



DUKE ANESTHESIOLOGY ALUMNUS

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FROM THE DIRECTOR...



Katherine Grichnik, MD

Welcome to the third edition of *Anesthesiology Alumnus*. We are very excited about the upcoming year as we continue to move forward to promote and strengthen our alumni liaisons. We have two new programs that you should know about, along with a few housekeeping notes.

Recently, we started a series called Alumni Luncheon Chats to encourage alumni to come back to Duke to share their experiences with our current residents and fellows whenever they can. Our premiere "chatter" was Dr. Lennart Fagraeus. He visited Duke in May and discussed a wide range of topics with our fellows and residents. Dr. Fagraeus is in private practice at Christiana Care Health System in Delaware. He shared his memories of Duke and, as importantly, promoted his current position and research. He stimulated some of our residents to look up his research findings and perhaps implement his ideas into their own practices. We hope that each of you will consider sharing your experiences at Duke with our current residents and fellows when you have the opportunity to visit Durham.

On page 4 of this edition, we feature an article on our new Duke Anesthesia Alumni Association. This association will be run by you, the

Duke Alumni, with support from the Office of Strategic Planning and Development within the Duke Department of Anesthesiology.

Many of you have asked about access to the Duke Intranet. The Education Executive Committee, which oversees this technology as most of the intranet is education-related, is currently reviewing this request.

We welcome you to any or all of our departmental educational meetings, including divisional conferences, grand rounds, resident lectures, and so on. Dr. Merl Harmel, professor emeritus of anesthesiology, recently gave an outstanding lecture on the history of cardiac anesthesia—the story of the first Blalock-Taussing Shunt. I learned a tremendous amount about the individuals involved in the enormous effort, which made me very appreciative of the technology available today for performing cardiac surgery.

We want to remind you to contact us if you wish to visit the department. We would be happy to arrange for you to meet with the faculty, residents, fellows, or tour our specialty areas such as the Hyperbaric Chamber or the Patient Safety Simulator.

I, especially, look forward to seeing you at our alumni reception this year at the ASA. We are hosting a "Casino Night" (with fake money). We should have a tremendous amount of fun while renewing our friendships.

We hope you've had a great summer!

Katherine Grichnik, MD
Editor in Chief
Director, Strategic Planning and Development

in MEMORIAM

EDWARD DEFOREST THALMANN • 1945-2004

Captain Edward DeForest Thalmann, MD, USN (Ret.), died unexpectedly at age 59 of congestive heart failure at his home in Durham, North Carolina, on Saturday, July 24, 2004. Dr. Thalmann was an internationally recognized physician, scientist and applied mathematician, and a leader in the application of modern mathematical techniques to the prevention of decompression sickness and a long-time member of the Undersea and Hyperbaric Medical Society. He was a major architect of the thinking and research that form the underpinnings of the current theory of decompression sickness of the diving procedures now used to prevent it.

His research career began at the U.S. Navy Experimental Diving Unit, first at the Washington Navy Yard and then in Panama City, Florida, where he eventually became senior medical officer, and continued at the Naval Medical Research Institute in Bethesda, Maryland. His initial studies were aimed at developing a mathematical algorithm that reflected, as closely as possible, the science of gas exchange in human tissues and which could replace early 20th century Haldanean procedures that had been modified in the mid-twentieth century based largely on trial and error. Using the concepts of maximum likelihood as a theoretical foundation, Dr. Thalmann supervised hundreds of experimental dives to develop and verify a new set of decompression tables to protect divers. These tables were approved for use by the U.S. Navy and provide for much greater flexibility in depth and

duration for safe diving and allow for the use of breathing gases other than air. This increased the operational capabilities of U.S. military divers, and the Thalmann Algorithm is being used by the U.S. Navy to develop diver-carried computers to calculate safe individual time limits for complex dives of varying depth. In addition, Dr. Thalmann's theoretical work is being used to revise the standard U.S. Navy Decompression Tables employed for less complex dives using compressed air. This will eventually benefit future military divers as well as the thousands of civilian recreational divers, worldwide. Dr. Thalmann was also part of the team that developed the protocols used to protect U.S. astronauts from DCS when they leave the IATA environment of the International Space Station for the lower atmospheric pressure in their space suits.

He earned a bachelor of science degree from Rensselaer Polytechnic Institute in Troy, New York, in 1966. Dr. Thalmann received an MD from Georgetown Medical School, Washington, DC, in 1970. From 1970 to 1971, he was a surgical intern at the Royal Victoria Hospital in Montreal, Quebec, Canada. In the Navy, he was a graduate of the Undersea Medical Officer and the Diving Medical Officer Courses.

From 1971 to 1972, he headed the Medical Department on the Polaris Submarine SSBN *Thomas Jefferson*. From 1972 to 1975, he was research diving medical officer at the Navy Experimental Diving Unit, Washington, DC. In 1975, while on active duty, he was a post-

doctoral fellow in respiratory physiology with Herman Rahn and Claes Lundgren at the State University of New York at Buffalo. From 1977 to 1985, he returned to the U.S. Navy Experimental Diving Unit, first as assistant senior medical officer and then as senior medical officer. From 1985 to 1987, he served as exchange officer with the Royal Navy Institute of Naval Medicine in England. From 1987 to 1993, he was at the Naval Medical Research Institute in Bethesda, Maryland, first as head of the physiology division in the Diving Medicine Department and then as head of the department.

Concurrently, he was director of decompression research programs at the Institute. In December 1993, Dr. Thalmann retired from active duty as Captain in the Medical Corps, U.S. Navy, but continued at the Naval Medical Research Institute as senior scientist in decompression research. For his work, Dr. Thalmann was honored by the Navy with the Legion of Merit for "exceptionally meritorious conduct in the performance of outstanding service to the United States."

From July of 1994 until his death, Dr. Thalmann worked at Duke University Medical Center in the Center for Hyperbaric Medicine and Environmental Physiology, where he was assistant clinical professor in anesthesiology and assistant clinical professor of Family and Community Medicine. In addition, he was assistant medical director for the Divers Alert Network. At Duke, Dr. Thalmann



Captain (Ret.) Edward Thalmann, MD

continued his important theoretical studies on gas exchange and was working, up to the time of his death, on a project to predict the safe limits for breathing oxygen at increased atmospheric pressures to benefit military divers as well as clinical patients receiving hyperbaric oxygen therapy.

He is survived by his daughters Katherine and Amanda of Chapel Hill, North Carolina; an ex-wife, Brenda; and by his father Edward J. Thalmann of Whiting, New Jersey; and his sister Stacey Thalmann and her son Alex, of Washington Park, North Carolina.

His many friends and colleagues, both in the United States and abroad, knew Dr. Thalmann as a great bear of a man whose booming voice and sometimes gruff manner could not conceal his generous heart and consummate intelligence. His dedication and leadership, in a field that faced seemingly insurmountable challenges, inspired all who knew him.

—Claude Piantadosi, MD

Avoiding Transfusion

BY STEVEN HILL, MD

CURRENT TRENDS IN BLOOD MANAGEMENT

Under the guiding principle of patient autonomy, all competent adult patients have the right to determine their medical care. Whether the goal is to completely avoid exposure to any blood products or reduce requirements for blood bank products in high blood-loss surgical procedures, special preoperative preparation and perioperative management techniques are now being used to meet the needs of a growing population of patients who desire to avoid or reduce exposure to allogeneic blood transfusion and to improve management of the increasingly scarce resource of donated human blood.

A multidisciplinary team of physicians and administrative personnel have spearheaded a drive to develop the Duke Center for Blood Conservation (CBC) in efforts to address the unique needs of patients requesting avoidance of transfusion: Dr. Aryeh Shander, medical director of the New Jersey Institute for the Advancement of Bloodless Medicine and Surgery Program, Dr. William Fulkerson, CEO of Duke Hospital, Dr. Mark Newman, professor and chairman of the Duke Department of Anesthesiology, and Dr. Danny O. Jacobs, professor and chairman of the Duke Department of Surgery.

Before the development of epoetin alfa, a recombinant human polypeptide that stimulates red blood cell production in the bone marrow similar to the naturally occurring human hormone erythropoietin, clinicians had few options (other than optimizing iron stores and nutritional status) in preparing patients with mild to moderate anemia for surgical procedures with significant, anticipated blood loss. As long as certain clinical criteria are met, epoetin alfa therapy

is approved by the FDA and Medicare/Medicaid for preoperative optimization of hemoglobin levels in anemic patients. While preoperative autologous donation of red blood cells for perioperative use is possible for certain elective surgical procedures, this technique is of limited utility, because of the finite shelf life of stored blood (42 days), and for patients with pre-existing anemia who are only capable of storing two to three units of packed red blood cells. Preoperative autologous donation is also an unacceptable option for patients who refuse transfusion therapy for religious reasons.

Intraoperative normovolemic hemodilution (INH) is a technique in which a portion of the patient's whole blood volume is sequestered at the start of surgery before significant blood loss occurs and is replaced with intravascular volume expanders such as hetastarch and/or crystalloid fluids. The sequestered whole blood is anticoagulated with citrate and reinfused after hemostasis has been achieved in the operative field. Because the blood lost in the surgical field has a lower hemoglobin level than the sequestered blood and

“ One of the most important aspects of the CBC initiative is patient education... ”



“...as long as at least one liter of whole blood can be safely sequestered, INH is more effective than preoperative autologous donation at preserving red blood cell mass...”

because whole blood is administered at the end of the case instead of non-blood volume expanders, red blood cell mass and clotting factor levels are preserved relative to conventional intraoperative fluid management. Because the sequestered whole blood remains in contact with the patient at all times using INH, it is often acceptable to patients who refuse transfusion on religious grounds. According to Dr. Shander, who has been running a successful bloodless surgery center for the past ten years, as long as at least one liter of whole blood can be safely sequestered, INH is more effective than preoperative autologous donation at preserving red blood cell mass and is capable of returning the patient's own fresh whole blood, including platelets and clotting factors, instead of only red blood cells.

Intraoperative cell salvage is another technique that will be used with increased frequency by the CBC to maintain intraoperative red blood cell mass. With this technique, blood lost from the operative field is removed by suction and collected in a filtered reservoir containing an anticoagulant. The shed blood is washed and centrifuged to yield a solution of autologous red blood cells in normal saline that can be reinfused as needed during the operation. Because a continuous circuit can be maintained from the operative field back to the patient, this technique is also frequently acceptable to patients refusing transfusion therapy on religious grounds.

Identification of special needs and providers willing to comply with patient wishes throughout the patient's hospitalization is a logistical challenge in a large academic institution. One of the most important aspects of the CBC initiative is patient education, with careful attention to, and documentation of, patient wishes. Adequate informed consent and documentation of a treatment plan for effective blood management often requires 60 to 90 minutes of provider time spent solely with the patient. This time is valuable for the patient and the institution by delineating acceptable management options and weighing risk with benefit in an increasingly complex array of medical treatments.

The CBC represents an exciting new service being offered by the Duke Health System to better meet patient needs. The CBC will be the first of its kind at an academic tertiary care center in the Carolinas and will allow provision of excellent Duke medical care to an expanding patient population. ▲

THE LOGISTICS

The CBC is a clinic physically located within the preoperative screening area of Duke Hospital (Duke South) that will be open for elective patient referrals. Pam Pennigar, NP-C, is the full-time program manager who will coordinate patient visits and organize a clinical team for each patient which is responsible for continuous care throughout the preoperative preparation and hospitalization in accordance with patient wishes. A team of eight physicians (Drs. Jeffrey Lawson, Steven Hill, Anthony Roche, Ian Welsby, Scott Brudney, Stuart Grant, David MacLeod, and Ronald Olson) will see CBC patients on scheduled clinic days as well as share a pager for continuous consultation availability for provider or patient issues.

A part-time information specialist is currently being sought to provide assistance in data management to monitor patient progress and objectively assess outcome of the initiative. While the initial focus of the CBC is for managing perioperative patients, physician representatives with an interest in the program are being identified from various medical specialties to join the expanding CBC team and create a larger multidisciplinary task force dedicated to the principles of patient autonomy and effective blood management.

While assistance in patient management will be provided by the CBC whenever possible, referral to the CBC should be made prior to elective surgical procedures (preferably four to five weeks). If required, epoetin alfa therapy often takes four or more weeks to optimize hemoglobin levels for a high-blood loss procedure, and time is required for logistical preparation of continuous provider coverage during hospitalization.

Anticipated opening of the CBC is within two to three months. Once open, referrals will be made via the consultation pager (919) 970-4422 or by calling the CBC at (919) 668-2467.



Steven Hill, MD, is associate clinical professor of anesthesiology, co-medical director of the Center for Bloodless Conservation, and co-director of the Acute Cardiothoracic Surgical Unit at Duke University Medical Center.

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DAAA

Duke Anesthesia Alumni Association

We announce the formation of an alumni association tailored just for you.

Want to know more about it? These questions and answers should get you started.

We talk with the founder of DAAA, Katherine Grichnik, MD.

WHY DOES DUKE ANESTHESIA NEED AN ALUMNI ASSOCIATION AND WHAT IS ITS MISSION?

KG: The alumni association will provide structure for maintaining personal and professional relationships developed while training at Duke. Continued interactions with former friends and colleagues as well as current residents and fellows should improve the lives of our alumni as they pursue their careers across the United States and in other countries. We will also strive to celebrate the accomplishments of our talented alumni group in all aspects of their lives.

HOW WILL THE ASSOCIATION SERVE AS AN ADVOCATE FOR ME AS AN ALUMNUS?

KG: We will provide a format for finding friends and colleagues, provide access to educational opportunities at Duke, hold reunions (for educational and social purposes) and provide a mechanism for consulting current faculty about questions or issues that may arise in an individual's practice.

WHAT CONTINUING EDUCATIONAL PROGRAMS/ACTIVITIES DO YOU ENVISION?

KG: At the reunions: Lectures and workshops by current faculty and alumni, poster presentations by current residents.

Through our Web-site: Provide access to an alums-only section, which would have educational content for viewing and downloading, announce lectures and seminars of interest at Duke, and announce lectures and seminars given by Duke faculty.

At Duke: Provide access to simulator courses and provide access to mini-refresher fellowships in various subspecialties.

WHO COMPRISES THE ALUMNI BOARD OF DIRECTORS?

KG: An initial provisional board will initially be chosen by Dr. Grichnik as the director of Alumni Affairs, after which the alumni themselves will choose the board of directors through a democratic process. There will be seven individuals representing early-career, mid-career, and late-career alumni. Dr. Grichnik and Rosemary Cumbie would be non-voting members of the board.

HOW WILL THE ASSOCIATION HELP ENHANCE ME AND MY PRACTICE?

KG: Through education, professional contacts, and social interactions. Hopefully, we will also be able to assist in job searches, CME credits and interactive exchange of clinical information pertinent to all of our practices.

WHAT PRIVILEGES WILL I ENJOY AS A MEMBER?

KG: Access to the alumni association portion of the Web-site with educational opportunities, an annual alumni association meeting in the spring and a reception at the ASA (not limited to just alumni association members), access to the Duke Patient Safety and Human Simulation Center for education, contact with current residents and fellows for practice development and growth.

WHO WILL ADMINSTRATE THE ASSOCIATION?

KG: Rosemary Cumbie will serve as coordinator for the Duke Anesthesia Alumni Association. Dr. Grichnik will serve as the faculty liaison. Ms. Cumbie worked in the department for many years before retiring in 2000. She was enticed to return as the coordinator for Alumni Affairs, as she has the greatest knowledge about the department and its former and current members.

WHAT WILL MAKE THIS ALUMNI ASSOCIATION DIFFERENT FROM DUKE'S ALUMNI ASSOCIATION?

KG: This will be a very specific alumni association; it will be very personal and allow contact and collaborations with the people whom you spent the most time with at Duke. The Duke Alumni Association is a very large organization that may not completely serve an individual alumnus' needs.

HOW CAN I GET INVOLVED?

KG: Please contact Rosemary Cumbie as soon as possible, especially if you would like to be a member of the Board of Directors. Her phone number is (919) 489-7507 or via e-mail, rcumbie@nc.rr.com. You may also contact Dr. Katherine Grichnik at 919-681-6893 or via e-mail, grich002@mc.duke.edu.



Rosemary Cumbie,
Alumni Affairs
Coordinator

BACK TO BASICS

BY KATHRYN P KING, MD

The School of Medicine Changes Undergraduate Curriculum

For decades, the Duke undergraduate medical curriculum has been unique throughout the United States and the world.

During the 1960s, medical school leaders designed a four-year program that alternated basic science and clinical years, in contrast to traditional medical curricula that have two eight-month “years” of preclinical basic science, followed by a clinical base third year and a fourth year of clinical electives.

A committee of medical educators at Duke, including the then-new chairman of the Department of Surgery, David Sabiston, MD, proposed the following: a first year (11 months) of basic science, with a second year of clinical rotations such as medicine and surgery; a third year devoted to scholarship, usually in basic science research; and a fourth year composed of clinical electives similar to those available at other medical schools. While some medical schools do allow a year of research and scholarship, all require a fifth year for this experience. The medical school curriculum has followed this format ever since.

Vice chancellor of Academic Affairs and dean of the School of Medicine (SOM), R. Sanders Williams, MD, describes the third year of research and scholarship as “the jewel in our crown.” Thus, the third year is the centerpiece of a dynamic new curriculum that will begin this fall. While there have been minor modifications as medical science has changed over the years, the most substantial change until recently was the introduction of a longitudinal care curriculum (the Practice course) in the mid-1990s. With the appointment of Dr. Edward Buckley as associate dean for curriculum in 2001, the curriculum committee was restructured and an intensive review of the curriculum was undertaken.

Colleen Grochowski, PhD, assistant dean for curriculum development, joined the Office of Curriculum in 2003 and has made important contributions to the organization and cooperation of the many interested participants.

WHAT'S NEW

The Duke Curriculum: Foundation for Excellence was designed with the participation of SOM leaders and representatives from basic and clinical science departments. After reviewing the existing curriculum and comments by the Liaison Committee on Medical Education during their 2001 evaluation, 250 objectives were written in 36 broad categories (ranging from scientific foundations and basic clinical skills to professionalism). The existing curriculum was then examined for coverage of these objectives and to identify redundancies. While this was occurring on a course-by-course basis, the over-arching goal was to have a curriculum that reflected the increasing interdisciplinary approach in both clinical and basic sciences.

First year. The first year now embodies three large courses: Molecules and Cells, Normal Body, and Body and Disease. These courses integrate information common to disciplines and allow unique materials to be presented, with examinations reflecting content across departmental lines. The Body and Disease course is organized around organ systems allowing the students to understand the context within which disease occurs. Students will receive three grades for the entire year. The Practice course (longitudinal care curriculum that starts in the first year with large and small group teaching about the medical history and physical exam) will continue in its present form. The Community Partner program will assign first-year medical students in pairs to patients with chronic illnesses. This longitudinal experience is designed to allow students to support their Community Partner through the course and treatment of chronic illness.

Second year. The Clinical Base Year has been reorganized from six eight-week rotations to six rotations of varying lengths and “Intersessions” (five) occurring every two months. The major rotations have been revised in length to be more consistent with time distribution in other medical schools and the format allows flexibil-

Foundation for Excellence: Overview of Curriculum Changes for Undergraduate Medical Students

	AUGUST	SEPTEMBER	OCTOBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST												
YEAR ONE ORIENTATION	Molecules and Cells (6.5 weeks)		The Normal Body (15.5 weeks)		PHYS EXAM	The Body and Disease (20 weeks)																	
	PRACTICE COURSE I ▶																						
YEAR TWO ORIENTATION TO CLINICAL YEAR	INTERSESSION	Internal Medicine (8 weeks)		INTERSESSION	Surgery (8 weeks)		INTERSESSION	Pediatrics (6 weeks)		2 week Selective INTERSESSION	OB/GYN (6 weeks)		2 week Selective	Elective (4 weeks)		INTERSESSION	Psyc (4 weeks)		Family Med. (4 weeks)		ASSESSMENT		
	PRACTICE COURSE II ▶																						
YEAR THREE	Scholarship (10-12 months)																						
	PRACTICE COURSE III ▶																						
YEAR FOUR	Clinical Electives					Capstone (4 weeks)		Clinical Elective		GRADUATION													

ity, such as two months devoted to Surgery and Medicine, six weeks of Pediatrics and Obstetrics-Gynecology, and four weeks of Psychiatry and Family Medicine. This format also allows introduction of electives earlier in the clinical curriculum.

The Intersessions are partly “themed” and partly related to the upcoming rotation; for example, the Obstetrics-Gynecology rotation may present basic science material about embryology and skills such as the pelvic examination. Themes for the Intersessions include: Congenital illness/genetics/birth and postnatal experience; geriatric issues; clinical oncology; critical care; and natural or man-made disaster/public safety. Additionally, students will participate in Health Team Visits during each Intersession. These varying assignments introduce students to the roles and theoretical framework supporting medically related disciplines that are involved in the comprehensive care of patients.

The Practice course continues during the second year with ethics and other topics (and concludes during either the third or fourth year with a required ambulatory clinic experience).

Third year. The third year is now ten months (rather than eight months) long, with choices of research mentors in fifteen study tracks, along with a host of dual-degree programs (approximately 40% of students earn an additional degree during their years at Duke). Students also have the option of extending for a second year of research either in their original area of concentration or by working on another project or taking supplemental coursework in an area of interest. Dr. Debra Schwinn is chair of the Third Year Study Program Directors’ Committee and has been instrumental in organizing and codifying the third year for the entire SOM so that students’ experiences are of consistently high quality.

Fourth year of electives. New fourth year requirements comprise four of the possible twelve electives during the fourth year (eight required for graduation). Requirements include an ambulatory component; a four-week, five-credit subinternship; a critical care elective; and the Capstone course. Many students are able to fulfill the ambulatory requirement by attending half-day clinics for 34 weeks during their third year; the rest have a month-long clinic elective during their fourth year. Subinternships are generally in medicine, pediatrics, surgery or obstetrics-gynecology. The critical care elective can be met with rotations in the intensive care units (MICU, SICU, PICU, NICU), the emergency department, or anesthesiology. The Capstone course is structured around the six core competencies as defined by the Accreditation Council for Graduate Medical Education (ACGME competencies); it will both review key basic science and clinical concepts and introduce physical skills and cognitive issues pertinent to internship.

OUR ROLE

The Department of Anesthesiology shares a large role in participating in the undergraduate medical curriculum changes. Our goal is to introduce all students to anesthesiology and perioperative medicine regardless of their ultimate career goals. Life support and re-animation are essential concepts for every clinician, and virtually all clinicians see patients who are pre- or post-surgical, require resuscitation, or need pain management, sedation, or local anesthetics. Moreover, a subset of medical students may be interested in careers in anesthesiology. We have three new initiatives to offer within the restructured curriculum.

The department has designed an MS2 Critical Care Intersession, a two-week anesthesiology elective in the MS2 year, and a new Acute and Chronic Pain Management elective in the MS4 year.

“ Our goal is to introduce all students to anesthesiology and perioperative medicine regardless of their ultimate career goals. ”

The five new MS2 Intersections will include a Critical Care Intersection from March 7-11, 2005, led by Dr. Nancy Knudsen with Dr. Kathryn King. This is the only intersection focusing on acute care, and will feature an interdisciplinary faculty from Anesthesiology, Surgery, Medicine, and Pediatrics. Small group discussions will actively involve students in learning about clinical and ethical issues, and include how-to skills such as writing ventilator orders and first-hand experiences such as the sensation of being ventilated.

The restructuring of the second year curriculum will allow students two, two-week electives and one four-week elective during their MS2 year. Our two-week elective, coordinated by Stuart Grant, MD, is based in the simulator with problem-based learning discussions as well as providing OR exposure. The four-week elective will consist of the traditional MS4 elective (students will be near the end of their MS2 year when this is an option).

Anesthesiology has offered clinical operating room and SICU fourth year electives for many years. Beginning this fall, Billy Huh, MD, is offering an MS4 pain elective that will take students into the wards of Duke North for acute pain exposure, and the clinics, procedure rooms, and ORs for participation in chronic pain management. This new course will appeal not only to students interested in anesthesiology, but those interested in the burgeoning field of palliative care.

Our continuing efforts include the faculty's teaching about physiology and pharmacology in the first year and the anesthesiology MS2 subrotations at the start of the Core Course in Surgery, which introduce key concepts of anesthesiology and perioperative medicine to all medical students. This subrotation, which began in the early 1990s by Dr. King, will continue under the leadership of Dr. Grant. The

Anesthesiology, Surgery, and Environmental Physiology (ASEP) third-year study track has been popular, attracting surgical colleagues as mentors (in fact, re-titled ASEP from its original AEP). It consistently attracts three to nine student researchers per year.

SUMMARY

Faculty members from our department have participated in the undergraduate curriculum review and revision. Our electives, subrotations, and research for medical students have seen wide and deep involvement by our faculty and residents, who serve as clinical preceptors and role models. We thank everyone for their energy and ideas about how to improve our work with medical students. This spring an Anesthesia Interest Group (AIG) was formed, sparked by the enthusiasm of Stephanie Vanterpool, a rising fourth-year student interested in anesthesiology who is its founding and current president; Drs. King, Knudsen, and Craig Weldon serve as faculty advisors for this interest group. Be sure to visit the AIG at <http://anesthesia.duhs.duke.edu/aig/>. ▲



Duke University Medical Photography

Kathryn King, MD, is associate clinical professor of anesthesiology and medical director of advanced cardiac life support. She has been involved in a number of curriculum revisions, the most recent of which was in 2002.

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17th
Annual

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*Duke Anesthesiology
Alumni Reception*

Sunday, October 24, 2004 · 7-10 pm

THE VENETIAN HOTEL
3355 SOUTH LAS VEGAS BOULEVARD
LAS VEGAS, NEVADA

featuring casino night!

For more information, contact Gloria Howard at
howar042@mc.duke.edu

alumni NEWS

▼ **Jason Burke '98-'01** and Eva Littman (Duke OB/GYN) were married on the island of Maui in July. He is doing locum tenens, waiting for Eva to finish her infertility fellowship next June at Stanford University. He writes: "While on my travels in locum tenens, I have met many anesthesiologists and seen many difficult cases. I constantly remind myself that I'm glad I trained at Duke!" The Burkes live in San Francisco; they can be reached through Jason's e-mail, delta2210@hotmail.com.



David Cameron '02-'03 and his family are firmly settled back in Edinburgh, Scotland, and are enjoying their new baby daughter, Victoria, born one year ago in October. Heather is preparing to return to medical practice in the autumn. David was appointed to a consultant post in the Royal Infirmary of Edinburgh, with clinical responsibility in Intensive Care Medicine and Transplantation Anaesthesia. He sends his greetings to all.

Charlene Edwards '90-'94 says she "loves doing anesthesia in Greensboro. I love life. I have a wonderful husband, Steve Green, and a terrific new son, Clay David Green. Steve and I are enjoying raising a God-fearing little boy who has so much personality! God Bless."

Paolo Flezzani '82-'87 has been in private practice in Winston-Salem since he left Duke. He says: "As back in those days, the bulk of my practice is in cardiac anesthesia. Recently I have stepped down from the position of President of our corporations after 14 years in that and similar capacities. I still enjoy tennis, snow skiing in the winter but I quit riding horses." His wife Janice has completed a PhD in counseling and teaches part time at WSSU. "Jennifer, my oldest, is a junior analyst in the Corporate Citizenship division at Pfizer in NYC and is starting an Executive MPA at Columbia University. My twin daughters, Courtney and Morgan, are rising seniors at Villanova University. Courtney, a political science major, is interning with Senator Dole in Washington DC, and Morgan, whose is studying communications, is interning with CBS News in NYC."

Dan Graubert '86-'89 is in the midst of moving from Florida to New Hampshire, so things are kind of crazy at the moment. This past June he finished a pain fellowship at the University of South Florida and accepted a position at Dartmouth-Hitchcock Medical Center. "I've been married for two and a half years to Ann Malone Smith, and we have a 16-month-

old daughter, Caroline, and a dog named Woof." After years of living in Florida and enjoying the ocean and warm weather, his family are looking forward to the New England climate and winter activities. "By the way, you probably know that Tim Quill '84-'90 is an attending at Dartmouth too," informs Dan.

Darryl Malak '93-'96 is currently completing his ninth and final year of educational pay back to the U.S. Air Force. He says it is great to finally be able to start thinking of civilian life. "Because of my time in the service, I am now one of the senior anesthesiologists in the Air Force. My senior status has allowed me access to the upper level management activities (legal reviews, planning, and resource allocation). My wife and I, along with our 2-, 6-, and 9-year-old children, are looking forward to relocating to the Carolinas next summer."

Kenneth and Sonya McKinlay '02-'03 are enjoying life back home in Scotland, although they're missing the sunshine in North Carolina. Their son Nitin is almost a year old now and is keeping them amused. Kenneth, at present, is applying for consultant posts with an interest in cardiothoracic anaesthesia, while Sonya is enjoying a few months off before getting back into the workforce. The couple remain in touch with many of the friends they made during their time at Duke and have returned once to Duke for a brief visit.

Angelo Gagliano '57-'67 and his wife Cathleen have been living in balmy San Antonio, Texas, for the past fifteen years. "We are loyal Spur's fans," he writes. "I play golf regularly, and often slip down to the Gulf for water sports. I collect almost anything. I still have my ties from Medical school. I restored a 1955 Desoto, and love restoring old things. My wife and I are also active in the politics of our homeowners association. Now, that is by far the toughest challenge I have ever had!"

Lewis Hogge '90-'93 sends greetings from Baltimore, his family having entered into their 12th year in "Charm City." He adds: "Everyone is doing well. My daughters, Stephanie, 15, and Lindsey, 12, are rising 10th and 7th graders." He along with his wife Dene have gone back to school in recent years. She completed a MS in Nursing at the University of Maryland and Lewis completed an MBA at Johns Hopkins in Health Services Management. "I continue to work at Greater Baltimore Medical Center. I'm president of a 35+ member physician group (Physicians Anesthesia Associates, PA). I think it's only fitting that a Duke guy is in charge of a group full of Hopkins alums. I'd love to hear from any Duke anesthesia alumni who are in our area. It would also be nice to have a few more Duke fans at the Comcast Center for the annual Blue Devils-Terps battle. Typically, I'm one of about six or eight folks dressed in Duke regalia for the game. Thank God we win most of the time!"

To submit your news | contact Rosemary Cumbie at rcumbie@nc.rr.com, or the managing editor, layto003@mc.duke.edu.

what's going on



Heather Frederick, MD, in one of Duke's research hyperbaric chambers.

in the Duke Center for Hyperbaric Medicine and Environmental Physiology?

Medical Director, Richard Moon, MD, Fills Us In

By RICHARD MOON, MD

Clinical, research and education activities are continuing at a rapid pace at the hyperbaric chamber. Clinicians in the hyperbaric faculty include anesthesiologists Guy Dear, Bret Stolp, and Jake Freiburger, and pulmonologists Claude Piantadosi and Martha Sue Carraway. Basic scientists include Neal Pollock and Richard Vann. We are all deeply saddened at the loss of Dr. Ed Thalmann, who recently died suddenly at his home. Ed had an active and distinguished career as scientist, teacher and clinician. He will be missed as a friend and exceptionally able colleague (see page 1 for a tribute to Dr. Thalmann).

Last year there were over 3,700 hyperbaric patient treatments, including eight therapeutic lung lavages, numerous fitness-to-dive and fitness-to-fly evaluations, including one for fitness for space flight. The patient mix is as varied as ever with routine and emergency cases and treatments, including those for decompression sickness, arterial gas embolism and carbon monoxide poisoning. Anesthesia interns do regular rotations in the Hyperbaric Service, and, along with the fellows, see all of the consults and manage the day-to-day clinical operations.

In the education sphere, one of the most popular programs at the center has been the Fall course on the Physiology of Environmental Extremes. This 37-hour course, given by the faculty, includes numerous labs and patient simulations, and is intended for medical students, graduate students, interns and fellows. Regular guest lecturers have included Dr. Steve Muza from the U.S. Army Research Institute of Environmental Medicine and Dr. Mike Gernhardt, a NASA astronaut. Students taking the course are able to participate in environmental exposures. A typical demonstration allows them to experience and measure the effects of water immersion and hyperbaric exposure on lung mechanics.

Earlier this year, three students performed a series of similar measurements in the chamber and used the study as an undergraduate class project.

There are numerous ongoing research projects at the facility. Dr. Jake Freiburger, Ed Thalmann, Neal Pollock and Dick Vann have been extending the flying-after-diving studies that have been going on for years to include profiles of particular interest to the U.S. Navy. Every second week, several volunteers dive in the hyperbaric chamber, followed by a simulated 8,000 foot altitude exposure. Each subject is monitored for symptoms of decompression sickness (DCS) and intravascular bubbles. The data from hundreds of exposures are then modeled to produce



The team involved in an undergraduate class project on the effects of hyperbaric exposure on spirometry. From left to right: Richard Moon, Yi Li, Krish Patel, Richard Lee, and Bret Stolp.

probabilities of decompression sickness as a function of the pre-dive interval. Earlier studies in this lab were used to determine flying-after-diving guidelines for recreational scuba divers.

Using similar methodology, Drs. Dick Vann and Neal Pollock have been working on more efficient means of preventing DCS in astronauts during extravehicular activity (EVA) during space flight. The Space Station is pressurized to one atmosphere, while the space suit during EVA has only one-third atmospheric pressure. Thus, because of decompression, EVA astronauts are at risk of decompression sickness. Techniques for avoiding DCS are based on washout of tissue nitrogen by the combination of 100% oxygen breathing and light exercise. To anyone's knowledge, DCS in an astronaut has happened only once in NASA's history (Michael Collins, during his Apollo 11 flight in 1969). However, the number of EVA exposures so far has been relatively small. Many more EVAs will be required to complete the Space Station construction. Moreover, the facilities for treating decompression sickness in space are limited.

Following the grant written by Dr. Ed Thalmann, a study funded by the U.S. Navy on diving physiology will start soon. In this study, end-tidal and arterial PCO₂ during heavy exercise in water will be examined at a depth of 120 feet. The effect on PCO₂ measured at each site of different static lung loads, inspired PO₂ values, cardiac output and flow resistances will be conducted in volunteers instrumented with arterial and pulmonary artery catheters.

Since its inception, the Divers Alert Network (DAN) has been closely linked with the Center for Hyperbaric Medicine and Environmental Physiology. The founder of DAN, Dr. Peter Bennett, retired last year. A new director, Dr. Mike Curley, was appointed in early 2004. Dr. Mike Curley moved to DAN from the U.S. Navy. He is a skilled administrator and respected scientist with a primary interest in the assessment of psychometric performance.

Through the efforts of Drs. Dick Vann, Jake Freiberger and Peter Denoble), DAN has worked with the dive computer manufacturers to develop a prospective observational study called Project Dive Exploration (PDE). In PDE, the depth/time profiles from recreational divers are prospectively recorded from dive computers during their open-water dives. These data are supplemented with demographics, medical history, dive conditions, and medical outcomes of the dives. The goal is to collect data on 1,000,000 recreational dives. The information collected will better define the risks associated with different diving practices and help establish improved decompression algorithms.

Altitude (hypoxia) physiology is the focus of a human study, which is examining intermittent altitude exposure on pulmonary vascular tone. Most people who have experienced acute altitude exposure above 10,000 feet will be familiar with the subjective effects of acute mountain sickness (AMS): shortness of breath, loss of appetite, headache, nausea and vomiting. These symptoms appear a few hours after arrival at the high altitude and resolve over 3-4 days. Acclimatization (and thus prevention of AMS) can be facilitated by slow ascent and medications such as acetazolamide. Recently, a study at the U.S. Army Research Institute of Environmental Medicine



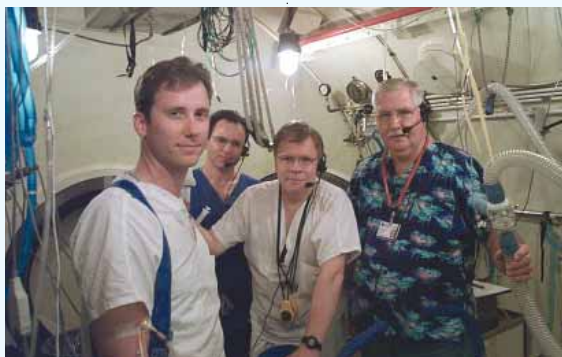
Astronauts work on the U.S. Space Station.

demonstrated that AMS could be prevented by a series of 15 daily (5 days per week) 4-hour exposures in a hypobaric chamber at 14,100 feet. This schedule provides a convenient method of studying acclimatization, a poorly understood phenomenon. Drs. Shahar Bar-Yosef, Claude Piantadosi and I are in the process of using the same method to study the pulmonary vascular response. Normal volunteers are instrumented with radial and pulmonary artery catheters and studied at rest and during exercise before and after the series of 4-hour altitude exposures.

Basic research into mechanisms of hyperbaric oxygenation is also ongoing. Drs. Ivan Demchenko, Barry Allen, Peter Bennett, and Claude Piantadosi are performing investigations on the role of endogenous nitric oxide and carbon monoxide in the regulation of cerebral blood flow under a range of environmental stresses using genetically altered mice. These studies have provided the first direct evidence that hyperoxic vasoconstriction in the brain is a result of decreased nitric oxide availability due to the overproduction of the superoxide anion.

The ability of tissues to withstand hypoxic and or ischemic stress can be augmented by preconditioning with a sub-lethal episode of hypoxia or ischemia. Drs. Jake Freiberger, Dave Warner, Hagir Suliman, and Claude Piantadosi have been studying whether hyperbaric oxygen (HBO) could provide such protection (pre-conditioning). If so, this could be clinically useful prior to cardiopulmonary bypass or carotid endarterectomy. The investigators showed that HBO preconditioning indeed improved outcome after hypoxic-ischemic strokes in rat pups. They are continuing the work using knockout mice.

An observation made by several hyperbaric clinicians around the country is that diabetic patients undergoing HBO therapy experience improved glycemic control. Preliminary evidence suggests that this might be due to oxidation of cysteine residues in a tyrosine kinase that seems to be involved in insulin resistance. Dr. Jake Freiberger plans to study this in diabetic patients undergoing HBO for wound healing. ▲



The experimental team during an altitude acclimatization study. From left to right: David Edwards, Shahar Bar-Yosef, Richard Moon, Owen Doar.



Richard Moon is professor of anesthesiology and medical director of the Center for Hyperbaric Medicine and Environmental Physiology, vice president and medical director of Divers Alert Network. He is a leading researcher in the study of cardiorespiratory function in humans during diving and altitude exposure. He is also an expert in the area of anesthesia and postoperative analgesia on pulmonary function.

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FACULTY in brief

HSIUPEI CHEN, MD

Won the *Pfizer Scholars in Pain Management Award* this year. This award recognizes a pain management fellow who embodies the educational, research, and patient care goals of the institution's training program. The award amount, \$1,000, went to Duke anesthesia's pain fellowship development fund in honor of Chen's achievement.

The Foundation for Anesthesiology Education and Research (FAER)-sponsored projects are often the first major step in a research career since they provide publications and preliminary data for larger NIH-sponsored grant applications. FAER is the key research arm of the American Society of Anesthesiologists. According to Debra Schwinn, MD, James B. Duke Professor of Anesthesiology and vice chairman for research, in recent years the department has been very successful in promoting young faculty in research at a national level. Evidence of this is demonstrated by research awards from FAER to three of our junior faculty: **Drs. Willem Lombard, Eugene Moretti, and Steve Hill.** Each of these faculty members describes their project in brief below. We congratulate them.



▲ WILLEM LOMBARD, MD

The Role of Platelet-Derived Growth Factor AB in Vasospasm following Subarachnoid Hemorrhage in the Rabbit. The mechanisms responsible for vasospasm following subarachnoid hemorrhage (SAH) are under intense investigation, but remain incompletely understood. Pharmacological and endovascular interventions have only been partially successful in treating clinical vasospasm. Much emphasis has been placed on the vasomotor regulation of vascular smooth muscle cells, in particular the role of free hemoglobin, which may be important in the early-phase of vasospasm, one to three days following SAH. However, the mechanisms involved in the more difficult to treat delayed-phase of vasospasm, five to ten days following SAH, are still unknown. Vascular growth factors, such as platelet-derived-growth factor AB, are released from the subarachnoid blood clot. Resulting vascular cell proliferation and wall thickening may lead to vascular stiffening and be the primary cause of delayed vasospasm. A rabbit model of SAH is used to test this hypothesis. If the hypothesis is correct, this work could

make a novel contribution to our understanding of a devastating disease and could pave the way for new therapies.

EUGENE MORETTI, MD

Genetic Polymorphisms and Susceptibility to Sepsis in Elective Surgical Patients. The causes of sepsis syndrome are multifactorial (i.e., bacterial, fungal, viral) and often result in life-threatening systemic inflammatory response. Historically, the morbidity and mortality of sepsis have been ascribed to delayed diagnosis and inadequate antimicrobial therapy. Although these diagnostic delays and suboptimal therapy undoubtedly occur, many patients who receive appropriate therapy fail to recover. Despite many years of clinical and basic research, the mortality rate of sepsis still remains high (35-45%). There has been little therapeutic impact in this area, and at present only supportive therapy is available for this problem.

This is a genetic association study designed to test the hypothesis that twelve single nucleotide polymorphisms (SNPs) are associated with increased susceptibility to sepsis and increased mortality from the sepsis syndrome. Genomic DNA will be obtained from 500 patients. SNP analysis to

determine allele frequency within the selected study population will be determined using either a matrix-assisted laser desorption/ionization time of flight mass spectrometry (MALDI-TOF) or a pyrosequencing technique. Baseline data, APACHE II scores, and other relevant data will be collected to validate the diagnosis and for multivariate statistical analysis.

Genetic association studies, while preliminary, are critically important and can pave the way for the development of a new therapeutic and interventional area, in which the anesthesiologist should play a pivotal role. Additional knowledge in this area may contribute to modulating the activity of the physiologic pro- and anti-inflammatory mediator systems.

STEVEN HILL, MD

The Impact of Paravertebral Nerve Blockage on Pain, Inflammation and Neurocognitive Outcome following Thoracoscopic Surgery. While the number of thoracoscopic surgical procedures has increased markedly over the past decade, little attention has been given to the optimal technique for perioperative analgesia. The long-term objective of our research is to reduce postoperative organ dysfunction, specifically pulmonary and neurocognitive dysfunction, for patients undergoing thoracic surgery. The presence of a chest tube in addition to one or more separate thoracoscopic incisions produces significant discomfort to the patient, limiting optimal re-expansion and clearance of secretions from the surgically traumatized lung. Neurocognitive dysfunction occurs in 30 to 60% of patients following major vascular and thoracic surgery. A unique

FACULTY in brief

systemic inflammatory response occurs with thoracic surgical procedures that may influence neurocognitive outcome. Paravertebral nerve blockage (PVB) has undergone limited study in randomized clinical trials of patients undergoing thoracotomy but has not been studied in thoracoscopy patients. The specific aims of this prospective, randomized, double-blinded, placebo-controlled clinical trial are to study the efficacy of preemptive analgesia with unilateral PVB in thoracoscopic surgical patients and determine the impact of this analgesic technique on patient outcome. We anticipate that preemptive analgesia with PVB will decrease the postoperative requirement for narcotic analgesia as well as improve postoperative pulmonary function, decrease the perioperative stress response and improve neurocognitive function compared with placebo. Unlike previous studies in this area, our study design will have the power to reject the null hypothesis when even a small but clinically significant difference is seen and should have significant impact on anesthetic practice for thoracoscopic procedures.

NEW FACULTY

We formally welcome to our department Shahar Bar-Yosef, MD; Michael Curley, MA, PhD; Lisa Faberowski, MD; Burkhard Mackensen, MB, ChB, FRCA; and Mihai Podgoreanu, MD.



Shahar Bar-Yosef, MD

Dr. Bar-Yosef conducts research in neurocognitive dysfunction after cardiac

surgery, postoperative fever after cardiac surgery, endogenous carbon monoxide production and acclimatization to high-altitude, relative cortisol deficiency in critical illness, and immunosuppressive effects of surgery and anesthesia.

MEDICAL SCHOOL:
Sackler School of Medicine,
Tel-Aviv University, Israel, 1989

INTERNSHIP:
Beilinson Medical Center,
Israel, 1990

RESIDENCIES:
Anesthesiology—Rabin Medical
Center-Beilinson Campus,
Petah-Tikva, Israel, 1995-2000
Critical Care Medicine—
Tel-Hashomer Medical Center,
Ramat-Gan, Israel, 2000-2001
Cardiothoracic Anesthesia—Duke
University Medical Center,
Durham, NC, USA, 2001-2002

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Michael Curley, MA, PhD

Dr. Curley's interests lie in human performance amid unusual environments, including undersea (diving and submarines), war imprisonment, and isolation. He has published extensively in undersea biomedical research (pharmacology, psychology, physiology, human factors, audition, neuropsychology). Dr. Curley is an experienced military and sport diver, parachutist, submersible operator, and survival specialist.

GRADUATE DEGREES:
PhD, University of South Florida
(Psychology), 1977
MA, Appalachian State University
(Psychology), 1973

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Lisa Faberowski, MD

Dr. Faberowski's research is



focused on evaluating the effect of anesthetic agents on the developing brain. Using an organotypic hippocampal slice model, her

results have determined that there is an age-related effect of isoflurane on neuronal degeneration. She hypothesizes that this age-related difference of isoflurane neurotoxicity is due to the ontogenetic development of the NMDA and GABAA receptor subunits.

MEDICAL SCHOOL:
Ohio State University Medical
School, 1990

INTERNSHIP:
Duke University Medical
Center, 1991

RESIDENCIES:
Pediatrics—Bowman Gray
Medical Center, 1993
Anesthesiology—Duke University
Medical Center and University
of Florida College of Medicine,
1993-1996

FELLOWSHIPS:
Neuroanesthesia—University of
Florida College of Medicine, 1997
Pediatric Critical Care—
University of Florida College
of Medicine, 1999
*Pediatric Anesthesia and Pediatric
Critical Care*—Children's Hospital,
Boston, 2001

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FACULTY in brief



G. Burkhard Mackensen, MD

Dr. Mackensen's experimental and clinical research interests and expertise include areas such as

neurologic and neurocognitive injury following cardiac surgery with cardiopulmonary bypass (CPB) and mechanisms related to cerebral ischemia. Employing a long-term survival model of cardio-pulmonary bypass in the rat, he intends to continue the investigation of mechanisms and potential strategies for therapy related to cerebral injury following CPB and cardiac surgery. In addition, he plans to expand work with a newly developed model of deep hypothermic circulatory arrest (DHCA) in the rat. Dr Mackensen serves on the research committee of the Society of Cardiovascular Anesthesiologists and on the editorial board of the *Journal of Neurosurgical Anesthesiology*.

MEDICAL SCHOOL:

University of Hamburg, Germany, 1994

INTERNSHIPS:

Medicine, Surgery, Anesthesiology—Hospital Barmbek and Hafenkrankenhaus Hamburg, Germany, 1993, 1994

RESIDENCY:

Klinikum rechts der Isar, Technische Universität München, Munich, Germany, 1997, 2002

FELLOWSHIPS:

Cardiothoracic Anesthesia—Duke University Medical Center, 1998, 2000
Intensive Care Medicine—Klinikum rechts der Isar, Technische Universität München, Munich, Germany, 2001, 2002

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Mihai Podgoreanu, MD

Dr. Podgoreanu's research is



focused on identifying genetic risk factors responsible for adverse myocardial outcomes after heart surgery.

MEDICAL SCHOOL:

Carol Davila University School of Medicine, Bucharest, Romania, 1993

INTERNSHIP:

Yale University Medical Center, 1997

RESIDENCY:

Yale University Medical Center, 2000

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Community Service *with a smile*



Middle: Dr. Katherine Grichnik and a registered nurse from N.C. Baptist Hospital divide the tasks of the day during a session of the NC General Assembly.

As we all hurry through our busy lives

managing the stresses of working at Duke and balancing an equally demanding home life, we cannot forget about our duties to our community and society in general. We all have much to offer—and as one organization phrased “donations to the community can be in the form of time, talent or treasure, dependent on an individual’s circumstances.” I would like to describe my (limited) experiences and invite you to share your societal endeavors for future publication.

My “talents” (as I can identify them) are caring for patients, teaching, and organizing events. Thus, I try to give back to the world outside of Duke the things that I like to do.

I volunteered this year for the first time as a Doctor of the Day in Raleigh for the

NC General Assembly. This is a valuable resource for the legislature, and it removes the need to hire a medical team to be available to care for the many people who work in and pass through the legislative buildings each day. I was paired with a nurse from another local hospital and together we cared for 10-15 people throughout the day. Primarily, people came to us for blood pressure checks, but we also treated colds, minor skin irritations and headaches. Luckily, there were no major problems such as a stroke or MI, but we were prepared to take care of those problems as well. Many legislators went out of their way to thank us for being there as they went about their business of the day. It was a peek into a

very different, more expansive world from the enclosed, focused world of the medical center.

I hope to venture further and volunteer my medical capabilities on a medical mission to an underdeveloped country but may attempt to volunteer my physician talent more locally first. Luckily, many of my departmental and medical center colleagues have paved the way with frequent trips on medical missions, volunteering in rural parts of this country or volunteering in free community clinics in our own cities. Duke has many opportunities for participation in such events such as volunteering at the Lincoln Center or in periodic health screenings for medical problems at local malls and community centers.

I also enjoy teaching and have thus occasionally volunteered in the public school system in Chapel Hill. Primarily this has been in the form of sharing the experience of what it can be like to have an operation with a classroom of squealing elementary school children, but has also been in the form of teaching occasional classes in anatomy, physiology, math and language arts to middle and elementary school children. These endeavors are incredibly challenging and give one a deep appreciation for the outstanding job that our teachers do—every day! Many years ago, I also had the pleasure of giving a series of talks with Dr. Dana Weiner to the residents of continuing and skilled care facilities about anesthesia for geriatrics. Again, this was a very valuable opportunity to understand the concerns and fears of those outside of the medical center while sharing our knowledge.

I know that many physicians at Duke do the same, as I hear about presentations to students ranging from dissection of a porcine heart with middle school pupils (our very own chairman) to skin disorders (and sun protection) with third graders to STD lectures given to high school students. Further, the multitude of presentations from Duke physicians on National Public Radio is a clear sign that the world around us is interested in our teachings. We all have much to offer, and we can often find a very appreciative audience (whose members don't fall asleep during our talks!) outside of the medical center.

Finally, organizing people is another personal aptitude—or maybe I am just plain bossy! For the community and for my children, I manage my son's soccer team (with a lot of help) and have agreed to be "clerk of course" this year for the home YMCA swim meets (for my daughter and only for three meets, thank goodness). Both jobs should test my skills at getting others to cooperate for a common goal. However, I urge you to consider that we are all very talented at persuading other physicians, nursing and OR staff to do various tasks and jobs in a timely fashion to obtain the best outcome possible for our patients. It is easy to transfer this talent to another group for the benefit of many. Other Duke employees organize charity events, volunteer in political campaigns, organize fund drives, and become members of various community 'boards.'

I know that many of you have volunteered for our local and global communities in many ways—from medical missions to neighborhood rallies. I look forward to hearing from you about the ways that you have used your talents outside of Duke. We'd love to share them with others in future publications of the *Alumnus*. ▲

—Katherine Grichnik, MD

DUKE ANESTHESIA CHEERS CANCER SURVIVORS



Departmental representatives for this year's Race for the Cure®.

A group of breast cancer research supporters from the Department of Anesthesiology and Perioperative Nursing walked and ran as participants in the annual Susan G. Komen Race for the Cure® held recently in Raleigh, NC. Participants wore tee-shirts, coordinated by Luanne Latta of the Ambulatory Surgery Center, that sported the words "Duke Department of Anesthesiology Cheers Survivors." Our spirit is committed to the efforts of the Komen Breast Cancer Foundation's research group to find a cure for cancer and enhance the quality of life for all women who encounter this disease. Duke anesthesia walked in honor of its colleagues, friends, and family members who have been touched by this disease.

—Holly Muir, MD

Duke Ambulatory Surgery Center Films Live Surgery for SAMBA

BY KATHERINE GRICHNIK, MD

A live filming of patients undergoing regional anesthesia for ambulatory surgery at Duke University was viewed simultaneously by participants of the Society for Ambulatory Anesthesia's (SAMBA) annual meeting recently held in Seattle, Washington. Workshop participants learned regional anesthesia techniques as they are truly practiced—in real-time—by the anesthesiology group of the Duke Ambulatory Surgery Center (ASC)—nationally recognized as a Center of Excellence. Six surgical procedures were filmed and broadcast via satellite to Seattle.

This unique workshop highlighted the expertise of the Duke ambulatory anesthesiologists, certified registered nurse anesthetists and technicians in the performance of anesthetic techniques for outpatient surgery that facilitate optimal surgical conditions, excellent pain control and shorter recovery times for patients.

“At Duke University Ambulatory Surgery Center, we feel we are blazing new trails toward better postoperative pain control. As someone who has experienced the traditional narcotics-centered approach to postoperative pain control, I perceive that this technique produces profoundly superior analgesia,” said Susan Steele, MD, director



Duke University Medical Photography

Members of the ASC team look on as a lumbar plexus block is given to a patient. SAMBA participants in Seattle, Washington, are watching in real-time. Peripheral nerve block techniques allow anesthesiologists to provide continual pain relief during the entire perioperative period.

of the Ambulatory Surgery Center. “Our blocks provide pain relief during surgery for up to 15 to 72 hours postoperatively, depending on whether we use a single injection or a continuous infusion peripheral nerve block technique,” she said. The benefits of peripheral nerve block techniques for patients are numerous—especially in the ambulatory setting. These include site specific, long-lasting and efficacious pain con-

trol, minimal airway management, minimal cardiopulmonary effects, excellent operating conditions, reduction in thromboembolic complications, stable cognitive function, decreased postoperative nausea and vomiting, decreased length of stay in the post-anesthesia care unit, decreased unanticipated hospital admissions or readmissions, and increased patient satisfaction. ▲

This article was originally published in Duke Anesthesiology News, May 17, 2004.

alumnus PROFILE

A SNAPSHOT OF ALUMNUS DENISE ELLIOTT, MD

After graduating in 1993 from our residency program, Denise Elliott, MD, joined a private anesthesiology practice in Ruston, Louisiana. Since December 2003, she has run the partnership but still takes call. She is in the process of recruiting new physicians because of the expanding volume of clinical cases.

The practice provides anesthesia for all types of cases, except for cardiac, neonatal, and craniotomy patients. The practice is trying to incorporate regional anesthesia techniques on an increasing basis but finds it challenging to place blocks, run two rooms, and deal with the speed of the surgeons.

For professional growth,

Denise took Susan Steele's (chief of the Division of Ambulatory Anesthesia and medical director of the Ambulatory Surgery Center) refresher course in regional anesthesia last summer and has just completed the ASA's Certificate in the Business Administration course. She found this extremely helpful in assuming the "managing partner" role. "Believe me, 50 hours of CME isn't enough for that course!"

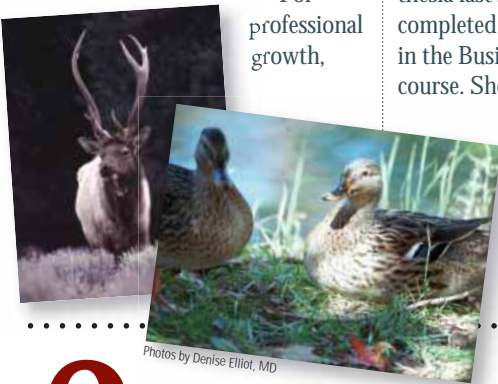
Denise prefers weekend refresher courses over large meetings, especially those with a mix of clinical and practice management education. She finds that practice management education is essential. "It is the only way that you can digest what Washington is trying to do to us now, especially when we have to be the people who wear all of the hats," she states.

Happily married for about 18 years, Denise and her family live in their equine facility raising horses on their farm. For even

more fun, Denise enjoys reading, but not necessarily Dorsch and Dorsch. Her new hobby, photography, has been wonderful, but is also a major financial "black hole," she claims. Because of her newfound interest in photography, her family vacations are geared toward nature destinations, such as Yellowstone or Rocky Mountain National Park. She adds: "You could say I now work so that I can afford to do photography!"



Photo by Denise Elliott, MD



Photos by Denise Elliott, MD

3 QUESTIONS FOR DENISE

WHAT IS THE FUTURE OF ANESTHESIA?

"I think the future of anesthesia may depend on delivery systems and the availability of physicians in the marketplace. As far as the academic versus the private sector [is concerned], I truly believe that the academic centers will still train and educate outstanding anesthesiologists. However, I am concerned that "we" take that fine medical education to the private sector and are not as professional or outspoken as we should be, relinquishing physician

leadership in the operating room to our fellow medical professionals."

WHAT WOULD YOU LIKE TO BE DOING IN 10 YEARS?

"In 10 years, I'll be 50. I've given thought to a physician-executive MBA program and a change towards an administrative role. I'm still mulling that over. It has less to do with the clinical hours I keep and the dissatisfaction there, than it does with the possibility of having a positive impact on a larger health-

care environment. I've grown much more aware that being a physician does not, in any way, qualify one for a management position. Business and management are two things that take time and skill to master and, hopefully, apply well."

WHAT IS THE VALUE OF DUKE?

"Duke gave me the opportunity to gain a great clinical and didactic education during my three years. I found wonderful cases for every area of interest."

departmental INITIATIVES:

Clinical Anesthesiology Research Endeavors

BY JERRY KIRCHNER, BS

This article is a third in a series that focuses on new departmental initiatives in research and perioperative patient care. In this issue, we look at Clinical Anesthesiology Research Endeavors (CARE)—the first comprehensive aggregation of researchers and staff focusing on anesthesia clinical research in a department-wide setting.

In the past, one principal investigator implemented, conducted, analyzed and presented large research projects. Running a successful research project, however—especially a clinical research trial—can be extremely challenging. Once the idea for a project is conceived and supported by background research, there remain many steps necessary to even initiate a clinical trial, not the least of which is securing governmental or corporate funding. Then data collection, assurance of data integrity, data storage, data analysis and data interpretation follow. Finally, the results must be presented at national meetings and a manuscript prepared for peer-reviewed publication. Clearly, as clinical research trials have become more complex, we have learned that all of these tasks cannot be accomplished by one investigator.

Within a department and between divisions, there are many ongoing projects led by investigators who need infrastructure support such as physical space, data collection and storage assistance, statistical review and quality assurance. Because of these needs, the concept of building teams to conduct important clinical trials was born.

HISTORY

Dr. Mark Newman provided the early impetus to promote cohesive clinical research in 1999. Then chief of the Division of Cardiothoracic and Critical Care Medicine, Newman convened a retreat for the entire division, including attendings, fellows,





CRNAs, research staff, and administrative staff. Believing that all play a critical role in a division-wide effort to create an organized clinical research program, he challenged this collection of people to function as a team. The group coined the term CARE to stand for *Cardiothoracic Anesthesiology Research Endeavors*, and created a logo depicting a patient leaping in the air to signify overcoming disease and returning to good health. Over the next four years, CARE was successful as a divisional endeavor in implementing and completing many clinical research projects. Based on this success, CARE evolved into *Clinical Anesthesiology Research Endeavors*, now incorporating the entire department in this approach to running large clinical research trials. Now under the medical directorship of Drs. TJ Gan and Joseph Mathew, CARE is a mature entity that provides the support necessary for investigators and the department as a whole to accomplish excellence in clinical research.

THE MATRIX OF A CLINICAL RESEARCH TEAM

With the aim toward quality improvement, CARE provides the following:

Infrastructure. The CARE research staff provides investigator support for study implementation and continuing study coordination. CARE currently supplies support services across the Duke Health Care System, including Duke University Medical Center, Durham Regional Hospital, Duke Health Raleigh Hospital, and the Durham Veteran's Affairs Medical Center. Beyond the Duke Health Care System, CARE monitors patient enrollment in clinical trials at Medical Center East in Birmingham, Alabama, as a site for a NIH-funded clinical trial initiated in the department.



As a part of the infrastructure, standard operating procedures are in place for implementing clinical studies, enrolling patients, documenting and promoting study milestones, assuring data integrity and promoting statistical review. CARE also has a centralized process for managing the financial aspects of large clinical research endeavors.

Education and Training for Research Staff. CARE provides robust training for all staff involved in clinical research. As a commitment to this instruction, the organization also provides continuing education for its staff. The many research associates, nurses, technicians and administrative staff meet monthly for an education session. This group also gathers for an annual retreat to focus on team building and staff development.

The Ability to Complete the Job. There are two important issues that a sponsor, contract research organization or government agency considers: The first is whether the clinical trial has access to the patient population necessary to answer the proposed research question, and the second is whether the principal investigator has the ability (and the track record) to complete the project in a timely manner.

CARE has allowed the department and investigators to conduct research with our supportive and diverse patient population while establishing an exceptional record of trial completion in an appropriate time.

CARE has served to bring a team approach to the pursuit of large clinical trials to the benefit of many: the patients, who have access to innovative clinical research; the investigators, who can pursue questions important to the care of future patients; the department for promoting its members career goals; and to the Duke University Health Care System for the support of excellence in research. ▲



Jerry Kirchner, BS, CCRP, is the operations manager of CARE.

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Class of 2004

Residents Graduate



David Lindsay, MD



Christopher Gunn, right, and family.

BY THOMAS PAFFORD

Following the thread of progress, we recently celebrated the accomplishments of another graduating class of Duke residents. Held at the Hope Valley Country Club in Durham, NC, the 2004 Graduation and Awards Banquet honored thirteen residents of the anesthesia program and fifteen graduates of our sub-specialty fellowships.

About 160 people came together for cocktails, much socializing, dinner and the program. That number included graduating residents and fellows, often accompanied by spouses, parents and loved ones, trainees with more training to complete, faculty members, CRNAs, and support staff, many of whom also brought significant others. The number and breadth of attendees speaks to a tremendous investment of time, money, attention and love for training the medical specialists of the future.



Drs. Atilio and Genevieve Ali, right, and family.

The Way It Is

There's a thread you follow. It goes among things that change. But it doesn't change. People wonder about what you are pursuing. You have to explain about the thread. But it is hard for others to see. While you hold it you can't get lost. Tragedies happen; people get hurt or die; and you suffer and get old. Nothing you can do can stop time's unfolding. You don't ever let go of the thread.

—William Stafford, 1914-1993

During the dessert course, Dr. Mark Newman opened the ceremony. He acknowledged the graduates and remembered his own training days, and the contribution that many people made to training him. Newman went on to exhort the graduates to excel and to go beyond “getting by.” In fact, he urged them not to take a job—if that would mean just a way to a paycheck. Instead, seek to make a contribution to others, and seek to be challenged. Dr. Newman presented the first award, Teacher of the Year, to **David Lindsay, MD, '98** graduate of our program and faculty member in the OR and in the Pain Clinic at the Durham Veterans Medical Center. Lindsay was chosen by the residents for his unique teaching approach that is both “refreshing and enlightening.”

Dr. Kathryn King presented Medical Student Teaching Awards to residents **James Benonis, MD**, and **Atilio Barbeito, MD**, on behalf of the 2nd- and 3rd-year medical students, respectively. **Carrie Clarke, MD**, was recognized for overall resident teaching effort, and **David Gleason, CRNA**, for outstanding contributions by a CRNA. Faculty members **Dara Breslin, MD**, of the Division of Orthopaedics, Plastics, and Regional Anesthesiology, and **Peter Dwane, MD**, of the Division of Women's Anesthesia, were presented faculty teaching awards.



Carrie Clarke, right, and husband.

Attendees recognized graduates of the fellowship programs, as well as the relieved anesthesia interns (our program has carved out a transitional year for eight of our future class of twelve residents who would like to train at Duke). Awards and recognition of the graduating residents followed.

Catherine Lineberger, MD, residency program director, presented the Outstanding Graduate Resident Award to **Dr. Barbeito**.

Teaching Scholars **Drs. Barbeito** and **Clarke** were honored for their efforts, and Dr. Lineberger presented gifts of crystal desk shields to the graduating chief residents, **Aaron Ali, MD**, and **Christopher Gunn, MD**.

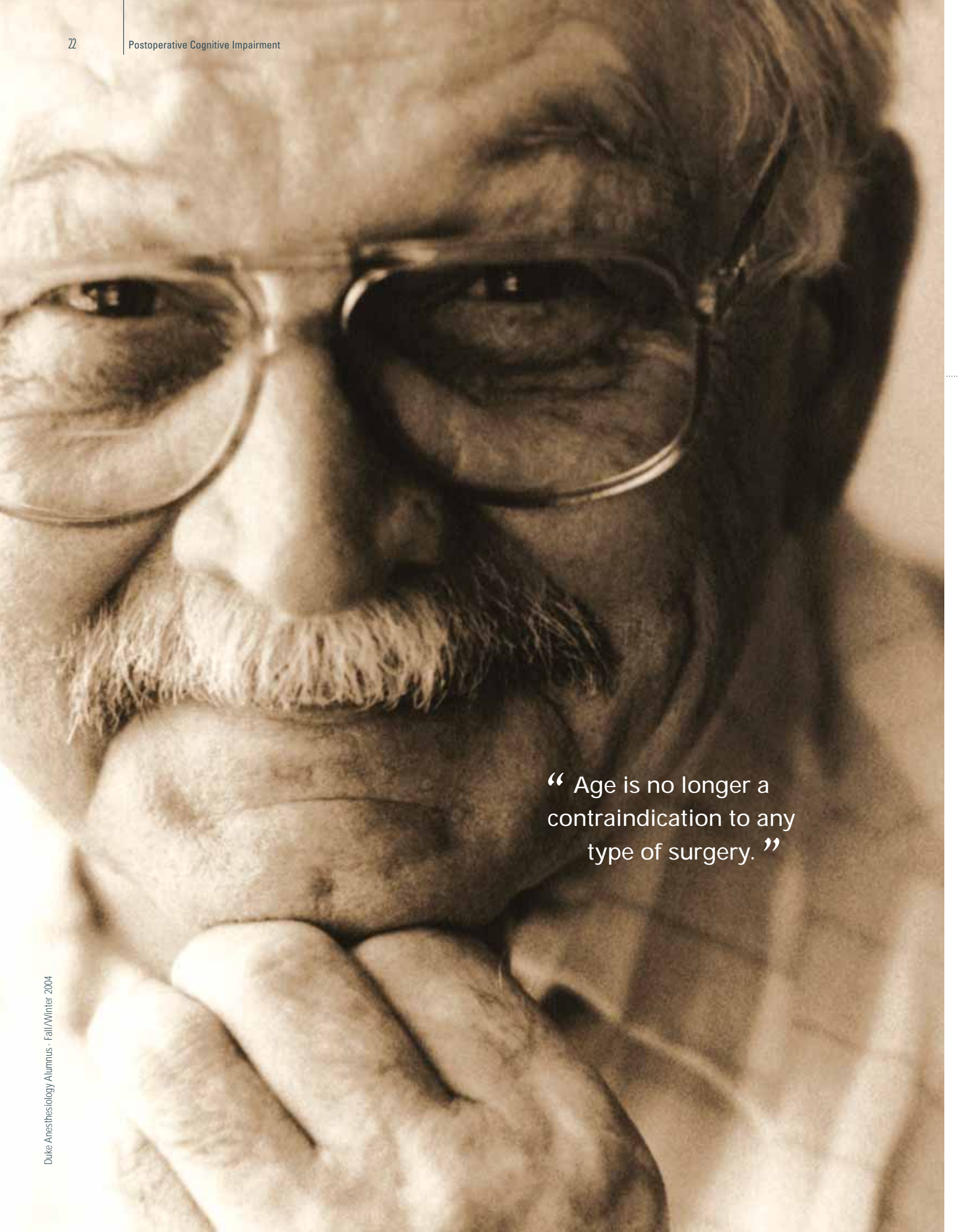
Finally, Dr. Lineberger presented each of the graduating residents their certificates and spoke of their accomplishments. The residents noted the incredible support given them by the department, the program faculty, and their families and friends.

It was a moving evening and a fitting ceremony for an august group. ▲



Thomas Pafford is coordinator of the residency program. He has been an active member of the department since 1991.

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“ Age is no longer a
contraindication to any
type of surgery. ”

Why Postoperative Cognitive Impairment is Still the Primary Challenge in Geriatric Anesthesia

BY TERRI MONK, MD

ALTHOUGH RESEARCHERS ARE CHANGING THE SHORT-LIVED CONCEPT OF "TOO OLD TO OPERATE," FOR SOME SENIORS, POST-SURGICAL COGNITIVE IMPAIRMENT CONTINUES TO BE PROBLEMATIC.

At present, the number of seniors aged 65 years and older is approximately 35 million in the United States alone. Older adults represent the fastest growing proportion of the population, and their numbers are expected to double to nearly 75 million in the next 50 years. Currently, elders undergo one-third of the 25 million surgical procedures performed annually in the United States and consume one-third of all health expenditures. These numbers will dramatically increase in the future. This rapid growth in the senior population has serious implications for the anesthesiologist, whose practices will increasingly comprise a larger proportion of geriatric anesthesia cases.

It is hard to believe that there was a time not so long ago when older patients were denied surgery solely on the basis of his or her advanced age. Much of the reluctance to operate on older patients was based on a review, published in the *Lancet* in 1955, of the cerebral effects of anesthesia on senior patients. It is interesting to note that the author, Dr. P.D. Bedford, defined senior as 50 years or older. He determined that 10% of his patients had experienced mental deterioration after surgery, thus concluding that the cognitive problems were probably related to anesthetic agents and hypotension. The final recommendation of this work was that "operations in senior patients should be confined to unequivocally necessary cases." Today, improvements in surgical techniques, anesthesia and intensive care practices have made surgery in patients over the age of 65 years possible. Age is no longer a contraindication to any type of surgery.

“ Anesthetic agents affecting the release of central nervous system neurotransmitters... could potentially impair memory...in senior patients. ”

POSTOPERATIVE COGNITIVE DISORDERS IN SENIORS

Despite improved operative outcomes in seniors, a significant proportion of these patients experiences postoperative cognitive problems. The most common forms of postoperative cognitive impairment are delirium and postoperative cognitive dysfunction (POCD). The socioeconomic implications of postoperative cognitive decline are unknown, but we do know that abrupt declines in cognitive function in senior individuals living in the community often lead to a loss of independence, withdrawal from society, and death.

Postoperative delirium is common in patients after surgery, with the overall incidence for all age groups estimated to range from 5 to 10% and for seniors from 10 to 15%. Delirium is characterized by fluctuating levels of consciousness, a disturbed sleep-wake cycle, and altered psychomotor activity. Delirious patients often exhibit disorders of cognitive function, thinking, perception, and memory. The etiologic factors associated with this disorder include advanced age, polypharmacy, cerebral damage, surgery and anesthesia, hypoxia, sepsis, sensory deprivation or overload, electrolyte disturbances, pain, and endocrine or metabolic disorders. Delirium is a very costly disorder and Medicare expenditures associated with the diagnosis and treatment of this problem exceed \$8 billion per year in the United States.

POCD has been demonstrated in 20 to 60% of patients following coronary artery bypass graft (CABG) surgery and 10 to 16% of senior patients following major, noncardiac surgery. POCD is a "deterioration of intellectual function presenting as impaired memory or concentration." The clinical features of this disorder range from mild forgetfulness to permanent cognitive impairment resulting in a loss of independence.

Little is known about the etiology of POCD and the risk factors for this problem in the aging population. It is likely, however, that the etiology of POCD in senior patients is multifactorial and may include the preoperative cognitive status of the patient, intraoperative events related to the surgery itself, and anesthetic agents.

PATIENT RISK FACTORS

An emerging concept in neuropsychology and clinical geropsychology espouses a functional cliff hypothesis of cognitive decline and dementia in later adulthood. This is essentially a threshold model, which holds that, with increasing age and normal cognitive declines, individuals move closer and closer to a level that might be considered "impaired" or "demented." As this threshold is approached, individuals enter a high-risk phase that might be considered "preclinical dementia." For patients in this preclinical state, research suggests that the sudden onset of even mild neurological trauma, such as surgery and anesthesia, may move people over the clinical threshold and into the range of functioning that might be classified as "impaired."

There is increasing evidence that CABG surgery can produce long-term cognitive decline. One possible explanation for POCD after CABG is that embolic material is released during crossclamping of an aorta affected by atherosclerosis; this embolic material then enters the cerebral vessels during surgery, resulting in occlusion of both large and small vessels. The incidence of postoperative neurocognitive deficits has been shown to correlate with the number of microemboli detected during CABG. Systemic and cerebral emboli can occur during orthopedic surgery and may represent a possible mechanism for postoperative cognitive decline after noncardiac surgical procedures.

Exposure to anesthetic agents has been suggested as a possible cause of postoperative cognitive dysfunction in senior patients. Anesthetic agents affecting the release of central nervous system neurotransmitters, such as acetylcholine, dopamine, and norepinephrine, could potentially impair memory, especially in senior patients. Inadequate cerebral perfusion and oxygenation during surgery may also be important causes of POCD.

Patients with postoperative cognitive problems need long-term follow-up to determine the mechanisms responsible for this complication and interventions to minimize or prevent these problems. Under the direction of our chairman, Dr. Mark Newman, the Department of Anesthesiology at Duke is leading research efforts in cognitive outcomes research. ▲



Terri Monk, MD, is a professor of anesthesiology at Duke University Medical Center and at the Veterans Affairs Medical Center. She has garnered significant NIH and NIA support to evaluate the mechanisms responsible for intellectual impairment following major, noncardiac surgery. Dr. Monk represents surgery and related medical specialties for the American Geriatric Society. She was recently elected president of the Society for the Advancement of Geriatric Anesthesia (SAGA).

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TOWARDS A BETTER OUTCOME

Working towards a comprehensive assessment of impairment prevention, anesthesia researchers at Duke are closing in on improving post-surgical patient outcome.

CARDIAC SURGERY:

In assessing cognitive dysfunction and quality of life following cardiac surgery, researchers have harnessed key research results, demonstrating the impact of perioperative cognitive decline on long-term cognitive function and quality of life. Drs. Mark Newman, Hilary Grocott, and Joseph Mathew are world leaders in research on neurocognitive effects of heart surgery.

Notable Research Results

- Mathew JP, et al: Lower endotoxin immunity predicts increased cognitive dysfunction in elderly patients after cardiac surgery. *Stroke* 2003; 34(2): 508-13
- Newman MF, et al: Longitudinal assessment of neurocognitive function after coronary artery bypass surgery. *New Engl J Med* 2001;344(6): 395-402

- Grocott HP, et al: Postoperative hyperthermia is associated with cognitive dysfunction after coronary artery bypass graft surgery. *Stroke* 2002; 33(2): 537-41

GENETICS:

Major advances have been made over the last few years in understanding how genetic background may predispose individuals to neurocognitive decline after stresses such as surgery. Adrenergic receptors, proteins that line blood vessels and control contraction, have led to new understandings of mechanisms underlying diseases such as high blood pressure, shock, and heart/prostrate disease. It is essential to appreciate how stress and genetic differences between individuals relate to disease outcome. Dr. Debra Schwinn is a pioneer in this area.

Notable Research Results

- Schwinn DA, Booth JV: Genetics infuses new life into human physiology: Implications of the human genome project for anesthesiology and perioperative medicine [comment]. *Anesthesiology* 2002; 96(2):261-3
- Amory DW, et al: Neuroprotection is associated with beta-adrenergic receptor antagonists during cardiac surgery: Evidence from 2,575 patients. *J Cardiothorac Vasc Anesth* 2002; 16(3):270-7

DELIRIUM:

With major funding from the NIH, patient enrollment has begun for a new study that investigates the molecular basis of postoperative delirium in the elderly. Led by researcher Madan Kwatra, PhD, and Thomas Vail, MD, preliminary data indicate that "the act of surgery alone causes a two-fold or greater increase in the

expression of 466 individual genes, as measured in red blood cells. The magnitude of this surgery-inducing change in gene expression is unprecedented and raises the probability that some of these genes may cause or contribute to post-operative delirium." Final research results are forthcoming, but refer to Kwatra, M: Cognitive function after non-brain surgery studied: Second Duke conference on surgery and the elderly. *Am Soc Anesth Newsletter* 2000; (64)5:10-11



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FELLOWS corner

Burkhard Mackensen has joined the cardiothoracic division of our department and has a laboratory with Hilary Grocott in the Duke Multidisciplinary Neuroprotection Laboratory.

We congratulate **Mihai Podgoreanu** and his new bride, the former Mandy Meadows, on their recent nuptials.

Marcella Lanzinger has returned home. She is now at the Technische Universität München, Germany.

Thomas Slaughter has taken a faculty position at Wake Forest University Baptist Medical Center in Winston-Salem, NC.

Bo Wu, Roupen Hatzakorzian, Dan Bainbridge, and **Lian Ti** were recently sighted at this year's SCA, Honolulu. Unfortunately, we were unable to visit with **George Djaiani**, who had initially planned to attend. We did spend an evening out with **John Ellingham** at the 7th Cardiothoracic Update Meeting on Hilton Head Island, held in June.

WELCOME NEW ANESTHESIA FELLOWS

The brother of former attending **Shazia Choudry, Shehzad Choudry** completed his medical degree from the University of South Carolina. He will be a fellow in the Division of Pain Management.

Atilio Barbeito completed his residency here at Duke and is from Buenos Aires, Argentina.

John Paul Longphre's medical education was completed at the University of North Carolina, Chapel Hill. He will work within the Division of Hyperbaric Medicine.

Mayumi Homi has been a research fellow in Hilary Grocott's laboratory, comes to us from Brazil. She won 1st place for her abstract at the department's annual Academic Evening and already has had two abstracts accepted for the 2004 ASA annual meeting.

Holly Evans joined the Division of Ambulatory Anesthesia early this year. She comes to us from Queens University, Kingston, Ontario.

Robert Schlosser will join the Divisions of Orthopaedics and Ambulatory Anesthesia. He attended Medical College Wisconsin.

Originally from Russia, **Igor Izrailtyan** completed his residency at SUNY-Stony Brook, where Peter Glass '84-'99 is currently anesthesiology chairman.

Another Duke resident, **Michael Okumura**, is originally from Michigan.

Ferenc Puskas hails from Budapest, Hungary. His residency was completed at SUNY Upstate Medical University in Syracuse.

Abigail Melnick will work in the Division of Women's Anesthesia. She attended Mt. Sinai Medical School.

Paul Shook, administrative fellow, is another Duke resident who decided to stay here for another year; he is originally from Michigan.

Coming from Switzerland, **Christopher Sulzer** completed his residency at University Hospital (CHUV) in Lausanne, Switzerland, where Donat Spahn ('91-'93) is currently anesthesiology chairman.

Janice Victor comes to us from Temple University. She will join the Division of Pain Management.

Marek Brzezinski will remain at Duke for a second year of research study in **Deb Schwinn's** laboratory.

Hector Lacassie will remain at Duke as an attending in the Division of Veterans Affairs Anesthesiology Service.

IT'S HARD TO SAY GOODBYE

We've had to say farewell to the following cardiothoracic fellows, all of whom have exciting adventures ahead of them. **Stephanie Fischer** has been appointed Visiting Associate in our department's pediatrics division.

Will Corkey will be down the road at Wake Medical Center in Raleigh.

Scott Croll will join Walter Reed Army Hospital.

Jeffrey Clark has been appointed a position at the Dartmouth-Hitchcock Medical Center in Lebanon, New Hampshire.

Daniel de Meyts has gone to our nation's capital to work at the Washington Hospital Center. Daniel recently married Lauren, and they are currently honeymooning in Europe.

Eugenio Lujan has returned to the Naval Medical Center, in San Diego, California.

Otto Boneta is taking a brief respite from clinical duties, after which he will return to the Armed Forces.

Daphne Jones is working for Rush Health Systems in Meridian, Mississippi.

Lieutenant Colonel **Rebecca Keller** has returned to her duties in the U.S. Army. She will work at Dwight David Eisenhower Army Medical Center in Fort Gordon, Georgia.

John Mitchell is in Boston at Beth Israel Deaconess Medical Center. We hope to see him often as his wife, Erin, is at Duke completing her program.

Hsiupe Chen's next assignment is at Rex Hospital in Raleigh.

Mathew Patteril has returned to Frenchay Hospital in Bristol, UK.

To the West Coast has gone **Trenton Pierce** who has joined the Sacred Heart Medical Center in Spokane, Washington.

Eric Miller is off to McKenna Memorial Hospital, New Braunfels, Texas.

YOUR letters

THE POLLARD ADVENTURES

Dear Editor:

It was a pleasure to receive a communication from a "voice of the past." I was an associate anesthesiologist at Duke for one year, from April 1967 to April 1968. During that time, having come from England and bearing a recent Board certification from there, I was flush with the benefits of halothane. Imagine my surprise to witness cyclopropane, ether, and ethylene in full swing—and halothane banned to one vaporizer locked in a cupboard!

Suffice it to say, halothane swept the board during the following twelve months, but my historical side was now complete, as I already found in the dark recesses of old Victorian British hospitals such delightful concoctions as vinesthene, ethyl chloride, and chloroform.

Patients receiving all these drugs under my care lived to tell the tale—[having] either explod[ed], fibrillat[ed], or turn[ed] yellow. This was noteworthy since all we who use sevoflurane and desflurane live on the horror stories of the past without realizing that most patients had few problems apart from postoperative nausea. (Thank goodness that doesn't occur now. It still does? Heavens above, we aren't perfect yet!)

What about double-lumen tubes? Volunteers from the Marine Corps would inhale these with local anesthetic, having one lung filled with fluid and the second three quarters filled and walk (assisted) across the room to have

an AP x-ray taken to show the almost complete "whiteout." Brave souls, but we were pioneers!

During my tenure at Duke, the late Sara Dent was acting chief. A firm devotee of ether (every Squibb can of ether proudly proclaimed it was the safest anesthetic), she would glower at me through the OR windows and shake her head sorrowfully as I administered halothane from the Fluotec vaporizer chained to my wrist for safekeeping. Her revenge was to order me to present a lecture on the safety of ether. This I did, adhering word for word to the then current teachings on ether—it's glowing 120-year record, and so on. At the end of the lecture, I produced a gleaming can and demonstrated the wick. Setting this alight, I hurriedly left the room, saying that the only problem with ether was that it was explosive. I then explained to a panic-stricken audience that the can was emptied and had been aired for several days! British humour at its worst.

On my return to take up a consultant anesthesiologist post in Manchester, England, my first lecture there detailed the new experiences of the hyperbaric chamber, the marine biological station at Wilmington with Ralph Brauer, the east of percutaneous arterial puncture for monitoring, and the benefits of electrocardiographic monitoring during surgery. The production of several bottles of "Southern Comfort" at the end of the lecture certainly put Duke on the British map as regards "anaesthesia."

My varied career finished in 2001 after 37 years in medicine, the last 21 being spent at the Carolinas Medical Center, Charlotte. There I was medical director of the ODSU for ten years, reaching a peak of 90 patients per day in our eleven-OR unit. My time is now divided between London and the south of France.

Good luck to Duke (though you'll never match the fun we had)!

John Pollard, MD, ChB, FRCA '67-'68
Grimaud, France
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THE DUKE MYSTIQUE



Dear Editor:

After an interview in 1962 at Duke and later an intern match in surgery, my wife, young son and I arrived in Durham for a momentous journey after graduation from the University of Buffalo Medical School. It was the beginning of a new life after a four-year educational experience for my wife, for [together] we had accomplished a masters degree for Phoebe, a new life for Robbie, and a medical doctor degree for me. We settled into a fantastic neighborhood of other interns and residents within sight of the Medical Center. Life was centered there, and it was good. Phoebe was appointed to the

faculty of the School of Nursing and over the next years we added Ross and Robin to our family.

Throughout this time as an intern in surgery, a resident in surgery and a resident in anesthesiology, I became aware of what I call the "Duke Mystique." What is [it]? Over the years I have analyzed this mystique because it was not limited to anesthesiology. I have seen it in surgery, orthopedics, ophthalmology, and pediatrics. It is a unique approach to medicine, research, and life that [comes] from an institution and is [passed down to] graduates and their families.

I carried this philosophy throughout my career as a faculty attending at Southwestern Medical School in Dallas and as professor and chairman of the Department of Anesthesiology at Texas A & M Medical School. Each resident was imparted with this "mystique" of patient care, research, and life.

Now retired, last spring I returned to a Texas A & M Resident Research Day. The residents are dedicated to patient care more than ever, are brighter than ever, and are more fulfilled in their family lives.

The Duke mystique lives on!

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YOUR letters

WHERE IN THE WORLD IS DAVID WATKINS?



Dear Editor:

Hello old friends!

It's good to hear from you—and congratulations on the attractive Duke Anesthesia Alumnus magazine (DAAM)! This adds a new level of quality and professionalism to our long tradition of chronicling the “Department's Brightest and Best.”

I am pleased to report that the Watkins family are doing very well in Pittsburgh. To those of you who have kindly stayed in touch over the years since my tenure at Duke as professor and chairman, I apologize in advance for any redundancy here.

My last year at Duke was devoted to a sabbatical experience working at the FDA (Center for Drug Evaluation and Research)—a unique opportunity that further opened my eyes to the need for academic centers to improve their participation in the FDA registration of drugs, devices,

biologicals and combination products. During that same year, I was recruited to the University of Pittsburgh, to apply that experience to several new programs related to education and research. Of these, I was particularly proud of an initiative related to clinical trials and research as a department-wide process—built in part on earlier Duke experience—establishing important process, policies, infrastructure and new opportunities for all faculty wishing to participate in sponsored clinical research—not limited to those with specialized investigative training and skills. This early program served as a conceptual template for a much larger, enterprise-wide clinical research program for the University of Pittsburgh Health System that was created to provide a formal conduit for sponsored research into the Health System (“The Pittsburgh Clinical Research Network”), and receive efficient, professional, consistent management and support. During that time my focus was necessarily broadened from anesthesiology/CCM to all the academic, therapeutic and business factors that fall under the aegis of a large academic health system. In fact, the challenges in expanding to this role convinced me to acquire a “mini-MBA” at the University of Pittsburgh School of Business, which proved to be very helpful

in the broader role. Based on that experience I was recruited back to my old stomping grounds in the Harvard system as chief operating officer of a programmatic initiative of the Dean—“The Harvard Clinical Research Institute” (HCRI). HCRI was conceptually the same as PCRN, but developing in another interesting medical/research/political environment. The opportunity to participate in this novel “start-up” organization was too good to pass up, and I agreed to tackle this job—on a commuting basis—for about a year (I've found the first 1-2 years of most initiatives to comprise the “creative” time in such programs). We always planned to continue our lives in Pittsburgh, so when development at HCRI reached a plateau after about a year, I decided that, rather than revert to earlier stages of my career, it was a rare chance to pursue a long-time wish to tackle some private initiatives. At present this is reflected in two separate, yet related, organizations:

Watkins Inc. Research; and PeriOptimum (Entelechy Health Systems). Watkins Inc. Research is a privately held firm that advises, consults, and even participates in the research, management and operations of companies (or institutions) related to drug development or related activities. Over the past several years a number of interesting opportunities have developed and now include as many international organizations as domestic. As a result of involvement in the drug development world, I was recently nominated for election to the Board of Directors of the Drug Information Association (DIA), a 27,000-member trade organization that is the largest international organization devoted to the drug/device development industry.

DUKE ANESTHESIOLOGY ALUMNUS



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YOUR letters

Finally, many of you recall my wife, Sharon, as a gracious host, and, in cases where children were involved, as a fine elementary school teacher at Durham Academy. I'm pleased to report that she remains happily engaged in teaching young children, currently in her 12th year as "the" kindergarten teacher at Fox Chapel Country Day School in the Pittsburgh area.

My work over the past several years has precluded my attending some of the professional meetings that I have enjoyed traditionally, such as the ASA. But this year, with my commitment at the AACD meeting, I hope to couple that with the ASA to get further educated and see old friends and colleagues. I'll look for you in Las Vegas!

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THE JOYS OF TRAVELING

Dear Editor:

After finishing my anesthesiology residency at Duke in 1987, I did a fellowship in pediatric critical care and anesthesiology at Children's Hospital in Pittsburgh with Drs. Ryan Cook and Ann Thompson. Being in Pittsburgh was a great experience. I met many wonderful people and gained a wealth of experience in complex medical care



Dale and Cathy with their sons Wilson (left) and Alex (right).

including ECMO, liver transplantation, and pediatric cardiac anesthesia. My first son, Alex, was born in Pittsburgh that year and is now 16-years-old, going into his junior year of high school and looking forward to college.

From Pittsburgh I worked with a private anesthesiology group at Carolinas Medical Center in Charlotte for three and half years gaining further experience particularly in pediatric and adult cardiac anesthesia. I moved to Presbyterian Hospital in Charlotte in 1992 and have remained there until now. I began the pediatric critical care service at Presbyterian and served as its director for almost seven years. In the mid-1990s, a partner of mine and I started a nurse telephone triage company and grew it to cover the practices of several hundred physicians and managed care and insurance companies until we sold it in 1998. Currently, I am practicing general anesthesia at Presbyterian with Presbyterian Anesthesia Associates, a great group of about 35 anesthesiologists, concentrating on pediatric anesthesia.

Cathy, my wife, and I have been happily married for twenty years. We have two sons, Alex, 16, and Willson, 14. Will begins high school this year. Our family enjoys traveling; we have been to Africa twice during the last three years, to South America this summer, and to various spots in Europe, the Caribbean, and Canada. We are particularly interested going to places where total solar eclipses are occurring such as Germany in 1999 and Antigua in 1998. We like to ski, backpack along the Appalachian trail, and snorkel.

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jones363@mc.duke.edu

SUNDAY
OCTOBER 24, 2004
7-10 PM

17th Annual Duke Anesthesiology Alumni Reception
The Venetian Hotel, Venetian Ballroom B, Las Vegas, NV
CONTACT: Gloria Howard (919) 684-6493 or
howar042@mc.duke.edu

SATURDAY
DECEMBER 4, 2004
7-11 PM

Annual Departmental Holiday Celebration
Sheraton Imperial Hotel, Research Triangle Park, NC
CONTACT: Lou Ellen Andrews (919) 684-2918 or
andre015@mc.duke.edu

WEDNESDAY
APRIL 20, 2005

18th Annual Merel H. Harmel Lecture
(Joint Grand Rounds with the Department of Surgery)
Warren M. Washington, PhD
Chairman, National Science Board

TUESDAY
MAY 3, 2005
5 PM

13th Annual Academic Evening
Millennium Hotel, Durham, NC
CONTACT: Kathryn King, MD, (919) 681-4390
or king0023@mc.duke.edu; David Warner, MD,
(919) 684-6633 or warne002@mc.duke.edu

SATURDAY
JUNE 25-28, 2005

8th Annual Duke Cardiothoracic Update Meeting
Westin Resort, Hilton Head Island, SC
Jointly sponsored by the Department of Anesthesiology and the
Duke Office of Continuing Medical Education
CONTACTS: Medical Director, Katherine Grichnik, MD,
grich002@mc.duke.edu; Program Coordinator, Sherry Layton,
layto003@mc.duke.edu
Online registration available soon at <http://anesthesia.duhs.duke.edu>



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