

***THE GAS PIPELINE***  
**ANESTHESIA QUARTERLY GAZETTE**  
**Department of Anesthesia, Stanford, CA 94305**



Patricia I. Rohrs, Editor

March 2008

**(MORE THAN) TWICE AS NICE**

by Julie Graecius, Writer for Lucile Packard Children's Hospital (republished with permission)

Maria Elizabeth Arias is glad to push two strollers and chase after her two daughters when they run in two separate directions. These are just some of the “twos” Maria dreamed about before she brought her 2-year-old, conjoined twin daughters, Yurelia and Fiorella Rocha-Arias, to Packard Children's to undergo high-risk separation surgery.



Now, after sailing through surgery and recovery, the Costa Rican girls have returned home to share their miracle with family and friends. At the same time, the largest team of doctors and caregivers ever to collaborate on a single case at Packard Children's—and the first of its kind for the hospital—reflects on how it went so well.

General pediatric surgeon Gary Hartman, MD, conducted the November 12 symphony—a 23-member, multidisciplinary team inside the operating room and countless others outside. The team's harmony hinged on years of experience, careful choreography and detailed contingency plans.

Cardiothoracic surgeons, liver surgeons and plastic surgeons would work in turns to perform their part of the complex separation surgery. Anesthesiologists would be by the girls' side

throughout preparation, surgery and upon the twins' awakening in recovery. But in this extraordinary case, because the girls' hearts were connected, and because of Yurelia's congenital heart defect, anesthesiologists with special training in pediatric cardiology care were required.

**“Anesthesiology played a special role,”**



said Hartman, who noted that in most cases the anesthesiologist is the last person patients and families see before a child is wheeled into

surgery, and the first person the family sees when a child awakes. The anesthesiologist often becomes the “face” of the procedure. Gail Boltz, MD, pediatric cardiac anesthesiologist, was team leader.

**Continued on page 2**

---

(More Than) Twice As Nice	1
From the Chairman	3
2009 Faculty Fellows	3
From the Deputy Chief	5
From the Residency Director	7
Resident Orientation Program	7
Update on EPIC-CIS	8
46 <sup>th</sup> WARC Conference	9
21 <sup>st</sup> Anesthesia Update: A Huge Success	9
Medical Mission to Gitwe, Rwanda	10
Faculty Corner	11
Residents-of-the-Month	14
Babies	14
Annual Golf Tournament	14

---

**“The anesthesiologist is the person to whom the parent hands her child,”** says Boltz. “It’s a major psychological responsibility coupled with a very complicated physiological responsibility.” For patients who will be returning for several procedures, anesthesiologists are careful to set them up for success right at the beginning by creating an environment of calm and comfort, thus helping parents—who set the tone for their children—feel trusting and secure. “This positive psychological impact has an enormous payoff,” said Boltz.

Cardiac anesthesiologists like Boltz manage pain and maintain the life presence of patients while surgeons do their work. They monitor oxygenation of the blood, ventilation and blood pressure. They must also consider how the surgery itself will affect the patient, and how any factors like heart disease—and in this case, the very fact of being conjoined—may impact or be impacted by the surgical procedure. For the Rocha-Arias twins, these effects were hard to anticipate. How dependant was one girl on the other? How would medication provided to one twin affect the other?

For answers, Boltz and her team studied the few other cases of conjoined twins and contacted other doctors across the country with related experience, as well as the girls’ doctors in Costa Rica. In August, shortly after their arrival, the twins were anesthetized for an initial 6-hour imaging study of their structural make-up to determine if separation surgery could proceed. Doctors quickly made some fascinating discoveries. “We found that if we anesthetized one, we anesthetized both,” said Boltz. And that discovery was just the beginning.

“We also found that if we injected something into Fiorella’s left hand, it went straight up her arm through the coronary sinus (drainage of the heart) and straight into Yurelia, bypassing Fiorella’s system almost completely,” explained Boltz. They also learned that if Yurelia had her blood flow obstructed in any way—from outside pressure of her position or her sister’s leaning body, for

example—her pulmonary (lung) blood flow would drop. These factors would be critical to monitor, especially during separation surgery, when organs would have to be lifted and held in a certain position for long periods of time. “These were important findings,” said Hartman.

In the weeks before surgery, the girls underwent surgical insertion of skin expanders to stretch their skin prior to separation, and also weekly injections of saline to enlarge the expanders. By the time of the separation surgery, Yurelia and Fiorella had been anesthetized at least five times.

Hartman, Boltz and their teams carefully planned the operating room logistics for the November 12 separation surgery. There would be two of everything, including medical staff, equipment and even two cardiopulmonary bypass machines. Carefully prepared plans determined which teams and equipment would be in the OR when, and how many power lines would be required to keep it all running. These plans also included how and when the twins, after separation, would move to separate operating rooms, allowing different surgery teams to complete surgery with each girl. The six-member cardiac anesthesia team had a strategy for almost every possible scenario, and understood all the complex factors that would be required to keep the twins stable during separation.

**“The most exciting moment,”** Boltz recalls of the separation surgery, **“was in the final stage, when surgeons placed a clamp on the connection between the girls’ hearts.”**

**The cardiac connection shared by the girls was the riskiest part of the procedure. It was simply unknown how much the girls needed each other to survive. “Immediately—as if someone had turned on a switch—their individual stats improved. Their blood pressures improved. It was clear the girls were going to be stronger apart.”**

The twins’ mother Maria is now celebrating their miracle. **“We are just so happy and so content,”** she said, **“because our girls have been born anew.”**

Continued on page 3

---

(MORE THAN) TWICE AS NICE

Packard Children's may have changed the Rocha-Arias family's lives, but the twins also left their mark on the hospital. **"This was just a remarkable experience for all of us,"** said Boltz. **"We may never see a case like this again. I'm really honored that we could give these girls our best."**

*For FAQ and more information, visit <http://twins.lpch.org>. Gifts in support of Packard Children's Hospital and the expert care it gives to children like Yurelia and Fiorella can be made by visiting <http://www.lpch.org/fundraising/>. To find out more about Mending Kids International, visit <http://www.mendingkids.org>.*

---

## 2009 FACULTY FELLOWS

Drs. Timothy Angelotti and Juliana Barr were among those selected for the Faculty Fellows program within the Medical School. Dean Pizzo's February 25 newsletter stated that fellows have demonstrated leadership potential and a commitment to building diversity. They will meet monthly with role models to hear how they have exercised leadership to resolve career challenges, they will be formally mentored by senior faculty, and they will follow a structured planning process to identify growth opportunities and develop a personal career plan.

Angelotti states, "For me the Program is an opportunity to gain leadership education and mentoring. With the day-to-day challenges and responsibilities of academic medicine, it often is hard to grow." He believes he will learn how to become a better leader as his responsibilities grow. As Anesthesia and Critical Care Attending, as well as the Medical Director for Critical Care Transport (Life Flight), he anticipates assuming more responsibilities. He looks forward to working with other Fellows and gaining exposure within Stanford Hospital. He is thankful to Ron Pearl for supporting his application.

---

---

## FROM THE CHAIRMAN

by Ron Pearl, MD, PhD, Professor and Chairman  
Department of Anesthesia  
[rpg@stanford.edu](mailto:rpg@stanford.edu)



**Match Day**—On March 20 US medical students learned their matches to the residency programs they will attend. "The Price of Beauty" (March 19, *New York Times*) describes the increasing competitiveness of residencies in the "appearance-related fields" of dermatology, plastic surgery, and otolaryngology. The article emphasizes that students choose these fields for "better pay, more autonomy, and more-controllable hours" and contrasts this trend to the trend 25 years ago, when "the fiercest competition among medicals students was for internal medicine and general surgery." This article contains parallels to articles from several years ago that claimed anesthesiology was an attractive career choice because it was a "lifestyle" specialty.

**The "Right Reasons"**—Our applicants are choosing anesthesia for the "right reasons," reasons that make them enthusiastic about a career they believe they will enjoy every day. After interviewing over 100 of them, I am impressed with their reasons, listed below:

**Continued on page 4**

---

FROM THE CHAIRMAN

- **Applying Physiology & Pharmacology to Practice of Medicine**—Applicants often stated that their anesthesia rotations were “love at first sight,” noting that the physiology and pharmacology learned during their pre-clinical years suddenly became relevant to the practice of medicine.
- **Mentorship and Teaching**—Applicants emphasized how important mentorship had been. Many told stories about how a single faculty member had redirected their career interests into anesthesia. They admired their anesthesia teachers’ superb teaching skills; almost universally they saw anesthesia as a field in which they themselves would have numerous teaching opportunities.
- **Rapport with Patients**—Although some consider anesthesiology lacking the patient interactions of other specialties, the applicants emphasized the satisfaction achieved from rapidly gaining the patient’s confidence and trust during the time prior to surgery. Not surprisingly, too, these applicants had extensive volunteer and service experiences before and during medical school.
- **Subspecialties**—Although few applicants have already chosen a subspecialty focus, they were clearly attracted by our extensive options in pediatric anesthesia, cardiac, obstetrics, critical care and pain management. The fact that our anesthesia program is the only one in the western US to offer all three accredited subspecialties (cardiothoracic, pediatrics, and critical care) is a major selling point, borne out by these facts: an increasing proportion of our graduating residents entering subspecialties, and the overwhelming majority of the applicants plan to complete a fellowship.
- **A Variety of Careers and Backgrounds**—Many applicants were attracted to anesthesia because it offers multiple career paths following residency; they come with a variety of degrees: PhD, MBA, and MPH. Those planning an academic career found our research career development pathway

---

<http://med.stanford.edu/anesthesia/education/residentresearch.html> particularly interesting. Others, fascinated by management opportunities, gravitated to the perioperative management fellowship coordinated by Alex Macario. Still others found public health in developing countries and leadership opportunities in organized medicine in the United States of interest.

**National Match Statistics**—The national match results for anesthesiology are difficult to interpret because students can match in either a PGY-1 (includes internship) or a PGY-2 program. Although the number of total available positions has been relatively constant during the past 5 years, the proportion of PGY-1 positions has increased from approximately one-third to almost one-half during that time. In our survey last year (to be repeated this year), applicants stated that they did not want Stanford to follow this trend. The number of matched positions filled by US allopathic seniors has progressively increased and now exceeds 80%. Although many applicants believe more medical students are applying to anesthesia, the data show that the percentage of U.S. allopathic seniors who match to anesthesia programs has remained constant at 8% for the past five years. At Stanford, the percentage was 11% this year.

**An Exceptional Match Year**—Over half (12 of 22) of the students received AOA honors or would have received them if their schools had had an AOA chapter. The average USMLE step 1 score was 237; the average step 2 score was 245. More importantly, each matched applicant told the selection committee an impressive story (you will learn these stories firsthand, once the matched applicants join our department). I want to congratulate Alex Macario, Janine Roberts, and the entire selection committee on their success this year.

**Epic Electronic Record**—Finally, please note that by 2009, when these students begin their residencies, Epic will be a smoothly running, efficient system. However, beginning April 25, I ask faculty and residents to bear with the inevitable transition problems.

---

## FROM THE DEPUTY CHIEF

BY RICK NOVAK, MD

Associated Anesthesiologists Medical Group  
[rjnov@yahoo.com](mailto:rjnov@yahoo.com)



**Clinical Case for Discussion:** You are attending to a healthy 72-year-old female for open reduction and internal fixation of a hip fracture. She is allergic to penicillin—she developed hives from a dose when she was a child. The orthopedic surgeon orders 1 gram of cefazolin IV before incision.

### What do you do?

**Discussion:** This is an important question for anesthesiologists. Many of us anesthetize up to 700 patients per year, and it's common to administer pre-op cephalosporins for many of those cases. Numerous patients are allergic to penicillin. Let's imagine two possible scenarios.

**Scenario One:** After the uneventful induction of general anesthesia, you mix 10 mL of normal saline with the powdered vial of 1 gram of cefazolin and inject the antibiotic into your patient's IV over two minutes time. One minute later, the oximeter tracing disappears, the blood pressure is unmeasurable, and frothing fluid bubbles up in the lumen of the endotracheal tube. You diagnose anaphylaxis.

### Ouch!

Rewind and try again.

**Scenario Two:** You choose to avoid cefazolin because of the previous penicillin allergy. Instead, you inject 1 gram of vancomycin over two minutes. The patient's skin turns red, her blood pressure drops to 50/30, she develops ST elevation on her ECG, and she has a cardiac arrest.

### Ouch again!

In both scenarios, you wish you'd done something different. The key question is this:

### How common is anaphylaxis to a cephalosporin in a patient with penicillin allergy?

First, let's examine the incidence of penicillin allergy. *Goodman & Gilman's The Pharmacologic Basis of Therapeutics*, 2006, Chapter 44, states "Allergic reactions to penicillin occur in 0.7 – 10% of treatment courses. In approximate order of decreasing frequency, manifestations of allergy to penicillins include rashes, fever, bronchospasm, vasculitis, serum sickness, exfoliative dermatitis, Stevens–Johnson syndrome, and anaphylaxis. . . . About 0.001% of patients treated with penicillins die from anaphylaxis. . . . there are at least 300 deaths per year due to this complication of therapy. About 70% of these patients have had penicillin previously."

Regarding cephalosporins, the same textbook states "Hypersensitivity reactions to the cephalosporins are the most common side effects, and there is no evidence that any single cephalosporin is more or less likely to cause such sensitization. The reactions appear to be identical to those caused by the penicillins, perhaps related to the shared beta-lactam structure of both groups of antibiotics. Immediate reactions such as anaphylaxis, bronchospasm, and urticaria are observed. . . . Because of the similar structures of the penicillins and cephalosporins, patients who are allergic to one class of agents may manifest cross-reactivity to a member of the other class. Immunological studies have demonstrated cross-reactivity in as many as 20% of patients who are allergic to penicillin, but clinical studies indicate a much lower frequency (about 1%) of such reactions."

**Continued on page 6**

---

**FROM THE DEPUTY CHIEF**

The same textbook advises, “Patients with a history of a mild or a temporally distant reaction to penicillin appear to be at low risk of rash or other allergic reaction following the administration of a cephalosporin. However, patients who have had a recent severe, immediate reaction to penicillin should be given a cephalosporin with great caution, if at all.”

A 2006 study (Apter AJ et al, **Is There Cross-reactivity Between Penicillins and Cephalosporins?** *Am J Med.* 2006 Apr;119(4):354.e11-9) presented a retrospective cohort study using the United Kingdom General Practice Research Database. A total of 3,375,162 patients received a penicillin; 506,679 (15%) received a subsequent cephalosporin. Among patients receiving penicillin followed by a cephalosporin, absolute risk of anaphylaxis after the cephalosporin was less than 0.001%. The authors concluded that cephalosporins can be considered for patients with penicillin allergy.

A 2007 study (Pichichero ME, et al, **Safe Use of Selected Cephalosporins in Penicillin-Allergic Patients: a Meta-Analysis.** *Otolaryngol Head Neck Surg.* 2007 Mar;136(3):340-7) examined the Medline database for 40 years from 1965 to 2005 and found a significant increase in allergic reactions to cephalothin, cephaloridine, cephalixin, cefazolin, and cefamandole in penicillin-allergic patients; no increase was observed with cefprozil, cefuroxime, ceftazidime, or ceftriaxone. The authors concluded that first-generation cephalosporins have a modest cross-allergy with penicillins, but cross-allergy is negligible with 2nd- and 3rd-generation cephalosporins.

A 2002 study (Hameed TK, Robinson JL. **Review of the Use of Cephalosporins in Children With Anaphylactic Reactions From Penicillins,** *Can J Infect Dis.* 2002 Jul;13(4):253-8), searched the PubMed database including the 35 years from 1966 to 2001, and identified 5 case reports of anaphylaxis to cephalosporins in patients who had previous anaphylaxis to penicillin. None were children. They found an additional 12 published cases of cephalosporin anaphylaxis in patients

---

with a history of penicillin allergy but without penicillin anaphylaxis. The authors concluded that there was no evidence to support the avoidance of cephalosporins in children who had previous anaphylaxis to penicillin.

I surveyed the Stanford private practice community anesthesia faculty regarding its standard approach to this problem, and discovered the following: 1) None of the private anesthesiologists would administer IV cephalosporins to a patient whose past reaction to penicillin was life-threatening, e.g. bronchospasm, anaphylaxis or airway swelling. 2) In patients with a past history of a penicillin-induced urticaria, the private practitioners were split 50:50 on whether they would administer the requested cephalosporin. Half the practitioners considered penicillin-induced urticaria a contraindication to cephalosporin, and half did not. The importance of accurate history-taking was stressed, as many patients are not certain of the difference between a rash and hives. 3) None of the private anesthesiologists had a case of anaphylaxis to a cephalosporin in a patient with a penicillin allergy.

If an anesthesiologist decides not to administer a cephalosporin, the anesthesiologist will likely consult with the attending surgeon for his/her preference for an alternative broad-spectrum pre-op antibiotic of choice. Common alternatives to a cephalosporin are clindamycin, vancomycin, or ciprofloxacin. Alternative antibiotics have their own issues. Clindamycin carries the risk of pseudomembranous colitis. Rapid IV administration of vancomycin can result in marked vasodilation, the “red-man syndrome,” and an acute drop in blood pressure, as in Scenario Two above.

What will you do for the 72-year-old woman with the past history of penicillin-induced hives? Per Apter’s study, the risk of cephalosporin-induced anaphylaxis in the patient with a history of penicillin allergy is less than 0.001%. Comforted by this knowledge, you administer the cefazolin IV over twenty minutes. The patient has no adverse reaction.

**Continued on page 7**

---

**FROM THE DEPUTY CHIEF**

**Clinical case for next month:** A 70-year-old man presents for an elective descending colectomy. Immediately prior to induction of anesthesia, the patient's heart rate drops to 48 beats per minute. You reach for a vial of atropine 0.4 mg, but grab the wrong vial by mistake and administer 1 mg of IV epinephrine. His heart rate climbs to 175 beats per minute, and he cries out, "My head is exploding."

**What do you do?**

---

**FROM THE RESIDENCY DIRECTOR**

**Class Director/Associate Program Director for the Residency Program**—Alex Macario, MD, MBA and Ron Pearl, MD, PhD, announce that Aileen Adriano, MD, will assume this role, beginning July 1, 2008 (see article in column to the right) and serve a 3-year term as mentor and advisor for the next class of residents. Each subsequent class will also have its own Class Director/Associate Program Director.

This new position was created because the residency group has increased to 66 approved positions including that the residency is getting larger -- 66 approved positions now-- and our peer group of anesthesia training programs (of similar size) commonly have such a position, the increased ACGME training requirements and oversight, and to recognize members of our faculty performing essential education tasks in the dept with additional career development opportunities.

**Chief Residents for 2008-9**—Alex Macario, MD, MBA announces that he is delighted that the residents and faculty selected Alyssa Hamman, MD, Marshall Jones, MD, and Jennifer Wagner, MD, to be next year's Chief Residents. Hamman hopes to amplify the mentor program established last year for incoming residents and start a chief residents' lecture series. Wagner says her goals are to build on the outgoing chiefs' successes—continuing to improve scheduling so that residents can plan their lives outside of work. Like Hamman, she emphasizes improving resident education via more case-based discussions and improved lectures. Congratulations!

---

**ORIENTATION PROGRAM EASES RESIDENTS' TRANSITION INTO NEW REALM**

by Aileen Adriano, MD



CA-3 resident Dr. Ryan Green was the spark-plug for revising the way incoming anesthesia residents get integrated into a demanding new environment, an environment in which they are expected to practice medicine for the first time in the stressful OR setting.

He states, "The first month of the CA-1 year is a stressful time. Expectation are high as CA-1's are thrown into an acute-care setting and expected to manage complex hemodynamic changes on a second-to-second basis. The cognitive, technical, and professional skills needed in this environment are learned, in large part, through point-of-care teaching, behavior modeling, and timely constructed feedback. I was inspired to create the CA-1 Mentorship Program to address these issues."

To ease residents' transition, Green and his co-residents (Lindsay Atkinson, Melissa Ennen, Jerry Ingrande, Jung Hong, Sam Mireles, Vicki Ting, Glenn Valenzuela, and Jerrin West) designed several experiences, listed below, for their first month; residents' feedback has been enthusiastic.

**Continued on page 8**

## RESIDENT ORIENTATION PROGRAM

- **Intense Mentoring**—Throughout the first month, residents are paired for the week with their mentors, some of whom are attendings or senior-level residents. CA-1's also shadow their mentors during call, thereby learning from the get-go how to navigate the hospital system and obtain its resources after hours.
- **Introductory Lecture Series and Tutorial Notebook**—Three days per week, incoming residents receive lectures on the fundamentals of anesthesia, including more emphasis on reviewing basic physiology and pharmacology. A tutorial notebook, written by resident mentors and edited by Green, complements these lectures by covering eighteen significant topics, ranging from hypoxemia to malignant hyperthermia. To engage residents in learning more actively, this year each lecture will be preceded by “Chief Residents Rounds,” a forum for problem-based learning (PBLD) and additional review of anesthesia fundamentals. Together, the lecture series, tutorial notebook, and PBLD will help standardize residents’ first-month experience across hospitals: Stanford, Packard Children’s, VA or Santa Clara County.
- **Acute Crisis Resource Management (ACRM)**—All new residents begin managing crisis situations, learning principles that underlie effectively functioning in the operating room during critical situations. This exercise marks the first of a 3-year curriculum already in place.

New residents enthusiastically agree that “the orientation program made the transition into anesthesia easier than expected,” And, they note, by being given teaching roles, they are forced to sharpen their clinical skills and judgment. Their mentors are enthusiastic, too; they have “infected” the next group of mentors. Led by Jerry Ingrande (CA-2), twelve mentors have already enlisted for the class that will appear in July.

## UPDATE ON EPIC–CIS

by Christoph B. Egger Halbeis, MD, MBA, Clinical Assistant Professor and Medical Informatics Director (Anesthesia), Department of Anesthesiology



The first “Go-Live” date for the new CIS-Epic for inpatient services has moved from February 28 to April 25, 2008, in response to the need for more time to complete final testing.

To maintain already trained users’ proficiency, we will take these steps:

- Give additional time to work in the Epic playground.
- Provide refresher sessions from Learning Management Services (LMS) in the anesthesia department and the OR. and also provide pocket pamphlets and online tutorials.
- Provide additional support staff on the “Go-Live” date in the preoperative holding areas and at the anesthesia preoperative evaluation clinic.

Untrained staff should continue with scheduled Epic training; they, too, will be offered refresher activities before the “Go-Live” date.

As a reminder to you, the first phase of EPIC will make available *preoperative* documentation of the patient assessment, anesthesia plan and order sets and *postoperative* documentation (notes) and orders.

**Continued on page 9**

---

The *intraoperative* Anesthesia Record will not be available spring 2008. You can access the electronic chart from any non-hospital location. Instructions for ordering a security token (also called a key fob) will be emailed soon.

I thank all colleagues who have helped configure the anesthesia build: Bryan Bohman, Jay Brodsky, Annie Evans, Bill Feaster, Stephen Fischer, Richard Jaffe, Harry Lemmens, Alex Macario, Sean Mackey, Christina Mora-Mangano, Vladimir Nekhendzy, Ron Pearl, Ed Riley, Cliff Schmiesing, and Pieter Van der Starre.

When I walk through the hallways, I hear faculty's and residents' expectations for CIS-Epic. Junior faculty and residents typically say, "Why do we have to wait that long? Let's just do it." Other colleagues raise legitimate concerns that need to be addressed. Please continue providing your feedback. I trust in your continuing support, understanding, and patience. Thank you!  
Sincerely, Chris Egger

---

#### **WARC—REGISTER NOW; SUBMIT ABSTRACTS**

Residents, fellows, and medical students! Register for the April 25-27 conference designed for you by anesthesiology residents and packed with academic and social events. Saturday afternoon (during free time) Virginia Mason's residents will offer a hands-on ultrasound workshop for regional anesthesia. Sign up when you register, as space may be limited. Saturday evening's dinner speaker is NPR's senior national correspondent and distinguished journalist, Linda Wertheimer. See <http://warc2008.com/LindaWert.htm>

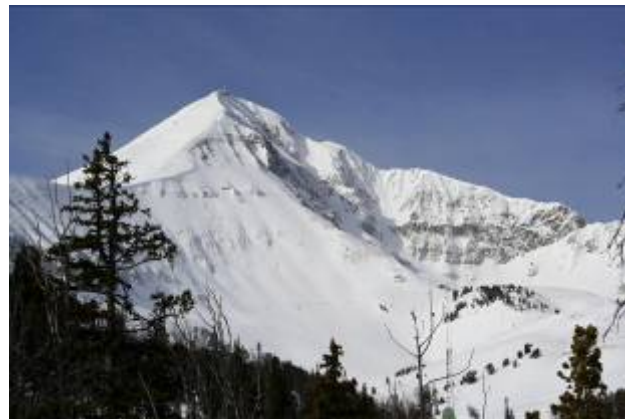
Your abstracts, which form the basis of the program, are due March 1, 2008. If you would like to share your poster or oral presentations at the April 17, 2008 departmental FNR meeting at 5:00 pm and receive helpful feedback, please let Dr. Brock-Utne know.

For conference and hotel see [www.warc2008.com](http://www.warc2008.com) To discuss financial concerns related to travel and accommodations, please contact Nuvia Pacheco, [npacheco@stanford.edu](mailto:npacheco@stanford.edu) Direct your questions to Dr. John Brock-Utne at Stanford, [brockutn@stanford.edu](mailto:brockutn@stanford.edu) or Dr. Deborah Williams, [resdmw@vmmc.org](mailto:resdmw@vmmc.org) at Virginia Mason.

---

#### **A HUGE (SNOWY) SUCCESS—21<sup>ST</sup> ANNUAL STANFORD ANESTHESIA UPDATE IN BIG SKY**

*"I've attended CME courses for 20 years; this was the most educational, fun, and relaxing ever... Great program that reflects current changes in the field...."*



In Big Sky, Montana's February winter wonderland, the community of general and subspecialty anesthesiologists and nurse anesthetists, from 28 states and five countries, heard from luminaries about the latest advances and published guidelines in anesthesia, earned CME credits, and got in some fabulous skiing. Kudos to Sheila Tost and her staff at Stanford's Continuing Medical Education Office for superbly organizing this meeting.

Speakers from Stanford included Sean Mackey, MD, PhD; Andrew J. Patterson, MD, PhD; Ronald G. Pearl, MD, PhD, and Myer H. Rosenthal, MD. Speakers from elsewhere included Steven C. Hall, MD, Professor of Pediatric Anesthesia at Children's Memorial Hospital, Northwestern University; Ann S. Lofsky, MD, Staff Anesthesiologist at St. John's Hospital, Santa Monica, CA; Peter S. Sebel, MB, BS, PhD, MBA, Professor and Vice Chair at Emory University; and Michael M. Todd, MD, Professor and Head at University of Iowa and former Editor-in-Chief of *Anesthesiology*.

Topics included *Awareness during Anesthesia*, *The Unstable Cervical Spine: Considerations for the Anesthesiologist*, *Intraoperative Hypothermia*, *The Difficult Pediatric Airway*, *Current Concepts in Perioperative Pain Management*, *Approaches to Mechanical Ventilation*, *Management of Perioperative Renal Insufficiency*, *Use of Perioperative beta Blockers*, and *The Malpractice Crisis*. **Continued on page 10**

---

## ANESTHESIA UPDATE



Skiers (Drs. Drew Patterson and Sean Mackey above) enjoyed blue skies, warm temperatures, non-existent lift lines, and over 100 inches of phenomenal snow at the summit. Nearby Moonlight Basin offered skiing off of super-steep Lone Peak, as well as long cruising runs and beautiful glade skiing. Kids skied for free. Beautiful scenery and abundant wildlife were also part of the appeal.

---

## MEDICAL MISSION TO GITWE, RWANDA

by Dondee Almazan [AlmazanRNMD@yahoo.com](mailto:AlmazanRNMD@yahoo.com)



If the truth be told, when I signed up for my first medical mission—two weeks in Gitwe, Rwanda in December—I was not prepared for what I encountered, even though I'd heard countless stories from others.

---

The trip was sponsored by Medical Missions for Children based in Boston, MA and founded by an ENT surgeon, Denny Snyder.

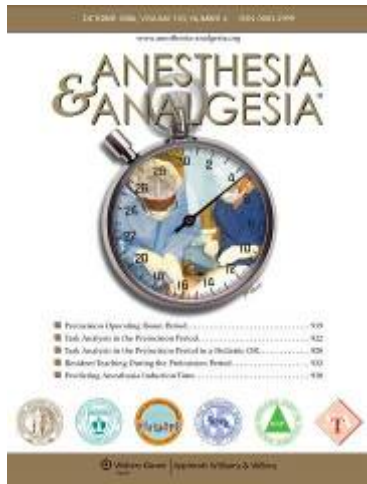
Preparations began months ahead—gathering supplies, getting vaccinated, and taking prophylactic medications. I accompanied Stanford's Drs. Andrew Patterson (Anesthesiology-ICU attending) and Jung Hung (Pediatric Anesthesiology Fellow); we met the entire team (nurses and doctors from other parts of the country, too) in London to sightsee and get acquainted, before traveling to Gitwe for intense work as a team.

Gitwe, a remote, primitive, agricultural village in the southern part of land-locked Rwanda, is accessible by a 5-hr drive on a dirt road. It has no running water. After arrival, we quickly organized our supplies in the local "hospital." Armed with modern medical equipments, safety monitors, and current drugs, within 24 hours we had performed the first general anesthesia ever done in Gitwe. By the end of two weeks, we had completed 25 surgeries, done mostly under general anesthesia (12 thyroidectomies, 12 cleft lip repairs and 1 total abdominal hysterectomy).

Living with bureaucratic and personal hardships was integral to the experience. For example, it took one trying year to get the patients selected. Then, once we were on the job, it was trying for the medical team to work with minimal nutrition, little sleep, and colds for 12 hours in unventilated ORs.

Despite the hardships, working in Gitwe afforded me an exceptional learning experience. I was exposed for the first time to a medical environment of poverty, scarce resources, and tropical diseases. I learned about a different culture and worked with new colleagues. I learned more about my capabilities, limits, and commitment. Although I could not shower or get enough to eat or drink, I got up every morning with a smile. Although the language barrier with the Rwandan children was an impediment, I was able to care for them. Although I sacrificed time with my family, my health, my comfort, and sometimes my safety, I learned I could rely upon and practice the Hippocratic Oath that I took upon graduation from medical school.

## FACULTY CORNER



## PUBLISHED ARTICLES

- Fairley, HB. La “anestesia” en el imperio incaico (“Anesthesia” in the Inca empire). *Rev Esp Anesthesiol Reanim* 2007; 54:556-562.
- Nekhendzy V, Lemmens HJM, Vaughan WC, Hepworth EJ, Chiu AG, Church CA, Brock-Utne JG. The effect of deliberate hypercapnia and hypocapnia on intraoperative blood loss and quality of surgical field during functional endoscopic sinus surgery. *Anesthesia & Analgesia* 2007;105:1404-1409.
- Hammer GB. Total intravenous anesthesia in infants and children. *Clin Ped Anesth* 2007;13:38-41.
- Hammer GB. Sevoflurane and emergence delirium. *Clin Ped Anesth* 2007;13:49-51.
- Kornelsen J, Mackey S. Potential clinical applications for spinal functional MRI. *Current Pain and Headache Reports*. June 2007; 11:3; 165-70.
- Carroll I, Mackey S, Gaeta R. The role of adrenergic receptors and pain: The good, the bad, and the unknown. *Seminars in Anesthesia and Perioperative Pain*. March 2007; 26:1; 17-21.
- Kaplan KM, Mackey S, Carroll IR. Mexiletine therapy for chronic pain: survival analysis identifies factors predicting clinical success. *Journal of Pain and Symptom Management*. January 2008; 35:3; 321-6.

- Zaki J, Ochsner K, Hanelin J, Wager T, Mackey S. Different circuits for different pain: Patterns of functional connectivity reveal distinct networks for processing pain in self and others. *Interpersonal Sensitivity: A special issue of Social Neuroscience*. September 2007. Psychology Press.
- Carroll I, Gaeta R, Mackey S. Multivariate analysis of chronic pain patients undergoing lidocaine infusions: increasing pain severity and advancing age predict likelihood of clinically meaningful analgesia. *Clinical Journal of Pain*. October 2007; 23:8; 702-6.
- Ochsner K, Jaki J, Hanelin J, Ludlow D, Knierim K, Ramachandran T, Glover G, Mackey S, Your pain or mine? Common and distinct neural systems supporting the perception of pain in self and others, *Social Cognitive and Affective Neuroscience*, March, 2008.
- Byrd D, Mackey S, Pulsed radiofrequency for chronic pain, *Current Pain and Headache Reports*, January 2008, pp. 37-41.

## ABSTRACTS

- Muramoto D, Younger J, Ueno T, Kirschen M, Mackey S. Working memory load attenuates moderate pain, but not high pain, in healthy individuals. *The Journal of Pain*. 2007; 8:S18.
- Crowell A, Younger J, Lobato R, Kaplan K, Carroll I, Mackey S, Gaeta R.. Demographic and psychosocial predictors of disability due to pain. *The Journal of Pain*. 2007; 8: S76.
- Lucca A, Younger J, Lawrence J, Lutomski K, MacLeod S, Hoeft F, Ueno T, Glover G, Gabrieli J, DeCharms C, Mackey S. Modulation of brain networks via real-time fMRI feedback training. *The Journal of Pain*. 2007; .8:S15.
- Mackey A, Crowell A, Carroll I, Younger J, Zulauf M, Kaplan K, Gaeta R, Mackey S. Depressed Mood Predicts Analgesic Response to Intravenous Lidocaine. *The Journal of Pain*. 2007; .8: S36. **Continued on page 12**

---

#### FACULTY CORNER, ABSTRACTS

- Brown J, Kornelsen J, Watcha D, Darnauer J, Sarin R, Glover G, Mackey S. **The hemodynamic response function in the spinal cord in response to motor and nociceptive stimuli.** May 2007. International Society for Magnetic Resonance in Medicine Meeting.
- Lawrence J, Lucca A, Younger J, Ueno T, Lutomski K, MacLeod S, Hoeft F, Glover G, Gaeta R, deCharms C, Mackey S. **Effective connectivity changes associated with learned control over neural activity: A Granger Causality study.** Organization for Human Brain Mapping (OHBM) 13th Annual meeting, Chicago, June 10-14, 2007.
- Lawrence J, Hoeft F, Groveman E, Lucca A, deCharms C, Mackey S. **Functional magnetic resonance imaging of pain modulation by cognitive behavioral strategies.** The Society for Neuroscience (SFN) 37<sup>th</sup> Annual Meeting, San Diego, November 3-7, 2007.

---

#### INVITED TALKS AND GUEST PROFESSORSHIPS

- Greg Hammer, MD, spoke about **Lung isolation in infants and children** at the 15th ASEAN Congress of Anesthesiologists in Pattaya, Thailand in November, 2007.
- Greg Hammer, MD, spoke about **Total intravenous anesthesia in infants and children** at the 15th ASEAN Congress of Anesthesiologists in Pattaya, Thailand in November, 2007.
- Greg Hammer, MD, spoke about **Emergence delirium in infants and children**, Annual Meeting of the Japanese Society of Anesthesiologists, Okinawa, Japan, November, 2007.
- Greg Hammer, MD, spoke about **Remifentanyl—pharmacology and clinical use in pediatric anesthesia** at the Annual Meeting of the Japanese Society of Anesthesiologists, Okinawa, Japan, November, 2007.

- Greg Hammer, MD, was visiting professor at the Department of Anesthesia, University of Saigon, Ho Chi Minh City, Vietnam in 2007.
- Greg Hammer, MD, was visiting professor at the Department of Anesthesia, University of Kagoshima, Kagoshima, Japan in 2007.
- Greg Hammer, MD, spoke about **Dexmedetomidine: Should it be used in children?** at the World Congress of Anaesthesia in Cape Town, South Africa in March 2008.
- Sean Mackey, MD, PhD, spoke about **Adult Pain Management** at the National Marfan Foundation National Conference in Stanford, CA in July 2007.
- Sean Mackey, MD, PhD, spoke about **Evaluating Outcomes in Pain Medicine** at the American Society of Anesthesiologists Annual Meeting in San Francisco, CA in October 2007.
- Sean Mackey, MD, PhD, spoke about **Cervicogenic Headache: More Than Just a Pain in the Neck** at the American Society of Anesthesiologists Annual Meeting in San Francisco, CA in October 2007.
- Sean Mackey, MD, PhD, spoke about **Cases and Conversations: A Fibromyalgia Workshop** for Johns Hopkins University School of Medicine in Marina del Rey, CA in October 2007.
- Sean Mackey, MD, PhD, spoke about **What Has Imaging Taught Us about Neuropathic Pain?** at the 11<sup>th</sup> International Conference on the Mechanisms and Treatment of Neuropathic Pain on November 6, 2007.
- Sean Mackey, MD, PhD, spoke about **Mechanisms & Treatment of Neuropathic Pain Mechanisms and Treatment of Chronic Low Back Pain** at the IASP 10<sup>th</sup> International Conference in Salt Lake City, UT in November 2007.

Continued on page 13

---

#### FACULTY CORNER, INVITED TALKS

- Sean Mackey, MD, PhD, was the keynote speaker on **The Reign in Pain Lies Mainly in the Brain** for the University of Nevada's 25<sup>th</sup> Annual Research Symposium in Reno, NV in January 22, 2008.
- Sean Mackey, MD, PhD, spoke about **Update on Regional Anesthesia** at the Stanford University School of Medicine 21<sup>st</sup> Annual Anesthesia Update in Big Sky, MT in February 2008.
- Sean Mackey, MD, PhD, spoke about **Current Concepts in Perioperative Pain Management** at the Stanford University School of Medicine 21<sup>st</sup> Annual Anesthesia Update in Big Sky, MT in February 2008.
- Sean Mackey, MD, PhD, spoke about **The Strain in Pain Lies Mainly in the Brain** at the Stanford University School of Medicine 21<sup>st</sup> Annual Anesthesia Update in Big Sky, MT in February 2008.
- Sean Mackey, MD, PhD, spoke about **Opioids: The Good, the Bad, and the Ugly** at the Stanford University School of Medicine 21<sup>st</sup> Annual Anesthesia Update in Big Sky, MT in February 2008.

---

#### PROMOTIONS, AWARDS, AND HONORS

- David Gaba, MD, Professor of Anesthesia and Associate Dean for Immersive and Simulation-based Learning is the recipient of the 2007 Teaching Recognition Award for Achievement in Education from the International Anesthesia Research Society. This award is designed to recognize outstanding career contributions by senior faculty.
- Sean Mackey, MD, PhD, has been promoted Chief, Division of Pain Management, as well as being promoted to Associate Professor of Anesthesiology.

- Jarred Younger, PhD, has been awarded an NIH K99 grant for **Mechanisms of Opioid-Induced Hyperalgesia in Pain Patients: Examination via fMRI**. (Mentor: Dr. Sean Mackey)
- Jarred Younger, PhD, has been awarded a grant from the American Fibromyalgia Syndrome Association for **Low-Dose Naltrexone for the Treatment of Fibromyalgia**.
- Dr. Meredith Barad has been awarded a two-year American Academy of Neurology Foundation Research Fellowship for **Learned Control of Brain Activity in Chronic Pain Patients Using Real-time fMRI**. (Mentor: Dr. Sean Mackey)
- Justin Brown has been awarded an NIH NRSA Grant for **Spinal and Cortical Nociception: Developing Clinical Applications for fMRI**. (Mentor: Dr. Sean Mackey)

---

#### POPULAR PRESS ABOUT THE MACKEY LAB

- **A Growing Cadre of Doctors & Scientists Now Believes That Chronic Back Pain is a Disease of the Nervous System, Not the Spine** *Best Life Magazine* January 21, 2008.
  - **The Pain Problem**, *Austin Fit Magazine* September 2007.
  - **Mind Over Matter, With a Machine's Help**, *New York Times* August 26, 2007.
  - **Natural Born Pain Killers**, *Prevention* July 2007.
  - **Human Body, Pushing the Limits – Sensation**, *Discovery Channel*
  - **Incredible Human Machine DVD**, *National Geographic*
-

## CONGRATULATIONS TO OUR STELLAR RESIDENTS-OF-THE- MONTH

- Dr. Tom Kyler, November 2007
- Dr. Melissa Ennen, December 2007
- Dr. Nicholette Roemer, January 2008
- Dr. Scott Ahlbrand, February 2008
- Dr. Echo Rowe, March 2008

### BABIES

Tricia Armstrong and Eddie Whiteside announced the arrival of their son, Eddie Mekhi Whiteside, born January 23, 2008. He weighed 9 lbs, 6 oz, and measured 22 ½ in long.

### UPCOMING EVENTS

- **March 1, 2008**—WARC abstracts are due.
- **April 25-27, 2008**—The 46<sup>th</sup> WARC Conference, Seattle, WN
- **May 19, 2008**—Annual Research Dinner
- **June 15, 2008**—Annual Golf Tournament

Copyright © 2008

## ANNUAL GOLF TOURNAMENT

Stanford Anesthesia's annual golf tournament is set for Sunday, June 15 at 1:00 PM. This start time is later than usual, but it is out of my control. The start is *shotgun*, meaning that everyone starts at the same time and hopefully ends at the same time.

Please let me interested in are

can only you format



know if you are playing and if you bringing a partner.

Unfortunately you bring one. As

know, the

for the golf

tournament is a

scramble, meaning that each 4 ball is a team, and we will only take the best hit each time, except that we have to take 3 of your drives. This means that there is very little pressure on the individual golfer. Remember that you must carry your own golf bag, and you may not share golf clubs. Please also tell me if you have a special departmental person you like to play with, and I will attempt to honor your request to the best of my ability, taking into account the randomization program of the computer.

In early June, I will send you information about the pairings.

The cost to residents on the Ann Dohn's list is \$25. The cost to faculty and staff is \$70. If you want to take a cart, rather than walk, then that is extra.

The tournament will conclude with prize-giving, drinks, and snacks on the patio overlooking the 18th Green, starting at 5:30 PM.

To participate it is essential that you sign up with me ASAP. If you don't sign up, you can't play. There are a limited number of places, so "first one signed on, first one served." If you have any questions/concerns, please do not hesitate to let me know. Look forward to hearing from you.

Kind regards, John