

FOR THE ALUMNI AND FRIENDS OF THE
Department of Anesthesia
STANFORD UNIVERSITY

Inside this Issue:

*Assistant Professors
on the Cutting Edge
of Research*

Resident Education Update

*Outside the OR:
Anesthesiologists Making
a Difference*

VOLUME 16
2004

STANFORD ANESTHESIA NEWS



TABLE OF CONTENTS	PAGE NUMBER
-------------------	-------------

<i>From the Editor</i>	1
<i>Chairman's Message</i>	2
<i>Assistant Professors on the Cutting Edge of Research</i>	
Sean Mackey	3
David Clark	4
Brendan Carvalho	5
Martin Angst	6
Andrew Patterson	6, 7
<i>Resident Education</i>	8
<i>Resident Update</i>	9, 10, 11
<i>Faculty News</i>	14
<i>Research Updates – Funding</i>	12
<i>Outside the OR: Anesthesiologists Making a Difference</i>	
<i>New Business Mechanisms for Packard Faculty</i>	13
<i>Bombardier to Cardiovascular</i>	16, 17
<i>Acupuncture</i>	18, 19
<i>Exclusive Interview with Myer Rosenthal</i>	15, 16
<i>Stanford Anesthesia News Profile – Joan Kendig</i>	20, 21



FROM THE EDITOR

Growing up in Albany, New York, I never thought I would write as much as I do now, especially when I decided to become a physician. Between authoring scientific articles, grants to get money to fund more studies that need to be written up, my first book (a family travel memoir titled *A Sabbatical in Madrid - A Diary of Spain* published this year), and editing *Stanford Anesthesia News*, I wish I had paid more attention in those high school writing classes.

Every fall the Department of Anesthesia releases this newsletter -- a publication intended to promote the Department's innovations in research, education, and patient care. This year we have begun a substantial make-over, by upgrading the depth and breadth of the writing and adding photographs and features written by professional writers. Initially, we attempted to include in this publication something about all of this year's newsworthy events, but we quickly realized that would be impossible. Instead, we chose the more manageable task of highlighting certain people and events.

Thank you for your interest and support. I hope you will tell us what you like and don't like about our latest effort.

Alex Macario MD, MBA
Editor
Stanford Anesthesia News

CONTACT US:

*Department of Anesthesia, H3580
Stanford University Medical Center
Stanford, California 94305
Telephone: (650) 723-6411
Fax: (650) 725-8544*

Editor: Alex Macario MD, MBA

*Associate Professor of Anesthesia and Health Research & Policy
amaca@stanford.edu (650) 723-6412*

Staff: Renee Gryns

Contributing Writers: Danielle deLeon, John Brock-Utne

Photography: Fred Mihm, Jeremy Collins, Tim Angelotti, John Brock-Utne, Jay Brodsky

Cover photograph of Stanford University Medical Center



CHAIRMAN'S MESSAGE

by Ron Pearl, M.D., Ph.D.

This has been another spectacular year for the department, with success in achieving our clinical, educational, and research missions. Our department is not only bigger than ever, it is also better. The new format of this annual newsletter, edited by Alex Macario, is designed to highlight the changes that have occurred in the department.

in anesthesia. Mike Rosenthal received both the Kaiser and the Bloomfield awards for outstanding teaching from the graduating medical student class.

Bruce MacIver received the Allan V. Cox medal for excellence in fostering undergraduate research; this is the first time that it has been awarded to a medical school faculty member. Dave Gaba was appointed Associate Dean for Immersive and Simulation-Based Learning, an appointment which recognizes his national prominence in these areas.

Many of these achievements are further highlighted within this newsletter.

This has also been an outstanding year for research in the department. The major areas of focus for the department remain pain/neurobiology, mechanisms of anesthesia, pharmacokinetics and pharmacodynamics, cardiopulmonary physiology, and human performance. There are over two dozen collaborations with faculty outside the anesthesia department and in other institutions. All eight tenure line faculty continue to make major contributions to the literature. After several years of career development, many of our MCL faculty have now established themselves as leaders in their fields. Selected examples include David Clark in pain, opiate tolerance and genomics; Sean Mackey in functional imaging; Drew Patterson in murine molecular cardiovascular physiology; and Martin Angst in experimental human pain. Greg Hammer and Dave Drover, representing a group of pediatric anesthesiologists and pharmacologists, have received a multimillion dollar NIH contract to study the pharmacology of nitroprusside in pediatric patients. A multidisciplinary group led by David Clark plans to submit an even larger (up to \$10 million) grant on pharmacogenomics and pain, and a group led by Drew Patterson is planning a grant on genomics in the ICU. This year we reached a new record with over 41 grants and contracts in the department.

Finally, I want to thank our alumni for their continued support of the department. Individual alumni contribute financially, volunteer their time as part of the Adjunct Clinical Faculty, find practice positions for our graduates, and enhance the reputation of our department by their leadership in practice and in the community. Together we are able to achieve the goal of making our department the leading anesthesia department in the world.

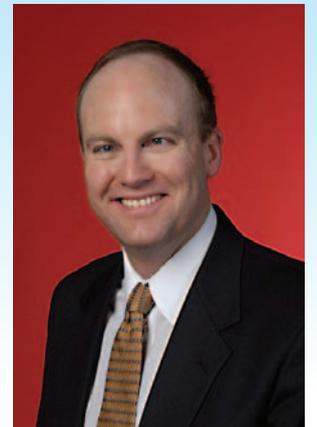
Assistant Professors on the Cutting Edge of Research

A Closer Look at Pain *By Danielle deLeon*

Pain is a universal human experience studied since the dawn of recorded history. Ancient civilizations attributed pain to demons and curses, and the Middle Ages began to see evidence that pain is involved with the brain and nervous system. Today, Dr. Sean Mackey, Assistant Professor of Anesthesia, aims to image how the brain processes pain signals.

Advances in Spinal Cord Imaging

While brain-imaging technology has advanced considerably, spinal cord imaging proves to be difficult. This is due to the spinal cord's small size, surrounding air, bone, and the movement of blood and cerebrospinal fluid. In collaboration with Gary Glover, Professor of Radiology, Mackey leads one of two groups in the world to successfully image the human spinal cord and its response to noxious stimuli. Mackey states, "These techniques offer tremendous opportunity to understand the neural plastic changes in the human spinal cord that occur during acute and chronic pain as well as the spinal cord's response to pharmacologic agents that anesthesiologists typically use."



Sean Mackey

Pain Empathy

Simply witnessing another person being injured triggers a physical reaction like flinching or pulling away, but it doesn't end there. In collaboration with Kevin Ochsner, a former Stanford postdoctoral fellow now at Columbia University, Mackey's research suggests that when a person witnesses the injury of another, the witness' brain activity is similar to that of the person actually experiencing the injury. Mackey was motivated to study pain empathy from watching his six-year-old son. Mackey explains, "He is a physical boy, like many his age are, always bumping and crashing into things. When he would have a particularly dramatic wipeout, I would feel a strong, painfully visceral, sensation. I wondered - are we activating the same neural networks when we visualize someone experiencing a painful stimuli as when we experience it ourselves?"

Characteristics of People in Pain

How someone experiences pain varies from person to person. What may be a mild annoyance to one might be excruciating to another. Some of this has to do with one's baseline anxiety and fear traits. When subjects are exposed to a standard thermal stimulus that all subjects rate as moderately painful, Mackey found a direct correlation between the subject's degree of anxiety and fear, and activation in certain frontal brain regions. These results help explain some of the variability seen in many imaging studies in pain, as well as some of the factors that modulate a normal subject's experience of pain.

The past year has seen a marked increase in surgical volume. While the growth in pediatric anesthesia has been continuous throughout the past decade, the growth on the adult side has primarily occurred over the past two years. In response, we have recruited superb faculty members and have expanded the size of our residency program to a total of 57 residents.

The development of the clinician-educator line has allowed recruitment of faculty who excel in clinical care and teaching of residents, medical students, and fellows. At the same time, we have recruited additional medical center line faculty who are outstanding clinicians and teachers and also have clinical or basic science research programs. As the divisions within the department have increased in size, we have been able to reach the critical mass required to fulfill all the goals of an academic anesthesia department. For example, pediatric anesthesia has expanded to 17 faculty, allowing us to become one of the leading academic pediatric anesthesia groups in the country.

This year we graduated another outstanding class of senior residents and began training a new group of 19 residents. Half of the graduating residents have gone on to faculty or fellowship positions, and the other half found exciting practice opportunities.

We continue to have superb results in the residency match. An impressive aspect of this year's match was that essentially every medical student who did a rotation at Stanford listed Stanford as his or her top choice. During the past year, we have continued to improve our resident education program in terms of daily teaching in the operating room, weekly grand rounds, the visiting professor series, and the weekly didactic sessions.

Drew Patterson again coordinated an annual refresher/review course for the residents, and, based on its success, we may consider expanding it to residents from other institutions next year. This year we significantly expanded our medical school courses and rotations



Real-Time fMRI

The results of a typical functional MRI (fMRI) are delayed by post processing. Now they can be viewed, as they happen, using real-time fMRI. In collaboration with Christopher deCharms, a Visiting Scholar from the Keck Center for Integrative Neuroscience at the University of California San Francisco, Mackey uses fMRI in the treatment of chronic pain. One of its more interesting uses is having the patient monitor his or her own brain activity and then work to control it. Patients may be able to learn to control their pain by directly controlling the activation in this brain region. Long-term studies are underway to investigate whether this method can be used as a treatment tool.

Just the Beginning...

Despite great progress, pain research is still in its infancy. Congress has recognized this need and has determined 2001-2010 the "Decade of Pain Control and Research." Mackey hopes that Stanford, with its first-rate technology and resources, will be the premiere place for such research. He and David Yeomans are Co-Chairs of the new Pain Working Group-part of the new Neuroscience Institute at Stanford. Their mission is to bring together an interdisciplinary group of pain researchers to develop new diagnostic tools and therapies, working from bench to bedside. According to Dr. Mackey, "With innovative technologies such as functional neuroimaging, we will better understand how pain is processed and perceived, what goes wrong in chronic pain, how to manage its negative effects, and, ultimately, reduce its impact on society."

Heme Oxygenase as a Target to Facilitate Pain Management

By Danielle deLeon

Dr. David Clark, Assistant Professor of Anesthesia and Director of Pain Service at the Veterans Affairs (VA) Hospital in Palo Alto, is focusing the bulk of his research on targeting heme oxygenase for pain management. Heme oxygenase, an enzyme expressed in large amounts in the central nervous system, takes the molecule heme and produces carbon monoxide, a neurotransmitter chemically similar to nitric oxide. Clark explains, "In animals where you inhibit the heme oxygenase enzyme, they have far fewer pain behaviors, less evidence of neuroplastic changes induced by pain. The animals seem less distressed by painful stimuli." Clark hopes within the next couple years to do human trials using heme oxygenase inhibitors as analgesic pain relievers. "Ultimately, I would like to see a new analgesic product targeted at the heme oxygenase enzyme system."



David Clark

Clark also focuses on the limitations of opioid use for the treatment of chronic pain. "One of the most common limitations thought to exist is tolerance to opioids; that is, after some period of time of taking an opioid, like morphine, a patient might get less pain relief." Limiting the decline in the effectiveness of a drug may provide greater comfort to the patient. Clark continues, "It becomes especially obvious when we do anesthetics on people who have taken narcotics for years. After the procedure, those people tend to have pain that's very difficult to manage because of their tolerance to the pain-relieving effects of the drugs."

More recently, Clark, in collaboration with Assistant Professors of Anesthesia, Drs. Martin Angst and Larry Chu, has become interested in a second and potentially as important phenomenon: opioid induced hyperalgesia -- a natural compensation in which an organism that has had long-term exposure to a pain relieving drug responds by making itself more sensitive. Clark elaborates, "The person can actually have pain in excess to what they would have experienced if they had never come in contact with the drug."

OB Anesthesia: A Labor of Love

By Danielle deLeon

After finishing his obstetric (OB) anesthesia rotation at Derriford Hospital, in Plymouth, England, Brendan Carvalho, Assistant Professor of Anesthesia, knew that OB would be his sub-specialty. "I can really make a difference in these patients," he says.

Brendan Carvalho



Carvalho is now focused on improving how a woman's pain and overall anesthetic are managed during their time in labor and following delivery. Along with Sheila Cohen, Ed Riley, and Steve Lipman, Carvalho is currently involved in over 10 research projects. "We're one of the most productive obstetric anesthesia groups in the country, and I'm proud to be a part of it." He adds, "I've done a number of studies trying to improve pain control either during labor using PCEA (patient controlled epidural analgesia) or following cesarean section using either long acting opioids, like DepoDur, or the new COX-2 inhibitors, like valdecoxib."

For the future, Carvalho wants to explain pregnancy-induced differences in analgesic responses. For example, compared to healthy volunteers, parturients in a preliminary study had an increased pain tolerance (more resistant to a heat pain stimulus) but not to a cold stimulus. If these findings are found to be consistent with those of ongoing studies, this means that the pregnancy state results in an altered pain response. Carvalho also wants to know how the genetics of pain expression in the obstetric population change.

Challenges: Lack of Funding & Time

Obstetric anesthesia is a difficult subspecialty in which to get industry funding. Carvalho explains, "It's a fairly mature field--the drugs we use are very good--and there's little pharmaceutical interest in anesthesia." There's a particular aversion to funding OB anesthesia research. "Drug companies don't want to touch pregnant patients because of all the other potential problems with the baby. It's very difficult to attract industry funding."

However, Carvalho isn't giving up on clinical research. "I am hoping to get FAER and then NIH funding to allow me to pursue my research interests, in particular unraveling analgesic differences in pregnant women. But you have to take little bites at a time, and it takes a long time to answer these big fundamental questions." The challenge is, though, that federal funding tends to favor primary bench research.

Balancing time between clinical responsibility, teaching and research is a juggling act. There's only so much time in a day. Carvalho keeps his perspective. "I think the biggest discipline I've had to learn is when to say no to work, balance my time, and keep my priorities in mind, which is having time for me and my better half, family and friends, my academic and professional career, as well as sporting and recreational activities."

Making a Difference

Born and raised in Johannesburg, South Africa, Carvalho never thought the day would come where he would be an Assistant Professor at Stanford University working with amazing people and making a difference in his sub-specialty. "Going from a little country like South Africa--not so little geographically, but no USA--to England where I lived for 8 plus years, then establishing myself here, to me, is one of my biggest achievements. From a big fish in a little pond to a little fish in a big pond but still somehow managing not to drown. I'm thankful to Ron Pearl who really allowed me to do everything I've wanted to do and for the mentoring from Sheila Cohen."

His efforts don't go unnoticed. "I often get emails from people who've read what I've written, or what we've presented, and I really feel I'm contributing to the field by educating people and changing obstetric anesthesia practice."

Carvalho also gives national presentations, his latest being at the Texas Anesthesia Conference for Obstetrical Anesthesia in February 2004. Carvalho appreciates the value of lecturing to large audiences. "By educating anesthetists, they will go on and impact many women's lives. I can affect the lives of many more women compared to just the patients I care for myself."



Experimental Human Pain Research Laboratory

Pain after surgery remains undertreated for a variety of reasons, including fear of side effects and addiction. Many people also suffer from chronic pain. Dr. Martin Angst launched the Experimental Human Pain research laboratory at Stanford in 1995. Other active members in this lab are Larry Chu and Martha Tingle.

Initial research focused on using experimental pain models in Phase I/II clinical studies looking at analgesic efficacy of novel compounds (systemic α_2 -adrenergic agonists) and of established opioids being delivered with innovative technology (oral osmotic pump systems). A second early interest examined the mode and site of action after spinal administration of analgesics to determine whether drugs were acting in the spinal cord or in the brain.

A typical set-up for conducting an analgesic drug study. Equipment includes thermal and electrical stimulators for evoking pain, a computer-controlled infusion pump for intravenous drug delivery, and tools needed for assaying drug plasma concentrations.



Six plasmapheresis membranes are inserted intra-cutaneously in experimentally inflamed skin of a leg of a human volunteer. Interstitial fluid is collected and assayed for markers of inflammation and for mediators released in response to painful stimulation.



Today, Angst's laboratory is active in three major research areas. The various pain models used mimic acute pain, inflammatory pain, and pain due to amplified neuronal processing at the level of the spinal cord. Firstly, the lab examines changes within the central nervous system as a consequence of analgesic drug therapy (opioid induced pain hypersensitivity). A second major area is developing a biomarker assay in humans (such as cytokines, growth factors, neuropeptides, or prostaglandins) for early validation or rejection of new anti-inflammatory and analgesic candidates. Third, Angst aims to search for genetic differences (single nucleotide polymorphisms) responsible for inter-individual variations in pain sensitivity and responsiveness to analgesic drugs.

Healing the Heart

By Danielle deLeon

Nearly five million Americans live with congestive heart failure, and another half million new cases are diagnosed each year. There is no cure, and treatment relies on a combination of lifestyle changes and medications. Dr. Andrew Patterson, Assistant Professor of Anesthesia, focuses his research on Cardiovascular Physiology and Molecular Biology. His investigations of congestive heart failure, adrenergic receptors in the heart, vascular tone, and gene expression are vital towards understanding how certain drugs affect various cardiovascular mechanisms.

Congestive Heart Failure: The Need for New Treatments

During times of stress, catecholamines are released in high doses, causing elevated cardiac output--invaluable if you're running from a lion, but problematic in long-term exposure. As Patterson explains, "The constant barrage of catecholamines on the heart causes cellular changes that are damaging. Continuous activation of β_1 adrenergic receptors (ARs) has a way of remodeling the heart that is detrimental." He continues, " β_2 ARs seem to prevent some of the remodeling - particularly apoptosis." If the health effects of β_2 AR activation were better understood, new therapies might be developed. Interestingly, β_2 ARs weren't always thought of as being so beneficial.

Disputing the Roles of Adrenergic Receptors in the Heart

Progress in science often involves disproving widely held beliefs. For example, Galen, a Roman physician during the second century AD, wrote that the heart was made of muscle but incorrectly believed the liver was responsible for the movement of blood through the body.

Patterson is among a growing number of scientists challenging current theory that the β_2 AR in the heart simply represents a duplication of its sister receptor, the β_1 AR. As explained in greater detail in his most recent paper in Critical Care Medicine, "Protecting the myocardium: A role for the β_2 AR in the heart," Patterson argues that although β_1 ARs and β_2 ARs are similar in terms of the substances that activate and block them, they differ in terms of gene location, size, and signaling properties. Patterson notes, "For years it was believed that cardiac β_2 s were redundant receptors. Now it appears that β_2 ARs, in addition to serving as adjuncts to β_1 ARs in terms of function of the heart, protect the heart from injury."

Understanding Vascular Tone for Treatment of Hypertension

Patterson also focuses on understanding vascular tone, a much needed area of research considering that, according to the American Heart Association, one in five Americans has high blood pressure. Amazingly, even when high blood pressure is detected and controlled, the cause in the majority of cases remains unknown.

Patterson collaborates with John Cooke (Cardiovascular Medicine) and Rick Aldrich (Molecular and Cellular Physiology) studying the nitric oxide pathway and vascular tone. Patterson states, "We've been able to elucidate some of the means by which blood vessels regulate their tone. For example, in one study we showed a role for a calcium-activated potassium channel." This channel may some day serve as a target for pharmaceutical companies developing novel anti-hypertensive agents.

Transitioning Research to the Clinical Level

As an Intensive Care Unit physician, Patterson's fourth area of research is developing methods for assessing gene expression in critically ill patients. Working with Dr. Ron Davis and colleagues at the Stanford Genome Technology Center, as well as Dr. Ann Weinacker (Pulmonary and Critical Care Medicine) and Dr. Susan Brundage (Trauma Surgery and Surgical Intensive Care), they are attempting to develop protocols for the collection and analysis of tissue samples from ICU patients.

Access to tissue samples in the clinical realm is more difficult to arrange than in laboratory research. However, Patterson informs, "One of the easiest targets, in terms of tissues from which to get samples, is blood. We're looking first at diseases where blood cells are affected. Our initial study focuses on gene expression changes in patients with severe sepsis and relative adrenal insufficiency who receive steroids. Severe sepsis patients are admitted to the ICU with life-threatening blood-borne infections. Often, their adrenal glands aren't working so we have to give them steroids. Our hypothesis is that steroids change the gene and protein expression in the white blood cells from an inflammatory expression pattern to a healing pattern."



Andrew Patterson

A Future of Discovery

At the beginning of the twentieth century, most doctors believed that surgery on the heart would always be impossible, as the heart was thought to be an extremely delicate organ. Today we know differently, because researchers look at current cardiovascular mechanisms with fresh eyes, challenging the current thinking.



RESIDENT EDUCATION

Annual Resident Refresher Course

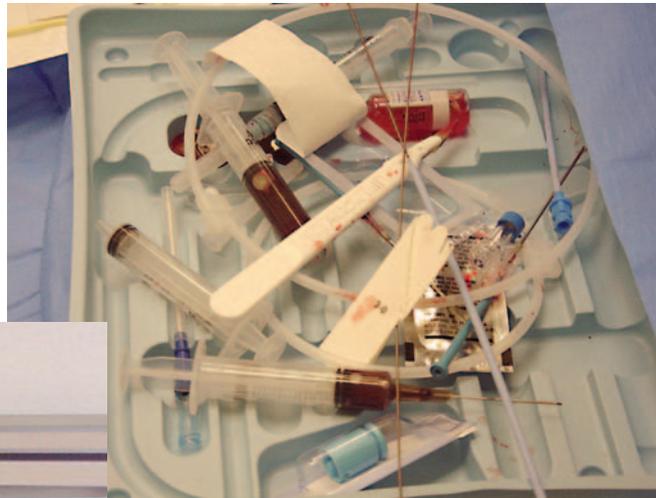
On June 5 and 6, 2004, the Stanford Anesthesia Department conducted its 2nd Annual Resident Refresher Course. Twenty Stanford faculty, as well as guest speakers from Duke University and the University of California Irvine, presented thirty-minute synopses of important topics in Anesthesia, Pain Management, and Critical Care. The goals were to help residents prepare for written and oral Board examinations and to review basic clinical concepts. All anesthesia residents were relieved from clinical duties to allow them to attend the course, directed and organized by Andrew J. Patterson, M.D., Ph.D. and Janine Roberts.

NeoSim Course at the Center for Advanced Pediatric Education (CAPE)

In September 2003, Stanford anesthesia residents began taking a course at the Center for Advanced Pediatric Education called NeoSim, a simulation-based crisis management training focusing on the neonatal population. Thus far, 28 residents, five fellows, and one attending have taken the course and become certified in the process. The residents spend the second Monday of each month at CAPE while rotating on the Obstetric Anesthesia service.

During NeoSim, our anesthesia residents are paired with Neonatal Intensive Care Unit nurses and must resuscitate a neonate in a mock delivery room during a rapidly evolving scenario under time and performance pressure, as well as auditory overload with incomplete information coming from multiple sources in a demanding, error prone environment...sound familiar?

The course provides an ideal environment for multidisciplinary training. Since the performance of the team directly affects patient outcome in a crisis, and includes teams of nurses, physicians, and technicians that respond to real crises, team-oriented simulation training makes sense. Indeed, a critical component of effective crisis response is the quality of interaction between the care providers comprising the team.



If medical care is to approach the safety standards of other high reliability organizations like the aviation and nuclear industries, such courses represent the future "gold standard" for training all health care professionals involved in patient care. The paradigm shift in training for health care personnel has begun (witness the focus on patient safety evidenced by the new limits on resident work hours and recent Anesthesia Patient Safety Foundation grants focusing on simulation). For example, since 2002, a course called ObSim has been in the works for crisis management training oriented toward parturients.



RESIDENCY UPDATE

By John G. Brock-Utne, M.D.

I can't believe it, but I have now been the Associate Residency Director for 5 years. Where have the years gone? The only thing I know is I have enjoyed it. Being with eager, enthusiastic young people is a real blessing and makes you feel young, although one can only look in the mirror to know you may be young at heart, but the outside tells another story.

My job is made very easy because of the wonderful help provided by Janine Roberts and Nuvia Pacheco who never stop smiling. What a pleasure to work with them. This year's chief residents were no exception from the previous group. Bridget Philip and Brian Dunn have been most enthusiastic, loyal and very attentive to making sure the rotations work and everyone is happy.



John Brock-Utne

This July the following residents will leave our program and go out into the big, wide world:

Cynthia Arvay (Staff Physician, Stanford University Hospital, California)

Gregory Charlop (Fellowship in Pediatric Anesthesia, University of Southern California)

Brian Dunn (Private practice at Hoag Hospital, Newport Beach, California)

Maria Gomez (Private practice, Las Vegas, Nevada)

Jennifer King (Private practice at Hoag Hospital, Newport Beach, California)

Sanford Littwin (Fellowship in Cardiac Anesthesia, Columbia Univ. Hospital, New York)

Gary Martinovsky (Fellowship in Pain, University of California, Davis, California)

Elena Mauad (Kaiser Permanente, Boulder, Colorado)

Bridget Philip

(Fellowship in Pediatric Anesthesia, Stanford, California)

Lori Sheehan

(Fellowship in Cardiac Anesthesia, Stanford, California)

Richard Shinaman

(Fellowship in Pain, Mayo Clinic, Scottsdale, Arizona)

Elizabeth Steele (Academic position, Cleveland, Ohio)

May Thai

(Fellowship in Pediatrics, Children's Hospital, Boston, Massachusetts)

Jason Varner

(Private practice, San Francisco Bay area, California)

Tessa Walters

(Assistant Professor, Univ. Texas Health Science, San Antonio, Texas)

Kelly Yeh

(Fellowship in Pediatric Anesthesia, Stanford, California)



Eleven of our graduates chose academia, and five will go into private practice. When you look at the last five years' distribution as to where residents go, academia or private practice, there is no clear pattern.

The chief residents for the coming year are Pat Bolton and Barry Waddell. They have been very proactive, upbeat and smiling despite the difficult task of having to please everyone - all the time. They have already organized for the incoming residents to attend, with their families and friends, a baseball game with the Oakland A's in a luxury box. We hope to see them come to work the next day.



The following residents went on overseas trips to provide anesthesia care:

Tessa Walters went to Transkei in South Africa. She gave an excellent talk on her experiences showing that the Humphrey ADE breathing system still works in that part of the world.

Elizabeth Steele (Ecuador) and **Bridget Philip** (Peru) went with the Medical Missions for Children (out of Boston). **Barry Waddell** went to Vietnam with Rotaplast (San Francisco).

Cindy Arvay went to Guatemala with an Orthopedic group.

We are still looking for organizations to take our residents to far away places. So if you read this and know of any groups that would be interested in having our residents participate, please let me know.



Learning airway management is an important part of our daily life. Scott Rudy is a CA 1.

Dr. Lemmens supervising CA 1 Amy Evers.



The two most popular rotations among residents are the cardiac rotation at the Veteran's Administration (VA) and the regional rotation at Stanford. VA Cardiac faculty include Drs. Kevin Fish, Ed Bertaccini, Steve Howard, Larry Siegel, Geoff Lighthall, and David Gaba.

During the lottery to choose rotations for the following year these were the two rotations taken first.

Residents learn new technologies, including the Innercool, during the neurosurgical rotation. Innercool is an endovascular technology designed to maintain a chosen target temperature and rewarm patients to normothermia.

This year's chief residents Bridget and Brian organized social activities for the residents. Very popular is the February weekend skiing trip to Tahoe. My thanks to the many faculty, in all the three hospitals, who covered for them. The education committee has been very busy this year. This year we will use a new computer evaluation program for both faculty and residents.



Regional anesthesia faculty include (from left to right) Drs. Amador, Angelotti, Mackey, and Vokach-Brodsky.

Chief residents, Bridget Philip (far left) and Brian Dunn (second from right), with their respective significant others.



In Denver, at the Western Anesthesia Resident's Congress (WARC), we were represented by Ed Mariano (last year's Chief Resident and this year's pediatric anesthesia fellow), Bridget Philip, Richard Shinaman, Jiang-ti Kong and Debbie Williams. The latter three presented their work at the oral session, which was a great honor. Jiang-ti and Debbie are Stanford medical students doing research in our Department. With the help of Dr. John Chow, Debbie got a Stanford Medical student scholarship to study in our Department.



The 2nd Annual Stanford Anesthesia Golf championship was held in May with 20 participants. The winning group consisted of Dr. and Mrs. Van der Starre (faculty and wife), Scott Rudy (resident) and Ivar Brock-Utne (family). Anyone interested in participating next year must contact me at brockutn@stanford.edu.

At the WARC, the California Society of Anesthesiologists select the best eight resident research papers to be presented at the annual meeting in San Diego. The department got three of the eight presenters. This is equal to our best result so far when in 1998 Ann Marie Mallott, Lauren Hill, and Cathy Russo also made the last eight.

The three from Stanford this year were Richard Shinaman, Ed Mariano, and Debbie Williams. Richard went on to win the resident's prize at the Annual meeting. That is the first time that has happened in 15 years. Dr. Sean Mackey supervised Richard's work.



Lauren Hill, Cathy Russo, and Ann Marie Mallott, (left to right), were the last time Stanford took 3 of the 8 resident research awards in 1998.

In 2003 we instituted a Food and Research meeting (FNR) at Stanford every Thursday evening. This is an opportunity for everyone in the Department to present their research ideas, work in progress, etc. From time to time residents and fellows also present.

We are still very fortunate to have so many of the alumni come back and work in the OR with our residents. The residents really do appreciate the teaching and the networking. We are grateful to all of you for taking the time and effort to contribute to the education of our residents. Thank you to Audrey Pullen for the list.

Adjunct Clinical Faculty this past year:

- | | | |
|------------------------------------|--------------------------------------|---|
| David Arakaki | Michael Champeau (Oral Exams) | Lonnie Merrick |
| Rhett Atkinson (Oral Exams) | Maeve Hennessy | Ken Newgard |
| David Berger | Brian Hershey | David Newswanger (Oral Exams) |
| Gregory Botz | Terri Homer | Suma Singh (Pediatrics only) |
| William Brose (Pain Clinic) | Jeffrey Lee | Mark Singleton (Pediatrics only) |
| Heinz Brinks | Freddie McClendon | Clinton Warne |
| Robert Buechel | Dan McFarland (Oral Exams) | |

In conclusion, I have a most wonderful job working with young, happy and enthusiastic people. I feel blessed. Thanks to all the Department's members for the laughs, smiles and general happiness.



Principal Investigator	Award Title	List of Grants ongoing in 2004	Sponsor
Angelotti	Genetic Manipulation of Mice for the Analysis of in vivo Adrenergic Receptor Pharmacology and Physiology		FAER
Angst	Differential Rate for Development of Acute Tolerance to Opioid Induced Analgesia, Respiratory Depression, and Sedation		FAER
Chu	Opiate-Induced Tolerance and Hyperalgesia in Pain Patients		NIH/NIGMS
Clark	The Roles of Heme Oxygenase in Pain		NIH/NIGMS
Clark	Genetics of Opioid Induced Hyperalgesia		NIH/NIDA
Cohen	Refecoxib for Postoperative Pain Management after Cesarean Section: A Randomized, Placebo-Controlled Study		Merck
Drover	A Randomized, Double-blind, Active-controlled Study of the Safety and Efficacy of SKY0404 (propofol injectable emulsion 2%) versus Diprivan Injectable Emulsion 1% in Balanced Anesthesia.		Skye Pharma
Drover	Determination of a Dosing Strategy for the Combination of Propofol and Dexmedetomidine to provide Sedation for Esophagogastroduodenoscopy in Children		Baxter
Drover	Multi-center, Double-blind, Randomized, Placebo-controlled, Multiple Dose Study of the Analgesic Efficacy and Safety of Acetaminophen Injection 1G vs. Placebo for Pain Following Primary Total Hip Arthroplasty		ICON Clinical Research
Gaba	Patient Safety Center of Inquiry		VA Health Services
Gaba ¹	Improving Safety Culture and Outcomes in Healthcare		NIH/AFRQ
Giffard	Anesthetics and Stress Proteins in Brain Cell Injury		NIH/NIGMS
Giffard	Brain Cell Vulnerability to Ischemia and Acidosis -- Role of the Sodium Bicarbonate Transporter		AHA
Giffard ²	CNS Injury and Edema Research Center		NIH/NINDS
Giffard ³	Center for Cerebrovascular Disease		NIH/NINDS
Golianu ⁴	Longitudinal MRI Study of Brain Development in Fragile X		NIH/NIMH
Hammer	A Randomized Double-blind, Placebo-controlled, Multi-Center Study of Intravenous Ondansetron Hydrochloride 0.1 mg/kg for the prevention of Postoperative Emesis in Pediatric Surgical Subjects Age 1 month to 24 months Who Are Undergoing Routine Surgery under General Anesthesia		Glaxo Smith Kline
Hammer	OSP1005: A Multicenter, Inpatient, Open-Label Dose Ranging Study to Characterize the Pharmacokinetics and Safety of an Oral Liquid Formulation of Oxycodone in Patients from Birth to 4 Years of Age, Who Require Opioid Analgesia		Purdue Pharma
Hammer	OSP3003: Multicenter, Double-Blind, Randomized Dose Ranging Study, in Pediatric Patients 5-16 Years of Age Receiving Morphine as Standard Supplemental Pain Medication, to Evaluate Pharmacokinetics, Safety, Efficacy of Oxy Pediatric Liquid (1 mg/mL) versus Placebo in the Treatment of Moderate to Severe Pain		Purdue Pharma
Hammer	Comparison of Desflurane and Isoflurane for Face Mask or Laryngeal Mask Airway Anesthesia during Pediatric Surgery		Baxter
Kendig ⁵	Mechanisms of Anesthetic Action in Spinal Cord		NIH/NIGMS
Kendig	Neural Mechanisms of Anesthesia		NIH/NINDS
Macario	Clinical Study of RFID Tagged Surgical Sponges		NIH
Mackey	Imaging Neural Systems in Complex Regional Pain Syndrome		FAER
Mora-Mangano	Phase III, Randomized, Single-blind, Controlled Clinical Trial to Evaluate the Efficacy and Safety of Hemolink in subjects Undergoing Primary Coronary Artery Bypass Grafting		Hemosol
Mora-Mangano	Clinical Protocol for a Double-blind, Multicenter study and efficacy of Parecoxib Followed by Valdecoxib compared to Placebo Treatment of Post-Surgical Pain in Patients Who Have Coronary Bypass Graft via Median Sterno		Pharmacia & Upjohn
Mora-Mangano	Efficacy Study of Clevidipine (Clevelox™) Assessing its Postoperative Antihypertensive Effect in Cardiac Surgery		The Medicine Company
Patterson	Role of Beta 2 Adrenoceptors in Cardiac Physiology		NIH/NHLBI
Pearl	A Multicenter, Randomized, Controlled Trial comparing the Safety and Effectiveness of Surfaxin (Lucinactant) Delivered via Bronchopulmonary Segmental Lavage to Standard of Care in Patients with Acute Respiratory Distress		Discovery Labs
Pearl	Efficacy and Safety of Drotrecogin Alfa (Activated) in Adult Patients with Early Stage Severe Sepsis		Lilly Research Laboratories
Pearl	Retrospective Study of the EPO II Trauma... the Association between Severity of Illness as Measured... and the Effects of Epetin Alfa Treatment on Study Outcomes		Ortho Biotech Products, L.P.
Pearl	A Randomized, Double-blind, Active-controlled, Parallel Study to Determine the Comparative Safety Profiles of Ampofol™ vs. Diprivan for Prolonged Sedation of Intensive Care Unit Patients: The Effect of Lipid and Additives		Amphastar Pharmaceuticals
Pearl	A Randomized, Double-blind, Placebo-controlled Trial of Prophylactic Heparin in Patients with Severe Sepsis and Higher Disease Sepsis Who Are Undergoing Treatment with Drotrecogin Alfa (Activated)		Eli Lilly & Co.
Pearl	A Randomized Double-blind, Placebo-controlled Study to Determine the Efficacy and Safety of Epoetin Alpha in Critically Ill Subjects		Johnson & Johnson
Pearl	A Double-blind, Placebo-controlled, Study of E5564, a Lipid A Antagonist, Administered by Twice Daily Intravenous Infusions in Patients with Severe Sepsis		Eisai, Inc.
Riley	A Randomized, Observer-blind, Active-controlled, Safety and Efficacy Comparison of Intra-incisional Mepivacaine-POE and Bupivacaine HCl after Herniorrhaphy		A.P.Pharma
Trudell	Dimensions and Polarity of Anesthetic Binding Sites		NIH/NIGMS
Trudell	Properties of Specific Alcohol Binding Sites		NIH/NIAAA
Yeomans	In Vivo Genetic Manipulation of Neuronal Excitability		NIH/NIDA
Yeomans	Analgesic Effects of Adrenal Chromaffin Cell Transplants		NIH/NIDA
Yeomans	Recombinant Herpes Injection into Trigeminal Ganglia		NIH/NIDA

¹Gaba, Co-investigator on Laurence Baker's R01 grant
²Giffard, PI for Project #3 on Pak Chan's Center grant
³Giffard, PI on Project #1 for Gary Steinberg's Center grant
⁴Golianu, Co-investigator on Allan Reiss's R01 grant
⁵Kendig, PI on subcontract from UCSF

Packard Looks to Private Practice for New Business Mechanisms

by Danielle de Leon

In a university-affiliated hospital, the practice of medicine is a lot different than in a private practice. In an academic environment with many large departments it is easy for the individual physician to feel somewhat removed. New mechanisms are needed to provide university physicians with the same responsibility and control over their practice that private practitioners have. To bridge the gap between hospital business and university operations and physicians, Lucile Packard Children's Hospital created the Pediatric/Obstetric Faculty Practice Organization (FPO), with Dr William Feaster as Executive Director.

Feaster has been practicing anesthesia since 1981, the majority of the time in private practice. "I was at Oakland Children's Hospital for 12 years and know many of the Stanford alumni from their pediatric anesthesia rotations through Children's."

From there, Feaster got an MBA and went to work for Sutter Health in Sacramento directing women and children's services and continuing to practice pediatric and obstetric anesthesia. After 6 years at Sutter, Feaster moved to Fresno into full-time administration as Senior Vice President and Chief Medical Officer of a 3-hospital health system.

Next was Stanford, but for longer than the intended stay. "I decided to reenter clinical practice, but since I'd been out of practice for 3.5 years, I came to Stanford in February 2002 for a couple months. Within one day of arriving, people began talking to me about coming to practice at Stanford and Lucile Packard Children's Hospital. They were very effective recruiters." Feaster quickly realized that his heart was in teaching as well as pediatric anesthesia. With his administrative and private practice experience, Feaster's skills matched up well with Packard Hospital's effort to organize and direct a newly emerging faculty practice organization.



William Feaster

The Pediatric/Obstetric Faculty Practice Organization

As described in the February 17, 2003 Dean's Newsletter:

"The Pediatric/Obstetric Faculty Practice Organization (FPO) is being designed to further enhance the clinical programs by aligning the goals of the faculty, LPCH and the School of Medicine. It is being designed so that faculty will be responsible and accountable for the financial, quality and service outcomes of the pediatric/obstetric clinical practices."

Feaster explains, "Academic physicians will always have the competing priorities of teaching and research. For the time they spend in clinical practice, we're trying to create an environment where the physician feels responsible and accountable for the results of their practice and the satisfaction of referring physicians, patients and staff. The same as if it was their own private practice." The FPO provides Packard physicians with detailed financial data so they know how much overhead they're incurring, and how much money they're bringing in. The physicians will eventually be accountable to the bottom line of their practice. Future incentive plans will not only reward physicians for their hard work, but also for the levels of quality, service and satisfaction they provide. Feaster is hopeful for cooperation from the doctors. "They're beginning to understand that they do have a say and can make a difference."

The FPO now has the full administrative responsibilities for the outpatient clinics at LPCH. At the School of Medicine department level, the FPO hopes to assist, not replace, those responsible for current practice operations and doesn't want to disrupt the department role and responsibility for the practice. "Most of them are doing an excellent job," Feaster states, "and we don't want to fix something that's not broken. We want to primarily get involved with that which isn't working well."

The Future

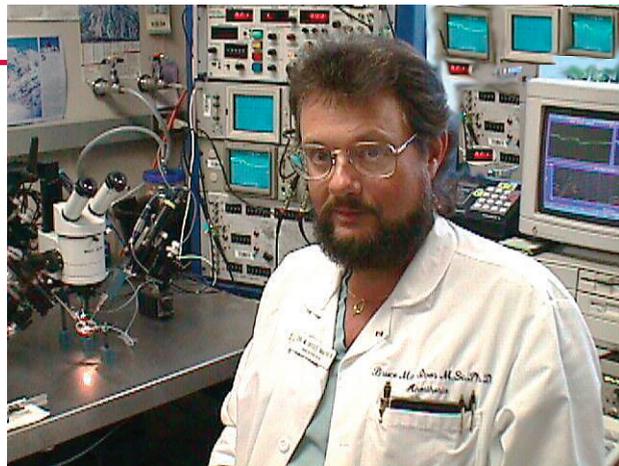
The adult practices at Stanford Hospital and Clinics have discussed doing something similar, which places pressure on the Packard FPO to "do things right." Feaster sees this as a positive challenge. "Imitation is the best form of flattery, and they will see what the pediatric and obstetric faculty can accomplish by working in a close partnership with Packard hospital."

Feaster is in a Masters in Liberal Arts program at Stanford and someday sees himself teaching literature or history at a college level. Regardless of where he ends up, he feels that careers don't have to be static. "I've found that what really makes life exciting is that you don't have to do just one thing." He does, however, realize that passion has a place in whatever he does. "The one passion that's always been there is practicing anesthesia. I need the excitement of joy of helping children and their families and being directly involved in patient care. Giving up clinical practice is the one thing I don't intend to do again."



FACULTY NEWS

Bruce MacIver Received the Allan Cox Medal for Faculty Excellence Fostering Undergraduate Research. This article is reprinted with permission from the Stanford University News Service.



Bruce MacIver

The Cox Medal is awarded annually to a faculty member who has established a record of excellence directing undergraduate research over a number of years. It may also go to a faculty member who has done an especially outstanding job with just one or two undergraduates whose work is unusually superior.

The citation for MacIver's award acknowledged his "long-standing and widely acknowledged commitment to undergraduate research and lifelong mentoring that has moved students from initial exposure to cutting edge work to careers in their own biomedical laboratories."

The citation also noted that MacIver had fostered independent thinking "in a supportive, but intellectually rigorous research environment that encourages the development of scientific thinking as well as technical virtuosity -- training which has garnered prestigious awards for his students."

The citation credited MacIver for "transforming undergraduates in his laboratory into researchers who, along with him, are defining the field of neurophysiology and contributing to therapeutically relevant research in the area of anesthesia; for inspiring students to pursue medical and research careers motivated by intellectual excitement and humanitarian service; for demonstrated commitment to support the efforts of women who seek to pursue medical research; and for modeling a life of balance, intellectual excellence, and compassion."

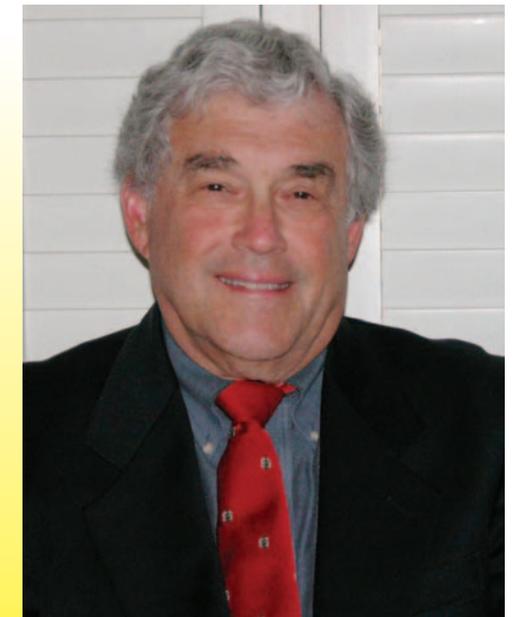
The Cox award was established in memory of the late Allan Cox, a Professor of Geophysics and Dean of the School of Earth Sciences. He is widely known as the codiscoverer of magnetic-field reversals.

The memo soliciting nominations for the Cox Medal referred to the fact that "in the late 1970s and early 1980s, it was Cox, more than any other Stanford faculty member, who extolled the virtue of research programs such as that pioneered at the Massachusetts Institute of Technology. He encouraged professors to adopt the same goals and provide similar opportunities to undergraduates here. His energy led to increased funding and support for faculty-student collaboration in research."

MacIver received a master's degree in pharmacology in 1981 and a Ph.D. in neuroscience in 1985, both from the University of Calgary. He joined Stanford's Anesthesia Department in 1987, serving first as a postdoctoral fellow and then as an Assistant Professor from 1991 to 1998. He was promoted to Associate Professor of Neurophysiology effective July 1998. His research has been continuously funded for more than 10 years by National Institutes of Health (NIH) research grants for studies of the effects of anesthetic agents. The MacIver lab utilizes electrophysiological recording techniques and selective pharmacological probes to investigate the sites and mechanisms of action for CNS active agents.

Four Cheers for Dr. Rosenthal An exclusive interview with Danielle de Leon

Dr. Myer Rosenthal, Professor of Anesthesia, has had a banner year. He received both the Arthur L. Bloomfield Award for Excellence in Teaching Clinical Medicine and the Kaiser Award for Excellence in Clinical Teaching--rarely awarded to the same person in the same year--as well as the University of Vermont Distinguished Academic Achievement Award from his medical school alma mater. He has also been appointed Chairman of the Board of Directors of the Foundation for Anesthesia Research and Education (FAER).



Myer Rosenthal

Danielle deLeon: How does it feel to receive so many prestigious awards in one year?

Myer Rosenthal: I came to Stanford in 1975 with the goal to establish a nationally recognized critical care program and to devote my energies into educational activities involved in the education of medical students and housestaff. To receive the teaching awards from the Stanford medical students and to be recognized by my medical school alma mater at the University of Vermont this year has been extraordinarily gratifying. If these awards are an indication that I have been even modestly successful as an educator, than I am elated and most appreciative of these recognitions.

Dd: What do you think made the difference this year to spark so many accolades?

MR: Maybe it is just getting near retirement. In the past year, I have had the opportunity to be involved in the new required critical care clerkship for all medical students at Stanford. That has resulted in far greater exposure to the students. Additionally, as clerkship director for the anesthesia clerkships, I spend quite a bit of time working with the students in the operating room. None of this would be possible without the superb efforts of Nuvia Pacheco who serves as the administrative support for all of these clerkships and makes them run so smoothly. She has been an invaluable asset.

Dd: What is your teaching philosophy?

MR: I have been consistent in my view that using a basic physiologic approach in providing an understanding of disease and developing management approaches allows for the best opportunity for clarity and understanding of the most complex challenges both in anesthesiology and critical care. What's most important is making learning an enjoyable process, allowing the student to use previously acquired knowledge, and maintaining a relevance to the skills that they realize are necessary for success. It is not just what you teach but how you teach it that provides the best opportunity for success.

Dd: Regarding FAER, what have been your greatest contributions?

MR: First as President and now as Chairman of the Board of Directors, I have tried to continue FAER's efforts in growing the scientific research and educational activities of our specialty. Academic Anesthesia is at a critical crossroads, threatened by increasing clinical demands and decreasing enthusiasm for academic careers among our housestaff. My efforts at FAER have been directed to providing the incentives and increasing the financial support to develop our housestaff and junior faculty in the direction of scholarly activities as academic anesthesiologists. Additionally, I along with the FAER Board have increased our efforts in encouraging and incenting mentoring activity among our senior faculty by providing financial incentives, creating an Academy of Anesthesia Mentors to recognize this most essential activity, and creating a forum to further mentoring in our specialty. Finally, in the past year, I have conducted a retreat attended by leaders from all of the major organizations to discuss a cooperative and collaborative approach to the future of academic anesthesiology. This Anesthesia Leadership Retreat will meet in June 2004, for the second time in ten months, to develop implementation strategies to improve the current state of academia and scholarly productivity in Anesthesiology.

continued on page 16



Dd: What are some FAER current events?

MR: FAER sponsors several grants in clinical and basic science research and research in education that have increased in both numbers and amount over the past three years. The current annual research budget for FAER is \$2,400,000 with the goal to double that amount in the next three years. Additionally, we have initiated support for mentoring in our largest research grant and the previously mentioned Academy of Anesthesia Mentors. At the Annual Meeting of the ASA, FAER has several activities, including a panel related to research and education in anesthesiology, an honorary research lecturer recognizing someone whose research and mentoring has been of the highest degree, a FAER booth in the exhibit hall to allow interested attendees to come and find out more about the organization, a luncheon for corporate sponsors and anesthesiologists who have played a major role in FAER's efforts, and, finally, a resident scholars program where anesthesia programs have the opportunity to send junior housestaff to the ASA to participate in educational programs to become acquainted with the opportunities in academic practice and those provided by FAER. Obviously a major component of FAER's activities must be fundraising without which we will have little impact. FAER has recently hired a full time Executive Director/Development Officer to increase our fundraising activity in a major way. An additional activity for FAER, to be initiated in the summer of 2005, will sponsor medical student experience during the summer in anesthesia programs where they will gain insight into the specialty and experience in a research and clinical setting. This new program recognizes the need to acquaint students early with the opportunities in anesthesiology and, more particularly, academic anesthesia.

Dd: Where do you find the time?

MR: Like anything else in life, complex multi-tasking can only be accomplished through organization and the help of others. Beginning with Phil Larson, who provided me the opportunity and had the confidence that I would accomplish my goals; presently, Ron Pearl, for his leadership and recognition of the value of non-clinical activities to our department and our specialty; and to the Department and my ICU colleagues, who have allowed me the time to devote to many and varied roles in anesthesiology and critical care. My family has been very supportive in understanding the commitments I have made and have benefited along with me in traveling to many areas and making numerous treasured friends. Minimizing distractions when attempting to concentrate on important tasks is essential to proper time management and has allowed me to accomplish many different activities efficiently.

Dd: What do you do in your spare time?

MR: My family has always been my principal outside activity, and, as many of my colleagues know, they have given me great pleasure and satisfaction. Anne's choice early on to give up a career in education in favor of one as a mother and role model for our children has been most successful and essential to my being allowed the time to accomplish my career. It has been a mutually satisfying team effort for us all. I would like to think that I have rarely, if ever, chosen either career or family responsibilities to the detriment of the other and have made it a principle goal to be involved in all of my children's activities now extended to my grandchildren. I have always believed that if one has the desire to maintain a positive family environment, there is no inconsistency with a successful academic career, and that the failure of either is by choice not necessity. On a personal note, I also enjoy snow skiing, water skiing and fly fishing and maintain an intellectual interest in early US History and the Whaling Industry in the United States in the 18th and 19th centuries.



J. Kent Garman, who became president and president-elect of the Stanford Hospital medical staff in Sept. 2003, believes in connecting his own career as a cardiovascular anesthesiologist to other professional activities - medical administration, sure, but soldiering?

In the 1960s, while a Navy Flight Surgeon, he regularly flew combat missions "in the right seat of an A-6 as a bombardier-navigator" with the Marines he provided care for in Chu Lai, Vietnam. "You get to know your patients and their concerns really well in the cockpit," he said during a recent interview. "You get to know what they're thinking, what they need."

As a cardiovascular anesthesiologist, Garman connects patients to surgeons and the rest of the medical team. He says he's proud to have served in cutting-edge situations, like the pioneering 1981 heart-lung transplant that is reflected in a picture over his desk; it's a lone photo in the midst of a cluster of diplomas and certificates. As a physician leader, he served as Chief of Cardiovascular Anesthesia at Stanford for 12 years starting in 1973.

Since the mid-1980s, the connections have included linking hospitals, physicians, and patients to the world of fiscal reality. After receiving a Sloan fellowship and an M.S. in management from Stanford's business school in 1983, Garman took a break from academic medicine, and combined his medical career with administrative responsibilities and leadership, including private practice in San Diego and at Sequoia Hospital. At the latter hospital in Redwood City he also served as both president of the medical staff and chief of staff. He has connected politically as a member of the board of both the San Mateo County Medical Association and CMA Political Action Committee.

Staff president-elect, J. Kent Garman, believes in connections - bombardier to cardiovascular anesthesiologist

Article begins on previous page.

The now gray-haired Garman returned to Stanford's faculty in 1998, "because, quite frankly, I missed the teaching, I missed the collegiality, and I missed working in an academic environment."

"You don't really understand the stimulation, the professional growth potential that you have in an academic hospital with world class leaders in their fields until you try to do the same job as a doctor in another setting." Garman said he'd like to communicate that message to his colleagues in private practice." And I'd like to encourage my faculty colleagues to make an effort to welcome and support their fellow physicians whose focus is private practice. Faculty and community physicians have much to learn from each other, and bridging that gap, building coalitions, making connections, offer real value-added benefit to all doctors here. Right now, personally, I have the best of all worlds, the opportunity to be a clinician three-plus days a week. But I also teach, get involved with the research enterprise, and spend a great deal of time and effort working on a variety of care review and other committees with other doctors and hospital administrators.

Right now, for example, I'm physician project co-leader on a task force that is looking at a comprehensive perioperative management system for the hospital, a multimillion dollar, multi-year project."

Garman will serve as vice president for two years and then ascend to the presidency for two more years. "As vice president, I'll be working with Bruce [Adornato, the staff president], an outstanding physician, teacher and well respected leader who understands this place.

"As I see it, and as I think Bruce and many of my colleagues see it, the mission over the next few years is to face some serious challenges and find some better ways for doctors and the hospital to work together to come up with improved ways to deliver efficient, compassionate, quality hassle-free medicine.

"And first and foremost, I see my role [as medical staff president-elect] to build coalitions and serve as a representative, an advocate for physicians. I really want to be a voice representing the views of my colleagues to hospital administration and the community at large," he said.

"We face some serious obstacles. The physical plant is strained. In the operating room where I work, there are scheduling constraints that we must somehow resolve, and this will take cooperation as well as resources to improve the physical plant. There are dynamics among various practice groups that must be resolved and they must be resolved collegially. I think we can do that if we can continue to act smart, to explore and implement best practices and to understand there is a role to play for a variety of different practitioners."

Quality management, he said, "must go far beyond peer review to find solutions for efficiency, cost benefit, and just simply reducing the annoyance factor for all medical staff, hospital personnel and patients."

Kent Garman has also been chosen as next year's recipient for the Distinguished Service Award from the California Society of Anesthesiologists

"Right now a major issue is clinic access. This affects faculty practice directly, and this is a concern we must address as physicians in close partnership with our hospital," Garman said. "Our medical staff has an opportunity to 'package' this issue and present our concerns and suggestions to hospital administration in a coherent, consistent manner."

Other current issues include computerization and record-keeping, Garman said. "Stanford is not a leader in information systems, and I'd like to work hard on this with my colleagues and the hospital to develop effective systems that will make life not only more efficient, but less stressful for everyone."

Among his specific interests is an effort to better use personal digital assistants to manage, often interactively, prescriptions, medical records and scheduling.

"I think we can learn quite a bit from our colleagues and neighboring institutions, including the VA. The Veteran's Administration has very sophisticated data tracking systems that produce a wealth of information. If we could tap into that, we'd have an opportunity to develop the tools we need to improve efficiency - without reinventing the wheel."

Garman, a native of Reading, Pennsylvania, graduated from Temple University School of Medicine in his home state. After serving in the Navy, he returned to the University of Pennsylvania for his anesthesia residency and fellowship before joining the University of Pennsylvania faculty for a year in 1972.

His time at Stanford, from 1973 to 1984, and again since 1998 has included scholarly clinical research in cardiovascular anesthesiology. He has written the chapter on cardiovascular anesthesia in Jaffe and Samuels, Anesthesiologists' Manual of Surgical Procedures. Scheduled to be published in 2004 is a chapter on Information Technology in Anesthesiology in Lake's Advances in Anesthesia.

The new vice president lives in Half Moon Bay with his wife, Judith. The couple has four children, all over the age of 30, and three grandchildren under age three. Among his hobbies is a connection to photography. He recently won a blue ribbon from the American Society of Anesthesiologists for a photo of a window in an old building he visited on a recent trip to Italy.

Garman admits that his career combining academic, clinical and private practice with medical business has been a bit unusual and isn't for everyone.

"I made my choice, because I enjoy what I'm doing and I hope that in the next four years I can work with my colleagues to make a difference with Stanford's medical staff."

Reprinted with permission from Medical Staff Update, November 2003, Volume 27 • No. 9



Outside the OR: Anesthesiologists Making a Difference

East Meets West: Incorporating Acupuncture into Western Medicine

By Danielle deLeon

My elbow tendon thrummed like a guitar string as Dr. Emily Ratner, Associate Professor of Anesthesia, flicked the 6-inch long, copper-topped, acupuncture needle sticking out of my arm.

Normally, I hate needles. But, after interviewing Dr. Ratner and Dr. Brenda Golianu, Assistant Professor of Anesthesia (Pediatric Anesthesia), for this article, I asked them to treat the tendonitis in my elbow and an impinged nerve in my neck.

I couldn't look. My neck, shoulder, and hand were also dotted with needles that, fortunately, didn't hurt. I immediately noticed pain relief. The pain wasn't completely gone but the sharpness was. Amazingly, I could use my arm in positions that had hurt for months. After not responding to traditional physical therapy, and dreading surgery, I will try more acupuncture sessions.

Golianu has kept acupuncture alive at Stanford for the past five years. She and Dr. Julie Good, Clinical Assistant Professor of Pediatrics and Pain Management, have an active pediatric acupuncture service as a part of the pain clinic at Lucile Packard's Children's Hospital. They also run an inpatient service. Now, Golianu and Ratner aim to expand. Ratner explains, "What we're most excited about is creating a division of medical acupuncture to provide inpatient services to adults and kids who are recovering from surgeries or other illnesses."

I asked why acupuncture has been slow to take hold in the West. Golianu speculates, "Primarily, because of a lack of understanding of acupuncture and just a lack of experience. Those who have seen it be effective are very open to this type of complementary medicine."

Ratner had specialized in Obstetric anesthesia for 12 years, but during her sabbatical became more aware that many people had problems incompletely addressed by traditional Western medicine techniques. Ratner states, "We really want to grow this division because there aren't enough practitioners to treat the potential number of patients out there."

A Fall 2003 article in the Stanford Medical Magazine notes, "More than a third of all pain treatment centers in the United States offer [acupuncture] as therapy and an estimated 3,500 physicians have acupuncture credentials - using it to treat everything from heroin addiction to low back pain and postoperative surgery pain."

The same article states, "An April 2000 study in Pediatrics found that 70 percent of children treated with acupuncture felt it helped their symptoms, while two-thirds described the treatment as pleasant. Babies and teenagers make the best subjects."

Covering all bases, in terms of patient care, Good focuses mainly on pediatrics, Golianu treats both children and adults, and Ratner intends to focus on adults. "In addition to outpatient services, we want to provide a consult service for inpatients," Ratner explains. "We're not going to be admitting patients for acupuncture. The patients are already here." This service will be used to complement, not replace, whatever treatment the patient is currently receiving. Ratner continues, "There are effective treatments for many conditions in Western medicine, but there are also a lot of people who fall between the cracks. One of my visions is to try to close those cracks."



Emily Ratner



East Meets West: Incorporating Acupuncture into Western Medicine

While acupuncture may be a solution to those who don't respond to traditional treatments, it also enhances effective Western treatments. Golianu uses the side effects of anesthesia as an example. "Let's say a patient has nausea and vomiting after surgery. They can have post-op pains, headaches, various side effects of existing medication, or just side effects of being in the hospital. Acupuncture may be helpful."

Some of Golianu's research focuses on acupuncture's effects on neonatal withdrawal. Golianu explains, "Children in the ICU on opiates and benzodiazepine often experience withdrawal when they're weaned off them. We're using acupuncture and acupressure to decrease the amount of medications needed for postop cardiac surgery sedation. I hope these kids can be weaned off the ventilator sooner, thereby lessening postoperative complications. This work is based on studies in adults showing that acupuncture helps decrease symptoms of withdrawal in detoxification programs."

Future research topics include the use of functional MRI imaging of acupuncture's affects on certain brain trigger zones. Golianu is also interested in how acupuncture, in addition to medication, increases fertility, and the affects of acupuncture on chemotherapy.

Another potential area of growth is education. Golianu currently teaches an introductory medical acupuncture course at the School of Medicine, but the two doctors would like to expand the program to include a concentration in acupuncture for interested medical students.



Brenda Golianu with patient

Ratner is hopeful about the future of the acupuncture service. "This is a very exciting time for us, because we've been given the support of our chair to expand the service into a full fledged program including comprehensive clinical care, research and education".

***The Department of Anesthesia
at Stanford
cordially invites you to attend the
ALUMNI REUNION RECEPTION***

DATE: Sunday, October 24, 2004

PLACE: Las Vegas Hilton Hotel / Pavilion 10

TIME: 6:00 - 8:00 pm

**Please RSVP to Renee Gry, grys@stanford.edu
or (650) 723-5439**

(Please inform your colleagues)



Stanford Anesthesia News Profile

Dr. Joan Kendig Retires After 36 Knockout Years in Anesthesia

An interview with Danielle de Leon

Stanford campus in the spring is best enjoyed outside. If that's not possible, the courtyard view from Joan Kendig's office--its sun-splashed trees begging us to come outside--serves as a pleasant backdrop for our interview. Kendig, Professor of Biology in Anesthesia, retires on January 31, 2005. I'm fortunate enough to speak with her before she leaves.

Dd: Are you excited?

JK: Yes. My son says, "Mom, it's like you're graduating from high school." I'm moving on to the next stage.

Dd: What are you going to do on the first day of your retirement?

JK: Go to a freeway overpass and gloat over the poor souls still stuck in the commute.

Dd: I'll wave back. - How long have you been at Stanford?

JK: Since 1968 in this Department. I got my PhD here a couple years before that.

Dd: Could you give me an overview of your work here?

JK: Well, it has changed considerably over the years. I was originally hired as a Research Associate by the Department's first chair, John Bunker, who was interested in a problem involving changes in electrolyte balance during anesthesia when certain types of muscle relaxants were used. I worked on that for a while but realized that, compared with other factors during surgery, the action of the drug was going to be minor. So I took advantage of the opportunity to collaborate with another investigator, Jim Trudell, who joined the department as a Research Associate with Ellis Cohen, to try to find out how very high pressures appeared to antagonize general anesthetics in the then current belief that pressure would provide insight into how the anesthetics worked. When Professor Bunker left, I was able to identify that as an area of interest. I worked on it for a number of years but finally convinced myself that there were too many ways this could just be an indirect effect and had nothing to do with the way anesthetics work. For many years, people thought this was a specific antagonist to anesthetics, but it's not. So then I changed to looking at what anesthetics actually do, particularly specific receptors and ion channels.

About that time, the whole field moved from this very global idea of anesthesia as a single event due to some non-specific change in membrane conformation, to a constellation of endpoints, such as amnesia and loss of ability to move in response to a painful stimulus, which all have distinct mechanisms and are probably due to actions at very specific binding sites on proteins. Part of my research in the last few years has been trying to determine which are the most likely target sites. That's the part involving the program project at UCSF, which has been one of the most exciting intellectual groups I've worked with - a really good group of people.

Dd: Tell me more about the program project.

JK: Ted Eger who got us together started it nearly 15 years ago. We put in a proposal for a program project level grant, and it failed. So Ted picked himself up off the floor and, a couple years later, reconstituted the group with different members. This time it worked. That was 10 years ago. We got funded, and then funded a second time. I've been associated with it throughout its history. The program project just got its site visit and will be funded for a third, five-year period. I won't be an active part of the research any more but will be on the advisory board.

My research in recent years has also been looking into the mechanisms of opioid and alcohol tolerance and withdrawal, which are related to the addictive properties of these drugs. I'm hoping, by the time I actually retire, the last of those papers will have been shepherded through the publication pipeline.

Dd: How has the understanding of general anesthesia changed since you started?

JK: What people were concentrating on in mechanisms of anesthesia ten or fifteen years ago was all about a non-specific membrane effect. It was a real revolution to identify specific proteins and start dealing with how they actually changed.



Stanford Anesthesia News Profile

Dd: What do you feel was your greatest contribution?

JK: I think partly hammering the nail in the coffin of pressure reversal in anesthesia as a relevant area of study. Also, identification of mechanisms of acute tolerance and withdrawal--that's much more recent.

Dd: What are you going to miss the most about your time here?

JK: The daily interaction with a lot of very interesting and intelligent people. That I will miss. We've got some very good, young faculty members. I particularly like talking to them.

Dd: What are you going to miss the least?

JK: The commute. I live in Campbell.

Dd: So what's next? What are you going to do with all this time?

JK: My passion is gardening, and I'm really looking forward to being able to pursue it uninterrupted by not having to stop and clean up Sunday night to get to work on Monday morning. I've got a couple of grandchildren, and hopefully there will be more.

Dd: Do you have any advice for someone who is just starting out in anesthesia?

JK: Be a whole lot more thoughtful about their careers than I was. So much of mine was serendipity. I joined the Department by accident. I was bound geographically at the time while looking for work. My PhD advisor told me about a position here, and I said, "Well, ok, I'll do that for a couple of years."

JK & Dd: [laughter]

JK: I was lucky a couple of times. I started working on spinal cord preparation almost exactly at the moment when a couple of other people had identified the spinal cord, not the brain, as where anesthesia produces one of its largest effects.

The other thing that was lucky--and I owe a group of courageous women a great debt--is that, when I joined this Department as a research associate, there was only one tenured woman faculty member in the medical school. All the rest of us were stuck in these research associate positions. So a group of women who included Dora Goldstein in pharmacology, the late Rose Paine in hematology, the late Judith Poole, Marion Smith, Netta Grandstaff, and others got together and were initially energized by finding out that Katherine D. McCormick, an early supporter of women's causes, like the right to vote and birth control, had left 5 million dollars to Stanford with the hope that it would be used to support women in their medical careers.

[Victor Hugo] once said, "Nothing in the world is so powerful as an idea whose time has come." The injustice and the discrimination were so blatant that the school agreed to a one-time review of everybody who was a research associate. That included me and all the women I mentioned, and the result was that some of them that had national and international reputations went immediately to tenured positions as full Professors.

Dd: Wow. You're a pioneer.

JK: Well, I was the beneficiary of the true pioneers. I owe those women a great debt. That was a turning point in my career. I would never be in the position I am now if they had not forced through this one time review.

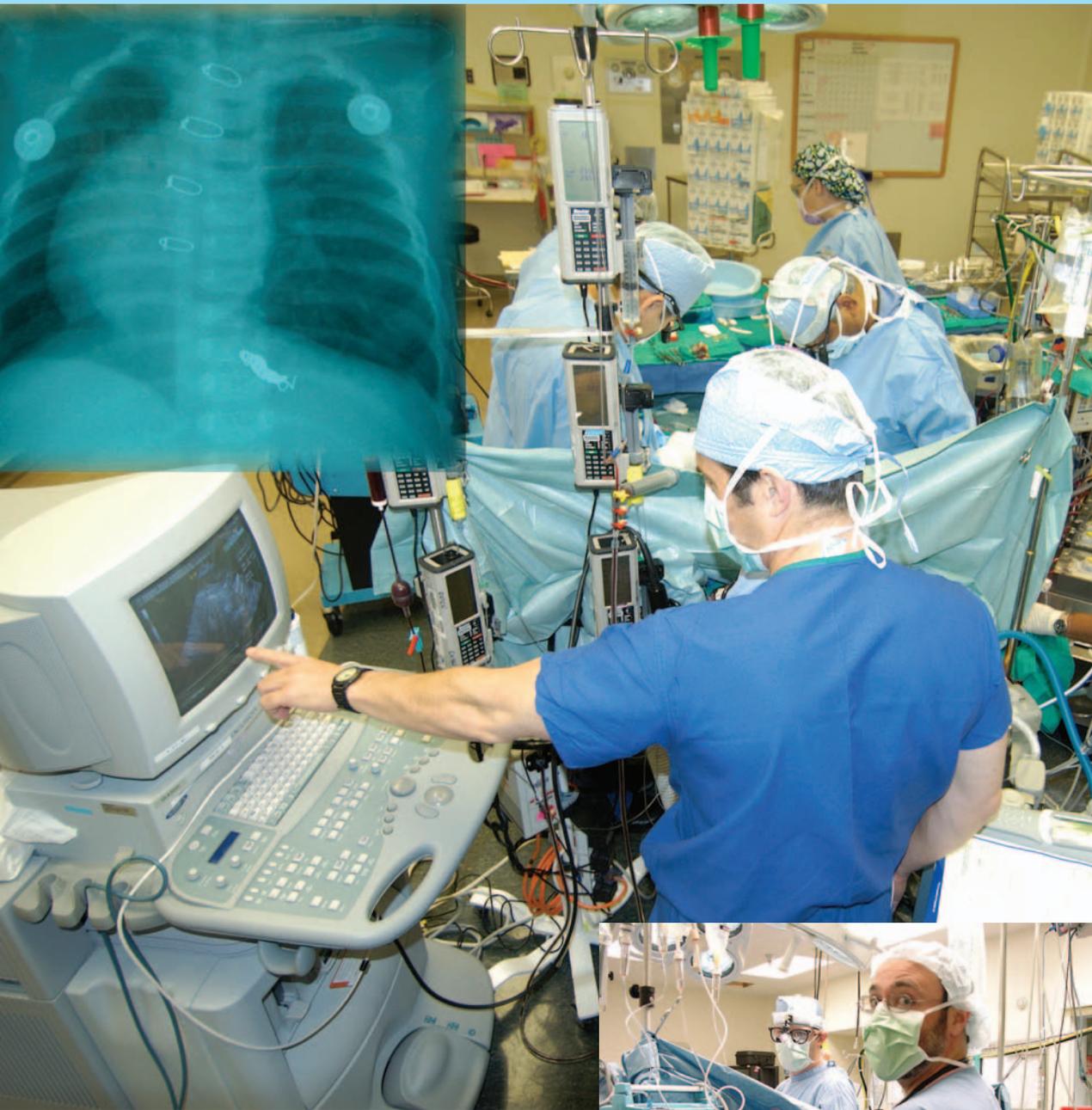
Dd: Anything else you'd like to mention?

JK: When my first mentor, Dr. John Bunker [Chair of the Department at that time], left it would have been very easy for me to be told to pack up and go. Instead Dr. Ellis Cohen supported me, and I owe him a great debt because he didn't have to. I was not his responsibility. Also, I've been very fortunate in terms of colleagues. The intellectual stimulation of this group of people who gathered for the program project has been absolutely wonderful. I'm glad to think that I was influential in recruiting two new members to take my place when I move on. They did a great job in the effort to renew the grant. And the people I worked with in my lab were very good people. About seven or eight years ago I took on new lab manager, Shirley Wong, who's been the best thing that ever happened to me. And for the last two years, I had a wonderful post doc, Sarah Sweitzer--best I've ever met. I'm very happy that at the end of my career we have eight papers published or in press in less than two years, most of them as a result of her efforts. Also, I'm very happy to have had Ron Pearl as chair the last few years. He's made such a difference. The Department's really lucky.



Joan Kendig





NEWSLETTER OF THE
STANFORD
ALUMNI ASSOCIATION

VOLUME 16
2004



STANFORD ANESTHESIA NEWS