No-Fault Reporting Exposes Potential Harm Before it Happens

Nearly every day in every hospital, people make small errors that could—and sometimes do—lead to patient harm. James Caldwell, MD, believes that if there was a better way for people to report and track these “near misses,” then incidents that actually do lead to harm could be reduced dramatically.

“The culture in medicine has always been to keep quiet,” says Caldwell. “There’s a sense that if we don’t behave perfectly, then we’re at fault. This is out-of-date thinking…we need to take away the stigma and be completely open without fear of retribution.”

Caldwell believes that a more open, less punitive culture would drag the small mistakes into the light, and give people a chance to make corrections before they’re filing an incident report that has cost a life and ruined a career. This has always made intuitive sense, but remains surprisingly untested. That’s why Caldwell recently joined with resident Patrick Guffey, MD, to create a near miss reporting system for the UCSF Department of Anesthesia and Perioperative Care.

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FROM THE CHAIRMAN

Considering the icons that have preceded me, I embark on the prospect of leading the UCSF Department of Anesthesia and Perioperative Care with a mixture of humility and privilege. I will strive to fulfill the trust by the search committee in identifying me, and the Dean for selecting me. For the last 30 years, from varying distances, I have admiringly observed how brilliantly UCSF shines in the anesthesia and critical care galaxy. Now that I am firmly within this department’s gravitational force, I seek not to collide but to gently coax the Department, by degrees, in a direction that is informed by my own experiences on three continents in training, clinical practice and research.

In Cape Town South Africa, where I grew up and studied medicine, I became convinced of the need for a fair and just society. Such a society demands a healthcare system that minimizes inequalities in access to high quality clinical care. As the US wrestles with how to reform its system, I am ever mindful of that goal.

After training, like so many other physicians, I left my birthplace to explore new ideas and new environments. My sojourn began at the Royal Free Hospital in London, where I met an inspirational leader who introduced me to structured clinical research. In addition to clinical training in internal medicine, I also was dealing with everything from regulatory compliance to prosecuting clinical trials. To help, my mentor plugged me into a worldwide collegial enterprise that taught me how important it is to provide rich, collaborative experiences for deserving students and residents. It is through these interactions that we can continually improve our profession’s ability to save lives and improve the quality of those lives.

From London, I moved on to a postdoctoral research fellowship at Stanford University, during which I gained a first-hand appreciation for the immense contribution of basic scientists to both medical training and biomedical investigation. I became especially aware of the value of the bi-directional information flow that today we call “translational research.” Since that time, I have collaborated continuously with basic scientists in pursuit of answers to clinical questions.

It was during my anesthesia residency at Stanford that I was encouraged to apply for NIH funds that provided me with a running start upon graduation. This instilled in me the firm belief that flexible clinical training is a valuable tool in attracting, nurturing, and retaining promising physician-researchers – and, ultimately, in building clinical excellence. This department’s innovative residencies are prime examples of such training.

Finally during the last decade in the UK, I took on administrative responsibilities alongside my clinical, teaching, and research duties. In particular, I led a large segment of academic clinical activity within the Faculty of Medicine at Imperial College as it transitioned into a US-style academic medical center. In this role I learned some of the ways to create the difficult, but essential balance among clinical care, training, and research.

Thus my vision for the UCSF Department of Anesthesia and Perioperative Care: as we train the next generation of anesthesia’s leaders, we must improve upon this unabashedly patient-centric program by delivering the highest quality clinical care. That care must be rooted in the finest possible science, and this department must be a prime player in generating that science.

Realizing such a vision depends on consultation and collaboration with this remarkable faculty. I expect that together we will sustain this department as an academic paragon for years to come.

Mervyn Maze, MB ChB
Professor and Chair
A Time of Change

The leadership of the UCSF Department of Anesthesia and Perioperative Care has remained remarkably stable over its 50-plus year history. On August 31, 2009, Ronald D. Miller stepped down after 25 years on the job, making way for another internationally renowned anesthesiologist: Mervyn Maze.

Miller's Relentless Pursuit of Excellence...

Ronald D. Miller, MD, became chair of the Department of Anesthesia and Perioperative Care in 1984, just as the department was celebrating its first 25 years; he stepped down after leading the department through its joyous 50th birthday celebration.

During his time as chair, the department thrived. It dramatically expanded its clinical responsibilities in everything from preoperative evaluation to operating room, recovery, and critical care. It instituted a model outpatient pain management program, assumed formal leadership roles at every UCSF-affiliated facility, and became the go-to department for critical care.

Over the same period, the department created one of largest, most prestigious academic anesthesia programs in the world, a place where innovation flourished. UCSF was one of the first anesthesia programs to set up a simulation-based system of learning, and last year, with the realization of Miller’s vision of more flexible and concentrated residencies in research and critical care, the department forged new ground that anticipates how the profession is changing.

Finally, Miller’s recognition that molecular biology would be the next wave of medical research helped to successfully bring an already legendary research program into the modern era. For many years running, the department has been number one in the country in NIH funding.

He attributes much of his success to listening carefully and following the lead of the many great leaders this campus has produced, mentioning Rudy Schmid as a particularly inspiring model. “Another key was having a vision of excellence and pursuing it, even when it meant veering from some prescribed plan,” says Miller. He says that everything from expanding the number of female faculty to the pursuit of some of the department’s most successful researchers to instituting a system of billable hours emerged from chance encounters with excellence, not from a carefully constructed strategic plan.

Miller’s personal accomplishments over the past 25 years include: writing the most widely used anesthesia text in the world, aptly named Miller’s Anesthesia; serving as editor-in-chief of one of the specialties most respected journals; chairing an NIH study section and an FDA committee; and being named to the Institute of Medicine, a rare feat for an anesthesiologist. Though no longer chair, Miller remains with the department and is taking advantage of his newfound freedom to pursue clinical research.

...Becomes Maze's Next Challenge in his Storied Career

As he assumes leadership of this historic department, Mervyn Maze, MB ChB, is well aware he is walking in the footsteps of anesthesia royalty. Over the last 50 years, Stuart Cullen, MD, William Hamilton, MD, and Ronald Miller, MD have played leading roles in advancing the specialty of anesthesia around the world. “They are icons of our profession and this department has an unparalleled reputation,” says Maze.

What Maze didn’t say is that he too is an icon for many, and is well prepared to extend the department’s accomplishments. According to Miller, “Mervyn Maze is one of the world’s leading anesthesiologists and we are fortunate to have found someone of his caliber.”

Born in Cape Town, Republic of South Africa, Maze obtained his medical degree, with honors, in 1970 from University of Cape Town, South Africa. He trained in Internal Medicine, initially at the Groote Schuur Hospital in Cape Town, and then at the Royal Free Hospital in London. In 1976, he undertook a postdoctoral research fellowship at Stanford University, followed by training in anesthesiology, pain management and critical care medicine.

After joining the Stanford faculty in 1981, Maze led a laboratory investigating the mechanisms of anesthetic and analgesic action, with research funded by both the National Institutes of Health and the Department of Veterans Affairs. In 1999, he was recruited back to the UK, where he led the Department of Anaesthetics, Pain Medicine and Intensive Care within the Faculty of Medicine at Imperial College, London. Subsequently, he became the Head of Division for Surgery, Oncology, Reproductive Biology and Anaesthetics, as well as Campus Dean and Director for Research and Development at the Chelsea and Westminster Hospital. He also became chair for the specialty of anesthesia within the National Institute of Health Research.

An outstanding clinical scientist whose studies into the action of general anesthetics have been translated into established therapeutics, Maze also is the co-inventor of dexmedetomidine, an alpha-2 agonist that is widely used for sedation in the perioperative and critical care settings. His innovative research has received numerous awards, including the American Society of Anesthesiology’s Excellence in Research award.

In this issue’s Letter from the Chair, Maze lays out his ambitious vision for the department.

Former Department of Anesthesia & Perioperative Care Chairmen Ronald D. Miller, MD (Chair, 1984-2009), and William K. Hamilton, MD (Chair, 1967-1983).
A NEW DIRECTION FOR THE BICKLER LAB:

Seeking to Open the Therapeutic Window for Hypothermia

If we can better understand the effects of cold on neurons, we could potentially use low temperatures for anesthesia, for therapeutic interventions in conditions such as stroke and other brain injuries, and to improve organ preservation in transplant situations,” says Philip Bicker, MD, PhD, of the UCSF Department of Anesthesia and Perioperative Care.

That vast clinical potential is why hypothermia has become the latest research path for the Bickler laboratory. After a series of pilot studies that gathered data on the effects of cold on turtle and rat neurons, the lab is applying for an NIH R01 grant to extend its work.

The Complex Relationship of Cold and Neurons

Bickler’s interest in hypothermia was sparked by a couple of overlapping observations.

First, he notes, “Mild hypothermia is already the standard of care for protecting brain tissue in comatose heart attack patients and clearly has beneficial effects.” Hypothermia has also proven effective in cases of neonatal asphyxia, as well as in a variety of conditions tested in animals. So it disturbs Bickler that human studies on the protective effects of hypothermia have rarely demonstrated the same positive effects as those for heart attack and neonatal asphyxia. “We believe that hypothermia has both beneficial and potentially harmful effects on temperature sensitive human tissues,” he says. “We need a new fundamental understanding of how hypothermia, especially at very low temperatures, affects tissues.”

Secondly, Bickler has long understood that the action of anesthetics like xenon and isoflurane can reverse the effects of hypothermia on neurons and, as such, might wind up being protective of cold injury. “We know from the work of people like (UCSF anesthesiologist) Spencer Yost, that anesthetics open tandem pore potassium ion channels, and that cold slams those channels shut,” says Bickler. “That knowledge caused us to focus our work in this area on potassium channels.”

Transitioning with Turtles

Bickler’s group began its pilot studies with turtle neurons, a natural fit because for over a decade the lab has been studying how turtle neurons live without oxygen. Coincidentally, turtle neurons also are extremely tolerant of cold. “The fundamental problems of living without oxygen and of being cold are related because they both limit the cell’s ability to produce energy,” says Bickler.

That’s where the potassium channels come in, because they determine cellular response to cold through their role of enabling neurons to maintain their electrical charge. When cold causes the channels to close, the neuron’s electrical charge dissipates. In turn, the cell consumes adenosine triphosphate (ATP) as it fights to maintain a normal electrical charge. If the cold is deep enough and long enough, the cell will eventually run out of energy.

After initial work with the turtle neurons, the Bickler lab moved on to rats. Researchers took slices of rat hippocampuses, cultured them for long periods, and then tested them in various temperatures and environments to model brain injury. “It’s a model we’ve used a lot to understand how anesthetics work, as well as to study preconditioning,” says Bickler. Preconditioning is the topic of his current NIH grant, where he is seeking to understand whether a mild stress can induce in neural tissue a state of tolerance to severe stressors like ischemia.

The move to hypothermia, therefore, is a natural progression. It also happens to provide a clear picture of why bench science can be the critical platform for translational research when inspired by real-life clinical conundrums.

“If we can better understand what causes low temperature injuries in neurons, then we can begin to understand how to make clinical adjustments that maintain the positive effects of hypothermia, and limit the negative,” says Bickler. “Our goal is to expand the therapeutic window for hypothermia.”
Faculty Honors and Appointments 2009

Congratulations to the faculty in the Department Anesthesia who were honored for their achievements and contributions during the 2008-2009 academic year. They include the following awards and honors:

Sakura Kinjo, MD
CAMPUS APPOINTMENT:
Medical Director
Orthopaedic Institute

Manuel C. Pardo, Jr, MD
CAMPUS APPOINTMENT:
Director
Anesthesia Residency Program

Kristina Sullivan, MD
CAMPUS APPOINTMENT:
Associate Director
Anesthesia Residency Program

William L. Young, MD
EXTRAMURAL HONORS:
American Society of Anesthesiologists Excellence in Research Award
(see story at right)

William L. Young Wins American Society of Anesthesiologists Excellence in Research Award

The ASA Excellence in Research Award is the highest honor our Society can bestow on an investigator. William L. Young, M.D., the James P. Livingston Endowed Chair in the Department of Anesthesia and Perioperative Care at the University of California, San Francisco (UCSF) is the 2009 recipient, and it is hard to imagine a more deserving colleague. An accomplished anesthesiologist, Bill Young is also a prolific investigator whose work has had an impact on the scholarly development of neuroanesthesia as well as on our ability to understand the mechanisms, pathophysiology and care of patients with neurovascular disease. His establishment of the multidisciplinary UCSF Center for Cerebrovascular Research has provided the vehicle for extending the boundaries of our specialty’s influence to include neurosurgery, radiology, neurology and other various neuroscience fields.

His productivity in research and NIH grant funding has been incredibly consistent. He has had continuous NIH funding since 1990, two concurrent NIH grants since 1994, and at least three, and up to five, NIH grants concurrently since 1999. He is the principal director of a program project grant, “Integrative Study of Brain Vascular Malformations,” which was just renewed for a second five years. This remarkable run began when Bill was an early recipient of the FAER award system.

The substance of his research is even more impressive. After early studies on the cerebral effects of anesthetics, he gradually moved to more unexplored pathophysiological areas in anesthesia, neurocritical care and intraoperative neurosurgery. This led to the understanding of reperfusion hyperemia or perfusion pressure breakthrough, which is associated with arteriovenous malformation treatment. The work also led to epidemiological, clinical risk prediction and imaging studies. When he arrived at UCSF, Bill approached cerebrovascular biology of vascular remodeling and angiogenesis using molecular and genetic techniques. Studying patients with giant cerebral aneurysms, he used “network” models, including innovative collaborations with bioengineers and imaging scientists.

By using the unique skill-sets gained from his training in anesthesia, Bill Young has made major contributions to understanding both the biology and management of neurovascular disorders that many anesthesiologists must manage. He would say, “If anesthesiologists take care of vascular disease patients, then we should strive to understand the totality of the disease process and not accept any a priori limitations to the nature of the questions we ask nor investigations we pursue.” Indeed, his journey began at the bedside, thus instigating the most innovative and productive physiologic approach to understanding these disorders to date, which he now conducts at the level of program director of an NIH program project grant. Reaching the limits of current physiologic technology, Bill recognized real progress would only occur through a thoughtful laboratory and bedside approach. For all of these reasons and more, Bill Young clearly deserves the ASA’s highest honor in research: the Excellence in Research Award. – Ronald D. Miller, MD
**CAREER FACULTY**

**Ryan Bradley, MD**  
*Clinical Instructor*  
Joined Faculty August 17, 2009  
**MEDICAL SCHOOL:**  
University of California, San Francisco  
**INTERNSHIP:**  
Massachusetts General Hospital  
**RESIDENCY:**  
Anesthesia  
University of California, San Francisco  

**Seema Gandhi, MD**  
*Clinical Instructor*  
Joined Faculty September 1, 2009  
**MEDICAL SCHOOL:**  
Mahatma Gandhi Mission’s Medical College  
**INTERNSHIP:**  
Anesthesia  
Seth GS Medical College and King Edward Medical College  
**RESIDENCY:**  
Anesthesia  
University of South Florida  
University of California, San Francisco  

**Harold Fong, MD**  
*Clinical Instructor*  
Joined Faculty August 10, 2009  
**MEDICAL SCHOOL:**  
University of California, San Francisco  
**INTERNSHIP:**  
Internal Medicine  
Kaiser Permanente Northern California  
**RESIDENCY:**  
Anesthesia  
University of California, San Francisco  

**Zhonghui Guan, MD**  
*Clinical Instructor*  
Joined Faculty September 1, 2009  
**MEDICAL SCHOOL:**  
Peking Union Medical College  
**INTERNSHIP:**  
Internal Medicine  
Jersey Shore Medical Center  
**RESIDENCY:**  
Anesthesiology  
Massachusetts General Hospital  
**FELLOWSHIP:**  
Pain Management  
University of California, San Francisco  

**Mark Latronica, MD**  
*Clinical Instructor*  
Joined Faculty July 1, 2009  
**MEDICAL SCHOOL:**  
University of California, Los Angeles  
David Geffen School of Medicine  
**INTERNSHIP:**  
Transition al Alameda County Medical Center  
**RESIDENCY:**  
Anesthesia  
University of California, San Francisco  

**Arun Prakash, MD, PhD**  
*Clinical Instructor*  
Joined Faculty July 1, 2009  
**ADVANCED DEGREE:**  
PhD, Immunology and Molecular Oncology  
**MEDICAL SCHOOL:**  
New York University School of Medicine  
**INTERNSHIP:**  
Santa Clara Valley Medical Center  
**RESIDENCY:**  
Anesthesia  
University of California, San Francisco  

**David Robinowitz, MD, MHS, MS**  
*Clinical Instructor*  
Joined Faculty August 17, 2009  
**ADVANCED DEGREE:**  
MHS  
**MEDICAL SCHOOL:**  
Georgetown University School of Medicine  
**INTERNSHIP:**  
Pediatrics  
University of California, San Francisco  
**RESIDENCIES:**  
Pediatrics  
University of California, San Francisco  
**ANESTHESIA:**  
University of California, San Francisco  
**FELLOWSHIP:**  
Pediatric Pulmonology  
University of California, San Francisco  
**FELLOWSHIP:**  
Pediatric Anesthesia  
University of California, San Francisco  

**Susan Yoo, MD**  
*Clinical Instructor*  
Joined Faculty July 9, 2009  
**MEDICAL SCHOOL:**  
Albany Medical School  
**INTERNSHIP:**  
Internal Medicine  
Albany Medical Center  
**RESIDENCY:**  
Anesthesia  
University of California, San Francisco  

**VISITING FACULTY**

**Julie Ng, MD**  
*Visiting Assistant Professor*  
Joined Faculty July 15, 2009  
**MEDICAL SCHOOL:**  
University of Western Australia  
**INTERNSHIP:**  
Medicine  
Sir Charles Gairdner Hospital, Perth, Australia  
Royal North Shore Hospital, Sydney, Australia  
**RESIDENCY:**  
Anesthesia  
Royal Perth Hospital, Perth, Australia  
Sir Charles Gairdner Hospital, Perth, Australia  
King Edward Memorial Hospital, Perth, Australia  
Royal Prince Alfred Hospital, Sydney, Australia  
**PREVIOUS EMPLOYMENT:**  
Locum Consultant  
Anaesthetist, Australia  

**Gabriel Snyder, MD**  
*Visiting Assistant Professor*  
Joined Faculty May 1, 2009  
**MEDICAL SCHOOL:**  
University of Melbourne Medical School  
**INTERNSHIP:**  
General Surgery/Medicine  
St. Vincent’s Hospital, Melbourne, Australia  
**RESIDENCY:**  
Neurosurgery/Neurology  
St. Vincent’s Hospital, Melbourne, Australia  
**ANESTHESIA:**  
St. Vincent’s Hospital, Melbourne, Australia  
Sunshine Hospital, Victoria, Australia  
Monash Medical Center, Victoria, Australia  
**FELLOWSHIP:**  
St. Vincent’s Hospital, Melbourne, Australia
No-Fault Reporting

continued from front page

Making Sure the Holes Don't Line Up

Their system is modeled on similar systems in the airline and nuclear power industries, where no-fault reporting on near misses has led to documented safety improvements. In what Caldwell calls the “Swiss Cheese Analysis,” hospitals have frequent near misses (holes), but it’s typically only when the holes line up that a patient is harmed. It follows that if hospitals know where the holes are ahead of time, they can prevent them from ever lining up.

Making the holes visible, however, depends on a constant stream of fearless reporting, which tends not to occur with traditional incident reporting, partly because it is cumbersome and time-consuming and partly because liability concerns tend to limit reports to serious incidents where harm has already occurred.

Caldwell and Guffey began their effort by sending a questionnaire to every faculty and resident in the Department of Anesthesia, probing what would encourage them to report near misses. Respondents said they wanted something easy to use, accessible, and anonymous. In turn, Caldwell and Guffey worked with the anesthesia IT staff to implement a system with those qualities.

Begun in January 2009 and password protected, the intranet reports are based on a Joint Commission checklist with space to describe the incident in more detail. As of early May the system had received some 450 reports from all four locations where the department works clinically (UCSF Medical Center at Parnassus, San Francisco General Hospital, San Francisco Veterans Affairs Medical Center, and UCSF Medical Center at Mt. Zion). Each month the number of reports have increased.

The sheer number alone indicates a significant culture change, which is always the difficult first step. “I believe we’ve just seen the tip of the iceberg,” says Caldwell. Another indicator of the culture change is that while at first nearly everyone preferred to remain anonymous, now about 80 percent use their name in the reports, indicating the degree of trust that has been built.

Beyond Reporting

Perhaps that trust has been earned in part because the reports do not just disappear into the ether. Initially, Caldwell and Guffey gathered them and, each month, sent a cumulative version – without names – to everyone in the department. “Usually, these types of systems restrict the reports to designated officials, but we wanted a more inclusive approach, one that peels back the veil of secrecy so everyone can recognize how much the system impacts patient safety,” says Guffey.

Those monthly reports continue, but the reporting back has expanded and become more sophisticated. “Now when a near miss comes in, it is automatically emailed to someone who can act on it within the department – depending on the location and type of error,” says Guffey. If the concern is something that affects more than the department, the responsible person contacts their counterparts outside the department. The reports also go anonymously to the department’s Quality Improvement committee, which reviews them and takes action as needed.

One simple example of how the system works is when someone reported that there were often no IV poles on the beds used for transport. While people may have muttered about such things in the past, the system brought this situation to the attention of people who could see that the necessary changes were made.

“If a very small thing happens ten times, it might be a concern that in the past we might only have heard about in the cafeteria, anecdotally, during lunch,” says Guffey. “This type of reporting helps the department see where to dedicate resources.”
problem-solving resources.” He recently presented their initial findings at the California Society of Anesthesiologists’ Western Anesthesia Resident Conference and won the Best Research Project award. That and other word-of-mouth news of the program’s success have caused the UCSF Department of Medicine and UC Irvine to express an interest in learning more about what the Department of Anesthesia is doing.

Next Steps

Despite these initial successes, Caldwell and Guffey feel they are a long way from done. “In Phase II, we are getting more people involved, forming a group of 6-8 to look at how to handle the data, how to mine it, and how to publish it,” says Caldwell.

Among the issues they are studying is when and where near misses happen (preoperatively, intraoperatively, postoperatively, on call shifts, and so on) and how they are linked to harmful events.

“A process or system that relies on human perfection is inherently flawed,” says Guffey. “If we can create the culture change that encourages reporting and then use the information well, we believe we can prevent harm.”

Times, it might be a concern heard about in the cafeteria, resident Patrick Guffey, MD

After 25 Years, Rosen Steps Down as Director of Residency Program; Pardo and Sullivan Step Up

On September 1, 2009, Mark Rosen, MD, stepped down as director of the residency program for the UCSF Department of Anesthesia and Perioperative Care. Rosen served 25 years in the position, during which time he was able to attract an exemplary list of residents and fellows to UCSF, many of whom remain on the faculty to this day. One of Rosen’s most important achievements was that as research turned toward molecular and cellular biology during his tenure, he helped successfully recruit many people with expert backgrounds in those areas. He also made UCSF a more attractive place for talented residents by synchronizing things like rotation, lecture, vacation, and on-call schedules.

Rosen passes the directorship of the residency program to Vice Chair for Education Manuel Pardo, MD, who over the last decade has been a central figure in many of the department’s most exciting educational innovations. A founding member of the UCSF Haile T. Debas Academy of Medical Educators, Pardo holds the Sol Shnier Endowed Chair for Anesthesia Education, serving as a liaison between the Academy and the department. Since 1999, he has directed the Anesthesia Patient Simulator Program and since 2007, he has also served as the interim director of the UCSF School of Medicine Kanbar Simulator Center; in both roles he has helped to expand the role of simulation in UCSF training programs. Pardo also co-directs the department’s Faculty Development Workshops.

Kristina Sullivan, MD, becomes associate program director, a position she adds to her duties as director of the anesthesia internship. The internship, which began in the 2008-2009 academic year, enables residents to spend four full years at UCSF, instead of an internship year elsewhere and a three-year residency. During their internship year, the physicians move through an intensive five months of internal medicine, as well as rotations in anesthesia, intensive care, surgery, the emergency room, and neurology.

In the program’s first year, eight students became anesthesia interns. Their final month was in clinical anesthesia, including an anatomy lab review of airway and regional block anatomy, EKG and x-ray reading sessions, simulation and standardized patient exercises, and a series of case discussions. “We believe it better prepared them for their residency,” says Sullivan.

This year the program has expanded to include 12 interns, who can now choose an elective. The elective list includes radiology (chest), otolaryngology, pain management, hospice, infectious diseases, and a specially arranged research elective.
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<td>09/01/09 - 08/30/10</td>
<td>$782,716</td>
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<td>Hirsch, Jan</td>
<td>REAC/Simon E Mem FD</td>
<td>Individual Research Grant</td>
<td>Tobacco Smoke Exposure – A Predisposing Factor to Ventilator Induced Lung Injury and Damage to the Alveolar Epithelial Type II Cell</td>
<td>09/01/09 - 05/31/10</td>
<td>$30,000</td>
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<td>Houseman, Benjamin</td>
<td>Helen Diller Family Cancer Center</td>
<td>Individual Research Grant</td>
<td>Using Microfluidic Technology to Study Dynamic Kinase Inhibitor Therapy</td>
<td>07/01/08 - 12/31/09</td>
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<td>Houseman, Benjamin</td>
<td>Foundation for Anesthesia Education &amp; Research (FAER)</td>
<td>Instruction Grant</td>
<td>Pharmacologic Dissection of the Phosphoinositide-3-Kinase Pathway in Cardiac Preconditioning and Postconditioning</td>
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<td>Kim, Helen</td>
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<td>Lee, Chanh-Hung</td>
<td>American Heart Association (AHA)</td>
<td>Individual Research Grant</td>
<td>Influence of Matrix Metalloproteinase on Brain Arteriovenous Malformation Hemorrhage</td>
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<td>Instruction Grant</td>
<td>Mesenchymal Stem Cells in the Treatment of Acute Lung Injury</td>
<td>08/04/08 - 07/31/13</td>
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<td>Leung, Jacqueline</td>
<td>NIH/NIA</td>
<td>Individual Research Grant</td>
<td>Pathophysiology of Postoperative Delirium in Older Patients</td>
<td>10/01/09 - 06/30/14</td>
<td>$2,719,574</td>
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<td>Lieberman, Jeremy</td>
<td>REAC/Blair Memorial Foundation</td>
<td>Individual Research Grant</td>
<td>Improving the Specificity of Motor Evoked Potential Monitoring During Hemorrhage</td>
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<td>Litt, Lawrence</td>
<td>NIGMS/NIH</td>
<td>Individual Research Grant</td>
<td>2D NMR of Energy Rescue from PARP in Brain Slice Hypoxia</td>
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<td>Individual Research Grant</td>
<td>Mapping a Clinically Significant Internalizing Tumor Epitope Space</td>
<td>03/07/06 - 01/31/11</td>
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<td>Liu, Bin</td>
<td>American Association for Cancer Research/AACR</td>
<td>Individual Research Grant</td>
<td>Internalizing Human Antibodies Targeting Pancreatic Tumor Cells in Situ</td>
<td>07/01/08 - 06/30/10</td>
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<td>Liu, Bin</td>
<td>NCI/NIH</td>
<td>Individual Research Grant</td>
<td>Internalizing Antibody-Targeted Nanosized siRNA Therapeutics</td>
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<td>$373,890</td>
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<td>Liu, Bin</td>
<td>NCI/NIH</td>
<td>Individual Research Grant</td>
<td>Selection of Internalizing Human Antibodies Targeting Pancreatic Tumor Cells in Situ by Laser Capture Microdissection</td>
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<td>Anesthesia Patient Safety Foundation (APSF)</td>
<td>Individual Research Grant</td>
<td>Perioperative Pharmacologic Prophylaxis for Cardiovascular Events in the Department of Veterans Affairs: A Pharmacoepidemiologic Pilot Project</td>
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<td>Individual Research Grant</td>
<td>Monoclonal Antibodies for Mass Spectrometry Based Detection of Biothreat Agents</td>
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<td>Marks, James</td>
<td>DTRA/ODD Defense Threat Reduction Agency</td>
<td>Individual Research Grant</td>
<td>Antibody Based Therapy for Botulism</td>
<td>01/18/07 - 01/17/10</td>
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<td>Individual Research Grant</td>
<td>Development of Botulinum Neurotoxin Immunotherapy, Setotypes C, D, F, and G</td>
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<td>Individual Research Grant/Contract</td>
<td>Development of Novel Human-Specific Targeting Ligands for Transcytosis Through the Blood-Brain Barrier</td>
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<td>Production of Monoclonal Antibody-Based Therapeutics for Botulism</td>
<td>10/20/08</td>
<td>09/14/14</td>
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<td>Individual Research Grant/Contract</td>
<td>Human Antibodies to PDGFR for Cancer Therapy</td>
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<td>Marks, James</td>
<td>DOD/IDEA</td>
<td>Individual Research Grant</td>
<td>Engineering Anti-EGFR Antibodies for Treatment of Breast Cancers With Poor Prognosis</td>
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<td>Marks, James</td>
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<td>Defining the Role of Affinity in Antibody-Based Tumor Targeting and Therapy</td>
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<td>Adaptive Immunity from High Affinity Anti-HER2/neu Monoclonal Antibodies</td>
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<td>Marks, James</td>
<td>Georgetown University</td>
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<td>Determinants of Tumor Sensitivity to EGFR-targeted Antibodies</td>
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<td>The Lustgarten Foundation for Pancreatic Research</td>
<td>Individual Research Grant</td>
<td>Lustgarten Foundation for Pancreatic Cancer Research Biomarker Initiative</td>
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<td>Evolving Diagnostic Antibodies for Botulinum Neurotoxins</td>
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<td>Niemann, Claus</td>
<td>HRSA</td>
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<td>Intensive Insulin Therapy in Deceased Donors to Improve Renal Allograft Function and Transplanted Allograft Outcomes</td>
<td>09/01/08</td>
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<td>Pawlikowska, Ludmila</td>
<td>NIDDK/NIH</td>
<td>Individual Research Grant</td>
<td>Genetic Analysis of Metabolic Syndrome by Admixture Mapping in African Americans</td>
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<td>Pittet, Jean-Francois</td>
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<td>Stress Preconditioning and Alveolar Epithelial Injury</td>
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<td>Comprehensive Anesthesia Research Training</td>
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<td>Pittet, Jean-Francois</td>
<td>CompleteGen, Inc</td>
<td>Individual Research Grant/Contract</td>
<td>Pseudomonas Aeruginosa Pneumonia and RhA Inhibition</td>
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<td>03/31/10</td>
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<td>Rollins, Mark</td>
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<td>Individual Research Grant</td>
<td>Supplemental Oxygen: A Reduction in Pulse Oximetry Sensitivity or an Increased Margin of Safety</td>
<td>01/01/08</td>
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<td>Volatile Anesthetic Toxicity in Hippocampal Derived Progenitor Cells</td>
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<td>Isoflurane Anesthesia Alters Hippocampal Development</td>
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<td>Salt, Jeffrey</td>
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<td>Isoflurane Effect on Hippocampal Neural Precursors</td>
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<td>Schumacher, Mark</td>
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<td>Capsaicin Receptor Subtypes in Pain Transduction</td>
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<td>Genes Underlying the Response to Inhaled Anesthetics</td>
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<td>Stratmann, Greg</td>
<td>Anesthesia Patient Safety Foundation (APSF)</td>
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<td>Effectiveness of Three Clinically Applicable Strategies to Improve Safety of Neonatal Anesthesia</td>
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<td>Stratmann, Greg</td>
<td>International Anesthesia Research Society (IARS)</td>
<td>Instruction Grant</td>
<td>Is Pediatric Anesthesia Associated with Long-Term Hippocampal Dysfunction?</td>
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<td>Tang, Julin</td>
<td>Hospira, Inc</td>
<td>Individual Research Grant</td>
<td>A Prospective, Randomized, Controlled Study on the Use of Dexmedetomidine to Facilitate Extubation in Surgical Intensive-Care Unit Patients Who Failed Previous Weaning Attempts Following Prolonged Mechanical Ventilation</td>
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<td>Tang, Julin</td>
<td>Artisan Pharma, Inc</td>
<td>Clinical Trial</td>
<td>A Randomized, Double-Blind, Placebo-Controlled, Phase-2b Study to Assess the Safety and Efficacy Effects of ART-123 on Subjects with Sepsis and Disseminated Intravascular Coagulation</td>
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<td>Yeast, Charles</td>
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<td>Background Potassium Channels as Anesthetic Targets</td>
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<td>Young, William</td>
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<td>Predictors of Spontaneous Cerebral AVM Hemorrhage</td>
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<td>Hemodynamics of Cerebral Arteriovenous Malformations</td>
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<td>Integrative Study of Brain Vascular Malformations</td>
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<td>Cooperative Agreement</td>
<td>Brain Vascular Malformation Consortium: Predictors of Clinical Course</td>
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<td>Young, William</td>
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<td>Clinical Trial Sub Award</td>
<td>A Randomized Trial of Unruptured Brain Arteriovenous Malformations</td>
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<td>The Aneurysm and AVM Foundation/TAAF</td>
<td>Individual Research Grant</td>
<td>PET and Magnetic Resonance Modeling to Assess the Risk of Aneurysm Rupture</td>
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<td>Young, William and Yang, Guo-Yuan</td>
<td>California Institute for Regenerative Medicine/CIRM</td>
<td>Specialized Center Grant</td>
<td>Human Stem Cell Derived Oligodendrocytes for Treatment of Stroke and MS</td>
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<td>Young, William</td>
<td>The Leslie Munner Neurological Institute</td>
<td>Individual Research Grant</td>
<td>Influence of Bone Marrow Derived Cells in the Development of Abnormal Blood Vessels in a Model of Brain AVM</td>
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<td>Zhou, Yu</td>
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<td>Engineering Monoclonal Human IgG Antibodies for Treatment of Basal Like Breast Cancers</td>
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Upcoming Events

UCSF Center for Cerebrovascular Research
CCR/PPG SEMINARS
Presented by the Center for Cerebrovascular Research Department of Anesthesia and Perioperative Care University of California, San Francisco San Francisco General Hospital
For a list of upcoming seminars: http://avm.ucsf.edu/
For a list of past seminars:
http://avm.ucsf.edu/research/recent_seminars.html

Critical Care Medicine and Trauma 2010
June 3-June 5, 2010
InterContinental Mark Hopkins Hotel / San Francisco, California

COURSE DIRECTOR:
Michael A. Gropper, MD, PhD
Professor and Vice Chair, Department of Anesthesia and Perioperative Care
Director, Critical Care Medicine, UCSF Medical Center

COURSE CO-CHAIRS:
Rochelle Dicker, MD
Assistant Professor in Residence, Department of Surgery
San Francisco General Hospital

Mark Eisner, MD, MPH
Associate Professor, Department of Anesthesia, Division of Occupational and Environmental Medicine and Division of Pulmonary and Critical Care Medicine, UCSF Medical Center

Julin Tang, MD, MS
Clinical Professor, Department of Anesthesia
Director, Critical Care Medicine, San Francisco General Hospital

Program and registration information: www.cme.ucsf.edu