
Jackson-Rees Modification of the T-piece (1950)

Donors: Drs. James D. Shadoan and Ronald E. Peacock

A Mapleson F system, this modification of Ayre's 1937 T-piece (by Dr. G. Jackson Rees) permitted spontaneous, controlled or assisted ventilation of the pediatric patient.



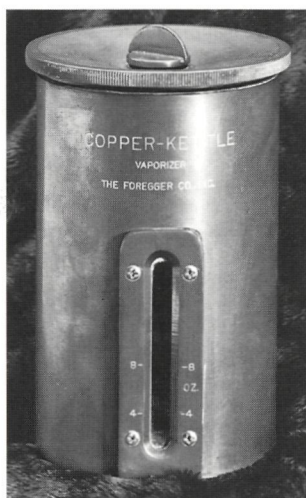
Celebrating Its 50th Anniversary: The Copper Kettle



First Commercial Foregger Texas Model with Copper Kettle (1952)

Donor: Theodore C. Smith, M.D.

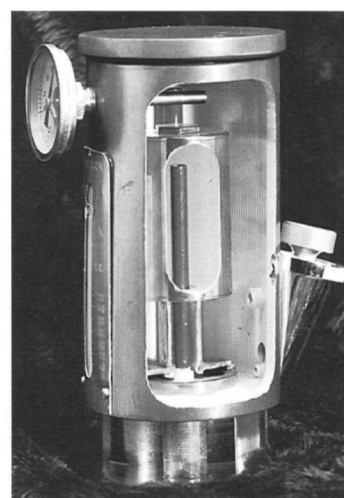
Dr. Lucien Morris designed this beautiful machine with a copper table top as part of the world's first precision vaporizer: the Copper Kettle.



Top-fill Foregger Model of Morris' Copper Kettle Vaporizer (1952)

Donor: James Tempesta, M.D.

Filled from the top, early versions of this precision vaporizer could be overfilled so that patients faced overdosing on liquid anesthetic spilled into the discharge tube. This year marks the 50th anniversary of Dr. Lucien Morris' conception of the Copper Kettle.



Side-fill Foregger Model of Morris' Copper Kettle Vaporizer (c.1965)

Donor: Elliott V. Miller, M.D.

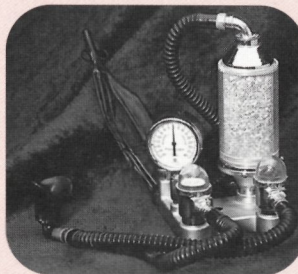
The world's first precision vaporizer, the Copper Kettle was now more "idiot-proof" with the side-filling port precluding overdose from overfilling.



**Bennett Model GBL
Infant Hand Resuscitator
(c.1950)**

*Donor: St. Elizabeth's
Hospital, Chicago, Illinois*

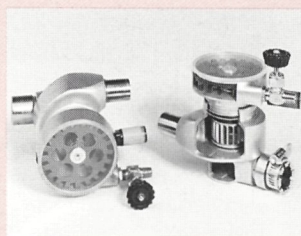
*Rubber-lined for comfort,
the Bennett's masks had a
fair amount of dead space.*



**Bloomquist Infant Circle
Absorber (1957)**

Donor: Robert Schreier, M.D.

*Foregger was the earliest
American manufacturer to
supply both adult and pedi-
atric circuits with absorbers
for removing CO₂, thereby
permitting closed circuit use
of expensive newer anesthetic
gases.*



**DUPACO Revell
"Circulator" (c.1960)**

*Donor: R. Douglas Sanders,
M.D.*

*Like the WAECO production
model, the DUPACO version
was not available before
1960.*



**Revell Mark III Circulator
(c.1959)**

*Donor: Daniel G. Revell,
M.D.*

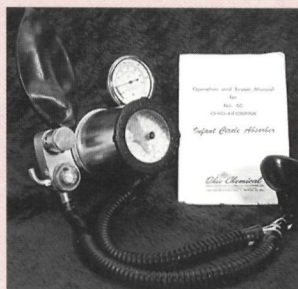
*A turbo-impeller, this version
of the Revell circulator united
a Trico automobile fan motor
with a squirrel-wheel air-
mover from an electric plant-
duster.*



**WAECO Revell "Circulator"
(c.1960)**

*Donor: Daniel G. Revell,
M.D.*

*Although Revell experiment-
ed with circulators as early
as 1946, the WAECO com-
mercial "Circulator" was not
available before 1960.*



**No. 60 Ohio-Heidbrink
Infant Circle Absorber
(c.1960)**

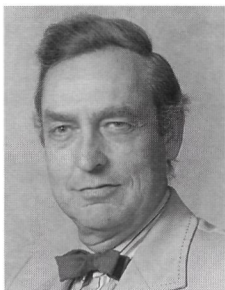
Donor: Myron J. Levin, M.D.

*As an answer to Foregger's
model of the Bloomquist
Infant Circle Absorber, the
Heidbrink Division of Ohio
produced this popular device
for absorbing CO₂ expired by
smaller patients.*

Development of Rectal Analgesia

Franklin B. McKechnie, M.D., Trustee
Wood Library-Museum of Anesthesiology

“Tobacco smoke has oft proved of use.
Nor proudly thou the potent herb refuse.
The enlivening fumes with watchful patience pour
Into the bowels thrice within the hour
If this should fail, tobacco clyster ply
Or other juice of equal energy.”



Franklin B. McKechnie, M.D., is retired from private practice in anesthesiology and resides in Winter Park, Florida. He served as ASA President in 1986.

From the times of antiquity, the rectum has been recognized as a readily available and easily accessible pathway into the body for the administration of drugs, food and fluids in cases where the usual oral route cannot be used. This remains true, especially in many pediatric cases. To have the child fall asleep in the mother's arms, undergo surgery and then wake up in the mother's arms with no memory of what took place in between, is a goal well worth seeking as long as it can be carried out safely and without complications.

Dioscorides, surgeon-botanist to Nero's army in the first century recommended giving "wine of mandragora," the juice obtained by boiling the roots of the *Atropa-mandragora* plant mixed in wine, given per rectum to ease the pain of spear and lance wounds. Clysters of all kinds (alcohol, opium, etc.) were used. The administration of various opioids by rectum was well-known in the Middle Ages, and it is presumed this technique was taught at the School in Salerno.

In 1767, the Society of Amsterdam for the Recovery of Drowned Persons recommended, among other more sensible treatments, that tobacco smoke should be given rectally and, if that was not successful, to make a clyster of tobacco juice and leaves and push that into the rectum. In 1745, R.A. Mead, M.D., writing in *Mechanical Accounts of Poisons*, stated, "There are many accounts on record of those, who, after having been drowned for many hours, have been brought back to life. This should certainly encourage the use of all means of resuscitation to be used upon such accident victims." He recommended blowing smoke into the bowels, warming the body by shaking, rubbing, rolling, etc, and possible venesection when the blood is warm enough to drip out of the veins.

The following is a partial excerpt taken from "A Poetical Version of the Rules of the Humane Society for the Recovery of Drowned Persons" as printed in a magazine called the *Cheap Magazine*, in May 1814.

*"Let one the mouth and either nostril close
While through the other the bellows gently blows,
Thus the pure air with steady force convey,
To put the flaccid lungs again in play,
Should bellows not be found or found too late,
Let some kind soul with willing mouth inflate,
Then downward, though but lightly, press the chest
And let the inflated air be upward prest.
But should not these succeed, with all your care,*

*With vigor then to different means repair;
Tobacco smoke has oft proved of use.
Nor proudly thou the potent herb refuse.
The enlivening fumes with watchful patience pour
Into the bowels thrice within the hour
If this should fail, tobacco clyster ply
Or other juice of equal energy."*

Thus, we find that using the rectum as a route to introduce various substances into the body was not a new approach at the time (1846) that ether was discovered to have anesthetic qualities. In fact, in a book published that same year as well as in a letter to the Academie des Sciences dated January 4, 1847, Nickolai Ivanovich Pirogoff, professor of clinical surgery at the Imperial Academy of Surgery at St. Petersburg, Russia, reported on his usage of ether given per rectum for surgical procedures. Pirogoff notes that the advantages of the rectal approach are: 1) the respiratory organs do not suffer at all (I believe that this may be in reference to the high degree of tuberculosis prevalent at the time); 2) etherization is completely independent of the will of the patient and acts very promptly (within two to four minutes of injection, one can smell ether on the patient's breath); 3) vomiting is reduced. He goes on to say, "It seems to me that this method will completely replace the pneumatic method, often disturbing and painful to the sick. Operations done by the pneumatic method have been very difficult, as, for example, several operations of the face, on the mouth and above all, the operations on children, can now be accomplished very easily by my method."

Others at this time also began to use rectal ether for anesthesia. Roux made some experiments, as did Vincent y'Yhedo and Marc Duprey. Although they were able to obtain fair-to-good anesthesia, their complications apparently prevented this method of using either pure ether or ether mixed in water and then pushed into the rectum from becoming widespread. Such complications as abdominal cramping, diarrhea and especially bloody diarrhea were fairly common.

No further mention of rectal ether is mentioned until 1884 when Molliere, following the suggestion of Alex Yverson, M.D., of Copenhagen, Denmark, employed the method at l'Hotel Dieu de Lyons and gave it much merit. He placed the ether in a bottle and heated it to the boiling point and thus, by expanding itself, it was pushed into the

rectum. No raw ether was intentionally administered, however, because this was heated above the boiling point and condensed in the rectal catheter; it gave rise to irritation, bloody diarrhea, etc. An interesting side observation in reading the papers published at that time is the wide range of seeming inaccuracies and the reporting of diametrically opposite results. It would appear that the results reported were dependent on whether the author was in favor of this method or against it. For example, Hunter (New York Medical Record, 1884) reported six cases and stated, "The method in question promises, in my opinion, to effect a radical improvement in the method of administering ether." He also gives the following advantages: 1) the small quantity of ether use; 2) absence of unpleasant sensations; 3) rapidity of onset and; 4) lack of struggling. He also notes that it is of "decided value even if it is only to be used as a preliminary step to the usual method." He reported *no* complications.

Weir and Bull (New York Medical Record 1884) reported seven cases: all had either simple or bloody diarrhea and one case collapsed postoperatively. Apparently, there was little communication concerning methods of anesthesia or the use of ether by rectum, for in 1905, John Cunningham, M.D., reported in the *Boston Medical & Surgical Journal* that as house officer at Boston City Hospital, he had not heard of it. The idea came to him when he noticed that fluids were being given rectally and he thought, why not ether? Abner Post, M.D., whetted his interest, and he proceeded to develop an apparatus from which only the ether vapor would be allowed to enter the bowel. He also realized the importance of a good rectal cleansing the night before and the morning of surgery. He recognized too, that rectal gas had to be released in order to prevent dilution and by so doing was able to produce a faster and smoother course. Cunningham also found that by allowing only the vapor of ether to enter the bowel, the incidence of diarrhea and particularly bloody diarrhea was essentially nil. It is interesting to note that very often ether would be administered by mask until the patient was "asleep" and then the rectal solution was given for the surgical procedure.

This is not to say there were no complications. One in particular was repeated but not explained. The incidence of death seemed to be related to patients being kept under rectal anesthesia for two hours or more resulting in several deaths. For example, in Kadjan's Clinic in St. Petersburg, there were 308 cases and three deaths reported.

There is no question that Cunningham's insistence of an empty bowel and either ether-air or ether-oxygen vapor only be used were much safer than heretofore.

The next major advance was in 1913 when James Taylor Gwathmey, M.D., introduced the use of oil as the proper substance to mix with ether. Initially using carron oil, he very shortly changed to olive oil. The advantages that he gave for using this mixture were: 1) no mask and, therefore, no fear; 2) no expensive apparatus; 3) lessened after-effects; 4) greater relaxation; 5) wide margin of safety; and 6) more even plane of anesthesia. This was no doubt due to the oil mixture releasing its ether at a steadier rate than air or water. It is therefore more controllable, but as later pointed out, once a set dose has been given, it is difficult to retrieve. Despite other advances, Gwathmey continued to use his oil-ether mixture of analgesia in obstetrical cases occasionally mixing in quinine or alcohol, paraldehyde, magnesium sulfate or latex. Lathrop pointed out and Gwathmey confirmed that his mixture worked well because of the following: 1) the constant rate of evaporation; 2) the distension of the colon causing less to be absorbed; 3) cooling of the mixture as the ether evaporates; and 4) the difference between the absorptive powers of the colon and the eliminative powers of the lungs.

In the constant search for better, safer and faster means of producing a satisfactory anesthetic for surgery, many drugs have been developed. Probably the first to find widespread use following ether in oil was the introduction

of Avertin in 1929. It received great popularity because patients liked it. Children and anxious adults were subjected to minimal psychic trauma. There is no question that Avertin produced a quiet, trouble-free, cooperative patient in most cases. However, Henry K. Beecher, M.D., reported in 1938 on eight deaths possibly due to Avertin and, although its early acceptance was quite good, it rapidly fell into disfavor. During the following years until the present, a number of barbiturates (e.g., Evipal Soluble, Amytal, Surital, sodium Pentothal and most recently methohexital) were used rectally to quiet the anxious pediatric patient prior to surgery. All were used as preoperative analgesics; none were ever intended to be used as full anesthetics like rectal ether.

The goal in the development of all these agents is to be able to give a nonirritating substance by rectum (to avoid needlesticks, face masks, vision of the operating room, etc.) that will quickly and smoothly put an anxious pediatric patient into a somnolent state. In addition, it would be nice to keep side effects such as intestinal distension, defecation, diarrhea and hiccups at an absolute minimum. Certainly, the drugs, the patients and the doctors have striven for these ideals since 1847 and although not perfect, they have come a long way.

References available on request from the author and the ASA Web site.



M. Digby Leigh, M.D., Pioneer Pediatric Anesthesiologist

C. Ronald Stephen, M.D., Trustee
Wood Library-Museum of Anesthesiology

If the following remarks appear to be biased, the reason is that I was exposed, some 55 years ago in the formative years of my career, to the teaching prowess of M. Digby Leigh, M.D.

Dr. Leigh was born in 1904 in Jersey, Channel Island. His early life and schooling were in British Columbia. His medical education was at McGill University, Montreal, Quebec, Canada, obtaining his M.D. degree in 1932. One year of internship and one of general surgery were followed by a year of general practice in Montreal. His anesthetic career, no doubt influenced by Wesley Bourne, M.D., the doyen of anesthesia in Montreal, was launched by a residency with Ralph Waters, M.D., from 1935 to 1938. Returning to Montreal, he was appointed Director of Anesthesia at the Children's Memorial Hospital.

With the onset of the second World War in 1939, the Royal Canadian Army Medical Corps (R.C.A.M.C.) recognized a shortage of anesthesia personnel to serve in the forces. Drs. Bourne, Leigh and Harold Griffith banded together to train such personnel as well as other residents in three months of intensive training courses.

In 1947, Dr. Leigh moved to British Columbia where he became Director of Anesthesia at the Vancouver General Hospital. In 1954, he was lured to Los Angeles, California, where he became Director of Anesthesiology at Children's Hospital and Professor of Anesthesiology at the University of Southern California, positions that he held until his retirement in 1970.

Dr. Leigh was certified in anesthesia by the Royal College of Physicians and Surgeons in Canada and was a diplomate of the American Board of Anesthesiology. In collaboration with Kay Belton, M.D., he authored two editions of *Pediatric Anesthesia* in 1948 and 1960.

My first contact with Dr. Leigh was from December 1, 1942, to February 28, 1943, when I was one of four young R.C.A.M.C. officers assigned to attend an intensive course in anesthesia. Dr. Leigh, along with Dr. Bourne and Dr. Griffith, gave us sufficient knowledge to practice anesthesia independently. It was indeed an arduous task.

Some 55 years later, as I write this tribute, the teaching abilities of Dr. Leigh stand clearest in my mind:



M. Digby Leigh, M.D.

Here we are in the operating room with a 6- or 7-year-old child on the table with his chest and abdomen laid bare (the operating room is warm). Dr. Leigh begins the induction, after premedication with atropine, with a Vinethane drip on the mask, followed by the gentle administration of ethyl ether.

"Now follow the chest and abdomen. Bend down so you are level with the chest. See the chest movements."

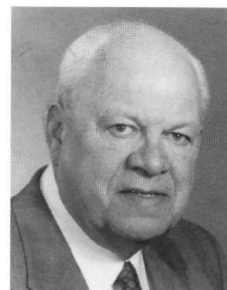
As one looks, the muscles of the chest appear to move upward and evenly with each breath. As the administrator provides more ether, Dr. Leigh says, "Now look at the chest. I am relaxing my hold on the jaws." Sure enough, the movements of the chest become jerky and the abdomen tends to balloon.

"See, the child has developed some upper respiratory obstruction from the tongue falling back in the throat. Now I will try to relieve the obstruction by holding the jaw properly again." The chest movements again become regular and even, and the ballooning of the abdomen stops.

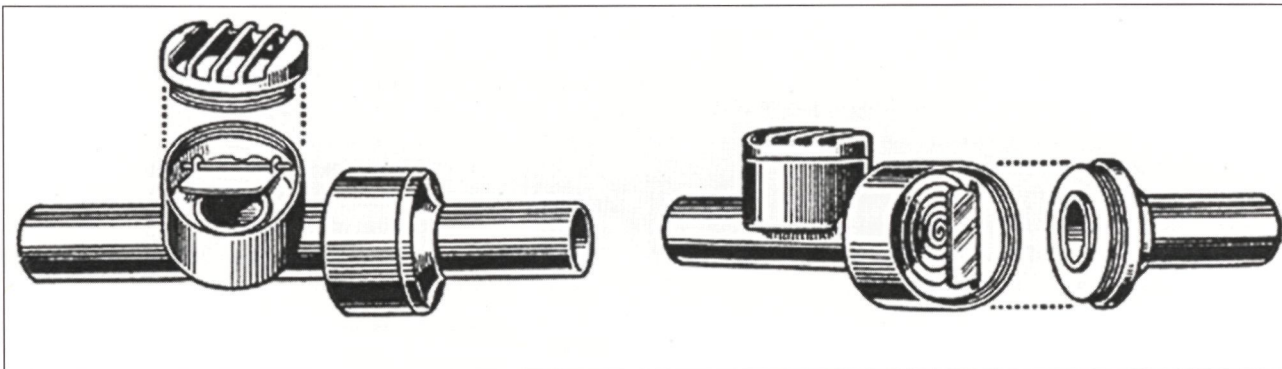
"Now I am going to deepen the anesthetic and see what happens." As one watches, the movements of the chest become less active.

"See, the patient is progressing from the second to the third plane of anesthesia. The chest movements are becoming less active. Now watch what happens." The chest movements appear to almost stop and the abdomen tends to balloon again.

"Now the patient is in the fourth plane of the third stage



C. Ronald Stephen, M.D., is Professor Emeritus, Washington University School of Medicine, St. Louis, Missouri.



Morton Digby Leigh, M.D., Pediatric Nonbreathing Valve

of anesthesia and, if one continues to drop ether, the patient will stop breathing entirely. So we will stop giving ether for a minute or two. See what happens.” Gradually the chest movements begin to function again.

“Now the patient is in the third plane of the third stage of anesthesia. The jaw is completely relaxed, and I am going to insert a curved airway to prevent the tongue from falling back again to cause upper respiratory obstruction.” He deftly inserts the airway and the chest muscles move freely up and down.

“At this stage, since we want to maintain a free airway through the operation, we are going to insert an endotracheal tube into the larynx.” He again deftly does so and the incision is made after the tube is taped securely to the face.

So the operation proceeds.

One soon learns how Dr. Leigh has become the consummate pediatric anesthesiologist. As he stands at one’s side, driven, shrewd, rambunctious and dynamic, he spots one’s errors as they occur and one soon recognizes his tremendous abilities as a teacher. The lessons that one learns are never to be forgotten.

Dr. Leigh invented other ways to reduce the hazards of anesthesia in infants and children. He devised the first nonbreathing valve to reduce the dead space in the anesthetic systems used. Others recognized its value and made modifications, such as B. Raymond Fink, M.D., C. Ronald Stephen, M.D., and Harry M. Slater, M.D. With the same concept in mind, Dr. Leigh made an infant circle filter that became widely used.

Dr. Leigh always had the idea of making weekly conferences not didactic, but rather lively and full of audience participation. The concept resulted in the audience preparing itself in advance of the topic to be presented, which served a dual purpose in the minds of the participants. Drs. Leigh, Bourne and Griffith began these conferences while still in Montreal, and the participants, both English- and French-speaking, responded by attending in large numbers.

So, Dr. Leigh made his mark in pediatric anesthesia, making it live and prosper as he imbued his students and colleagues with the importance of fostering this new subspecialty of anesthesiology.



Members of Congress Make Commitment to Patient Safety

Manuel E. Bonilla
Federal Affairs Coordinator

The ASA thanks the following members of Congress for their commitment to patient safety and their co-sponsorship of H.R. 3629/S. 1811, the Safer Seniors Medical Care Act of 1998. This bill seeks to assure Medicare and Medicaid patients the continued involvement of a physician in the delivery of their anesthesia care.

Alabama

Rep. Spencer Bachus (R-6th-Central Alabama - Tuscaloosa and Jefferson counties)

Arizona

Rep. John Shadegg (R-4th-Phoenix area)
Rep. Matt Salmon (R-1st-Part of Maricopa County)

California

Rep. John Doolittle (R-4th-Northeast central California)
Rep. Howard "Buck" McKeon (R-25th-North Los Angeles County, Lancaster and Palmdale areas)

Florida

Rep. Bill McCollum (R-8th-Orange County, Orlando area)
Rep. Dan Miller (R-13th-Manatee and Sarasota counties, Sarasota and Bradenton)
Rep. Joe Scarborough (R-1st-Florida Panhandle - Pensacola and Ft. Walton areas)
Rep. Cliff Stearns (R-6th-North central Florida - Lake and Marion counties)
Rep. Dave Weldon (R-15th-Osceola, Indian River and Brevard counties)

Illinois

Rep. Donald Manzullo (R-16th-Northern Illinois - Rockford)

Indiana

Rep. David McIntosh (R-2nd-Eastern Indiana - Muncie and Columbus areas)
Rep. Mark Souder (R-4th - Ft. Wayne and Huntington areas)

Louisiana

Rep. John C. Cooksey (R-5th-Northeast Louisiana - Monroe and Alexandria areas)

Michigan

Rep. Dave Camp (R-4th-Central Michigan)

Nevada

Rep. John Ensign (R-1st-Las Vegas area)

New Jersey

Rep. Steven R. Rothman (D-9th-Hackensack and Ft. Lee areas)
Rep. Christopher H. Smith (R-4th-Central New Jersey - Trenton area)

North Carolina

Senator Lauch Faircloth (R-North Carolina)
Senator Jesse Helms (R-North Carolina)
Rep. Walter Jones (R-3rd-Outer Banks, parts of Greenville)
Rep. Sue Myrick (R-9th-Gaston county, part of Charlotte)

Oklahoma

Rep. Steve Largent (R-1st-Tulsa area)

Oregon

Rep. Peter DeFazio (D-4th-Southwest Oregon - Eugene area)

Texas

Rep. Ken Bentsen (D-25th-Houston and Pasadena areas)
Rep. Gene Green (D-29th-Parts of Houston)
Rep. Sam Johnson (R-3rd-Plano area, northeast suburbs of Dallas)
Rep. Pete Sessions (R- 5th-Parts of Dallas, eastern and southern suburbs of Dallas)

Has your federal lawmaker made a commitment to patient safety? Additional support for H.R. 3629/S. 1811 is critical to the health and safety of our nation's Medicare and Medicaid beneficiaries. If your members of Congress are not on this list, call them and ask for their support.

FDA Alert:

Hazards Associated With Lead Wires and Cables

The Food and Drug Administration (FDA) has issued a new, important requirement that will help to safeguard patients from electrical hazards associated with lead wires and cables used on many medical devices. Beginning January 1, 1999, only electrode lead wires and patient cables that are **protected** may be used with the following devices:

- breathing frequency monitors;
- ventilatory effort monitors (apnea detectors);
- electrocardiographs (ECGs);
- radiofrequency physiological signal transmitters and receivers;
- cardiac monitors;
- electrocardiograph electrodes (including pre-wired ECG electrodes);
- patient transducer and electrode cables (including connectors);
- medical magnetic tape recorders (e.g., Holter monitors);
- arrhythmia detectors and alarms; and
- telephone electrocardiograph transmitters and receivers.

Protected cables and leads are those that cannot be inadvertently inserted into electrical outlets and thus pose an electrocution hazard to patients. The FDA is taking this action because patients in the past have been seriously harmed or killed when unprotected electrode lead wires and patient cables have been accidentally inserted into live

electrical outlets — in some cases by young children and in other cases by health care personnel.

You can fulfill this requirement through the use of inexpensive adapters to protect cables and leads, which are available from many sources for most medical devices. In some cases, retrofitting may work. Contact your suppliers to see what kind of correction will work best for you. If the correction means you are facing an unreasonably expensive fix, you may request a variance or exemption from the FDA. The request needs to document that conversion adapters are not feasible and retrofitting is far too expensive. Your request must also propose an alternate method of dealing with the problem and must clearly show that it is effective in protecting patients.

The requirement applies to devices already in use. The requirement as it applies to newly manufactured devices by means of a performance standard went into effect in May 1998. Under the standard, device manufacturers must use protected electrode lead wires and patient cables. Beginning in May 2000, these requirements will apply to electrode lead wires and patient cables that are used with **all** types of medical devices.

For more information about this matter, check the FDA's Web site at <<http://www.fda.gov/cdrh>> (search in the topic index under L for lead wires); or contact Stewart Crumpler in the FDA Office of Compliance at (301) 594-4659 or by facsimile at (301) 594-4672.

Nondeductibility of 1998 ASA Dues

Each December, in conformity with the federal tax laws, ASA advises its members through the *NEWSLETTER* of that portion of their dues for the next year that are estimated to be nondeductible because of ASA expenses for lobbying. Last December, the estimate was set at 7 percent of a member's dues.

As members are aware, 1998 has turned out to be a year characterized by an unusually intense level of ASA lobbying, principally in connection with the Health Care Financing Administration's proposal to eliminate its current Medicare/Medicaid requirement that nurse

anesthetists be supervised by a physician. Thus, in the first six months of the year, lobbying expenses aggregated about 14 percent of estimated dues income, and it is reasonable to expect that the percentage for the year will rise to about 20 percent by year-end.

In the December 1998 issue, members will be given not only an estimate of nondeductibility for 1999, but also the best estimate then possible for 1998. A final figure for 1998 will be published in the February 1999 issue of the *NEWSLETTER* and posted on the ASA Web site about February 1.

... Presentation Graphics and Computer Presentations

J. Kent Garman, M.D.

In this third "What's New In ..." article on computer technology, I will discuss the state of the art in preparing and presenting lectures. When I first started to lecture, I would give my material to a secretary who would type lists for slides. These would then be sent to a photographer who would produce either black-and-white or blue-and-white slides. The entire process took a week or two and was very labor-intensive. I would then use a slide projector, after arranging my slides in a carousel tray, for my lecture. Half of the time, there would be typos or upside-down slides in the presentation. The slides lacked graphics and vivid colors. Times have changed. Today, the modern lecturer uses a personal computer to both prepare and present a lecture without involving anyone else in the process.

One of the most popular software programs used for presentation graphics is Microsoft PowerPoint, available for both Windows and Macintosh platforms. I have used other programs in the past, Harvard Graphics and ASAP WordPower being the most recent, but none have the ease of use, integration or feature richness of current versions of PowerPoint. To start, you can create an outline in either PowerPoint or Microsoft Word that will be converted automatically into individual slides. This is a very easy method for writing a lecture. If you wish, you can work in an actual slide-like screen to prepare individual slides. Text is automatically formatted based on the template you choose and fits to the slide's boundaries.

PowerPoint comes with approximately 50 templates, professionally designed backgrounds using graphics and color, that you can use to create a unique slide show. A complex slide can be revealed one item at a time during the presentation, with arrows and text appearing to flow onto the slide. Transitions from one slide to another can be done in various ways, including fades, overlaps, sliding replacements from any angle and other visually appealing methods.

Also included is a clip art and photo library, the use of which markedly enhances any presentation. The clip art can be easily programmed to appear animated. It is possible to attach sounds and short movies to the presentation. The addition of graphics and animation, if not overdone, can involve the audience in your presentation in a way that was impossible in the past.

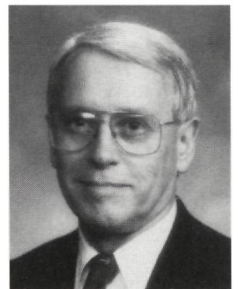
Anything that appears on the computer screen (e.g., Internet Web pages or output from any other software pro-

gram) can be placed into a PowerPoint slide. Just use the "print screen" button, or use the key combination of control and the "c" key on your computer after displaying the screen you wish to include. Then go to an empty PowerPoint slide template, place the cursor into the slide and "paste," or use the key combination of control and "v." The screen will then appear in the slide. You can adjust the image size to fit the total size of the slide or crop unwanted edges from the image using the PowerPoint "picture" toolbar. As an example, I have given lectures about the Internet, displaying actual recorded images of Internet Web pages without the necessity of connecting to the Internet during the presentation. [A word of caution: Duplication and use of certain information and pictures from someone's Web site might be a violation of the copyright laws. Look but don't touch!]

Features for the presenter include a method of rehearsing and determining the timing of the presentation with actual per-slide and total times displayed. Slides can be viewed on your portable computer prior to the show, obviating the need for a separate "speaker's ready room" with multiple carousel projectors. The best part, however, is the ability to rearrange, edit, add and delete slides right up to the start of your lecture. I have often markedly revised my lecture on an airplane or in my hotel room just prior to a talk. This allows for the correction of typos and the addition of that one last critical point to a presentation.

Other features include the ability to print hard copies of the presentation for the audience with two, three or six slides per page, in either color or black and white. You can also produce pages with room for notes, either yours or the audience's. It is also relatively simple to place an entire slide presentation onto the Internet for viewing in any

J. Kent Garman, M.D., is a Physician Executive Fellow at Catholic Healthcare West and Clinical Professor of Anesthesia, Stanford University School of Medicine, Stanford, California.



browser. PowerPoint includes a feature called "Meeting Minder" that allows for recording of minutes and task assignments during a presentation, a feature more appropriate for corporate presentations or small meetings.

Now, having prepared your lecture electronically, do you want slides or overheads? These can be easily made from a PowerPoint file, resulting in a very nice color output. However, many of the advanced features of PowerPoint, such as animations and slide transitions, are lost. You are also constrained by the projection technology, especially with overhead projectors.

When asked to give a presentation, a prerequisite for my acceptance is the availability of an appropriate computer projector for my presentation. So far, I have always been able to arrange for this method of projection, and the devices have always worked and have been set-up by knowledgeable technicians. It is very important to hook your portable computer up to the projector prior to the presentation to ensure compatibility and proper function. I

find the use of a radio-linked mouse enables mobility on the stage. You can place your portable computer on the lectern in a position that enables you to see the computer screen to avoid turning your back to the audience. Be sure that you disable screen savers and hook your computer up to a power supply to avoid interruptions. You should certainly practice your presentation with your computer and be familiar with any potential problems with your computer hardware and software.

The increase in your efficiency and enjoyment as well as the improvement in your lecture aids will be addicting. Once you begin to give lectures digitally, you will never want to go back to slides or overheads.

Editor's Note: *The mention of certain brand-name products is not intended to be construed as an endorsement by ASA and is essentially the personal preference of the author. — M.J.L.*

Black box edits" are secret third-party payment rules that result in claim denials based on the particular code or combination of codes submitted. This concept is as absurd as it sounds. Nevertheless, commercial insurers have used software incorporating their own edits to cut costs for some years, and they have resisted physicians' efforts to learn what may and may not be billed on the grounds that the software algorithms are "proprietary" or trade secrets. The Health Care Financing Administration (HCFA) is about to add 500 commercial black box edits to the tens of thousands of edits already enforced through the Medicare Correct Coding Initiative (CCI).

CCI Edits and Anesthesia

Anesthesiologists already have ample experience with claims-editing software. Before the CCI went into effect on January 1, 1996, ASA sued HCFA in order to prevent the bundling of *invasive monitoring lines* with anesthesia services, and HCFA quickly settled by agreeing to delete the edits that would have paired codes 36489, 36491, 93503, 36620 and 36625 (as well 95925, 92585, 92280, 95955, 95900 and 95961) with codes 00100 through 01999.

Subsequently, the CCI software distributed to the Medicare carriers was modified so as to reject all claims for *postoperative pain epidurals* (codes 62274, 62275, 62278 and 62279) filed together with anesthesia codes even if the "separate service" modifier (-59) appeared on the form. This time, HCFA corrected the problem without a lawsuit, issuing a memorandum on November 12, 1997, that instructed the carriers to change the software back.

At or around the same time that the CCI software began to reject "separate service" claims for epidurals, it also switched the "correct coding modifier" indicator so as to reject claims for *nerve blocks* submitted together with anesthesia codes. This change came to the ASA Washington Office's attention only after HCFA had ordered the correction to the epidural edits, and it was therefore not part of the negotiations that led to the November 12 carrier memorandum. Discussions with the HCFA staff responsible for

'Black Box Edits' May Allow Medicare to Bounce More Claims

Karin Bierstein,
Practice Management Coordinator

making and unmaking both of these changes, however, have produced a promise that the CCI software will once again be fixed. Although nothing is certain until it appears in writing, by the beginning of 1999, anesthesiologists should be able to obtain Medicare payment for nerve blocks that constitute, and are identified as, separate procedures from the anesthetic.

Other changes for the new year are likely as a result of a set of nearly 13,000 additional code pairs that HCFA has recommended for inclusion in the 1999 edi-

tion of the CCI. The list of these code pairs has just been distributed through the American Medical Association (AMA), which will be coordinating reactions from the various specialty societies. The ASA Committee on Economics and Washington Office staff will be analyzing the proposed changes and will keep members posted.

Coming October 1 (Perhaps), the Black Box Edits

Why does HCFA need to purchase additional editing software? Answer: Congressional pressure has pushed it in this direction, with several legislators strongly believing that more aggressive claims-bundling systems will reduce Medicare spending appropriately.

HCFA has announced its intention to begin implementation, through the Medicare carriers, of 500 new code pairs on October 1. As of August 17, however, HCFA was still in negotiations with the software vendor, so the deadline may pass without action. The hang-up appeared to be the vendor's insistence on maintaining the secrecy of its claims review criteria. In this matter, HCFA is sympathetic to the physician's point of view. HCFA Administrator Nancy-Ann Min DeParle testified before a congressional subcommittee in May that she did not consider black box edits fair and implied that she would resist their use in the Medicare program.

It is certainly difficult to make any principled arguments in favor of secrecy. The undisclosed bundling rules are analogous to unposted highway speed limits enforced through traffic stops and fines. How would such an

Which Procedures Are Going To Be “Bundled?”

We need you to tell us. As things stand, neither HCFA nor the Medicare carriers are going to give advance notice of new commercially purchased “edits” that preclude payment for a procedure deemed included (or incompatible) with the other member of a pair of codes.

HCFA has said that it will provide the carriers with manuals explaining the rationale for the newly prohibited code combinations, and that the carriers should use these manuals to help explain denials to callers. A help desk at the vendor's office will be available for carrier inquiries. The carriers will also be required to track denials in order to determine how much money (if any) the software is saving Medicare. Thus, the carriers will acquire some knowledge, but there are evidently no plans to share the information with the physician community.

Although the proposed 1999 CCI edits have already been disclosed, it is possible that we will miss some anesthesia problems among the thousands of edits. *Your help in identifying new edits implemented through this vehicle is critical.*

Readers may recall that several years ago, ASA fended off an effort by a commercial claims-editing software system to bundle monitoring lines with the anesthetic. The vendor in

question has been acquired by the vendor whose product HCFA is now attempting to purchase. The odds are good that Swan-Ganz and central venous pressure procedures will turn up on any list of edits affecting anesthesiology.

To challenge any unreasonable edits, the ASA Washington Office will need to know exactly what they are. *If you begin to see claims denied because one procedure is deemed included in the payment for the other, please provide us with the following information:*

- all of the codes (not just procedure names) affected
- the exact language of any explanation appearing on the Explanation of Benefit (EOB)
- the name and location of the carrier
- the date of the service provided
- any relevant bulletins or notices from the carrier
- answers given by carrier representatives

Please forward the information to Karin Bierstein by e-mail to <k.bierstein@asawash.org> or by fax at (202) 371-0384. Include your name and telephone number.

enforcement system foster compliance and contribute to safety? Likewise, how could secret claims-review criteria, applied through unexplained payment denials, encourage “correct coding?” Why would it be more cost-effective to force physicians to appeal, and the carriers to process, rejected claims over and over until some sort of coding rule can be discerned?

Not only should physicians be told what the rules are, they should have a role in ensuring that the rules make sense. The CCI edits in place now reflect a significant amount of input from specialty societies and AMA; the AMA in particular fought for a role first for the CPT Advisory Committee and then for the ad hoc Correct Coding Policy Committee (CCPC). HCFA adopted some two-thirds of the CCPC's recommended changes in 1996 and, since then, has responded to some specialty society concerns regarding improper code pairs, including ASA's concerns. It seems clear that the consultative process and the

involvement of the medical profession can improve the product and its acceptance.

The AMA is continuing to lobby HCFA to use the CCPC to analyze the appropriateness of any new claims edit software and to engage “in a cooperative effort to help educate physicians about what constitutes correct coding.” ASA will strongly support these efforts.

ASA Comments to HCFA Are on the Web Site

Comments filed by ASA on proposed rules published by HCFA in the *Federal Register* are available on the ASA Web site. Three sets are currently posted:

1. *Telemedicine*. As required by the Balanced Budget Act of 1997, HCFA is planning to pay a consultation fee to the medical expert in a referral center who provides guidance

through an interactive telecommunications system to the practitioner who is evaluating the patient. This proposal will permit nonanesthesiologist physicians and nurses in certain rural locations to obtain the expert advice of anesthesiologists. There are several problems in the language of the regulations as drafted, however, prompting ASA to respond in its comment letters.

2. *Elimination of facility fees payable to accredited ambulatory surgical centers for nerve blocks.* Proposed changes in the method of determining which procedures are on or off the ambulatory surgery center list would result in the elimination of the \$314 fee payable to the facility for most of the nerve block codes. ASA points out that these procedures generally cannot be performed in private physicians' offices, which means that they will have to be performed in the hospital or not at all.

3. *Changes to the practice expense component of the Medicare fee schedule.* After years of efforts involving numerous meetings with physicians and other specialty society representatives, HCFA has proposed a completely

different approach to the measurement of practice expenses. Overall, there would be a 3.5-percent increase in the anesthesia conversion factor. Many pain procedures would also see an increase, but payments for invasive monitoring lines would be reduced.

These comment letters can be located at <<http://www.asahq.org/Washington/>>.

Dates Set for Practice Management Conference Next Year

The fifth annual ASA Practice Management Conference will be held on February 19-21, 1999, at the Renaissance Parc 55 Hotel, San Francisco, California. Plan to register early as previous conferences have been at maximum attendance. Among the topics to be addressed are office-based anesthesia, contracts with other anesthesiologists, with hospitals and with third-party payers, and nurse anesthesia issues.

Annual Meeting Preview in Orlando

David C. Santamore, M.D.

The ASA Annual Meeting in Orlando, Florida, has much to offer today's anesthesiology resident. The Resident Component Governing Council has organized a series of lectures and forums during the Annual Meeting that will provide residents with an opportunity to explore political, educational and career issues. All residents are welcome to take an active role at the meeting.

Activities begin Friday evening, October 16, with a seminar on lobbying and political activities sponsored by the ASA Washington Office. Here, residents can learn skills that will enable them to make future legislation. This will be followed by an informal reception, where residents will be able to meet their peers from around the country.

On Saturday, October 17, the Resident House of Delegates will convene with an opening speech from the President-Elect of ASA. With representatives from most of the nation's training programs, this year's House of Delegates is set to debate a variety of topics in Orlando. The House serves as the policy-forming mechanism for the Resident Component and delegates are encouraged to submit resolutions to it. The election of new officers for the ASA Resident Component Governing Council will also take place during this meeting (please see the August issue of the ASA NEWSLETTER for further details).

On Sunday, October 18, there will be a roundtable discussion about pertinent resident issues hosted by members of the Resident Component Governing Council. This open forum is an opportunity for residents to express their views on a number of topics, including training program numbers, medical school loans and employment contracts. These ideas and concerns will be forwarded to the ASA leadership and American Medical Association through the Council's members.

Besides its legislative function, the ASA Annual Meeting provides opportunities for postgraduate endeavors. Again this year, large displays representing all regions of the country will list many jobs and fellowship positions. There are ample occasions for residents to network with potential employers through the many meetings, social events and university department receptions held during the Annual Meeting.

Residents should also take advantage of the more than 200 ASA-sponsored lectures, panels and workshops held during the meeting. It is here that the latest advances in anesthesia are often first presented. Residents can take these new techniques and scientific findings back to their home institutions.

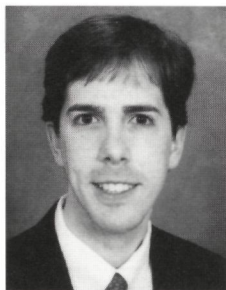
The ASA Resident Component has scheduled its annual meeting to coincide with the ASA Annual Meeting activities. The planned functions of the ASA Resident Component are:

1. Leadership Training/Grassroots Advocacy Workshop: Friday, October 16 from 7 p.m. to 9 p.m. at Omni Rosen Hotel, Salon 2.
2. Resident Reception: Friday, October 16, from 9 p.m. to 10:30 p.m. at Omni Rosen Hotel, Salon 1.
3. Resident Component House of Delegates Meeting: Saturday, October 17, from 4 p.m. to 6 p.m. at The Peabody Orlando Hotel, Florida Room.
4. Resident Forum: Sunday, October 18, from 11 a.m. to 1 p.m., at The Peabody Orlando Hotel, Plaza International Ballroom H.

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 18 and at 8 a.m. on Wednesday, October 21.

With educational, political and career themes, the 1998 Annual Meeting will be a meeting for all reasons. Whether traveling to Orlando as a delegate, presenter or visitor, make plans to attend the Resident Component functions. All residents are welcome, and it is a great time to begin involvement in the activities of the ASA.

We look forward to seeing you in Florida!



David C. Santamore, M.D., is a CA-2 anesthesiology resident at Thomas Jefferson College of Medicine, Philadelphia, Pennsylvania. He is Secretary of the ASA Resident Governing Council.

Candidates Announce for Elected Office

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

- **President-Elect**
Ronald A. MacKenzie, D.O.
- **First Vice-President**
Neil Swissman, M.D.
- **Vice-President for Scientific Affairs**
James E. Cottrell, M.D.
- **Assistant Secretary**
Marcelle M. Willock, M.D.
- **Assistant Treasurer**
Karl E. Becker, M.D.
Casey D. Blitt, M.D.
Orin F. Guidry, M.D.
Roger A. Moore, M.D.
- **Speaker, House of Delegates**
Barry M. Glazer, 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.

ASA Committee on Communications Offers Slide Shows

Five slide shows with outlines have been developed by the ASA Committee on Communications for members to use for public education. The slide shows are as follows:

- “Anesthesiology Overview” follows an anesthesiologist through the stages of preoperative evaluation, intraoperative management and post-operative care.

- “Planning Your Childbirth” answers some of the more common questions about analgesia and anesthesia for labor and delivery. This slide show also addresses important issues about regional blocks, general anesthesia for cesarean deliveries and patient monitoring.

- “Anesthesiology and the Lay Public” covers the basics of anesthesia delivery, equipment, techniques and medications. This slide show also contains several slides that are specific to pediatric anesthesia.

- “What You Should Know Before You Go Under” was prepared by the Massachusetts Society of Anesthesiologists. This slide show focuses on the history of anesthesia and the accomplishments of past anesthesiologists. It also outlines the types of anesthesia, patient safety monitoring and the role of the anesthesiologist in perioperative care of the surgical patient.

- “Anesthesia for the Elderly Patient” was prepared with the assis-

ABA Announces ...

Critical Care Medicine Examination

The American Board of Anesthesiology (ABA) will administer a written examination in Critical Care Medicine on Saturday, September 18, 1999. To qualify for examination, applicants must be an ABA diplomate by the fall of 1999 and meet the Board's training and other entrance requirements. The ABA Booklet of Information

and application may be requested by writing to the Secretary, American Board of Anesthesiology, 4101 Lake Boone Trail, Suite 510, Raleigh, North Carolina 27607-7506. The application itself may be downloaded from the ABA Web site <www.abanes.org>. The ABA must receive completed applications by March 1, 1999.

tance of the Committee on Geriatric Anesthesia. This slide show describes some common changes that occur with getting older and how these changes influence the practice of anesthesia with elderly patients.

All of the slide shows are available for a six-week loan. You may obtain the slide shows by contacting the ASA Communications Department at (847) 825-5586 or <communications@ASAhq.org>.

ASA Web Site Midyear Statistics

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 five domains visiting the Web site for the month of July and the top five pages visited in July.

Top 5 Domains Visiting in July

U.S. Commercial	4,223
U.S. Organization	242
U.S. Educational	188
Venezuela	84
Finland	79

Top 5 Pages Visited in July

Homepage	9,300
Annual Meeting	
Homepage	2,608
Professional Information	
Homepage	2,367
Search Page	1,681
Placement Homepage	1,089

The total number of visits to the ASA Web site in July was 63,727, which is approximately 2,056 visits per day. Also, the total number of visits from January 1 through July 31

was 391,026, which averages approximately 1,965 visits per day. Some other Web sites that have had a large number of "hits" are as follows:

ASA Resident Component Web Site

July Total Visits: 2,048
Average Daily Visits in July: 66
January 1 — July 31 Total Visits: 16,452
Average Daily Visits: 91

Foundation for Anesthesia Education and Research (FAER) Web Site

July Total Visits: 572
Average Daily Visits in July: 19
January 1 — July 31 Total Visits: 4,208
Average Daily Visits: 24

Wood Library-Museum (WLM) Web Site

July Total Visits: 1,211
Average Daily Visits in July: 39
January 1 — July 31 Total Visits: 8,610
Average Daily Visits: 48

In Memoriam

Notice has been received of the death of the following ASA members:

Charles H. Awalt, M.D.
The Woodlands, Texas
April 25, 1998

Jong Bae, M.D.
Glendale, California
April 23, 1998

Walter B. Kowalski, M.D.
Chicago, Illinois
June 23, 1998

Louis I. Lopez, M.D.
Englewood, Colorado
July 11, 1998

William W. Musicant, M.D.
Encino, California
June 4, 1998

Russell L. Schafer, M.D.
Ashland, Ohio
June 15, 1998

John J. Vacanti, M.D.
Arvada, Colorado
October 1, 1997

Valdemar O. Zialcita, M.D.
Las Vegas, Nevada
May 21, 1998

Component Society News:

NYSSA Adds Art Exhibit to its Annual PGA

After a successful debut last year, the New York State Society of Anesthesiologists (NYSSA) plans to sponsor an annual art exhibit at the Postgraduate Assembly (PGA). With the large international attendance at the PGA in recent years, it is hoped that more foreign entries will make this year's exhibit an international event.

Patterned after the highly suc-

cessful ASA Art Exhibit, a secured hall in the New York Hilton and Towers will display artwork from the following categories: painting, sculpture, photography and crafts. Ribbons will be awarded in each class. Judges will be artists and teachers from the widely recognized Art Student League of New York. The exhibit runs from December 12-16, 1998.

Edith Kepes, M.D., and Suhasini Joshi, M.D., are co-chairs of the art committee and invite anyone who intends to participate in this year's PGA to submit artwork. For further information, contact Pat Burdett at: telephone (212) 867-7140, fax (212) 867-7153 or e-mail <PAT@NYSSA-PGA.ORG>.

Endowed Professors and Chairs in Anesthesia Honored

The Department of Anesthesia at the Pennsylvania State University College of Medicine has recently been granted the "Julien F. Biebuyck, M.D., Endowed Professorship in Anesthesia" (1998). This new endowment means that the department has been honored by two endowed positions. The first department endowment, the "Eric A. Walker Endowed Chair in Anesthesiology," was established in 1984.

"Julien F. Biebuyck, M.D., Endowed Professorship in Anesthesia"

Ralph B. Lydic, Ph.D., has the honor of being named the first Julien F. Biebuyck, M.D., Professor of Anesthesiology (June 1998). This Endowed Professorship hon-

ors Julien F. Biebuyck, M.D., Chair of the Department of Anesthesia at the Pennsylvania State University College of Medicine from 1977-97. The fact that this honor has been given to a neuroscientist asserts institutional recognition of the special relevance of basic neurobiology to clinical anesthesia. Dr. Lydic's research aims to understand the cellular and molecular mechanisms that cause respiratory depression during the loss of a waking consciousness. Dr. Lydic serves as a member of the Respiratory and Applied Physiology Study Section of the National Institutes of Health.

"Eric A. Walker Endowed Chair in Anesthesiology"

Julien F. Biebuyck, M.D., was named to the Eric A. Walker Chair

in Anesthesiology in 1984. This University Chair honors Dr. Eric A. Walker, President of the Pennsylvania State University when the Milton S. Hershey Medical Center came into being. Currently, Dr. Biebuyck is Senior Associate Dean for Academic Affairs at the Pennsylvania State University.

As of October 1, 1998, Philip D. Lumb, M.B., assumes the appointment as the Eric A. Walker Professor and Endowed Chair in Anesthesiology at the Pennsylvania State University College of Medicine. He previously served as Chair of Anesthesiology at Albany Medical College, Albany, New York.

Pitfalls of Office-Based Practice

I wish to relay a growing concern by many anesthesiologists regarding office-based anesthesia. Due to the fees that are paid for "facility" use with each surgery, more surgeons are performing operations in their offices. We may be the only "safety net" the patients have to limit what surgeons can and will do in these mini-operating rooms.

Our group has been asked to perform more complex cases and longer anesthetics with the retort that other surgeons are doing these cases in nearby cities as well. The horror stories are beginning to mount regarding office cases where judgment was overpowered by financial gain.

Somehow the public and the payers need to realize the trend may be neither cost-saving nor safe!

Kenneth Bachenberg, M.D.
Bellingham, Washington

Committee Chair Responds to Office-Based Anesthesia Concerns

As Chair of the Committee on Ambulatory Surgical Care, I received a copy of your correspondence expressing your concerns about office-based anesthesia. The ASA Committee on Ambulatory Surgical Care is currently developing guidelines that underscore the consistency of care and single standard in all ambulatory settings regardless of site.

We also have been contacted by the American College of Surgeons, the Joint Commission on Accreditation of Healthcare Organizations and AAAASF (the accrediting organization that accredits office practices) to collaborate on projects addressing safety and guidelines. Several of the committee members are also involved in legislative efforts within their own states.

Office-based anesthesia is a rapidly growing area, and

ASA recognizes the need for maintaining standards and quality.

Rebecca S. Twersky, M.D.
Brooklyn, New York

What You See May Be Less Than You Get

"Contaminated pharmaceutical products can result in substantial morbidity and mortality and should be included in the differential diagnosis of deaths of unknown origin." Thus begins an abstract in *JAMA* (1998; 279:1175).

The above referenced article reports on a series of pediatric deaths from acute renal failure following ingestion of acetaminophen syrup. Ultimately, the culprit was determined to be the glycerin syrup which was contaminated with significant concentrations of diethylene glycol, commonly used in automobile cooling systems as antifreeze. The syrup has been imported from China via Europe by the pharmaceutical manufacturer.

This morning I picked up an ampule of a widely used induction agent and noted it was manufactured overseas. The question arises as to how strict are the standards imposed on foreign manufacturers of materials we may be using.

Erwin Lear, M.D.
New York, New York

Physician-Assisted Suicide

Thank you for your provocative article "Physician-Assisted Suicide — A Sin of Commission or Omission?" in the March 1998 issue of the *ASA NEWSLETTER*. I agree with you that physician-assisted suicide (PAS) is one of the biggest ethical issues that organized medicine,

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

including the ASA, will have to work through in our lifetimes. I want to share with you several thoughts on PAS.

First, Eric Erikson's theory of psychosocial development named the final stage (choice) "Integrity vs. Despair." As individuals we all have the responsibility not only to live with integrity but also to die with integrity. Integrity considers not only what seems best for me at the time, but also what influence for good or evil my choices will have on those who follow me. Do not those who promote PAS actually feed the flame of despair?

Second, there have always been and should always be prohibitions in medicine that are not up for a vote. The AMA's prohibition against physicians having sexual encounters with patients is one example. Similarly, the prohibition against PAS should not be considered a matter for the political whim of the day.

Third, we must never forget the atrocities that took place in this century in Nazi Germany in the name of euthanasia. Neither should we ignore the fact that, in spite of legal restrictions, involuntary euthanasia continues to occur today in the Netherlands.

Thank you for considering these thoughts.

John F. Heath, M.D.
Lufkin, Texas

Who's Who in Epidural Analgesia ...The Saga Continues

After reading the "Letters to the Editor" (June 1998 ASA NEWSLETTER), I felt I must "add my two cents" regarding "the epidural saga."

After completing my residency at Detroit Osteopathic Hospital in 1959, I moved to Youngstown, Ohio, in 1960, which is midway between Pittsburgh and Cleveland. I became acquainted with epidural analgesia for labor and delivery during my residency. There were approximately 5,000 deliveries in 1958 at Detroit Osteopathic Hospital and more than 80 percent were managed with epidural analgesia.¹ While there were considerably less deliveries at Youngstown Osteopathic Hospital (about 400-500), the percentage of epidural analgesia was approximately the same, about 85 percent. It is also my recollection that Robert Hingson, M.D., was performing mostly caudal

analgesia at the now defunct Women's Hospital of Cleveland, Ohio.

It is amusing as I reminisce that anesthesiologists in the surrounding hospitals in Youngstown were quite critical of my use of epidurals for labor and delivery. Even though this was in 1960, not 1970 as mentioned by Ezzat I. Abouleish, M.D., I really did not consider myself a "pioneer" in epidural analgesia considering the massive numbers performed at Detroit Osteopathic, not only by me, but by my associates and instructors. I continue to be a strong proponent of epidurals for labor and delivery, as well as for surgical and postoperative pain control.

Douglas M. Goldsmith, D.O.
Youngstown, Ohio

Reference:

1. Goldsmith DM, Levitt J. Obstetrical Anesthesia: A Survey of 1,073 Cases. *Michigan Osteopathic Bulletin*. 1960; 25(3):8-13. [889 cases were performed with epidural anesthesia.]

North of the Border Epidural Anesthesia Saga: II

Having read the two letters regarding epidural anesthesia (June 1998 ASA NEWSLETTER), I am prompted to write briefly of my own personal history with this technique.

On my return to Canada in 1957 after postgraduate training in anesthesia at the University of Maryland, Baltimore, Maryland, I was appointed to the staff of the new Mount Sinai Hospital in Toronto. The appointment was conditional on my learning epidural anesthesia for obstetrics, as I had performed epidurals on only one or two occasions during my residency. Needless to say, I did master the procedure very quickly as the hospital had a very busy obstetrical service for which twenty-four hour coverage was provided.

In 1958, our group, of which I am the sole surviving member, published "The Routine Use of Lumbar Epidural Anesthesia in Obstetrics" in the *Canadian Anaesthetists' Society Journal*. Our single-shot technique involved the use of the Tuohy needle. Catheters were not available, although from time to time we did improvise by using a

ureteral catheter. Our publication, which demonstrated the safety and practicality of the technique, attracted many residents who trained with us.

Edward J. Sheffman, M.D.
North York, Ontario, Canada

Epidural Saga Continues: III

Richard B. Clark, M.D., has recently reported on the initiatives of Robert Hustead, M.D., and Ezzat I. Abouleish, M.D. The latter's history and contributions were included and supported by an autobiographical letter. The ASA *NEWSLETTER* Editor received letters from my colleagues Brett B. Gutsche, M.D., and Theodore G. Cheek, M.D., neither of whom was privy regarding the institution of epidurals at Magee-Women's Hospital, and Amr E. Abouleish, M.D., was a child at that time. My responsibility, as Chief of Anesthesia, was to formulate and direct policy while Dr. Abouleish, who was Director of Obstetric Anesthesia, was responsible for the practical duties performed.

I do take exception to false claims. The pioneer of the double catheter technique was an obstetrician, John Cleland, M.D., who practiced at his Portland Clinic in Portland, Oregon. In 1970, I had visited with him and his son in Portland to review their practice. Double catheter insertion was the method of choice for their obstetric service and most major gynecologic operations.

Ray McKenzie, M.D.
Pittsburgh, Pennsylvania

Epidural Saga: IV

While Dr. Abouleish should be given the medal of honor for his work in obstetrical anesthesia, we cannot and must not credit him with introducing continuous lumbar epidural anesthesia to the United States. Undoubtedly he introduced this modality to the Magee Women's Hospital in 1970.

I do not intend any disrespect for Dr. Abouleish's contributions to anesthesia. My only concern is for historical

accuracy — since I am the only author of our original contribution left to respond.

Benson Bodell, M.D.
Houston, Texas

References:

1. Epidural Anesthesia for Cesarean Section. *New York State Journal of Medicine*. 1952; 52:1901-1905.
2. Continuous segmental thoracolumbar epidural block. *Anes Analg*. 1953; 32:73-89.
3. Epidural anesthesia: Clinical evaluation of drugs used in obtaining, Lumbar. *Anesthesiology*. 1955; 16(3):386.
4. 2-Chloroprocaine (Nesacaine)-Its relative nontoxicity as demonstrated by epidural anesthesia. *AMA Archives of Surg*. 1959:75-78.
5. Epidural anesthesia for cesarean section: A report of 800 cases. *Anes Analg*. 1964:452.

A Question of Greed

I am following with amusement the current controversy unfolding in the ASA *NEWSLETTER*.

Finally, the paying agents in the United States have listened to what a significant part of the ASA membership has told their colleague surgeons for many years. Those anesthesiologists have "told" them from their actions that the care of the supervised/employed certified registered nurse anesthetist (CRNA) was as good as their own care. They have told surgeons by letting CRNAs replace them at the patient's side while anesthesiologists were remotely supervising one or many of them. They have told them as John A. Kemp, M.D., Ph.D., stated in his letter in the June 1998 *NEWSLETTER* that CRNAs could deliver care at night for their patients while they were home in bed. They have told it as Patricia R. Evans, M.D., stated in another letter in the same issue by running a stable of CRNAs. Why has this happened? Yon Ough, M.D., Steve Choung, M.D., and Robert Courish, M.D., in their letter tell you: easy money and lessened workload.

For me, this can be easily equated to greed and sloth. Furthermore, in many eyes, ASA has given credence to all of the above by allowing these supervisory practices. Now anesthesiologists and ASA leadership are wondering why

the paying agents want to act on this obvious conclusion. If U.S. anesthesiologists believe that CRNA's work is as good as theirs, why should not the payers cut the middlemen as Dr. Evans described in her letter? Why blame them when they believe that the superfluous middlemen are the more expensive "supervising" anesthesiologists and not the CRNA who is doing the actual work? Anesthesiologists have cheapened their profession in the eyes of their peers for the sale of "easy money and lessened workload." They are now reaping what they have sown. The only way to resolve this problem is for ASA to discourage the current practice of CRNA supervision. In essence, return to direct care of their patients.

Jean-Yves Dubois, M.D.
Charlottetown, Prince Edward Island, Canada

A Question of Scope of Practice

Dr. Kemp's claim in the June 1998 *ASA NEWSLETTER* that his group's obstetrical practice is unique in the state of Washington should not come as a surprise to anyone.

His description appears to be in conflict with at least six of the Standards and Guidelines espoused by the ASA. These include:

- Basic Standards for Preanesthesia Care (Standard #1)
- Guidelines for the Ethical Practice of Anesthesia (Definitions)
- Guidelines for the Delegation of Technical Anesthesia Function to Nonphysician Personnel (I, II)
- Guidelines for Regional Anesthesia in Obstetrics (II)
- Guidelines for Patient Care in Anesthesiology (III)
- Anesthesia Care Team (#1)

Most of these conflicts revolve around the definition of medical supervision where the words "personal" and "participate" are frequently used.

But even if Dr. Kemp is comfortable that the requirements for medical supervision are met, there is clearly a dual standard of care. In his letter, he describes direct physician participation during the day but not at night or on weekends except in a back-up or consultative manner. This is in direct conflict with Section III (A) in the Guidelines for Patient Care in Anesthesiology, which requires the same quality of care at any time for all groups of patients.

Neither is it very surprising that the obstetrical staff "militantly defend" this arrangement. After all, the CRNAs are responsible for 50 percent more hours per week than the physicians. In addition, the CRNAs take the night and weekend calls that most consider to be far more onerous than the regular day work, especially in obstetrics, which is the specialty that is the least amenable to a regular schedule. Indeed one of the major stumbling blocks in developing an obstetrical analgesia service is the "after hours" staffing requirements.

This issue is not about the mode of delivery of anesthesia care, "anesthesia care team" as opposed to "physician only," or even whether CRNAs should or should not administer regional anesthesia/analgesia but a more fundamental issue, namely, scope of practice.

I read Dr. Kemp's letter on the plane home from the ASA Legislative Conference where the major issue was HCFA's proposal to remove the medical direction requirements for nurse anesthetists to "facilitate administrative flexibility." It is quite devastating to read a letter like this after spending several days working to convince our legislators that anesthesiology is, indeed, the practice of medicine. Such practices described by Dr. Kemp lend great credibility to the CRNAs' claim that they only need the physician on a p.r.n. basis and are quite capable of independent practice.

It is indeed true that "our worst enemy is us."

Richard M. Flowerdew, M.B.
Portland, Maine

Vigilance

At first glance, the cover of June 1998 *ASA NEWSLETTER*, appeared to be a high-tech research lab result. However, when one appreciates its significance, it does become a work of art. Taping of the eyelids is a prime example of vigilant care. It is also common sense, which is the rarest type of sense there is. My Dad used to call it "horse sense," which he defined as "stable thinking." Kudos to Dr. Millbern.

Val F. Borum, M.D.
Fort Worth, Texas

Pass on PAS: Australian Doctor

After a 30-plus-year career as an anaesthetist in Australia, in 1982, I commenced the first full-time palliative medicine service at the Sydney hospital, where I had been the Chief of Anaesthesia, and directed it for five years. As a result of my experiences with dying people, I am an active opponent of euthanasia and physician-assisted suicide (PAS).

Briefly, here are some of the errors, subtle and otherwise, in the common arguments in favor of medical killing:

1) Since neither pain nor suffering is objectively measurable or comparable between persons, they cannot be used to ground safe, effective, consistent public policy.

2) Suffering is an unavoidable part of the human condition. Being a psychological response to any situation that threatens the well-being, it has no specific relevance to physicians, except where illness is the cause. So, without realizing it, physicians are being expected to rid the community of persons whose problems may be largely social.

3) There are two sets of autonomy to the patient's right to self-determination, one of which is being ignored. Once the patient has asked the physician, it is the latter's separate choice, to agree or not, that decides whether euthanasia or PAS will ever occur. In every instance, it is the physician's autonomy that prevails, while he/she has the undoubtedly larger measure of power in the relationship.

4) The patient who asks for death will have decided subjectively that his/her life is no longer worthwhile, but there are no objective criteria to enable every observer to reach the same conclusion. Ultimately, the physician's view will be the result of his/her personal values and, therefore, will be subjective, making the process a kind of lottery of life.

5) A legal requirement that the physician will give the patient all the details necessary to enable an informed choice would be useless, unless there was an expert witness present on each occasion to detect possible bias, inaccuracy, ignorance, adequacy or coercion.

6) A legal requirement that the physician was satisfied that the patient was not being unduly influenced would be similarly useless. There are no ways in which coercion could be detected, especially if the parties wanted it concealed, and they usually would.

7) It would surely be unacceptable to take life to relieve distress if effective relief was available by less drastic means. If a patient refused them and insisted on being

killed, that would be evidence of suicidal intent. Unless all the details about the medical treatment of a person for whom killing was proposed were expertly scrutinized in advance, it could never be known whether it was justified, and whether the physician was acting responsibly.

8) The sustained wish to be dead is abnormal, even in the terminally ill. It is consistently found to be associated with unrelieved distressing symptoms, a previous history of attempted suicide or depression, lack of social support or a present psychological illness, usually depression.

9) The slippage from voluntary to nonvoluntary euthanasia is the most dangerous and unwelcome consequence of approved voluntary euthanasia and must be regarded as likely, if not inevitable.

I wish you well in your efforts to bring some balance into the debate, of which too much has been carried on to the neglect of ethical, medical and legal basics.

Brian J. Pollard, M.D.
Greenwich, N.S.W., Australia

A Letter to HCFA

I submitted a letter to the Health Care Financing Administration in response to their recent proposed change in the Medicare and Medicaid requirements for physician supervision of nurse anesthesia providers. Recently, I became aware that a copy of this letter was being circulated among the nurses at my institution (a government facility).

It is enlightening to realize how aware the nurses and their society are about what we anesthesiologists say and do. I am certainly not as well-informed about their efforts in the political arena. I believe that if part of the energy the nurses spend politicking was applied to furthering their educations, they could reach their goal of independent practice — as duly licensed physicians. I obtained my right to practice my profession independently by going to medical school and completing a residency, not by attempting to change well-established civil and administrative laws.

Edward W. Leone, M.D.
Honolulu, Hawaii



FOUNDATION FOR ANESTHESIA

EDUCATION ■ RESEARCH

Component Society Support: 'Encouraging and Impressive'

Through its grant programs, the Foundation for Anesthesia Education and Research (FAER) inspires, perfects and perpetuates the spirit of inquiry within the specialty. This search for discovery must be nurtured and will be provided for through the FAER endowment. The goal is for the endowment to support FAER programs in the 21st century. We appeal to you, as our colleagues, to join us in achieving this ambitious undertaking.

Growth of the endowment comes from three sources: contributions from the ASA, individual anesthesiologists and ASA component societies. The endowment is approaching \$8 million and FAER currently funds nearly \$1 million of awards annually. We are grateful to the ASA and all the funding sources and will focus on the ASA component societies in this report.

The increasing commitment to FAER by the ASA component societies is encouraging and impressive. The recent level of growth in contributions demonstrates a widening sense of responsibility and resolution to maintain the specialty. We seem to have learned that to succeed as a specialty, we must set aside resources to afford sustained development even in difficult times.

Widespread participation by all component societies is the logical target. Last year, we received contributions from 31 of 49 societies (63 percent), the highest level of participation yet. FAER has awarded 262 grants since 1987, across 30 states (including Washington, DC). Consequently, if this is a valid assumption, component societies with no residency programs should support FAER.

Throughout the past 10 years, component societies have contributed about \$350,000. Currently the annual average component society contribution is around \$2 per active member with a range from \$.53 per member on the low end to gifts of \$10 - \$20 (IA, TN, MN) at the high end. One of our colleagues has suggested anesthesiologists contribute \$1 to research for each anesthetic administered. While this is highly improbable, it does not seem unreasonable to suggest component societies consider annual gifts of \$5 - \$10 per active member. This level of giving would yield about \$175,000 a year. For 1998 we are working toward a 10-percent increase in component society giving.

If we can join together, we can create a growing epicenter of training in research that will ultimately improve the care of our patients.

Grant Applications

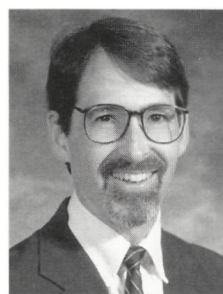
FAER accepted 31 grant applications for its July 31 deadline:

Program	1997	1998
Clinical Research Starter Grant	14	8
Research Starter Grant	10	16
Anesthesiology Research Fellowship	1	3
Education Research Grant	2	4

FAER Announces 1998 New Investigator Award Recipients

The Board of Directors of the Foundation for Anesthesia Education and Research (FAER) is pleased to announce the recipients of the 1998 New Investigator Awards. The ASA Committee on Research reviewed 19 applications and identified many projects worthy of funding. FAER was able to fund nine of these projects thanks to the generous contributions of FAER's corporate and society sponsors. The descriptions of the remaining four projects are outlined below:

Thomas S. McDowell, M.D., Ph.D., FAER/American Society of Regional Anesthesia New Investigator, University of Wisconsin, Madison Medical School, Madison, Wisconsin: "Mechanisms of Analgesia in Primary Nociceptive Neurons"



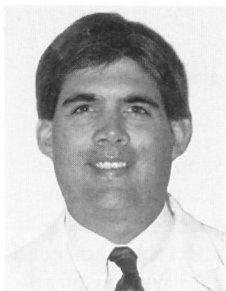
Opioids produce analgesia in part by inhibiting the transmission of painful stimuli at the first synapse in the nociceptive pathway, between the primary sensory neuron and the secondary neuron in the dorsal horn of the spinal cord. Neurotransmitter release from primary nociceptive neurons may be reduced by opioids through inhibition of voltage-activated calcium channels, facilitation of potassium channels, or both. The overall goal of my research is to identify the cellular mechanisms responsible for opioid-induced reductions in transmitter release from primary nociceptive neurons. Neurons will be identified as nociceptive by their sensitivity to pain-producing agents such as capsaicin. The effects of opioids on specific types of calcium and potassium currents in nociceptive neurons will be assessed using the patch clamp

FAER Report (continued)

technique. The results of these studies will further our understanding of presynaptic control mechanisms, and may present options for the development of new methods to treat acute and chronic pain.

Timothy E. Morey, M.D., FAER/Zeneca Pharmaceuticals, Inc., New Investigator, University of Florida,

Gainesville, Florida: "Modulation of triggered activity by intravenous anesthetics in rabbit isolated ventricular myocytes: Mechanisms and clinical implications"



Early after depolarizations (EADs) are oscillations in the cardiac membrane potential and cause most episodes of torsades de pointes-type tachyarrhythmias. A variety of therapies (e.g., quinidine) and deranged physiological

conditions (e.g., hypokalemia) promote formation of EADs. Interventions that further prolong ventricular repolarization in this setting (i.e., acquired long QT syndrome) significantly increase the likelihood of developing EADs. Intravenous anesthetics may differentially modulate the genesis of EADs. Using current-and voltage-clamp techniques in isolated ventricular myocytes, the objective of this study is to determine if and how thiopental, methohexital, and propofol affect the genesis of EADs caused by certain drugs (i.e., quinidine, isoproterenol, and cocaine). The results of this study will provide new information on the modulatory role of intravenous anesthetics on the genesis of EADs and propagation of torsades de pointes, and lead to more rationale anesthetic selection in patients predisposed to developing these dysrhythmias (e.g., cocaine intoxication, antiarrhythmic drug therapy).

Mark A. Schumacher, M.D., Ph.D., FAER/Smiths Industries Medical Systems New Investigator, University of California, San Francisco, San Francisco, California: "The Role of Capsaicin Receptors in Nociception"

Painful sensations originate from the activation of peripheral nociceptive neurons in response to stimuli associated with tissue injury. We have recently characterized a cDNA clone encoding a 'capsaicin receptor' (Nature 389:816-824, 1997) which probably represents a pain transducing element in the peripheral nervous system. The



capsaicin receptor is an ion channel which is activated not only by the hot chili pepper extract, capsaicin, but is also activated by noxious heat. My proposal examines what role the capsaicin receptor or related subtypes play in the detection and maintenance of thermal or mechanically induced nociception and how it is modulated under peripheral inflammation or

nerve injury. Since capsaicin and its analogs are used as topical analgesics to treat pain, characterization of capsaicin receptors and identification of the factors that regulate their number and activity should provide important insight into new strategies designed to selectively block the sensation of pain in the periphery.

Brian K. Tsang, M.D., FAER/Glaxo Wellcome New Investigator, University of Mississippi Medical Center,

Jackson, Mississippi: "Spinal Opioid Receptor and the Corresponding mRNA Regulation upon the Development of Tolerance to Intrathecal Opioids"



Recently, intrathecal (IT) opioids have gained wider acceptance to treat patients with nonmalignant sources of pain. The problem of analgesic tolerance is magnified by the long duration of the therapy in these patients as most

of them are expected to require IT opioids for years or even decades. With our established model of analgesic tolerance to IT opioids in rats, we will examine the spinal cord tissue slices for the change of different opioid receptor densities, as well as the receptor agonist-and antagonist-affinity by quantitative autoradiography that yields location-specific data with excellent anatomical resolution. Further, we will assess the changes of the opioid mRNA expression by in-situ hybridization with cDNA to provide additional evidence for the corresponding receptor regulation. This understanding should pave the way for further delineating the mechanisms underlining analgesic tolerance and, possibly, for devising rational, novel approaches to counter its undesirable side effects.



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