AUA
Association of University Anesthesiologists
Update
Summer 2005

Inside:

AUA Annual Meeting

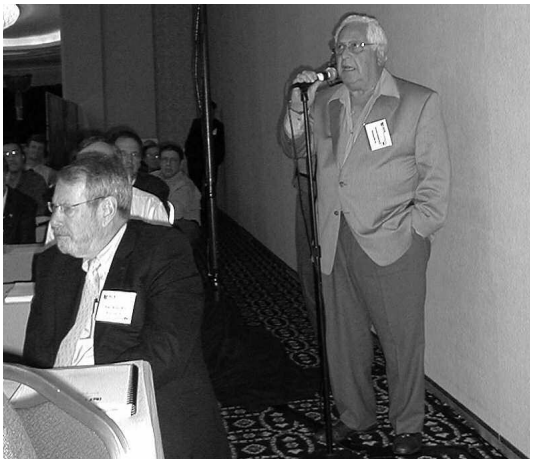
May 6-8, 2005, Baltimore, Maryland

Discussing the host program during Friday's reception.

Members enjoy Friday's reception.

Attendees discuss the day's activities between sessions.

The ASA Open Forum on Intraoperative Awareness and Brain Function Monitoring.



Jerome H. Modell, M.D., at the microphone.

Why Invent New Medical Devices?

Bruce Gingles, Vice-President
Cook Critical Care
Bloomington, Indiana

The Patient

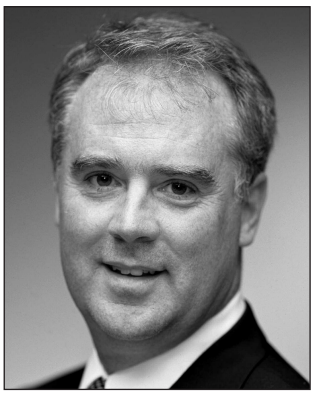
Virtually all significant medical device innovation in the 20th and early 21st centuries is the result of a physician identifying an unmet need. Once the clinical need is recognized, these concepts may follow a variety of pathways to the market. Some innovations, such as the pulse oximeter and coronary angioplasty balloon, were entrepreneurial. Most, however, have been the result of close collaboration between the physician inventor and an established manufacturer. Each path has its merits, but in the increasingly complex and expensive global system of device development, the burden of regulation of manufacturing facilities (e.g., ISO) and validation of safety and efficacy (e.g., FDA) has significantly curtailed independent development. The cost of filing, servicing and prosecuting patents also has become a major factor in these decisions.

> *"It is impossible to calculate the suffering alleviated, lives saved and health improved by physicians' inventions over the past 50 years."*

However, when products ultimately reach the market, they fulfill their intended purpose by serving a patient. Swan-Ganz and Fogarty catheters, ventilators, the stethoscope, magnetic resonance imaging and coronary stents are all examples of extremely valuable technologies that have improved the health of patients worldwide. They also are examples of concepts that became tangible when physician inventors worked together with industry to solve a pressing need. It is impossible to calculate the suffering alleviated, lives saved and health improved by physicians' inventions over the past 50 years. Where several patients may be treated in a single, busy clinical practice each day, several thousand may be treated by a single innovative product — think of the syringe or blood pressure cuff.

The Physician Inventor

Today it is common, even customary, to receive a royalty in exchange for the rights to a proprietary invention. Owning a patent, which may be paid for by either an inventor or a company, increases the commercial value of a useful device idea. By law, patents always list the name of the inventor(s), regardless of whether the patent is licensed to a company or not. Royalty rates vary but typically average 3 percent of net sales. Reported ranges are from 1 percent to 8 percent. If multiple inventors develop a device, the royalty for each inventor may be somewhat less than the average, and the total cost to the company may be somewhat more. Patents are valid for 20 years. Royalties also may be paid for products that are not patented, depending on conditions of business and the relationship between the inventor and corporate partner. In addition to royalties, inventors may earn consulting fees. These fees may be in lump sum for a defined period of time or may reflect milestones, individual consultations or other ala carte arrangements. The single most valuable type of marketing an inventor can engage in associated with his or her idea is an original scientific report published in a quality peer-reviewed journal. When studies are performed validating a new technology, travel and accommodation expenses usually are paid by the company to permit presentation at scientific meetings. An honorarium also may be earned for this time away from one's practice. Patents, publications and scholarly presentations related to the invention may earn an inventor rapid academic promotion.



Bruce Gingles

Customary and reasonable expectations of industry by inventors typically include: a timely product development cycle; prompt and accurate information about the project; financial support of development, research and publication costs; a strong marketing effort; modifications to the product over its lifetime as deemed beneficial; and finally, compensation. Conversely expectations of inventors by industry usually include: product design input; assistance with regulatory filings; performing early clinical evaluations; assignment of patents; and ultimately, patronage. Appropriate corporate partners may be identified through a number of channels, but the most common pathways include exhibits at major scientific symposia, Web pages, referrals from colleagues and interaction with sales representatives. Of particular importance is the execution of a nondisclosure agreement prior to sharing ideas with a company, colleague or putting the idea in the public domain in any manner. Patents laws are strict about the protection of inventions prior to patent filings.

The Health Care System

If an inventor is an employee of a hospital or medical school, his/her invention may be the property of his/her employer. Through technology transfer functions, the hospi-

tal or school may be entitled to all or part of the royalty earned from the invention. Royalties may be used for capital projects, salary enhancement or recruitment. These funds are typically directed 35 percent to the inventor, 15 percent to the laboratory, 15 percent to the department, 30 percent to the school and 5 percent to the university. The Bayh-Dole Act of 1980 opened the door for nonprofit research institutions to patent discoveries by faculty supported by federal grants and to strike exclusive licensing agreements with manufacturers to market these inventions. In 1995 the U.S. total earned through technology transfer was $495 million. By 2002 the figure had climbed to about $1 billion. Today Columbia University leads all royalty recipients with yearly income of $157 million. Emory University earns $27 million annually. In 2002 Johns Hopkins University earned only $8 million and ranked 24th among universities.[1]

Our Global Society

In 1985 the U.S. Patent and Trademark Office (USPTO) granted Argentines 12 patents, Venezuelans 15, Brazilians 30 and Mexicans 35. In that same year, South Koreans received 50 patents. In 1998, USPTO granted Argentines 46 patents, Mexicans 77, Brazilians 88 and South Koreans 3,362. The average real wage of South Koreans multiplied ninefold between 1960 and 1990. The real minimum wage in Mexico was about the same in 1990 as in 1960. Between 1990 and 1998, Korea's real economic growth rate was eight times larger than Mexico's.

In 1998, IBM obtained more U.S. patents than the total granted to 139 countries. In 1999, IBM's total was even higher: 2,756; and in 2000, IBM was granted 2,934 patents. Twelve countries generated 95 percent of U.S. patents in 1999. Massachusetts Institute of Technology faculty and alumni have founded more than 4,000 companies, and these generate more than $230 billion in annual sales, ranking as the 23rd largest economy in the world. The U.S. spends 2.6 percent of its gross domestic product on research and development (R&D). Mexico spends about 0.3 percent. So the U.S. spends about $182 billion each year on R&D while Mexico spends about $1.4 billion. *A 130-fold difference.*

The University of California system alone spends 21 percent more on R&D than does all of Mexico and generates six times more patents. In 2001 Pfizer spent more than $5 billion on R&D.[2]

One begins to see the impact of innovation on society. I believe that in the future, the main product of research universities will not be knowledge but rather discovery. Inventorship has no losers and is good for patients, inventors and society — it maybe remunerative, it establishes a lasting legacy and it is intellectually stimulating. There exists a tremendous pool of innovation among the highly intelligent members of these prestigious societies. A laudable goal of leadership is to unlock this latent potential to the benefit of our society.

People Needed to Produce a Single U.S. Patent*

Country	People per Patent (1998)
United States	2,955
Japan	3,914
Switzerland	5,244
Taiwan	5,812
Canada	8,227
Germany	8,778
South Korea	13,653
United Kingdom	16,568
Spain	127,273
Venezuela	772,414
Mexico	1,267,532
India	10,647,319
Indonesia	21,610,345

* *For instance, there are 8,778 people in Germany for every patent produced in that country.*

References:

1. Gilbert P. The research brass ring. *Hopkins Medicine*. Fall 2004:24-29.
2. Enriquez J. *As the Future Catches You*. New York: Crown Business. 2001:139-142.

"... in the future, the main product of research universities will not be knowledge but rather discovery."

The Ultimate Determination of **Right** or **Wrong** Is a Judicial Function **(All Else Is Mere Evidence)**

Editor's Note:
The following includes excerpts from a talk given by Dale R. Cathell, Judge, Court of Appeals, 1st Appellate Circuit of Maryland, at an academic symposium, which was published in Financial Conflicts of Interest in Clinical Research: Legal Issues and Regulatory Requirements. *Editor Patricia Tereskerz University of Virginia, University Publishing Group.*

It was a wide-ranging presentation dealing with several legal and moral aspects of clinical research. Parts of the talk dealt with the increasingly entrepreneurial character of nonprofit universities. It is presented here to provide a counterpoint to the head-long drive to academic inventorship for purposes of increasing profits …oops … I mean revenue.

— W.A.K.

Looking Forward

It will be the position of the "trial lawyers" in the cases of the future that so-called nonprofit university research entities that at one time may have enjoyed some significant degree of freedom from judicial oversight, at least partially by their own actions in embarking on the commercial search for profits, have placed themselves in the same position vis-a-vis tort litigation as are their completely private counterparts. They have made themselves targets. The argument will be made that by hiring themselves out to private industry, by embarking on the patent process, by constantly seeking to grow larger, by entering the marketplace, by becoming businesses, so the arguments will go, they have shed the "public good" aura with which they were formerly surrounded.

When, in a six-year period, licensing revenue for university research centers increased from $186 million to $725 million,[1] when researchers, faculty members and entities that are a part of university families start incorporating for-profit companies to generate personal benefits for themselves and acquire patents to cash in on the results of their research, it may be increasingly more difficult for university research centers to claim the public service high ground when litigators are emphasizing their changing character.

Within the last year, a major public university announced, according to a national newspaper, that:

"From a business perspective, the development known as _____ appears a solid real estate investment for its proprietor, the University of _____. But although the university stands to make a profit on the research park, President _____ said that's not the point. The goal, he said, is to cement the university's reputation as a leader in science and technology research by cultivating ties to business, and to establish itself as an economic engine for the state of _____, and we want the university to gain from the work of the companies."

That university president may not have been completely accurate. Profit was a point he merely chose to avoid direct comment on. If he doesn't think so, "trial lawyers" will be telling him in the litigation of the future. The "trial lawyers" will argue that, when one university with a total undergraduate and graduate enrollment of under 5,000 students employs 46,000 people within its university umbrella and is a state's largest employer, when nonprofits make up 80 percent of a major city's nongovernmental employers, when in the year 2002, $3.9 billion was spent by drug companies in experimentation using human research subjects, much of it paid to university research affiliates — the special feeling that once existed as to such academic centers is no longer fully justified.

And, in a willing suspension of belief, these research and educational entities still refuse to understand why their status may be changing in the eyes of many.

Obviously when a university contracts to perform research for a private entity, it does so, generally, for money, although one hopes it also has other motives. In either event, it may, in the process, become beholden to the payer. At least the "trial lawyers" will argue that it is. The more money it receives, the arguments in the litigation of the future will say, the more subservient to the goals of the private company the university entity may become and the less concerned with the safety of the particular research subject. The "trial lawyers" will argue that when they are conducting research under contracts, university research entities serve masters other than education and the accumulation of knowledge — they serve the pharmaceutical company, the cosmetic company, the food company, the military industrial complex and the like. It may even be argued by the "trial lawyers" — in the cases to come, in the language of the streets — that "they've gone a 'whoring."

As a practical matter, a good "trial lawyer" can create doubt in the validity of the research community's approval process and the larger process of commercially aided research, generally. He or she will argue that this in-house approval process can create internal pressures to produce a particular result, a result that cannot be achieved unless the project is approved. An argument can be made by the "trial lawyers" that the researchers, unconsciously or otherwise, are influenced by the hope that the relationship with the commercial, for-profit or governmental entity that has funded the research will continue in the future. He or she will point out that there is, or can be, a "scratch my back, and, when it's your turn, I'll scratch yours' mentality within the institutional review boards.

The "trial lawyers" will argue that the nonprofit status of the educational institution should be given little weight. When the head of the research department of the entity being sued testifies as to the nonprofit status of the institution, among the first questions the "trial lawyers" will ask him on cross-examination will be, "How much did this nonprofit entity pay you in salary last year?" or "How much did the institution or you make in royalties and contract fees last year

based on the research or on patents you or it acquired as a result of research?" When he responds with answers in the hundreds of thousands or millions of dollars, the people paying close attention will be 12 men and women, layperson jurors who probably have a hard time coming up with money for their own prescription drugs or for the baby's formula.

Class Action Liability Issues

There are other, ancillary liability issues that are out there even when human subject research is not involved that I have, before this weekend, not seen addressed: privately funded research by universities involving the creation of products for the consumer and commercial markets. When the goal of the research is to develop and ultimately commercially market a product, there is another possible level of liability exposure for the research entity to consider.

I would think that if products are produced that depend upon the research, and the products prove to be defective, the university entity performing the research is either going to be a direct defendant, i.e., one of those sued by the injured class of plaintiffs (which might number in the tens of thousands), or worse perhaps, be impleaded into such a class action lawsuit as a third-party defendant. In other words, the injured persons will sue the research entity directly or first sue the commercial entity that, based upon the research, produced the product that caused the damage.

The private manufacturing and marketing company that funded the research will then abandon the university research entity in an effort to shift liability and assert that even if it is responsible to the class of injured plaintiffs, the university research entity is liable to it for performing inadequate or otherwise negligent research.

What is going to be the reaction at one of these so-called university "economic engine" research centers when product liability class action suit papers are served on them in which multi-billions of dollars of damages are claimed for tens of thousands of plaintiffs? What is going to be the reaction when, as in the tobacco litigation, damages in the billions of dollars are assessed? What is going to be the thinking when the research entity has to pay billions just in costs and legal fees? It is estimated that the tobacco industry has incurred costs and attorneys' fees in excess of $3 billion, and that does not count the judgments against the industry's entities. One thing is sure, when that happens (you will note I did not say if), these university research entities will stop the braggadocio about being "economic engines" and hunt for a poverty status to hide behind.

The problem with "economic engine" status is that it looks so good going in, but can be a terrible end game especially in class action product liability lawsuits. Research universities are buying into a world that includes liabilities as well as benefits. And the liabilities may be much greater and endure far longer than the benefits.

Reference:

1. Barnes M, Florencio PS. Investigator, IRB and institutional financial conflicts of interest in human subjects research: Past, present and future. *Seton Hall Law Rev*. 2003; 32(3): 525.

In the News . . .

The following excerpts are taken from an article titled "Congress Examines Nonprofit Hospitals," which was written by Associated Press Tax Writer Mary Dalrymple and published on May 26, 2005.

The article can be found on the Web at:

www.political-news.org/breaking/112221/congress-examines-nonprofit-hospitals.html

Some excerpts:

"Congress should review tax exemptions for nonprofit hospitals to determine whether the community benefit justifies the expense, the chairman of the tax-writing House Ways and Means Committee said Thursday.

"We really can't tell the difference, all that much, between a for-profit and a not-for-profit," said Rep. Bill Thomas (R-CA). "What is the taxpayer getting in return for the tens of billions of dollars per year in tax subsidy?"

"We at the IRS are now faced with a health care industry in which it is increasingly difficult to differentiate for-profit from nonprofit health care providers," [Commissioner of the Internal Revenue Service] Mark Everson said.

"IRS reviews have turned up questions about excessive executive compensation, complex ventures with profitable companies, employment taxes and operations benefiting a private, not public good."

Rep. Clay Shaw (R-FL) said the hearing was "really opening up a bucket of worms here. I thought I knew what a nonprofit hospital was until I started listening this morning, and now I'm convinced that nobody really has a good definition."

EAB Report

Peter Rock, M.D., M.B.A., Chair
Educational Advisory Board

The AUA Annual Meeting on May 6-8, 2005, in Baltimore, Maryland, was highly successful. The Educational Advisory Board (EAB) made several contributions to the program. In addition the Board met to discuss this year's program as well as to continue planning for the 2006 program in Tucson, Arizona.

The Scientific Advisory Board and EAB jointly developed an enhanced version of the customary National Institutes of Health (NIH) session traditionally held at the AUA Annual Meeting. Peter Rock, M.D., M.B.A., moderated this session. Dr. Rock is Professor of Anesthesiology and Medicine at the University of North Carolina-Chapel Hill and is Vice-Chair of the Department of Anesthesiology at the University of North Carolina.

NIH Roadmap

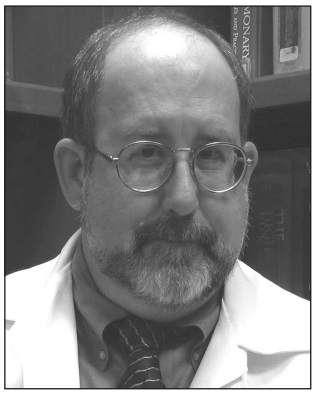
Elias Zerhouni, M.D., was scheduled to kick off this session but his official duties prevented him from appearing. His place was ably filled by **Allison Cole, Ph.D.** Dr. Cole is a program director in the Division of Pharmacology, Physiology and Biologic Chemistry at the National Institute of General Medical Sciences (NIGMS), Bethesda, Maryland. She administers a portfolio of research grants in anesthesiology, and she also serves as Deputy Director for Research Training at NIGMS. Dr. Cole also is a project team leader for the Interdisciplinary Research Roadmap Working Group. Her research interests include neuropharmacology, neurophysiology and neuronal plasticity. Dr. Cole talked to AUA about the NIH "Roadmap" and provided an update from NIH on support for anesthesiology research and training.

Dr. Cole noted that the Roadmap is a framework of priorities used by NIH to optimize its research portfolio, its vision for efficient, innovative and productive research, and is a set of initiatives central to extending the quality of healthy life. The goal is to accelerate the pace of discoveries in life sciences and to translate research more rapidly from the laboratory to patients. Roadmap funding is expected to increase significantly over the next five years, including support of clinical research. Dr. Cole also addressed anesthesiology-specific issues, noting that anesthesiology grants were competitive with other areas and that a way to increase anesthesiology funding was to increase the number of grants submitted.

Don't Take Reviewer for Granted

Daniel Remick, M.D., was the next speaker. Dr. Remick is a professor in the Department of Pathology at the University of Michigan Medical School, Ann Arbor. He has served as a member of the Surgery, Anesthesiology and Trauma (SAT) Study Section at NIH and was chair of the SAT from 2001-03. He also served as an editor of ***Shock***. His research interests and background focus on the immunology of sepsis, regulation of IL-8 gene expression and immunologic mechanisms of acute lung injury.

Dr. Remick lectured on "Making the Grant Reviewer Your Friend." His highly entertaining lecture noted the ways a grant submitter could enhance chances of success. His "top 10" of common mistakes to avoid included: 10) failure to adequately address animal use of patient rights protections, 9) using too small a font size, 8) inadequate descriptions for the preliminary data, 7) preliminary data not related to the application, 6) outdated references, 5) failure to justify a particular technique, 4) internal inconsistencies, 3) submitting late data, 2) fighting with the reviewer; and 1) dense or obtuse reasoning [see box on next page].



Peter Rock, M.D., M.B.A.

Thinking Big

The final speaker in the NIH session was **Keith W. Miller, Ph.D.**, who is the Mallinckrodt Professor of Pharmacology in Anesthesia at the Harvard Medical School and the Director of the Harvard Anesthesia Center for Training and Research. He has served as a reviewer for NIGMS, the National Institutes of Alcohol Abuse and Alcoholism and the National Science Foundation. His research interests focus on mechanisms of action of general anesthetics, location of anesthetic sites on ligand-gated ion channels and spectroscopic studies of protein structure and function.

Dr. Miller addressed the audience on "Thinking Big" and "Are Program Project and Training Grants Worth the Trouble?" He noted that the answer depends on the expectations. The trainee gets protected research training time, mentored research experience, course work and the chance to establish one's own funded research career. The specialty gets individuals who can advance academic anesthesiology. He noted that to be successful, the trainee needs support for a number of years and that the federal contribution to the training does not cover all costs.

A good training grant requires excellent incoming trainees and faculty who are experienced in mentoring as well as watchful directors and a supportive department. Mentoring is the key component, and mentors should be drawn from other departments in the institution to provide the necessary breadth of experience and expertise. NIH says a program project is a set of synergistic research programs that achieve results not attainable by investigators working alone. It represents a significant effort on the part of the participating scientists distinct from their other funded efforts, and each component project is assessed as an individual research project grant. He noted such grants are not an easy way to get funding for the weaker investigators in your department and that you are better off having all contributors to a program grant be experienced investigators with excellent track records. Dr. Miller noted offline that recruiting under-represented minorities is an important priority for the NIH but that programs are encountering difficulty in doing so. Those who anticipate preparing training and program project grants should anticipate and plan for this issue.

Remick's Top 10 Grantsmanship Mistakes*

10. **Failure to adequately address animal use or human use.**
9. **Type font that is** too small.
8. **Poor, inadequate, or nonexistent descriptions for the preliminary data.**
7. **Preliminary data which is not directly related to the application.**
6. **Outdated references.**
5. **Failure to justify choice of reagents or techniques.**
4. **Internal inconsistencies.**
3. **Submitting late data.**
2. **Fighting with the reviewer.**

And the No. 1 Grantsmanship Mistake is … *Drumroll* **…**

1. **Dense, obtuse reasoning.**

* *Presented at the AUA 52nd Annual Meeting. Dr. Remick is a past chair of the SAT study section and is Professor of Pathology at the University of Michigan.*

After these three excellent presentations, there was a spirited and open discussion. Dr. Cole and the rest of the panel then addressed individual questions and issues in a one-on-one fashion.

Ethics of Cost-Containment

The EAB also sponsored a session on the ethics of cost-containment called "Are Cost-Containment Initiatives a Form of Human Subject Research Without Patient Safeguards?" Informed consent is no longer a question for human subjects research. It is a standard of care and practice that dates back to the Nuremberg Code and the Declaration of Helsinki. Training on informed consent and medical ethics are now required by institutional review boards (IRBs). Medicine was made aware of potential problems in ethics in clinical research by one of the founders of the AUA. In 1966 Henry K. Beecher, M.D., published an article in the *New England Journal of Medicine* titled "Ethics and Clinical Research" (*N Engl J Med*. 1966; 274:1354-1360). So current practices dictate that if we are going to perform research on human subjects, informed consent is an essential part of the process. There may not be a consensus, however, on what constitutes "research" in the context of nontherapeutic quality improvement (QI) activities such as those commonly employed to contain costs. The panel revisited the issue of informed consent and focused on the uneasy relationship medicine has engendered between "real" research and QI and performance improvement studies.

This session was moderated by **Stanley H. Rosenbaum, M.D.** Dr. Rosenbaum is Professor of Anesthesiology, Medicine and Surgery at Yale University, New Haven, Connecticut, is the Vice-Chair for Academic Affairs in the Department of Anesthesiology at Yale University Medical School and has published numerous articles on ethics and bioethics. He also is past chair of the Society of Critical Care Medicine's Committee on Ethics.

Honing IQ When Using QI

Dr. Rosenbaum introduced the first speaker, **Michael A. Rie, M.D.**, Associate Professor of Anesthesiology and Surgery at the University of Kentucky, Lexington. Dr. Rie is an intensivist with extensive experience in medical ethics, having done a fellowship at the Kennedy Institute of Ethics. Dr. Rie focused on the relationship between research and QI. He noted that, like research, QI can produce generalizable knowledge. Unlike research, though, QI is closely linked to the implementation of change in the care delivery context in which it is carried out. He presented data on respiratory care readmissions in his institution, suggesting that QI can unintentionally result in worse outcomes for patients in certain instances.

Legals Issues and Semantics

The next speaker was **Peter J. Cohen, M.D., J.D.** During his medical career, Dr. Cohen was Professor and Chair of Anesthesiology at the University of Colorado and the University of Michigan. After receiving his law degree, he worked on health policy for three years at the National Institute on Drug Abuse, a component of NIH. Dr. Cohen is currently an adjunct professor of law at the Georgetown University Law Center, Washington, D.C., where he teaches on drug abuse and the law. His lecture was titled "The Legal Perspective: Filling the Policy Vacuum with Litigation or Policy." He discussed the Code of Federal Regulations and how it defines the meaning of the words "human research," "investigator" and "intervention" as well as the term "equipoise." He went on to discuss the differences in intent between an intervention such as quality assurance and research as they relate to communication and dissemination of information and conclusions and publication.

Managing Change

The final speaker on this panel was **Mary Ann Bailey, Ph.D.**, Associate for Ethics & Health Policy, the Hastings Center, Garrison, New York. She is educated in economics with extensive experience in economics, health policy and biomedical ethics. She currently chairs a task force on QI issues for the Agency for Healthcare Research and Quality. She reviewed the federal codes as they pertain to IRBs, informed consent and assurance of compliance. Dr. Bailey noted that cost is an ethical issue and that change is constantly occurring in health care. Managing change is a core responsibility of health professionals, managers and organizations. By making change more reflective and data-guided, QI methods can help in managing change ethically.

This panel concluded with considerable audience participation in the form of comments and questions.

Treasurer's Report: Time to Diversify

W. Andrew Kofke, M.D., M.B.A., Treasurer

The Association's financial status is summarized in Figures 1-3. AUA continues to have revenue in excess of income ($34,000 this year). Our savings have historically been kept in CDs with relatively low interest. Economists have determined that, somewhat akin to stuffing the money in a mattress, this may not be the safest way to manage one's funds, as depicted in Figure 4. Thus with approval of the Council, I will work with Merrill-Lynch to diversify the Association's investments.

Figure 1: AUA Income and Expense

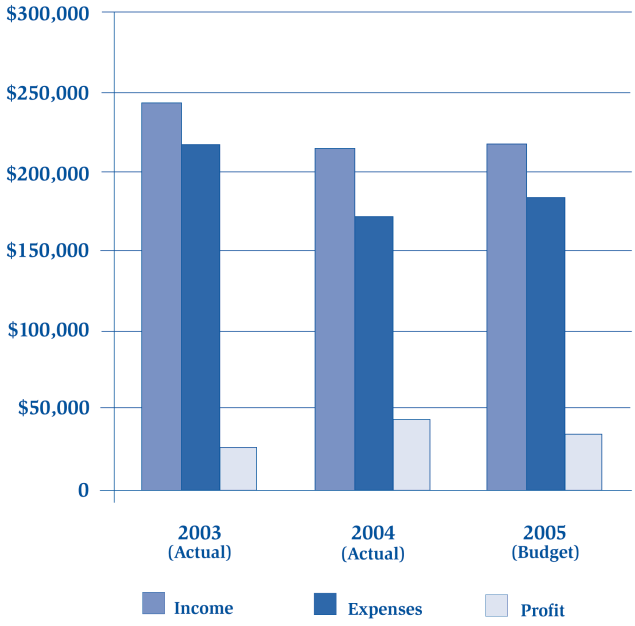


Figure 2: AUA Assets, March 31, 2005

Total = $487,957

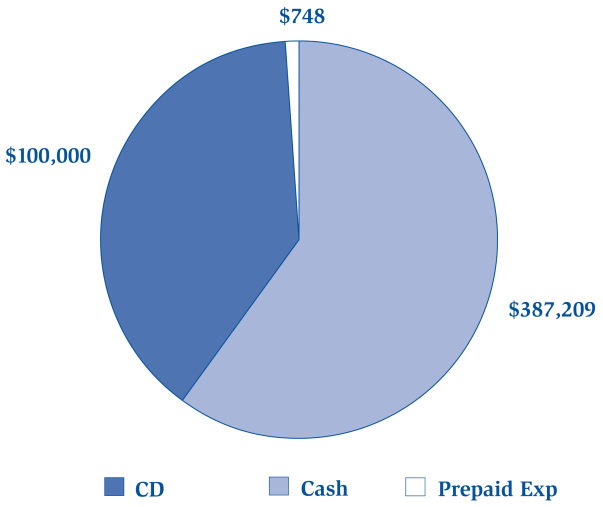


Figure 3: 2005 Budgeted Income and Expenses

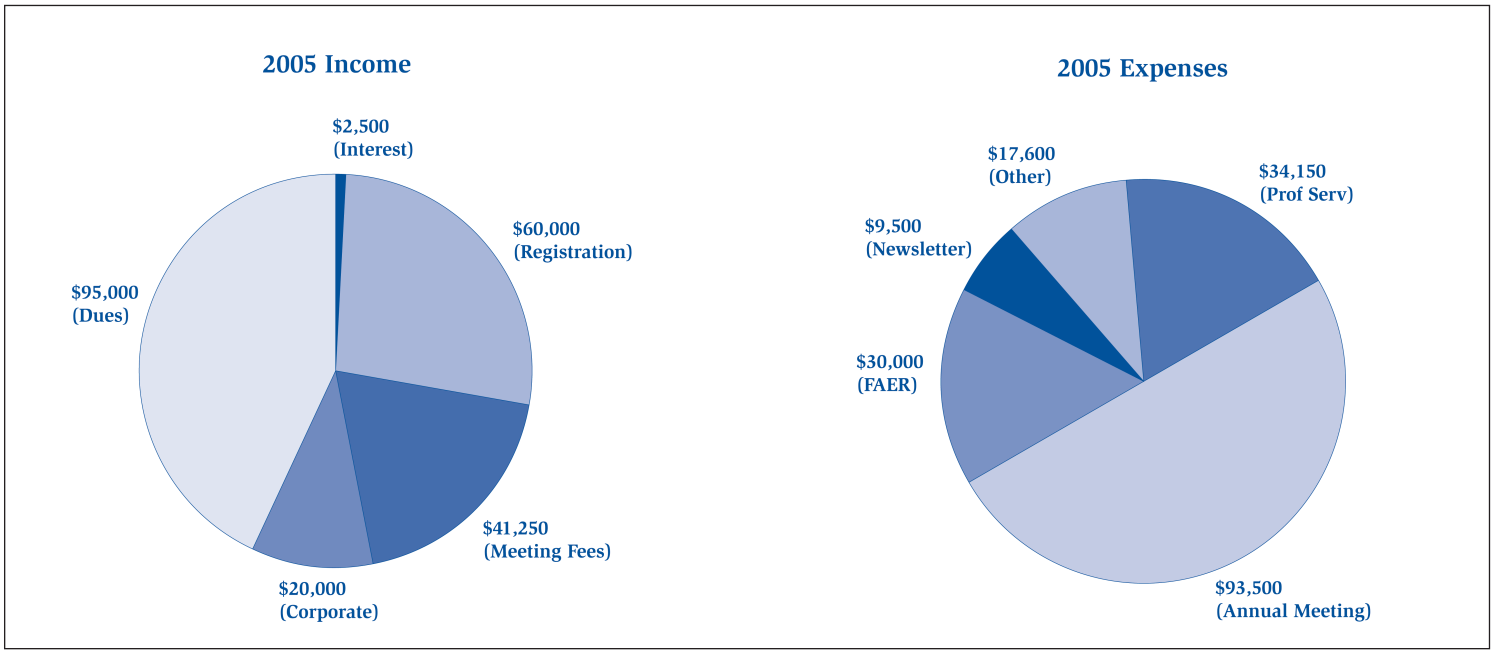
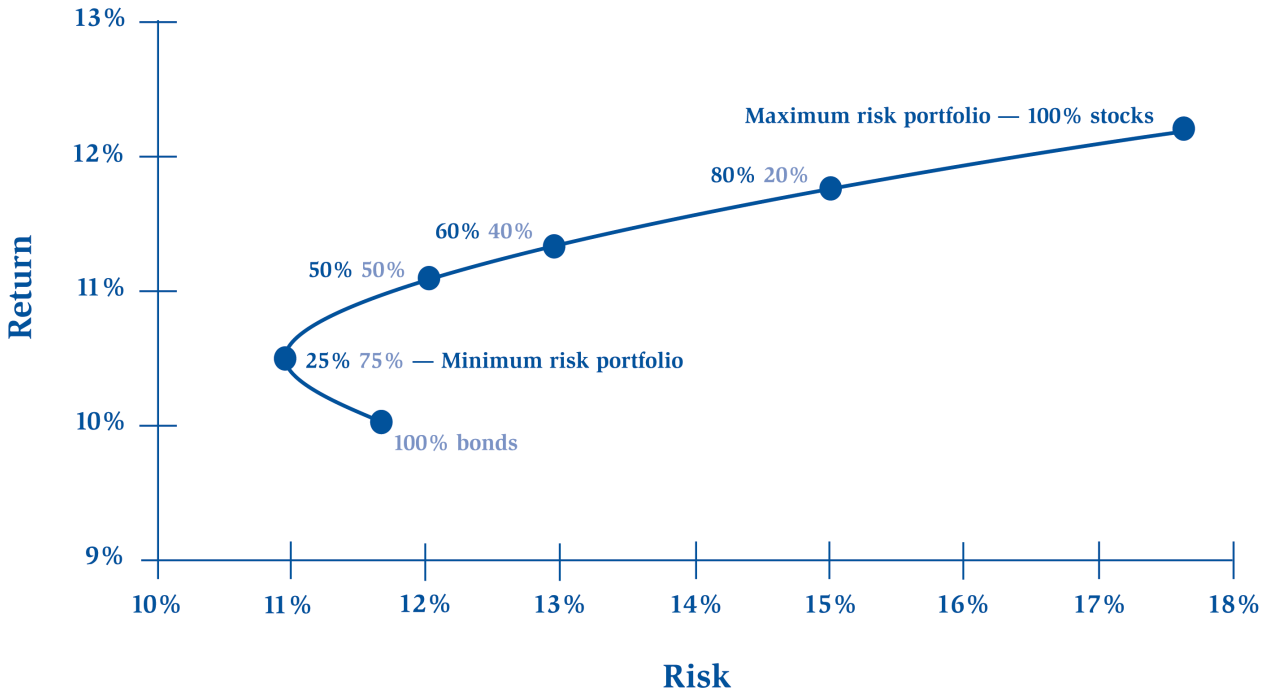


Figure 4: Stocks and Bonds — Risks vs. Returns (1970-03)

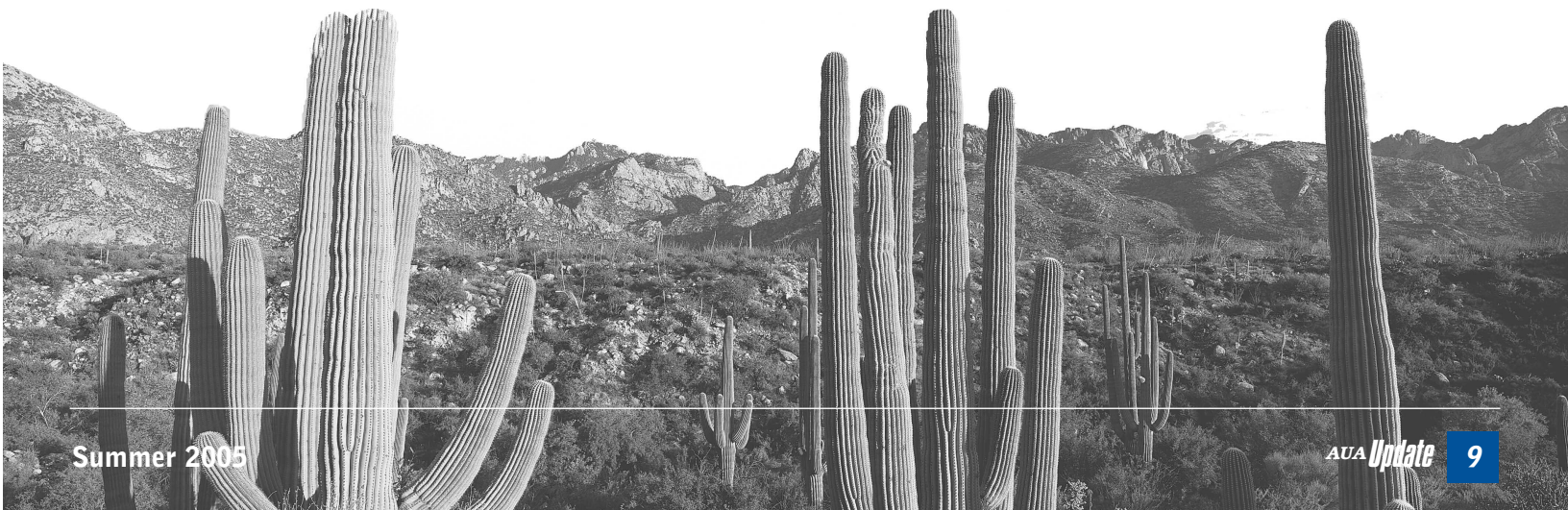
By investing in a mix of stocks and bonds, you can minimize risk and optimize return



Plan now for the . . .

AUA 53rd Annual Meeting

May 11-13, 2006
Loews Ventana Canyon
Tucson, Arizona



AUA Book Synopsis

Careers in Anesthesiology: Autobiographical Memoirs

Karen Bieterman, M.L.I.S., Assistant Librarian
Wood Library-Museum

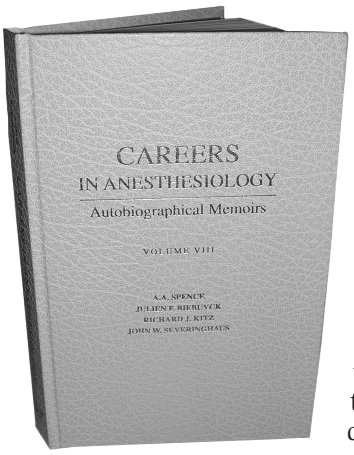
Caton D, McGoldrick KE, eds. *Careers in Anesthesiology: Autobiographical Memoirs*. Volume VIII. A.A. Spence, Julien F. Biebuyck, Richard J. Kitz, John W. Severinghaus. Park Ridge, IL: Wood Library-Museum of Anesthesiology, 2004. 276 pp. $60 (1-889595-11-X)

Karen Bieterman, M.L.I.S.

The *Careers in Anesthesiology* series first appeared in 1997. The late B. Raymond Fink, M.D., who at the time co-chaired the Wood Library-Museum's (WLM's) Publications Committee, conceived the series as a supplement to the WLM's Living History collection.

This, the eighth volume of *Careers*, includes essays by four prominent anesthesiologists, each instrumental in the establishment of research as part of the specialty in the mid-20th century and beyond. The four essays, unique in style and content, share an appreciation for support given to them by family, mentors and colleagues throughout their careers. We learn of obstacles endured, but we also hear of "serendipitous" factors that led each to a career in anesthesiology and research.

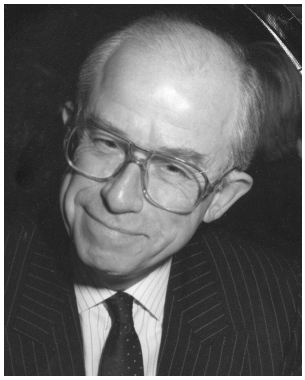
The logo of the upcoming centennial celebration of the American Society of Anesthesiologists (ASA) reads, "A Century of Advancing Patient Safety." It was through research, such as described by these authors and many others, that the status and safety of the practice of anesthesiology has been elevated to its current level.



Alistair Spence, M.D., Julien Biebuyck, M.D., Richard J. Kitz, M.D., and John W. Severinghaus, M.D., began their careers working "at the bench." Dr. Severinghaus continued on this path, while the others continued to foster research as department chairs, university administrators or journal editors. Although their memoirs focus on their research careers, interspersed are wonderful anecdotal stories that are most enjoyable, including Dr. Spence teaching the "kiss of life" to 1960s pop idol Engelbert Humperdink and Dr. Kitz's encounters with Virginia Apgar, M.D.

Alistair Spence, M.D.: Scottish Pioneer

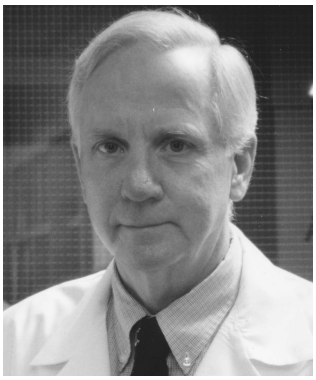
Dr. Spence's career in Scotland spanned from Glasgow to Edinburgh. His research included studies in hyperbaric medicine, postoperative pain and lung function and anaesthetic waste gases in the operating and recovery rooms with a focus on the health of babies born to mothers working in the operating rooms during their pregnancy. Working to foster research on a national level, Dr. Spence became Editor of the *British Journal of Anaesthesia* in 1973. In 1981 Dr. Spence was elected to the Board of the Faculty of Anaesthetists of the Royal College of Surgeons of England and later left Glasgow to become Chair of Anaesthetics at Edinburgh. In 1988 he was Vice-President of the Faculty of Anaesthetists, and in 1991, president of what became the Royal College of Anaesthetists a year later.



Dr. Spence

Julien Biebuyck, M.D.: In Krebs' Lab

During his career, Dr. Biebuyck was involved in research on halothane and postoperative jaundice. He also was on a research team with surgeons and hepatologists who refined a technique on liver transplantation in pigs. Both succinylcholine and halothane were used, and the team "serendipitously" stumbled onto the first case of malignant hyperthermia in an animal. In 1969, as a Nuffield Fellow, Dr. Biebuyck did his research in the Metabolic Research Laboratory of Nobel Prize winner Sir Hans Adolf Krebs (discoverer of the Krebs Cycle.) He was the first anesthesiologist in Krebs' laboratory and continued his

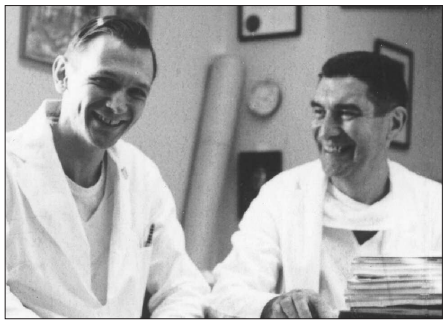


Dr. Biebuyck

research on halothane and the metabolic effects of anesthetic drugs. Several years later, Dr. Kitz, Chair at Massachusetts General Hospital (MGH), recruited Dr. Biebuyck. Dr. Kitz recruited young anesthesiologists with laboratory research training. From the beginning, Dr. Biebuyck was involved in writing National Institutes of Health (NIH) research grants and publishing his research. In 1977 Dr. Biebuyck was recruited to become Chair at the Department of Anesthesia at the new medical school at Penn State University. He retired from the Eric A. Walker Chair of Anesthesiology after 20 years but continued to serve as Senior Associate Dean for Academic Affairs until December 2000.

Richard J. Kitz, M.D.: A Serendipitous Career

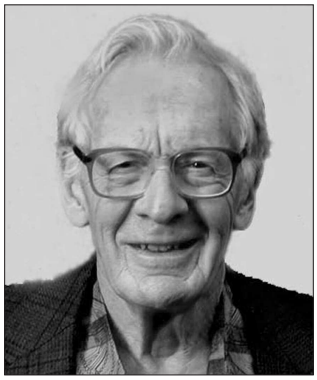
Dr. Kitz received his anesthesia education at the Columbia-Presbyterian Medical Center in New York under Chairman Emanuel "Manny" Papper, M.D. Originally headed for a career in neurosurgery, we learn of the "serendipitous" twists and turns that led Dr. Kitz to his career in anesthesiology, including his experience in the U.S. Navy. Starting out as a research trainee in the summer of 1961, he completed much of his research in the laboratory of Irwin Wilson, Ph.D. Dr. Kitz's research focused on the design, synthesis and testing of compounds that provide short-acting, nondepolarizing blockade of neuromuscular transmission. It is evident to the reader that Dr. Papper groomed Dr. Kitz for a career in academic anesthesiology through committee assignments, promotions and numerous other opportunities. While on sabbatical in the late 1960s at the Karolinska Institute, Dr. Kitz received several letters from universities inviting him to interview for the chair positions of their departments. He turned the offers down, including the first offer from MGH. After firm encouragement from Dr. Papper, who was actually on the MGH search committee, and learning that Dr. Papper was leaving Columbia-Presbyterian for Miami, Dr. Kitz interviewed at MGH. Succeeding Henry K. Beecher, M.D., he was appointed Anesthetist in Chief and Henry Isaiah Dorr Distinguished Professor of Anesthesia and held that position for 25 years.



Dr. Kitz, left, with Dr. Papper, circa 1960

John W. Severinghaus, M.D.: Blood Gas Breakthroughs

Dr. Severinghaus, pioneer in blood gas analysis and respiratory physiology, has spent his career performing and fostering research. His research also has included hypothermia, high-altitude studies and pulmonary edema, mass spectrometry and testing of pulse oximetry. In 1958 he developed a complete blood gas apparatus by combining his practical version of Stow's CO_2 electrode with Clark's PO_2 electrode. Dr. Severinghaus began anesthesia residency with Robert D. Dripps, M.D., at the University of Pennsylvania and worked as a research fellow with Dr. Julius H. Comroe, one of America's leading respiratory physiologists and pharmacologists. Listening to the advice of Dr. Dripps, Dr. Severinghaus chose a career in anesthesiology rather than biophysics. Due to the military draft, he was assigned to the U.S. Public Health Service at NIH's new Clinical Center Anesthesia Department as Director of Research. Dr. Severinghaus completed his residency with Stuart C. Cullen, M.D., at the University of Iowa. Later Dr. Comroe pursuaded Drs. Cullen and Severinghaus to join him at the University of California-San Francisco. Dr. Severinghaus worked nearly full time in Dr. Comroe's new Cardiovascular Research Institute. Dr. Severinghaus held an NIH Research Career Award and was ASA's first recipient of the Award for Excellence in Research in 1986.



Dr. Severinghaus

Call for Abstracts

The Scientific Advisory Board (SAB), chaired by Michael C. Crowder, M.D., Ph.D., invites you to submit an original research abstract for presentation at the AUA 53rd Annual Meeting to be held May 11-13, 2006, at the Loews Ventana Canyon in Tucson, Arizona. As is tradition, all submitted abstracts will be accepted. Only one abstract per member (authored or sponsored) will be accepted. SAB peer review will assign abstracts to oral, poster discussion and poster sessions. Individuals whose abstracts are selected for oral presentation will be asked to not be overly technical in their presentations and to provide adequate background and context for their work. Oral presentations are not intended for postdoctoral fellows or senior faculty. To maintain the traditional high quality of abstract submissions, it is essential that member authors and sponsors critically review their submissions. If, in the opinion of the membership, this new process results in a diminished quality of abstract, then the SAB will return to peer review for acceptance of abstracts. Members are encouraged to consider

Continued on page 12

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That darned P&T committee said there was no type-one evidence supporting my request to fund a parachute so I had to jump without it. I wonder if any of the committee members will make the jump without one?

Figure provided by S Jourin, Palo Alto, California <http://jourindesign.com>. See also: Smith GCS, Pell JP. Parachute use to prevent death and major trauma related to gravitational challenge: Systematic review of randomised controlled trials. BMJ. *2003; 327:1459-1461.*

Call for Abstracts *continued*

submission of clinically oriented abstracts, for there has been a decline in the numbers of such submissions for recent meetings.

New — Abstracts may be submitted electronically to <auameetings @asahq.org>. If submitting an abstract via e-mail, the blinded, unblinded and cover letter must be attached in the e-mail. If sending an abstract via U.S. mail, each package must include a disk of your abstract submission in Microsoft Word format, and one printed copy of your blinded and unblinded abstract. Abstract packages may not be sent as a facsimile. All abstract packages must arrive at the AUA office by 5 p.m. Central Standard Time, Friday, November 4, 2005. Abstracts arriving after Friday, November 4, 2005, will be considered late and may not be accepted.

An abstract submission form is required for each abstract. The submission form provides the SAB with information regarding authors and membership, institutional and corporate affiliations, notification of prior or other presentation(s) of the research and the need for conflict-of-interest disclaimers. A disclosure form also is required for each abstract and must be submitted should there exist relationships of a personal or professional nature that are relevant to the research that was conducted. Abstract submission and author disclosure forms as well as the specifications for abstract submissions may be found on the AUA Web site at <www.auahq.org>.

Abstracts selected for publication at the AUA 53rd Annual Meeting will not be published, allowing members to submit essentially the same abstract to the ASA 2006 Annual Meeting.